INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: November 29, 2011

RE: Hoosier Energy REC / 153-29410-00005

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

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-17-3-4 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.

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.

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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 impractible to raise such issues, or if the grounds for such objection arose after the comment period.

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

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

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

Enclosures
FNTV-PMOD.doc 3/27/08

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Ms. Angie Lee
Hoosier Energy REC, Inc
P.O. Box 908
Bloomington, IN 47402-0908

November 29, 2011

RE: 153-29410-00005
Significant Permit Modification to
Part 70 Operating Permit No.:
T153-28006-00005

Dear Ms. Lee:

Hoosier Energy REC, Inc. – Merom Generating Station was issued Part 70 Operating Permit Renewal T153-28006-00005 on September 8, 2011 for a stationary electric generating station. A letter requesting changes to this permit was received on June 25, 2010. Pursuant to the provisions of 326 IAC 2-7-12 a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

The application requested the addition of eight (8) Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE) each rated at 4,601 bHp and a Coal Bed Methane (CBM)-fired standby flare with a propane-fired pilot. The RICE engines will be used to generate electricity for sale to the grid.

All other conditions of the permit shall remain unchanged and in effect. For your convenience, the entire Part 70 Operating Permit as modified will be provided at issuance.

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 Josiah Balogun, OAQ, 100 North Senate Avenue, MC 61-53, Room 1003, Indianapolis, Indiana, 46204-2251, or call at (800) 451-6027, and ask for Josiah Balogun or extension (4-5257), or dial (317) 234-5257.

Sincerely,

Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Attachments:
Updated Permit
Technical Support Document
PTE Calculations

JB

cc: File-Sullivan County
Sullivan County Health Department
U.S. EPA, Region V
Air Compliance and Enforcement Branch

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Part 70 Operating Permit Renewal

OFFICE OF AIR QUALITY

Hoosier Energy REC, Inc - Merom Generating Station
5500 West Old 54
Sullivan, Indiana 47882

(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.

Operation Permit No.: T 153-28006-00005	
Issued by: Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: September 8, 2010 Expiration Date: September 8, 2015

Significant Permit Modification No.: 153-29410-00005	
Issued by: Matthew Stuckey, Branch Chief Permits Branch Office of Air Quality	Issuance Date: November 29, 2011 Expiration Date: September 8, 2015

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Certification

Emergency Occurrence Report

Quarterly Deviation and Compliance Monitoring Report

Part 70 Quarterly Report - CBM Engine Starts

Part 70 Quarterly Report - CBM Flare Usage Report

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STANDARDS OF PERFORMANCE FOR FOSSIL-FUEL-FIRED STEAM GENERATORS FOR WHICH CONSTRUCTION IS COMMENCED AFTER AUGUST 17, 1971

Attachment C 40 CFR 60, Subpart Y
STANDARDS OF PERFORMANCE FOR COAL PREPARATION PLANTS

Attachment D 40 CFR 60, Subpart IIII
STANDARDS OF PERFORMANCE FOR STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES

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Attachment G 40 CFR 60, Subpart OOO
STANDARDS OF PERFORMANCE FOR NONMETALLIC MINERAL PROCESSING PLANTS

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(15)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary Electric Generating Station.

Source Address:	5500 West Old 54, Sullivan, Indiana 47882
General Source Phone Number:	(812) 935-4715
SIC Code:	4911
ORIS Code:	6213
County Location:	Sullivan
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, PSD Rules 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(15)]

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

(a) One (1) pulverized coal-fired dry bottom boiler, identified as Unit 1 or 1SG1, constructed in 1976, rated at 5,088 million BTU per hour (MMBTU/hr) energy input, used to generate up to 490 megawatts (gross) of electricity. Unit 1 uses No. 2 fuel oil for start ups and flame stabilization. Unit 1 cannot operate at load solely using No. 2 fuel oil.

Unit 1 utilizes the following control equipment:
- SO3 Mitigation System (Trona Injection),
- Electrostatic precipitator (ESP),
- Flue Gas Desulfurization (FGD) Wet Nonregenerative Scrubber System (identified as CE1B), and
- Selective Catalytic Reduction (SCR).

Controlled emissions from Unit 1 are exhausted to the atmosphere through a 19-foot diameter flue liner (SV1) which is housed in a 700-foot stack that is shared by both Unit 1 and Unit 2. Opacity is measured with a continuous opacity monitor (COM). Sulfur dioxide (SO_2) and nitrogen oxides (NO_x) emissions are measured with a SO_2 continuous emission monitor system (CEMS) and a NO_x CEMS, respectively.

Under 40 CFR Part 60, Subpart D, Unit 1 is an affected facility.

(b) One (1) pulverized coal-fired dry bottom boiler, identified as Unit 2 or 2SG1, constructed in 1976, rated at 5,088 million BTU per hour (MMBTU/hr) energy input, used to generate up to 490 megawatts (gross) of electricity. Unit 2 uses No. 2 fuel oil for start ups and flame stabilization. Unit 2 cannot operate at load solely using No. 2 fuel oil.

Unit 2 utilizes the following control equipment:

SO3 Mitigation System (Trona Injection),
Electrostatic precipitator (ESP),
Flue Gas Desulfurization (FGD) Wet Nonregenerative Scrubber System (identified as CE2B), and
Selective Catalytic Reduction (SCR).

Controlled emissions from Unit 2 are exhausted to the atmosphere through a 19-foot diameter flue liner (SV2) which is housed in a 700-foot stack that is shared by both Unit 1 and Unit 2. Opacity is measured with a continuous opacity monitor (COM). Sulfur dioxide (SO_2) and nitrogen oxides (NO_x) emissions are measured with a SO_2 continuous emission monitor system (CEMS) and a NO_x CEMS, respectively.

Under 40 CFR Part 60, Subpart D, Unit 2 is an affected facility.

(c) Two (2) No. 2 distillate oil-fired auxiliary boilers, constructed in 1980, each with a heat input rate of 93.0 MMBTU/hour, and exhausting to stack SV3.

(d) A coal storage and handling system, commencing construction in 1977, with a nominal throughput of 4,351,419 tons per year, consisting of the following equipment:

(1) One (1) outdoor storage area, identified as F01, with a nominal storage capacity of 1,500,000 tons, with particulate matter emissions controlled by layering and compaction and exhausting directly to the atmosphere.

(2) One (1) rail unloading (rotary car dumper) building, with a nominal throughput of 2000 tons per hour, identified as F02, controlled by being partially enclosed and exhausting directly to the atmosphere. Including the following equipment:

(i) Rotary Car Dumper
(ii) Vibrating Feeder(s)
(iii) Underground coal conveyor transfer point
(iv) Traveling hammer mill

(3) Two (2) receiving systems, where truck shipments of coal are discharged into one of the following stations:

(i) One (1) truck unloading station, which feeds a truck hopper, identified as F03, with a nominal throughput of 500 tons per hour with particulate matter emissions controlled by partial enclosure and exhausting directly to the atmosphere. Including the following equipment:

(A) Truck Hopper
(B) Vibrating Feeder
(C) Underground coal conveyor transfer point

(ii) One (1) truck unloading area, directly to coal storage pile(s), identified as F04, with a nominal unloading capacity of 1,000 tons per hour, which is utilized on an as needed basis, with particulate matter emissions exhausting directly to the atmosphere.

(4) One (1) breaker house with enclosed chutes, identified as F05, with a nominal throughput of 2,000 tons per hour, with particulate matter emissions controlled by partial enclosure and exhausting directly to the atmosphere.

(i) Conveyor transfer point(s)

(5) One (1) stockout system, identified as F06, with a nominal throughput of 2,000 tons per hour, which includes the following equipment:

(i) Enclosed conveyors CH-CV-1, CH-CV-2, and CH-CV-3,
(ii) Retractable plow, which is used for emergency purposes only, and
(iii) Lowering wells (enclosed concrete cylinder with openings at various elevations) used to control particulate matter emissions.

(6) One (1) reclaim system, identified as F07, with a combined nominal throughput of 1600 tons per hour, with particulate matter emissions controlled by partial enclosures and wet spray suppression and exhausting directly to atmosphere. Including the following equipment:

(i) Reclaim Drawdown Hoppers, 4A-1, 4A-2, 4B-1, 4B-2
(ii) Four (4) vibrating feeders
(iii) Underground coal conveyor transfer point(s)

(7) One (1) reclaim conveying system, with nominal throughput of 800 tons per hour, with particulate matter emissions controlled by enclosures. Including the following equipment:

(i) Conveyors CH-CV-4A, CH-CV-4B, CH-CV-5A, CH-CV-5B, CH-CV-6A, and CH-CV-6B

(8) One (1) emergency reclaim area, which feeds an emergency reclaim hopper, identified as F08, with a nominal throughput of 600 tons per hour, with particulate matter emissions controlled by partial enclosure and exhausting directly to the atmosphere. Including the following equipment:

(i) Emergency reclaim hopper
(ii) Vibrating Feeder
(iii) Underground coal conveyor transfer point(s)

(9) One (1) crusher house, identified as F09, with a combined nominal throughput of 1600 tons per hour, with particulate matter emissions controlled by a wet spray suppression and exhausting directly to atmosphere. Including the following equipment:

(i) Surge bin(s)
(ii) Vibrating feeder(s)
(iii) Two (2) enclosed crushers with bypass, with a nominal throughput of 750 tons per hour, each.
(iv) Enclosed conveyor transfer point(s)

(10) One (1) boiler building bunker area, identified as F10, with a combined nominal throughput of 1600 tons, with particulate matter emissions controlled by enclosure and dust suppression system and exhausting directly to the atmosphere. Including the following equipment:

(i) Enclosed transfer tower(s)
(ii) Enclosed conveyor transfer point(s)
(ii) Two (2) traveling tripper(s)

(11) Fugitive emissions from movement of bulk materials with dozer, front end loaders, other heavy mobile equipment.

(12) Fugitive emissions from truck hauling, on paved and unpaved roads.

Under 40 CFR Part 60, Subpart Y, the coal storage and handling system is an affected facility.

(e) Two (2) lime kiln dust silos, identified as LKD Silo 1 and LKD Silo 2, approved for construction in 2008, each with a nominal throughput of 3.75 tons per hour, with emissions controlled by LKD Silo Baghouse 1 and LKD Silo Baghouse 2, respectively, and exhausting to LKD Silo Vent 1 and LKD Silo Vent 2, respectively.

(f) One (1) limestone storage and handling system, constructed between 1978 and 1980, with a nominal throughput of 400,000 tons per year consisting of the following equipment:

(1) One (1) railcar unloading station, identified as LDU1, which feeds two (2) hoppers located in limestone track hopper (partially) enclosed structure, with a combined nominal throughput of 3,000 tons per hour.

(2) One (1) truck unloading to limestone pile, identified as LTU1 with a nominal throughput of 2,000 tons per hour, which is normally only utilized when the railcar unloading station is out of service.

(3) One (1) unloading belt conveyor identified as LU1, which is fed by two (2) hoppers via vibrating feeders, with a nominal throughput of 600 tons per hour, with a dust suppression system used to control particulate matter emissions.

(4) One (1) limestone storage pile, identified as LP1, which is fed by unloading belt conveyor via telescoping discharge spout, identified as LDP1**,** with a nominal throughput of 600 tons per hour, with a storage capacity of up to 90,000 tons of limestone.

(5) Limestone reclaim belt conveyors identified as LRC1 and LRC2, which are fed from the limestone pile, each with a nominal throughput of 150 tons per hour.

(6) Limestone reclaim belt conveyor transfers, identified as LRCT1 and LRCT2, which transfers materials to limestone reclaim conveyor discharge chutes, each with a nominal throughput of 150 tons per hour.

(7) Located in the limestone preparation building are the following units:

(A) Limestone receiving bins, identified as LRCB1 and LRCB2, which are fed by limestone reclaim conveyor, each with a nominal throughput of 140 tons per hour, with baghouses identified as LRCB Baghouse 1 and 2 to control emissions from LRCB1 and 2, and exhausting to stacks LRCB Vent 1 and 2, respectively.

(B) One (1) enclosed crusher fed by a vibratory feeder, identified as LPC1 constructed in 2008 with a maximum capacity of 45 tons per hour, using the baghouse identified as LPC Baghouse 1 as control, and exhausting to stack LPC Vent 1.

Under 40 CFR Part 60, Subpart OOO, crusher LPC1 is an affected facility.

(C) One (1) enclosed crusher fed by a vibratory feeder, identified as LPC2, constructed in 2010, with a maximum capacity of 45 tons per hour, using the baghouse identified as LPC Baghouse 2 as control, and exhausting to stack LPC Vent 2.

Under 40 CFR Part 60, Subpart OOO, crusher LPC2 is an affected facility.

(D) Limestone surge bins, identified as LSB1 and LSB2, which are fed by limestone bucket elevators, each with a nominal throughput of 45 tons per hour, using the baghouses identified as LSB Baghouse 1 and 2 to control emissions, and exhausting to stacks LSB Vent 1 and 2, respectively.

(8) Four (4) enclosed weigh belt feeders (conveyors), identified as LWB1, LWB2, LWB3, and LWB4, each with a maximum capacity of 22.5 tons per hour, which transfer limestone to four (4) enclosed wet tower mills, identified as LTM1, LTM2, LTM3, and LTM4, each with a maximum capacity of 22.5 tons per hour.

(g) Fugitive emission from movement of bulk materials with dozer, front end loaders, and other heavy equipment.

(h) Fugitive emissions from truck hauling on paved and unpaved roads.

(i) A pneumatic fly ash storage and handling system, constructed in 1977, with a nominal throughput of 1,752,000 tons of fly ash per year consisting of the following equipment:

(1) Four (4) fly ash silos, identified as Fly Ash Silos 1A, 1B, 2A, and 2B, with a nominal throughput of 100 tons per hour, each, particulate matter emissions controlled with eight (8) baghouses (two baghouses per silo), identified as Fly Ash Baghouse 1A1, 1A2, 1B1, 1B2, 2A1, 2A2, 2B1, and 2B2, and exhausted to stacks Fly Ash Silo Vent 1A1, 1A2 1B1, 1B2, 2A1, 2A2, 2B1, and 2B2, respectively.

(2) One (1) fly ash silo at IUCS, identified as Fly Ash Silo IUCS, with a nominal throughput of 100 tons per hour, particulate matter emissions controlled with a baghouse identified as Fly Ash IUCS Baghouse, and exhausting to stack Fly Ash IUCS Vent.

(3) Fugitive emissions from emergency fly ash loading into a vacuum truck at Fly Ash Silos 1A, 1B, 2A, 2B and fly ash silo IUCS and hauling to an on-site landfill.

(j) A lime kiln dust storage and handling system at IUCS, constructed in 1979, with a nominal throughput of 26,280 tons of lime kiln dust per year consisting of the following equipment;

(1) One (1) lime kiln dust silo at IUCS, identified as Lime Silo at IUCS, with a nominal throughput of 5 tons per hour, particulate matter emissions controlled with a baghouse, identified as Lime Silo IUCS Baghouse, and exhausting to stack Lime Silo IUCS Vent.

(k) A lime storage and handling system at WWT, constructed in 1977, with a nominal throughput of 109.5 tons of lime per year consisting of the following equipment.

(1) One (1) lime silo at WWT, identified as Lime Silo at WWT, with a nominal throughput of 0.0125 tons per hour, particulate matter emissions controlled with a baghouse, identified as Lime Silo WWT Baghouse, and exhausting to stack Lime Silo WWT Vent.

(l) FGD slurry handling system, constructed in 1979, with a nominal throughput of 2,628,000 tons of FGD slurry per year consisting of the following equipment:

(1) Two (2) pug mills (mixers) located at IUCS, identified as Pug Mill 1 and Pug Mill 2, with a nominal throughput of 300 tons per hour, each, particulate matter emissions controlled with a common de-dusting equipment, identified as Whirl-jet, and exhausting to stack Pug Mill Vent.

(2) Pozz-o-tec stockout system, identified as Pozz-o-tec Drop Point, with a nominal throughput of 300 tons per hour, with particulate matter uncontrolled, and exhausting directly to atmosphere.

(3) Fugitive emissions of bulk material with dozer, front end loaders, other heavy mobile equipment.

(4) Fugitive emissions from truck hauling on paved and unpaved roads.

(m) A wet bottom ash storage and handling system, constructed in 1977, with a nominal throughput of 30,160 tons of bottom ash per year consisting of the following equipment:

(1) One (1) partial enclosed bottom ash truck loadout system with four (4) Decant Bins, identified as Bottom Ash Decant Bin 1A, 1B, 2A and 2B with their own truck loadout, with a nominal throughput of 125 tons per hour, with particulate emission control by partial enclosure and exhausting directly to atmosphere.

(2) Fugitive emissions of bulk material with dozer, front end loaders, other heavy mobile equipment.

(3) Fugitive emissions from truck hauling on paved and unpaved roads.

(n) A Pozz-o-tec landfill, identified as Landfill with emissions controlled with wet and/or dry (agent) suppression and annual coverage.

(1) Fugitive emissions of bulk material with dozer, front end loader, other heavy mobile equipment.

(2) Fugitive emissions from truck hauling to and from the landfill on paved and unpaved roads.

(o) Eight (8) 4-Stroke Lean Burn Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE), approved for construction in 2011, identified as CBM1 to CBM8, each rated at 4,601 bHp (25.46 MMBtu/hr). CBM1 to CBM8 use Catalytic Oxidation and Selective Catalytic Reduction (SCR) to control VOC, NOx and CO. CBM1 to CBM8 exhaust to stacks SV-CBM1 to SV-CBM8 or to the greenhouses, respectively. [40 CFR 63, Subpart ZZZZ][40 CFR 60, Subpart JJJJ]

(p) One (1) Coal Bed Methane (CBM)-fired Standby Flare with a propane-fired pilot, approved for construction in 2011, identified as CBM FL, rated at 25 MMBtu/hr with a 0.8 MMBtu/hr pilot, emissions are uncontrolled, no stack.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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

(1) Degreasing operations that do not exceed 145 gallons per 12 months. [326 IAC 8-3-2] [326 IAC 8-3-5]

(2) Equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]

(3) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations. [326 IAC 6-3-2]

(4) One (1) emergency diesel generator, identified as EMDG-1, constructed in 2007, rated at less than 1600 horsepower, engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

The emergency generator, identified as EMDG-1, is subject to the requirements of New Source Performance Standards (NSPS) for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), 40 CFR Part 60, Subpart IIII, and National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 63, Subpart ZZZZ.

(5) Conveyors as follows: Underground coal conveyors including the following equipment:

(i) Conveyors CH-ERC-1 and CH-ERC-2
[326 IAC 6-3-2][40 CFR 60, Subpart Y]

(ii) Conveyor identified as CH-TC-1
[326 IAC 6-3-2][40 CFR 60, Subpart Y]

(6) Covered conveyors for limestone conveying of less than or equal to 7200 tons per day for sources other than mineral processing plants constructed after August 31, 1983. [326 IAC 6-3-2]

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

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

(2) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

(3) Combustion source flame safety purging on startup.

(4) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles having a storage capacity less than or equal to 10,500 gallons.

(5) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

(6) The following VOC and HAP storage containers:

(A) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.

(B) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.

(C) Eight (8) storage tanks:

(i) Tank 1, identified as ST1, was constructed in 1982, stores fuel oil and has a maximum capacity of 500,000 gallons.

(ii) Tank 2, identified as ST2, was constructed in 1982, stores fuel oil, and has a maximum capacity of 15,000 gallons.

(iii) Tank 3, identified as ST3, was constructed in 1982, stores diesel, has a maximum capacity of 15,000 gallons.

(iv) Tank 4, identified as ST4, was constructed in 2000, stores sodium formate, has a maximum capacity of 31,548 gallons

(v) Tank 5, identified as ST5, was constructed in 2000, stores sodium formate, has a maximum capacity of 13,512 gallons

(vi) Tank 6, identified as ST6, was constructed in 1990, stores emulsified sulfur, has a maximum capacity of 6,000 gallons.

(vii) Tank 7, identified as ST7, was constructed before 2003, stores anhydrous ammonia, has a maximum capacity of 45,000 gallons.

(viii) Tank 8, identified as ST8, was constructed before 2003, stores anhydrous ammonia, has a maximum capacity of 45,000 gallons.

(7) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.

(8) Equipment used exclusively for the following:

(A) Filling drums, pails or other packaging containers with lubrication oils, waxes, and greases.

(9) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.

(10) Machining where an aqueous cutting coolant continuously floods the machining interface.

(11) Closed loop heating and cooling systems.

(12) Solvent recycling systems with batch capacity less than or equal to 100 gallons.

(13) Noncontact cooling tower systems with forced and induced draft cooling tower system not regulated under a NESHAP.

(14) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.

(15) Heat exchanger cleaning and repair.

(16) Process vessel degassing and cleaning to prepare for internal repairs.

(17) Stockpiled soils from soil remediation activities that are covered and waiting transport for disposal.

(18) Paved and unpaved roads and parking lots with public access.

(19) Conveyors as follows:

(A) Covered conveyors for limestone conveying of less than or equal to 7200 tons per day for sources other than mineral processing plants constructed after August 31, 1983;

(B) Underground conveyor identified as CH-TC-1,

(20) Coal bunker and coal scale exhausts and associated dust collector vents.

(21) Asbestos abatement projects regulated by 326 IAC 14-10.

(22) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process. This also includes routine purging of ammonia tank lines, which are flared with a propane igniter.

(23) Flue gas conditioning systems and associated chemicals such as the following: sodium sulfate; ammonia; sulfur trioxide, sodium formate, and emsulsified sulfur.

(24) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks and fluid handling equipment.

(25) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(26) On-site fire and emergency response training approved by the department.

(27) Emergency generators as follows:

(A) Gasoline generators not exceeding 110 horsepower.

(B) Diesel generators not exceeding 1600 horsepower.

(28) Stationary fire pumps.

(29) Purge double block and bleed valves.

(30) Filter and coalescer media changeout.

(31) Vents from ash transport systems not operated at positive pressure.

(32) A laboratory as defined in 326 IAC 2-7-1(21)(D).

(33) Farm operations.

(34) Landfill operations (byproducts)

(35) Activities with emissions equal to or less than thresholds:
Lead (Pb = 0.6 ton/year or 3.29 lbs/day
Carbon Monoxide (CO) = 25 lbs/day
Sulfur Dioxide (SO_2) = 5 lbs/hour or 25 lbs/day
Particulate matter (PM) = 5 lbs/hour or 25 lbs/day
Nitrogen Oxides (NOx) = 5 lbs/hour or 25 lbs/day
Volatile Organic Compounds (VOC) = 3 lbs/hour or 15 lbs/day

(36) Other categories with emission below insignificant thresholds as follows:

(A) Two (2) coal feed systems, with nominal rate of 77 tons per hour each, consisting of three coal mills, six classifiers, six coal feeders, each, identified as coal feed system(s) unit 1 and unit 2, with particulate matter controlled by total enclosure.

(B) One (1) limestone classifier tank.

(C) One (1) limestone slurry tank.

(D) Two (2) FGD slurry thickner tanks.

(E) One (1) FGD slurry intermediate surge tank vented at ambient pressure to atmosphere.

(F) One (1) FGD slurry primary surge tank vented at ambient pressure to atmosphere.

(G) Four (4) FGD filter cake presses with partial enclosed at IUCS and venting directly to atmosphere.

(H) Bottom ash handling facility and transport system, processed wet bottom ash sluiced and conveyed to four (4) decant bins, two (2) settling bins, and two (2) reticulating tanks.

(I) One (1) intermediate Pozz-o-tec storage pile, identified as Pozz-o-tec Stackout Pile, with particulate matter uncontrolled and exhausting directly to atmosphere.

(J) One (1) WWT filter press processing iron sludge.

(37) Two (2) Coal Bed Methane Fuel Dehydrator Units, each containing a 0.5 MMBtu/hr CBM-fired reboiler and a flash tank.

(r) One (1) SO_3 Mitigation System consisting of the following emission units:

(1) One (1) trona storage silo, approved for construction in 2011, identified as U1R Silo, with a storage capacity of 2,000 FT^3 and a maximum throughput of 1.5 tons per hour of trona, emissions are controlled by two bin vent filters, identified as U1R Silo Baghouse 1 and U1R Baghouse 2, exhausting to stacks U1R Silo Baghouse 1 Vent and U1R Silo Baghouse 2 Vent. [326 IAC 6-3-2]

(2) One (1) trona storage silo, approved for construction in 2011, identified as U2R Silo, with a with a storage capacity of 1,200 FT3 and a maximum throughput of 1.5 tons per hour of trona, emissions are controlled by two bin vent filters, identified as U2R Silo Baghouse 1 and U2R Baghouse 2, exhausting to stacks U2R Silo Baghouse 1 Vent and U2R Silo Baghouse 2 Vent. [326 IAC 6-3-2]

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); and

(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, T153-28006-00005, 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. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

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

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

(a) 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(34), 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(34).

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

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

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

and

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

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

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

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

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may 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(34).

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

(a) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMP's) no later than ninety (90) days after issuance of this permit, for the source as described in 326 IAC 1-6-3. At a minimum, the PMP's shall include:

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

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

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

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

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

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

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

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

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

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

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

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

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

(c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

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

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

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(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.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 T153-28006-00005 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(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.17 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

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

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

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

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

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

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

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) 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(34).

(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),(c), or (e) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

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

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

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

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1), (c)(1), and (e)(2).

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

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

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

(3) Any change in emissions; and

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

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34).

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

(d) Alternative Operating Scenarios [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 SO_2 or NO_X under 326 IAC 21 or 326 IAC 10-4.

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

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 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(34).

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

B.24 Annual Fee Payment [326 IAC 2-7-19][326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.25 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314][326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any 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 Stack Height [326 IAC 1-7]

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

C.7 Asbestos Abatement Projects [326 IAC 14-10][326 IAC 18][40 CFR 61, Subpart M]

(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 61-53 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(34).

(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.8 Performance Testing [326 IAC 3-6]

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

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

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

C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

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

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

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

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

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

C.11 Reserved

C.12 Instrument Specifications [326 IAC 2-1.1-11][326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

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

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

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

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

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

(a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

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

C.14 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.15 Response to Excursions or Exceedances [326 IAC 2-7-5][326 IAC 2-7-6]

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

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

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

(1) initial inspection and evaluation;

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

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

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

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

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

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

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.17 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 a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

C.18 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6][326 IAC 2-2] [326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

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

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

(A) A description of the project.

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

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

(i) Baseline actual emissions;

(ii) Projected actual emissions;

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

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

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

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

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

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)][326 IAC 2-1.1-11][326 IAC 2-2] [326 IAC 2-3]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted 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(34). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

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

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

(d) Reserved

(e) 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 (qq) and/or 326 IAC 2-3-1 (ll)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (xx) and/or 326 IAC 2-3-1 (qq), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

(g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:

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

(2) The annual emissions calculated in accordance with (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).

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) 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.20 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 EMISSION UNIT OPERATION CONDITIONS

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

(a) One (1) pulverized coal-fired dry bottom boiler, identified as Unit 1 or 1SG1, constructed in 1976, rated at 5,088 million BTU per hour (MMBTU/hr) energy input, used to generate up to 490 megawatts (gross) of electricity. Unit 1 uses No. 2 fuel oil for start ups and flame stabilization. Unit 1 cannot operate at load solely using No. 2 fuel oil.

Unit 1 utilizes the following control equipment:
- SO3 Mitigation System (Trona Injection)
- Electrostatic precipitator (ESP),
- Flue Gas Desulfurization (FGD) Wet Nonregenerative Scrubber System (identified as CE1B), and
- Selective Catalytic Reduction (SCR).

Controlled emissions from Unit 1 are exhausted to the atmosphere through a 19-foot diameter flue liner (SV1) which is housed in a 700-foot stack that is shared by both Unit 1 and Unit 2. Opacity is measured with a continuous opacity monitor (COM). Sulfur dioxide (SO2) and nitrogen oxides (NOx) emissions are measured with a SO2 continuous emission monitor system (CEMS) and a NOx CEMS, respectively.

Under 40 CFR Part 60, Subpart D, Unit 1 is an affected facility.

(b) One (1) pulverized coal-fired dry bottom boiler, identified as Unit 2 or 2SG1, constructed in 1976, rated at 5,088 million BTU per hour (MMBTU/hr) energy input, used to generate up to 490 megawatts (gross) of electricity. Unit 2 uses No. 2 fuel oil for start ups and flame stabilization. Unit 2 cannot operate at load solely using No. 2 fuel oil.

Unit 2 utilizes the following control equipment:
- SO3 Mitigation System (Trona Injection)
- Electrostatic precipitator (ESP),
- Flue Gas Desulfurization (FGD) Wet Nonregenerative Scrubber System (identified as CE2B), and
- Selective Catalytic Reduction (SCR).

Controlled emissions from Unit 2 are exhausted to the atmosphere through a 19-foot diameter flue liner (SV2) which is housed in a 700-foot stack that is shared by both Unit 1 and Unit 2. Opacity is measured with a continuous opacity monitor (COM). Sulfur dioxide (SO2) and nitrogen oxides (NOx) emissions are measured with a SO2 continuous emission monitor system (CEMS) and a NOx CEMS, respectively.

Under 40 CFR Part 60, Subpart D, Unit 2 is an affected facility.

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

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

D.1.1 New Source Performance Standard (NSPS) [326 IAC 12][40 CFR 60, Subpart D] [40 CFR Part 60, Subpart A]

(a) General Provision
The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facilities described in this section except when otherwise specified in 40 CFR Part 60, Subpart D.

(b) Particulate Matter (PM) Emissions
Pursuant to 40 CFR 60.42(a)(1), the particulate emissions from Unit 1 and Unit 2 shall not exceed 0.10 pounds of PM per MMBTU.

(c) Opacity
Pursuant to 40 CFR 60.42(a)(2), the opacity from Unit 1 and Unit 2 shall not exceed 20% opacity, except for one six-minute period per hour of not more than twenty-seven percent (27%) opacity, and except for emissions related to startup, shutdown, or malfunction, as allowed under 40 CFR 60, subpart A.

(d) Sulfur Dioxide (SO_2) Emissions
Pursuant to 40 CFR 60.43(a)(2), the SO_2 emissions from Unit 1 and Unit 2 shall not exceed 1.2 pounds of SO_2 per MMBTU, for each unit based on a 30 day rolling average.

(e) Nitrogen Oxides (NO_x) Emissions
Pursuant to 40 CFR 60.44(a)(3), the NO_x emissions from Unit 1 and Unit 2 shall not exceed 0.70 pounds of NO_x per MMBTU, for each unit based on a 30 day rolling average.

D.1.2 Temporary Alternative Opacity Limitations (TAOLs) - - Unit 1 and Unit 2 [326 IAC 5-1-3]

(a) Pursuant to 326 IAC 5-1-13(d) and (e), the Permittee shall comply with the following:

(i) During startup periods of Unit 1 or Unit 2, the plume opacity may exceed 20%,
- - for a period of up to 4 hours or
- - until the flue gas temperature entering the electrostatic precipitator reaches 250 °F,

whichever occurs first.

(ii) During shutdown periods of Unit 1 or Unit 2, the plume opacity may exceed 20% for a period of up to 4 hours.

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

(c) The need for revised temporary alternative opacity limits (TAOLs) during periods of startup and shutdown will be assessed upon renewal of this permit.

D.1.3 Temporary Alternative Opacity Limitations (TAOLs) - - Ash Removal [326 IAC 5-1-3]

(a) Pursuant to 326 IAC 5-1-3(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 and stated in Section C - Opacity.

(b) 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 periods in any sixty (60) minute period.

(c) The averaging periods shall not be permitted for more than three (3) six (6)-minute averaging periods in a twelve (12) hour period.

D.1.4 Sulfur Dioxide (SO_2) Limitation [326 IAC 7-4-7]

Pursuant to 326 IAC 7-4-7 (Sullivan County Sulfur Dioxide (SO_2) Emissions Limitations), SO_2 emissions from Unit 1 and Unit 2 shall not exceed 1.2 pounds per MMBTU for each unit, based on a 30-day rolling average.

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-6(6)][326 IAC 2-1.1-11][40 CFR 60]

(a) Within the two (2) calendar years following the most recent valid stack test, compliance with the PM limitation in condition D.1.1(b) shall be determined by a performance stack test using methods as approved by the commissioner.

(b) This test shall be repeated at least once every two (2) calendar years following the date of the most recent valid compliance demonstration.

(c) Testing shall be conducted in accordance with Section C - Performance Testing.

D.1.6 Continuous Emissions Monitoring [326 IAC 3-5][326 IAC 2-7-5(3)(A)(iii][40 CFR 75] [326 IAC 7-4]

(a) Pursuant to 326 IAC 3-5, the Permittee shall install, calibrate, maintain, and operate all of the following necessary continuous emissions monitoring systems (CEMS) and related equipment for Unit 1 and Unit 2:

(i) Nitrogen Oxides Continuous Emission Monitoring System (NO_x CEMS) [40 CFR 75]

(ii) Sulfur Dioxide Continuous Emission Monitoring System (SO_2 CEMS) [40 CFR 75], [326 IAC 7-4]

(b) 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.

(c) The CEMS shall meet the performance specifications of 326 IAC 3-5-2 and monitor system certification requirements pursuant to 326 IAC 3-5-3.

(d) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5, 326 IAC 7-4, 40 CFR 60, or 40 CFR 75.

D.1.7 Operation of Electrostatic Precipitator [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule or in this permit, the electrostatic precipitators (ESPs) shall be operated as needed to maintain compliance with applicable PM emission limits in condition D.1.1(b).

D.1.8 Operation of Scrubber [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule or in this permit, the scrubber shall be operated as needed to maintain compliance with applicable sulfur dioxide (SO_2) emission limits in condition D.1.1(d).

D.1.9 Operation of Selective Catalytic Reduction (SCR) [326 IAC 2-7-6(6)] [40 CFR 75]

Except as otherwise provided by statute or rule or in this permit, the Selective Catalytic Reduction (SCR) shall be operated as needed to maintain compliance with applicable emission limits in Condition D.1.1(e).

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

D.1.10 Maintenance of Continuous Opacity Monitoring (COM) Equipment [326 IAC 2-7-5(3)(A)(iii)] [326 IAC 2-1.1-11][326 IAC 3-5][40 CFR 60.13][40 CFR 64]

(a) The Permittee shall calibrate, maintain, and operate all necessary continuous opacity monitoring systems (COMS) and related equipment. For a boiler, the COMS shall be in operation in accordance with 326 IAC 3-5 and 40 CFR Part 60 when the boiler forced draft fans are in operation, except as otherwise allowed by 326 IAC 3-5 and 40 CFR 60.13.

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

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

(d) Whenever a COMS is malfunctioning or is down for maintenance, or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, to self-monitor the emissions from the boiler stack.

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

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

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

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

D.1.11 Sulfur Dioxide (SO_2) Monitoring System Downtime [326 IAC 2-7-6][326 IAC 2-7-5(3)] [40 CFR 64]

Whenever the SO_2 continuous emission monitoring system (CEMS) is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, the Permittee shall monitor and record boiler load, recirculation pH, slurry feed rate, and number of recirculation pumps in service, to demonstrate that the operation of the scrubber continues in a manner typical for the boiler load and sulfur content of the coal fired. Scrubber parametric monitoring readings shall be recorded at least twice per day until the primary CEM or a backup CEM is brought online.

D.1.12 Downtime of Continuous Emission Monitoring Equipment [40 CFR 75 Subpart D]

Whenever a NO_X or SO_2 continuous emission monitor is down for maintenance or repairs for more than 24 hours, the following shall be used as an alternative to continuous data collection:

(1) When the CEM is required for monitoring NO_X or SO_2 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.

D.1.13 Transformer-Rectifier (T-R) Sets [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)][40 CFR 64]

(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 voltage and primary and secondary 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 80 percent. T-R set failure resulting in less than 80 percent 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.

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

D.1.14 Record Keeping Requirements

(a) The Permittee shall maintain records in accordance with the following and records shall be complete and sufficient to establish compliance with the limits:

(i) Data and results from the most recent stack test.
(ii) All continuous emissions monitoring data.
(iii) All parametric monitoring readings.
(iv) All response steps taken and the outcome for each.

(b) Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

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

D.1.15 Reporting Requirements

(a) The Permittee shall submit a quarterly summary of the excess emission readings of the:

(i) SO_2 CEMS,
(ii) NO_x CEMS, and
(iii) COMS.

These reports shall be submitted no later than 30 calendar days following the end of each calendar quarter and in accordance with Section C - General Reporting Requirements of this permit.

Submissions of these reports to IDEM, OAQ satisfy the federal reporting requirements of 40 CFR Part 60, Subpart D.

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

SECTION D.2 EMISSION UNIT OPERATION CONDITIONS

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

(c) Two (2) No. 2 distillate oil-fired auxiliary boilers, constructed in 1980, each with a heat input rate of 93.0 MMBTU/hour, and exhausting to stack SV3.

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

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

D.2.1 Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2]

(a) The two (2) auxiliary boilers shall use less than 1,126,760 gallons of No. 2 fuel oil per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The sulfur content in the fuel oil shall not exceed 0.5% by weight.

(c) The NO_x emissions shall not exceed twenty (20) pounds per kilogallon

Compliance with these limits shall limit the SO_2 emissions to less than forty (40) tons per year and NO_x emissions to less than forty (40) tons per year, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) rules) not applicable to the auxiliary boilers.

D.2.2 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3 (Particulate Emissions Limitations for Sources of Indirect Heating), the particulate matter emissions from each auxiliary boiler shall not exceed 0.27 pounds per MMBTU.

This limitation was calculated using the following equation:

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

Where: C = 50 micrograms/m^3
Q = total source capacity (MMBTU/hr)
Q = 10,362 MMBTU/hr
N = number of stacks = 3
a = 0.8
h = average stack height (feet) = 694 ft
Pt = lbs/MMBTU

D.2.3 Temporary Alternative Opacity Limitations (TAOLs) - - Auxiliary Boilers [326 IAC 5-1-3]

Pursuant to 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), when building a new fire in one of the auxiliary boilers, or shutting down one of the auxiliary boilers, opacity may exceed the applicable limit of 40%. However, opacity levels shall not exceed 60% for any six (6)-minute averaging period.

Opacity in excess of the applicable limit established in 326 IAC 5-1-2 shall not continue for more than two (2) six (6)-minute averaging periods in any twenty-four (24) hour period.

D.2.4 Sulfur Dioxide (SO_2) Emissions Limitations [326 IAC 7-1.1-2(a)(3)]

Pursuant to 326 IAC 7-1.1-2 (Sulfur Dioxide (SO_2) Emissions Limitations), the SO_2 emissions from each auxiliary boiler shall not exceed 0.5 pounds per MMBTU, based on a calendar month average.

Compliance Determination Requirements

D.2.5 Sulfur Dioxide (SO_2) Emissions and Sulfur Content [326 IAC 3-7-4]

A determination of noncompliance pursuant to either of the methods specified in (a) or (b) below shall not be refuted by evidence of compliance pursuant to the other method.

(a) Pursuant to 326 IAC 3-7-4, the Permittee shall comply with the applicable SO_2 limit in condition D.2.1 by:

(i) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or

(ii) Providing analysis of fuel oil samples collected and analyzed in accordance with 326 IAC 3-7-4(a).

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

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

(b) Pursuant to 326 IAC 7-2-1(d), compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the two (2) distillate oil #2-fired auxiliary boilers in accordance with 326 IAC 3-6, utilizing the procedures in 40 CFR 60, Appendix A, Methods 6, 6A, 6C, or 8.

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

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

D.2.6 Visible Emissions Notations [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

(a) Visible emission (VE) notations of the auxiliary boiler stack exhaust shall be performed once per day during normal daylight operations when the boilers are in operation. A trained employee shall record whether emissions are normal or abnormal. If VE notations have already been performed during a startup in the same day, then no additional VE notations are required for that day.

(b) If abnormal emissions are observed at any boiler exhaust, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) “Normal” means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

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

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

D.2.7 Record Keeping Requirements

(a) To document compliance with Condition D.2.1, the Permittee shall maintain monthly records of fuel oil usage.

(b) The Permittee shall maintain records of the following:

vendor analysis of fuel delivered, or
analysis of fuel oil samples collected.

(c) To document compliance with Condition D.2.6, the Permittee shall maintain the daily visible emission notations of the auxiliary boiler stack exhaust when the auxiliary boilers are in operation.

(d) Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

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

D.2.8 Reporting Requirements

(a) To document compliance with Condition D.2.1, the Permittee shall submit a quarterly summary of the monthly fuel oil usage, using the reporting form currently being used or the reporting form located at the end of this permit.

(b) These reports shall be submitted no later than 30 calendar days following the end of each calendar quarter and in accordance with Section C - General Reporting Requirements of this permit.

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

SECTION D.3 EMISSION UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] Coal/LKD Handling Facilities

(d) A coal storage and handling system, commencing construction in 1977, with a nominal throughput of 4,351,419 tons per year, consisting of the following equipment:

(1) One (1) outdoor storage area, identified as F01, with a nominal storage capacity of 1,500,000 tons, with particulate matter emissions controlled by layering and compaction and exhausting directly to the atmosphere.

(2) One (1) rail unloading (rotary car dumper) building, with a nominal throughput of 2000 tons per hour, identified as F02, controlled by being partially enclosed and exhausting directly to the atmosphere. Including the following equipment:

(i) Rotary Car Dumper
(ii) Vibrating Feeder(s)
(iii) Underground coal conveyor transfer point
(iv) Traveling hammer mill

(3) Two (2) receiving systems, where truck shipments of coal are discharged into one of the following stations:

(i) One (1) truck unloading station, which feeds a truck hopper, identified as F03, with a nominal throughput of 500 tons per hour with particulate matter emissions controlled by partial enclosure and exhausting directly to the atmosphere. Including the following equipment:

(A) Truck Hopper
(B) Vibrating Feeder
(C) Underground coal conveyor transfer point

(ii) One (1) truck unloading area, directly to coal storage pile(s), identified as F04, with a nominal unloading capacity of 1000 tons per hour, which is utilized on an as needed basis, with particulate matter emissions exhausting directly to the atmosphere.

(4) One (1) breaker house with enclosed chutes, identified as F05, with a nominal throughput of 2,000 tons per hour, with particulate matter emissions controlled by partial enclosure and exhausting directly to the atmosphere.

(i) Conveyor transfer point(s)

(5) One (1) stockout system, identified as F06, with a nominal throughput of 2,000 tons per hour, which includes the following equipment:

(i) Enclosed conveyors CH-CV-1, CH-CV-2, and CH-CV-3,
(ii) Retractable plow, which is used for emergency purposes only, and
(iii) Lowering wells (enclosed concrete cylinder with openings at various elevations) used to control particulate matter emissions.

(6) One (1) reclaim system, identified as F07, with a combined nominal throughput of 1600 tons per hour, with particulate matter emissions controlled by partial enclosures and wet spray suppression and exhausting directly to atmosphere. Including the following equipment:

(i) Reclaim Drawdown Hoppers, 4A-1, 4A-2, 4B-1, 4B-2
(ii) Four (4) vibrating feeders
(iii) Underground coal conveyor transfer point(s)

(7) One (1) reclaim conveying system, with nominal throughput of 800 tons per hour, with particulate matter emissions controlled by enclosures. Including the following equipment:

(i) Conveyors CH-CV-4A, CH-CV-4B, CH-CV-5A, CH-CV-5B, CH-CV-6A, and CH-CV-6B

(8) One (1) emergency reclaim area, which feeds an emergency reclaim hopper, identified as F08, with a nominal throughput of 600 tons per hour, with particulate matter emissions controlled by partial enclosure and exhausting directly to the atmosphere. Including the following equipment:

(i) Emergency reclaim hopper
(ii) Vibrating Feeder
(iii) Underground coal conveyor transfer point(s)

(9) One (1) crusher house, identified as F09, with a combined nominal throughput of 1600 tons per hour, with particulate matter emissions controlled by a wet spray suppression and exhausting directly to atmosphere. Including the following equipment:

(i) Surge bin(s)
(ii) Vibrating feeder(s)
(iii) Two (2) enclosed crushers with bypass, with a nominal throughput 750 tons per hour, each.
(iv) Enclosed conveyor transfer point(s)

(10) One (1) boiler building bunker area, identified as F10, with a combined nominal throughput of 1600 tons, with particulate matter emissions controlled by enclosure and dust suppression system and exhausting directly to the atmosphere. Including the following equipment:

(i) Enclosed transfer tower(s)
(ii) Enclosed conveyor transfer point(s)
(ii) Two (2) traveling tripper(s)

(11) Fugitive emissions from movement of bulk materials with dozer, front end loaders, other heavy mobile equipment.

(12) Fugitive emissions from truck hauling, on paved and unpaved roads.

Under 40 CFR Part 60, Subpart Y, the coal storage and handling system is an affected facility.

(e) Two (2) lime kiln dust silos, identified as LKD Silo 1 and LKD Silo 2, approved for construction in 2008, each with a nominal throughput of 3.75 tons per hour, with emissions controlled by LKD Silo Baghouse 1 and LKD Silo Baghouse 2, respectively, and exhausting to LKD Silo Vent 1 and LKD Silo Vent 2, respectively**.**

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

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

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations, work practices, and control technologies), the particulate emission rates shall not exceed the given values as follows:

Emission Unit	**Process Weight Rate, P: (tons/hr)**	**Emission Rate, E: (lbs/hr)**
Rotary Railcar Dumper, F02	2000	86.9
Truck Unload, hopper (A,B, & C), F03	500	69.0
Truck Unload, pile, F04	1000	77.6
Breaker House, F05	2000	86.9
Convy. CH-CV- 1, 2, & 3	2000	86.9
Stockout, F06	2000	86.9
Reclaim (i, ii, & iii), F07	1600	83.8
Reclaim convy. CH-CV-4/5/6-A/B	800	74.7
Emergency Reclaim (i,ii, & iii), F08	600	71.2
Crusher House (i, ii, iii, & iv), F09	1600	83.8
Boiler Bunker (i, ii, & iii), F10	1600	83.8
LKD Silos; 1, 2; each	3.75	9.94

The emission rates based on the interpolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

The emission rates based on the 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
P = process weight rate in tons per hour

Pursuant to 326 IAC 6-3-2(e)(3) (Particulate Emission Limitations, work practices, and control technologies) when the process weight rate exceeds 200 tons per hour, the allowable emission may exceed the calculated (E) pounds per hour rate, provided the concentration of particulate in discharge gases to the atmosphere shall be less than 0.10 pounds per one thousand (1000) pounds of gases.

D.3.2 New Source Performance Standard [326 IAC12-1][40 CFR 60, Subpart A]
[40 CFR 60, Subpart Y]

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

(b) Pursuant to 326 IAC 12 and 40 CFR 60.252(c), the exhaust from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system shall not exhibit twenty percent (20%) opacity or greater.

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

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

(a) Visible emission notations (VEN) of the unloading station, the crusher station or the transfer points shall be performed once per week during normal daylight operations. A trained employee shall record whether the emissions are normal or abnormal.

(b) If abnormal visible emissions of the dust are observed from the unloading station, the crusher station or the transfer points, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Observation of abnormal visible 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 Requirement [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.3.4 Record Keeping Requirements

(a) The Permittee shall maintain records of the once per week visible emission notations of the exhausts from the coal unloading station, the crusher station, and the transfer points. The Permittee shall include in its weekly record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that week).

(b) Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

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

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] Limestone Handling Facilities

(f) One (1) limestone storage and handling system, constructed between 1978 and 1980, with a nominal throughput of 400,000 tons per year consisting of the following equipment:

(1) One (1) railcar unloading station, identified as LDU1, which feeds two (2) hoppers located in limestone track hopper (partially) enclosed structure, with a combined nominal throughput of 3000 tons per hour.

(2) One (1) truck unloading to limestone pile, identified as LTU1 with a nominal throughput of 2000 tons per hour, which is normally only utilized when the railcar unloading station is out of service.

(3) One (1) unloading belt conveyor identified as LU1, which is fed by two (2) hoppers via vibrating feeders, with a nominal throughput of 600 tons per hour, with a dust suppression system used to control particulate matter emissions.

(4) One (1) limestone storage pile, identified as LP1, which is fed by unloading belt conveyor via telescoping discharge spout, identified as LDP1, with a nominal throughput of 600 tons per hour, with a storage capacity of up to 90,000 tons of limestone.

(5) Limestone reclaim belt conveyors identified as LRC1 and LRC2, which are fed from the limestone pile, each with a nominal throughput of 150 tons per hour.

(6) Limestone reclaim belt conveyor transfers, identified as LRCT1 and LRCT2, which transfers materials to limestone reclaim conveyor discharge chutes, each with a nominal throughput of 150 tons per hour.

(7) Located in the limestone preparation building are the following units:

(A) Limestone receiving bins, identified as LRCB1 and LRCB2, which are fed by limestone reclaim conveyor, each with a nominal throughput of 140 tons per hour, with baghouses identified as LRCB Baghouse 1 and 2 to control emissions from LRCB1 and 2, and exhausting to stacks LRCB Vent 1 and 2, respectively.

(B) One (1) enclosed crusher fed by a vibratory feeder, identified as LPC1 constructed in 2008 with a maximum capacity of 45 tons per hour, using the baghouse identified as LPC Baghouse 1 as control, and exhausting to stack LPC Vent 1.

Under 40 CFR Part 60, Subpart OOO, crusher LPC1 is an affected facility.

(C) One (1) enclosed crusher fed by a vibratory feeder, identified as LPC2, constructed in 2010, with a maximum capacity of 45 tons per hour, using the baghouse identified as LPC Baghouse 2 as control, and exhausting to stack LPC Vent 2.

Under 40 CFR Part 60, Subpart OOO, crusher LPC2 is an affected facility.

(D) Limestone surge bins, identified as LSB1 and LSB2, which are fed by limestone bucket elevator, each with a nominal throughput of 45 tons per hour, using the baghouses identified as LSB Baghouse 1 and 2 to control emissions, and exhausting to stacks LSB Vent 1 and 2, respectively.

(8) Four (4) enclosed weigh belt feeders (conveyors), identified as LWB1, LWB2, LWB3, and LWB4, each with a maximum capacity of 22.5 tons per hour, which transfer limestone to four (4) enclosed wet tower mills, identified as LTM1, LTM2, LTM3, LTM4, each with a maximum capacity of 22.5 tons per hour.

(g) Fugitive emission from movement of bulk materials with dozer, front end loaders, and other heavy equipment.

(h) Fugitive emissions from truck hauling on paved and unpaved roads.

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

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

D.4.1 Particulate Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations, work practices, and control technologies), the particulate emission rates shall not exceed the given values as follows:

Emission Unit	Process Weight Rate, P (tons/hr)	Emission Rate, E: (lbs/hr)
Railcar Unload, LDU1	3,000	92.7
Truck Unload, LTU1	2,000	86.9
Unload Conveyor, LU1	600	71.2
Conveyor discharge to 90kT Pile, LDP1	600	71.2
Reclaim Conveyors; LRC1, LRC2; each	150	55.4
Reclaim Trans. Conveyors; LRCT1, LRCT2; each	150	55.4
Receiving Bins; LRCB1, LRCB2; each	140	54.7
Crushers; LPC1, LPC2; each	45	43.6
Surge Bins; LSB1, LSB2; each	45	43.6
Weigh Belt Feeder Conveyors; LTM1, LTM2, LTM3, LTM4; each	22.5	33.0

The emission rates based on the interpolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

The emission rates based on the 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
P = process weight rate in tons per hour

Pursuant to 326 IAC 6-3-2(e)(3) (Particulate Emission Limitations, work practices, and control technologies) when the process weight rate exceeds 200 tons per hour, the allowable emission may exceed the calculated (E) pounds per hour rate, provided the concentration of particulate in discharge gases to the atmosphere shall be less than 0.10 pounds per one thousand (1000) pounds of gases.

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]
Fly Ash/Lime Kiln Dust/FGD Slurry/Bottom Ash Handling Facilities:

(i) A pneumatic fly ash storage and handling system, constructed in 1977, with a nominal throughput of 1,752,000 tons of fly ash per year consisting of the following equipment:

(1) Four (4) fly ash silos, identified as Fly Ash Silos 1A, 1B, 2A, and 2B, with a nominal throughput of 100 tons per hour, each, particulate matter emissions controlled with eight (8) baghouses (two baghouses per silo), identified as Fly Ash Baghouse 1A1, 1A2, 1B1, 1B2, 2A1, 2A2, 2B1, and 2B2, and exhausted to stacks Fly Ash Silo Vent 1A1, 1A2 1B1, 1B2, 2A1, 2A2, 2B1, and 2B2, respectively.

(2) One (1) fly ash silo at IUCS, identified as Fly Ash Silo IUCS, with a nominal throughput of 100 tons per hour, particulate matter emissions controlled with a baghouse identified as Fly Ash IUCS Baghouse, and exhausting to stack Fly Ash IUCS Vent.

(3) Fugitive emissions from emergency fly ash loading into a vacuum truck at Fly Ash Silos 1A, 1B, 2A, 2B and fly ash silo IUCS and hauling to an on-site landfill.

(j) A lime kiln dust storage and handling system at IUCS, constructed in 1979, with a nominal throughput of 26,280 tons of lime kiln dust per year consisting of the following equipment;

(1) One (1) lime kiln dust silo at IUCS, identified as Lime Silo at IUCS, with a nominal throughput of 5 tons per hour, particulate matter emissions controlled with a baghouse, identified as Lime Silo IUCS Baghouse, and exhausting to stack Lime Silo IUCS Vent.

(k) A lime storage and handling system at WWT, constructed in 1977, with a nominal throughput of 109.5 tons of lime per year consisting of the following equipment.

(1) One (1) lime silo at WWT, identified as Lime Silo at WWT, with a nominal throughput of 0.0125 tons per hour, particulate matter emissions controlled with a baghouse, identified as Lime Silo WWT Baghouse, and exhausting to stack Lime Silo WWT Vent.

(l) FGD slurry handling system, constructed in 1979, with a nominal throughput of 2,628,000 tons of FGD slurry per year consisting of the following equipment:

(1) Two (2) pug mills (mixers) located at IUCS, identified as Pug Mill 1 and Pug Mill 2, with a nominal throughput of 300 tons per hour, each, particulate matter emissions controlled with a common de-dusting equipment, identified as Whirl-jet, and exhausting to stack Pug Mill Vent.

(2) Pozz-o-tec stockout system, identified as Pozz-o-tec Drop Point, with a nominal throughput of 300 tons per hour, with particulate matter uncontrolled, and exhausting directly to atmosphere.

(3) Fugitive emissions of bulk material with dozer, front end loaders, other heavy mobile equipment.

(4) Fugitive emissions from truck hauling on paved and unpaved roads.

(m) A wet bottom ash storage and handling system, constructed in 1977, with a nominal throughput of 30,160 tons of bottom ash per year consisting of the following equipment:

(1) One (1) partial enclosed bottom ash truck loadout system with four (4) Decant Bins, identified as Bottom Ash Decant Bin 1A, 1B, 2A and 2B with their own truck loadout, with a nominal throughput of 125 tons per hour, with particulate emission control by partial enclosure and exhausting directly to atmosphere.

(2) Fugitive emissions of bulk material with dozer, front end loaders, other heavy mobile equipment.

(3) Fugitive emissions from truck hauling on paved and unpaved roads.

(n) A Pozz-o-tec landfill, identified as Landfill with emissions controlled with wet and/or dry (agent) suppression and annual coverage.

(1) Fugitive emissions of bulk material with dozer, front end loader, other heavy mobile equipment.

(2) Fugitive emissions from truck hauling to and from the landfill on paved and unpaved roads.

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

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

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations, work practices, and control technologies), the particulate emission rates shall not exceed the given values as follows:

Emission Unit	Process Weight Rate, P: (tons/hr)	Emission Rate, E: (lbs/hr)
Fly Ash Silos: 1A, 1B, 2A, 2B; each	100	51.3
Fly Ash Silo IUCS	75	48.4
Lime Silo at IUCS	3	8.6
Lime Silo at WWT	0.0125	0.551
Pug Mills: 1, 2; each	300	63.0
Pozz-O-Tec Drop Point	300	63.0
Bottom Ash Decant (comb. = 125 tph)	125	53.5

The emission rates based on the interpolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

The emission rates based on the 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
P = process weight rate in tons per hour

Pursuant to 326 IAC 6-3-2(e)(2) (Particulate Emission Limitations, work practices, and control technologies), when the process weight rate is less than one hundred (100) pounds per hour, the allowable rate of emission is five hundred fifty-one thousandths (0.551) pound per hour.

Pursuant to 326 IAC 6-3-2(e)(3) (Particulate Emission Limitations, work practices, and control technologies) when the process weight rate exceeds 200 tons per hour, the allowable emission may exceed the calculated (E) pounds per hour rate, provided the concentration of particulate in discharge gases to the atmosphere shall be less than 0.10 pounds per one thousand (1000) pounds of gases.

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

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

Specifically Regulated Insignificant Activities:

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

(1) Degreasing operations that do not exceed 145 gallons per 12 months.

(2) Equipment related to manufacturing activities not resulting in the emission of HAPs brazing equipment, cutting torches, soldering equipment, welding equipment.

(3) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: debarring, buffing, polishing, abrasive blasting, pneumatic conveying, and wood working operations.

40 CFR 63, Subparts IIII and ZZZZ apply to the following:

(4) One (1) emergency diesel generator, identified as EMDG-1, constructed in 2007, rated at less than 1600 horsepower, engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

The emergency generator, identified as EMDG-1, is subject to the requirements of New Source Performance Standards (NSPS) for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), 40 CFR Part 60,Subpart IIII, and National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE),40 CFR Part 63, Subpart ZZZZ.

40 CFR 60, Subpart Y applies to the following:

(5) Conveyors as follows: Underground coal conveyors including the following equipment:

(i) Conveyors CH-ERC-1 and CH-ERC-2

(ii) Conveyors identified as CH-TC-1

(6) (i) Covered conveyors for limestone conveying of less than or equal to 7200 tons per day for sources other than mineral processing plants constructed after August 31, 1983.

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

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

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for work practices, and control technologies), the allowable particulate emission rate from the brazing equipment, cutting torches, soldering equipment, welding equipment and structural steel and bridge fabrication or the grinding and machining operations activities, shall not exceed the allowable PM emission rate calculated using the following equations:

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

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

Pursuant to 326 IAC 6-3-2(e)(2) (Particulate Emission Limitations, work practices, and control technologies), when the process weight rate is less than one hundred (100) pounds per hour, the allowable rate of emission is five hundred fifty-one thousandths (0.551) pound per hour.

D.6.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-2][326 IAC 8-3-5(a)(b)]

(a) Pursuant to 326 IAC 8-3-2 and 8-3-5(a) (Cold Cleaner Operations), the owner or operator of a cold cleaner degreaser without remote solvent reservoirs constructed after July 1, 1990, shall ensure that the following requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38 °C) (one hundred degrees Fahrenheit (100 °F));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38 °C) (one hundred degrees Fahrenheit (100 °F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38 °C) (one hundred degrees Fahrenheit (100 °F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9 °C) (one hundred twenty degrees Fahrenheit (120 °F));

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-2 and 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

SECTION D.7 EMISSION UNIT OPERATION CONDITIONS

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

(o) Eight (8) 4-Stroke Lean Burn Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE), approved for construction in 2011, identified as CBM1 to CBM8, each rated at 4,601 bHp (25.46 MMBtu/hr). CBM1 to CBM8 use Catalytic Oxidation and Selective Catalytic Reduction (SCR) to control VOC, NOx and CO. CBM1 to CBM8 exhaust to stacks SV-CBM1 to SV-CBM8 or to the greenhouses, respectively.
[40 CFR 63, Subpart ZZZZ][40 CFR 60, Subpart JJJJ]

(p) One (1) Coal Bed Methane (CBM)-fired Standby Flare with a propane-fired pilot, approved for construction in 2011, identified as CBM FL, rated at 25 MMBtu/hr with a 0.8 MMBtu/hr pilot, emissions are uncontrolled, no stack.

Insignificant Activities

(37) Two (2) Coal Bed Methane Dehydrator Units, each containing a 0.5 MMBtu/hr CBM-fired reboiler and a flash tank.

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

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

D.7.1 Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

(a) The coal bed methane usage in the CBM-fired flare, identified as CBM FL, shall not exceed 73.50 MMCF per twelve consecutive month period with compliance determined at the end of each month.

(b) CO emissions from the CBM-fired flare, identified as CBM FL, shall not exceed 204.0 lb/MMCF, while combusting coal bed methane.

(c) VOC emissions from the CBM-fired flare, identified as CBM FL, shall not exceed 153.0 lb/MMCF while combusting coal bed methane.

(d) NOx emissions from the CBM-fired flare, identified as CBM FL, shall not exceed 61.20 lb/MMCF while combusting coal bed methane.

(e) The combined CO emissions from the CBM-fired engine generator set, identified as CBM1 to CBM8, shall be limited to less than 91.8 tons per twelve (12) consecutive month period with compliance determined at the end of the month.

The CO emissions shall be determined by the following equations:

CO emissions (tons/month) = (Y_1 x Ef1) + (Y2 x Ef2)

Where:

Ef1 = Steady State Emission limit of Engines (0.2450 g/bhp-hr) or emissions determined from the most recent compliance stack test

Ef2 = Cold Startup Emission limit of Engines (2.50 g/bhp-hr) or emissions determined from the most recent compliance stack test

Y_1 = Number of hours of operation at steady state startup

Y_2 = Number of hours of operation at cold startup

(f) The combined VOC emissions from the CBM-fired engine generator set, identified as CBM1 to CBM8, shall be limited to less than 34.2 tons per twelve (12) consecutive month period with compliance determined at the end of the month.

The VOC emissions shall be determined by the following equations:

VOC emissions (tons/month) = (Y_1 x Ef3) + (Y2 x Ef4)

Where:

Ef3 = Steady State Emission limit of Engines (0.0952 g/bhp-hr) or emissions determined from the most recent compliance stack test

Ef4 = Cold Startup Emission limit of Engines (0.3 g/bhp-hr) or emissions determined from the most recent compliance stack test

Y_1 = Number of hours of operation at steady state startup

Y_2 = Number of hours of operation at cold startup

(g) The combined NOx emissions from the CBM-fired engine generator set, identified as CBM1 to CBM8, shall be limited to less than 36.7 tons per twelve (12) consecutive month period with compliance determined at the end of the month.

The NOx emissions shall be determined by the following equations:

NOx emissions (tons/month) = (Y_1 x Ef5) + (Y2 x Ef6)

Where:

Ef5 = Steady State Emission limit of Engines (0.099 g/bhp-hr) or emissions determined from the most recent compliance stack test

Ef6 = Cold Startup Emission limit of Engines (1.10 g/bhp-hr) or emissions determined from the most recent compliance stack test

Y_1 = Number of hours of operation at steady state startup

Y_2 = Number of hours of operation at cold startup

Compliance with these emission limits and the emissions of other emission units will ensure the potential to emit CO is less than 100 tons, VOC is less than 40 tons and NOx is less than 40 tons per year and render the requirements of 326 IAC 2-2 (PSD), not applicable to Significant Source Modification 153-29394-00005.

D.7.2 Prevention of Significant Deterioration (PSD) BACT Limit [326 IAC 2-2-3]

Pursuant to PSD/Significant Source Modification Permit No. 153-29394-00005 and 326 IAC 2-2-3 (Prevention of Significant Deterioration (PSD)), the Best Available Control Technology (BACT) for the eight CBM-fired RICE and the CBM-fired flare shall be as follows:

(a) The eight (8) CBM fired RICE and CBM-fired flare shall be operated in accordance with good combustion practices and maintained in accordance with manufacturer's recommendations.
Good combustion practices shall include:

(1) Perform regular maintenance using the manufacturer's or operator's maintenance procedures.

(2) Keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format; and

(3) Keep a copy of either the manufacturer's or the operator's maintenance procedures.

(b) The CO_2 emission rate for each CBM-fired RICE shall not exceed 1,100 lb per MW-hr and 16,030 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(c) The CH_4 emission rate for each CBM-fired RICE shall not exceed 9.57 lb/MW-hr and 139.4 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(d) The N_2O emission rate for each CBM-fired RICE shall not exceed 0.23 lb/MW-hr and 3.35 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(e) The CO_2 emission rate for the CBM-fired flare shall not exceed 3,235 lb/hr and 4,852 tons per twelve consecutive month period with compliance determined at the end of each month.

(f) The CH_4 emission rate for the CBM-fired flare shall not exceed 0.06 lb/hr and 0.08 tons per twelve consecutive month period with compliance determined at the end of each month.

(g) The N_2O emission rate for the CBM-fired flare shall not exceed 0.05 lb/hr and 0.08 tons per twelve consecutive month period with compliance determined at the end of each month.

(h) The CBM Dehydrator Units and flash tanks shall be operated and maintained in accordance with manufacturer's recommendations.

(i) The CO2 emission rate for each CBM Dehydrator Units shall not exceed 59.36 lb/hr and 260 tons per twelve consecutive month period with compliance determined at the end of each month.

Compliance Determination Requirements

D.7.3 VOC and CO Control [326 IAC 2-2]

In order to ensure compliance with Condition D.7.1(e) and (f), VOC and CO emissions from each coal bed methane engine, identified as CBM1 to CBM8, shall be controlled with oxidation catalyst at all times the units are in operation, except during periods of startup.

D.7.4 NOx Control [326 IAC 2-2]

In order to ensure compliance with Condition D.7.1(g), NOx emissions from each coal bed methane engine, identified as CBM1 to CBM8, shall be controlled with selective catalytic reduction at all times the units are in operation except during periods of startup.

D.7.5 Testing Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-6(6)]

(a) In order to demonstrate the compliance status with Condition D.7.2(b) and (c) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform one time CO2 testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8, utilizing methods approved by the commissioner. 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 obligation with regard to the performance testing required by this condition.

(b) In order to demonstrate the compliance status with Condition D.7.1(e) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform CO testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8 during the steady state and the cold startup, utilizing methods approved by the commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Repeat testing shall be conducted in a manner to ensure the time period between tests on a single unit is the same for every unit. 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 obligation with regard to the performance testing required by this condition.

(c) In order to demonstrate the compliance status with Condition D.7.1(f) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform VOC testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8 during the steady state and the cold startup, utilizing methods approved by the commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Repeat testing shall be conducted in a manner to ensure the time period between tests on a single unit is the same for every unit. 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 obligation with regard to the performance testing required by this condition.

(d) In order to demonstrate the compliance status with Condition D.7.1(g) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform NOx testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8 during the steady state and the cold startup, utilizing methods approved by the commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Repeat testing shall be conducted in a manner to ensure the time period between tests on a single unit is the same for every unit. 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 obligation with regard to the performance testing required by this condition.

(e) In order to demonstrate the compliance status with Condition D.7.2(c) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform one time CH4 testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8 during steady state and the cold startup, utilizing methods approved by the commissioner. 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 obligation with regard to the performance testing required by this condition.

Compliance Monitoring Requirements

D.7.6 Parametric Monitoring Requirements

(a) In order to demonstrate the compliance status with Conditions D.7.1(e) and (f) and D.7.3, the Permittee shall monitor the reduction catalyst bed temperature used in conjunction with coal bed methane engines CBM1 to CBM8 with a continuous temperature monitoring system. The Permittee shall comply with the following:

(i) A continuous monitoring system shall be installed, calibrated, maintained, and operated on each Coal Bed Methane (CBM)-fired engine, identified as CBM1 to CBM8, for measuring operating temperature of the reduction catalyst bed temperature. For the purposes of this condition, continuous monitoring shall mean no less often than once per fifteen (15) minutes. The output from this monitoring system and the three hour average temperatures shall be recorded whenever the coal bed methane engines are in operation.

(ii) If the primary continuous monitoring system is not in operation, the reduction catalyst bed temperature will be recorded using a secondary system consisting of a backup temperature probe. Temperature measurements shall be made no less than once per fifteen (15) minutes. In the event of a monitoring system malfunction, failure to measure the operating temperature of the reduction catalyst bed is not a deviation of the permit. Failure to take response steps shall be considered a deviation from the permit.

(iii) The Coal Bed Methane (CBM)-fired engines shall operate such that if the three-hour average temperature falls below the 3 hour block average minimum required temperature of 380 °C, or a temperature determined during the most recent compliant stack test, reasonable response steps shall be taken to return the reduction catalyst bed temperature to at least the required minimum temperature. A reading that is below the minimum average required temperature of 380 °C, or a temperature established in the most recent compliant stack test, 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 as a deviation from the permit. The Permittee shall operate at or above 380 °C until the stack test results are available. After the stack test results are available, the Permittee shall operate at or above the 3 hour block average minimum required temperature determined during the latest compliant stack test.

(b) In order to demonstrate the compliance status with Conditions D.7.1(d) and D.7.4, the Permittee shall monitor the urea flow rate used in conjunction with coal bed methane engines CBM1 to CBM8 at least once per day. When for any one reading, the urea flow rate is outside the normal range of 0.5 liters/MW-hr to 6.0 liters/MW-hr, or a range established during the latest complaint stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A urea flow rate that is outside the above mentioned range is not a deviation from this permit. Failure to take reasonable response steps shall be considered a deviation from this permit.

(c) In order to demonstrate the compliance status with Condition D.7.1(b), (c) and (d), the Permittee shall monitor the presence of a burner flame using a thermocouple to measure burner temperature at all times the flare is in use.

(d) In order to demonstrate the compliance status with Condition D.7.1(a), the Permittee shall monitor the amount of coal bed methane combusted in the flare.

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

D.7.7 Record Keeping Requirements

(a) In order to document the compliance status with Condition D.7.5, the Permittee shall maintain records of the data and results of the stack and/or performance test for each engine generator set.

(b) In order to document the compliance status with Condition D.7.1(a), the Permittee shall maintain records of the amount of coal bed methane burned in the CBM-fired flare, identified as CBM FL, each month.

(c) In order to document the compliance status with Condition D.7.3 and D.7.6(a), the Permittee shall maintain records of the reduction catalyst bed temperature used in conjunction with coal bed methane engines, CBM1 to CBM8. The Permittee shall include in its record when a temperature reading is not taken and the reason for the lack of a temperature reading (e.g. the process did not operate that day).

(d) In order to document the compliance status with Condition D.7.4 and D.7.6(b), the Permittee shall maintain records of the urea injection rate used in conjunction with coal bed methane engines, CBM1 to CBM8. The Permittee shall include in its record when a urea injection rate reading is not taken and the reason for the lack of a urea injection rate reading (e.g. the process did not operate that day).

(e) In order to document the compliance status with Condition D.7.6(b), the Permittee shall maintain records of the burner temperature used in conjunction with the Coal Bed Methane (CBM)-fired flare, identified as CBM FL. The Permittee shall include in its daily record when a temperature reading is not taken and the reason for the lack of a temperature reading (e.g. the process did not operate that day).

(f) To document the compliance status with Condition D.7.1(e), (f) and (g), the Permittee shall maintain monthly records of the CO, VOC and NOx emissions, from the CBM-fired engine generator sets.

(g) Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.

(h) Section C – General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.

D.7.8 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.7.1(a), (e), (f) and (g) 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. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official," as defined by 326 IAC 2-7-1 (34).

SECTION E.1 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

(a) One (1) pulverized coal-fired dry bottom boiler, identified as Unit 1 or 1SG1, constructed in 1976, rated at 5,088 million BTU per hour (MMBTU/hr) energy input, used to generate up to 490 megawatts (gross) of electricity. Unit 1 uses No. 2 fuel oil for start ups and flame stabilization. Unit 1 cannot operate at load solely using No. 2 fuel oil.

Unit 1 utilizes the following control equipment:
- SO3 Mitigation System (Trona Injection)
- Electrostatic precipitator (ESP),
- Flue Gas Desulfurization (FGD) Wet Nonregenerative Scrubber System (identified as CE1B), and
- Selective Catalytic Reduction (SCR).

Controlled emissions from Unit 1 are exhausted to the atmosphere through a 19-foot diameter flue liner (SV1) which is housed in a 700-foot stack that is shared by both Unit 1 and Unit 2. Opacity is measured with a continuous opacity monitor (COM). Sulfur dioxide (SO_2) and nitrogen oxides (NO_x) emissions are measured with a SO_2 continuous emission monitor system (CEMS) and a NO_x CEMS, respectively.

Under 40 CFR Part 60, Subpart D, Unit 1 is an affected facility.

(b) One (1) pulverized coal-fired dry bottom boiler, identified as Unit 2 or 2SG1, constructed in 1976, rated at 5,088 million BTU per hour (MMBTU/hr) energy input, used to generate up to 490 megawatts (gross) of electricity. Unit 2 uses No. 2 fuel oil for start ups and flame stabilization. Unit 2 cannot operate at load solely using No. 2 fuel oil.

Unit 2 utilizes the following control equipment:
- SO3 Mitigation System (Trona Injection)
- Electrostatic precipitator (ESP),
- Flue Gas Desulfurization (FGD) Wet Nonregenerative Scrubber System (identified as CE2B), and
- Selective Catalytic Reduction (SCR).

Controlled emissions from Unit 2 are exhausted to the atmosphere through a 19-foot diameter flue liner (SV2) which is housed in a 700-foot stack that is shared by both Unit 1 and Unit 2. Opacity is measured with a continuous opacity monitor (COM). Sulfur dioxide (SO_2) and nitrogen oxides (NO_x) emissions are measured with a SO_2 continuous emission monitor system (CEMS) and a NO_x CEMS, respectively.

Under 40 CFR Part 60, Subpart D, Unit 2 is an affected facility.

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

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

E.1.1 General Provisions Relating to NSPS [326 IAC 12][40 CFR Part 60, Subpart A]

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

E.1.2 Standards of Performance for Fossil-Fuel-Fired Steam Generators [40 CFR Part 60, Subpart D] [326 IAC 12]

Pursuant to CFR Part 60, Subpart D, (included as Attachment B of this permit), the Permittee shall comply with the provisions of the Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced after August 17, 1971, for Unit 1 and Unit 2 as follows:

1) 40 CFR 60.40
2) 40 CFR 60.41
3) 40 CFR 60.42; (a), (a)(1)
4) 40 CFR 60.43 (a)(2)
5) 40 CFR 60.44 (a)(3)
6) 40 CFR 60.45; (a), (b), (c), (g), (g)(1), (g)(2), (g)(2)(i), (g)(3),(g)(3)(i), (g)(4)
7) 40 CFR 60.46; (a), (b)

SECTION E.2 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

(d) A coal storage and handling system, commencing construction in 1977, with a nominal throughput of 4,351,419 tons per year, consisting of the following equipment:

(1) One (1) outdoor storage area, identified as F01, with a nominal storage capacity of 1,500,000 tons, with particulate matter emissions controlled by layering and compaction and exhausting directly to the atmosphere.

(2) One (1) rail unloading (rotary car dumper) building, with a nominal throughput of 2000 tons per hour, identified as F02, controlled by being partially enclosed and exhausting directly to the atmosphere. Including the following equipment:

(i) Rotary Car Dumper
(ii) Vibrating Feeder(s)
(iii) Underground coal conveyor transfer point
(iv) Traveling hammer mill

(3) Two (2) receiving systems, where truck shipments of coal are discharged into one of the following stations:

(i) One (1) truck unloading station, which feeds a truck hopper, identified as F03, with a nominal throughput of 500 tons per hour with particulate matter emissions controlled by partial enclosure and exhausting directly to the atmosphere. Including the following equipment:

(A) Truck Hopper
(B) Vibrating Feeder
(C) Underground coal conveyor transfer point

(ii) One (1) truck unloading area, directly to coal storage pile(s), identified as F04, with a nominal unloading capacity of 1,000 tons per hour, which is utilized on an as needed basis, with particulate matter emissions exhausting directly to the atmosphere.

(4) One (1) breaker house with enclosed chutes, identified as F05, with a nominal throughput of 2,000 tons per hour, with particulate matter emissions controlled by partial enclosure and exhausting directly to the atmosphere.

(i) Conveyor transfer point(s)

(5) One (1) stockout system, identified as F06, with a nominal throughput of 2,000 tons per hour, which includes the following equipment:
(i) Enclosed conveyors CH-CV-1, CH-CV-2, and CH-CV-3,
(ii) Retractable plow, which is used for emergency purposes only,
(iii) Lowering wells (enclosed concrete cylinder with openings at various elevations) used to control particulate matter emissions.

(6) One (1) reclaim system, identified as F07, with a combined nominal throughput of 1600 tons per hour, with particulate matter emissions, controlled by partial enclosures and exhausting directly to atmosphere. Including the following equipment:

(i) Reclaim Drawdown Hoppers, 4A-1, 4A-2, 4B-a, 4B-2
(ii) Four (4) vibrating feeders
(iii) Underground coal conveyor transfer point(s)

(7) One (1) reclaim conveying system, with nominal throughput of 800 tons per hour, with particulate matter emissions controlled by enclosures. Including the following equipment:
(i) Conveyors CH-CV-4A, CH-CV-4B, CH-CV-5A, CH-CV-5B, CH-CV-6A, and CH-CV-6B

(8) One (1) emergency reclaim area, which feeds a emergency reclaim hopper, identified as F08, with a nominal throughput of 600 tons per hour, with particulate matter emissions controlled by partial enclosure and exhausting directly to the atmosphere. Including the following equipment:
(i) Emergency reclaim hopper
(ii) Vibrating Feeder
(iii) Underground coal conveyor transfer point(s)

(9) One (1) crusher house, identified as F09, with a combined nominal throughput of 1600 tons per hour, with particulate matter emissions controlled by a wet spray suppression and exhausting directly to atmosphere. Including the following equipment:
(i) Surge bins(s)
(ii) Vibrating feeder(s)
(iii) Two (2) enclosed crushers with bypass, with a nominal throughput 750 tons per hour, each.
(iv) Enclosed conveyor transfer point(s)

(10) One (1) boiler building bunker area, identified as F10, with a combined nominal throughput of 1600 tons, with particulate matter emissions controlled by enclosure and dust suppression system and exhausting directly to the atmosphere, including the following equipment:
(i) Enclosed transfer tower(s)
(ii) Enclosed conveyor transfer point(s)
(iii) Two (2) traveling tripper(s)

Under 40 CFR Part 60, Subpart Y, the coal storage and handling system is an affected facility.

Specifically Regulated Insignificant Activities:

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

(a) (5) Conveyors as follows: Underground coal conveyors including the following equipment:

(i) Conveyors CH-ERC-1 and CH-ERC-2
[326 IAC 6-3-2][40 CFR 60, Subpart Y]

(II) Conveyor identified as CH-TC-1
[326 IAC 6-3-2][40 CFR 60, Subpart Y]

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

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

E.2.1 General Provisions Relating to NSPS [326 IAC 12][40 CFR Part 60, Subpart A]

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

E.2.2 Standards of Performance for Coal Preparation Plants [40 CFR Part 60, Subpart Y] [326 IAC 12]

Pursuant to CFR Part 60, Subpart Y, (included as Attachment C of this permit), the Permittee shall comply with the provisions of the Standards of Performance for Coal Preparation Plants for the coal storage and handling system as follows:

1) 40 CFR 60.250
2) 40 CFR 60.251
3) 40 CFR 60.252

SECTION E.3 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

Insignificant Activities:

(4) One (1) emergency diesel generator, identified as EMDG-1, constructed in 2007, rated at less than 1600 horsepower, engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

The emergency generator, identified as EMDG-1, is subject to the requirements of New Source Performance Standards (NSPS) for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), 40 CFR Part 60, Subpart IIII, and National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 63, Subpart ZZZZ.

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

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

E.3.1 General Provisions Relating to NSPS IIII [326 IAC 12-1][40 CFR Part 60, Subpart A]

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

E.3.2 Stationary Compression Ignition Internal Combustion Engines NSPS Requirements [40 CFR Part 60, Subpart IIII] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart IIII, (included as Attachment D of this permit), the Permittee which shall comply with the provisions of 40 CFR Part 60, Subpart IIII, for the emergency diesel generator as follows:

1) 40 CFR 60.4200(a); (2)(i), (2)(ii)
2) 40 CFR 60.4202(a)(2)
3) 40 CFR 60.4205(b)
4) 40 CFR 60.4206
5) 40 CFR 60.4207; (a), (b), (c)
6) 40 CFR 60.4208(a)
7) 40 CFR 60.4209(a)
8) 40 CFR 60.4211; (a), (c), (e)
9) 40 CFR 60.4214(b)
10) 40 CFR 60.4218
11) 40 CFR 60.4219
12) Table 8

SECTION E.4 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

(o) Eight (8) 4-Stroke Lean Burn Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE), approved for construction in 2011, identified as CBM1 to CBM8, each rated at 4,601 bHp (25.46 MMBtu/hr). CBM1 to CBM8 use Catalytic Oxidation and Selective Catalytic Reduction (SCR) to control VOC, NOx and CO. CBM1 to CBM8 exhaust to stacks SV-CBM1 to SV-CBM8 or to the greenhouses, respectively.
[40 CFR 63, Subpart ZZZZ][40 CFR 60, Subpart JJJJ]

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

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

E.4.1 General Provisions Relating to NSPS [326 IAC 12][40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated as 326 IAC 12, apply to the affected source, as designated by Table 3 to Subpart JJJJ of Part 60, except when otherwise specified in 40 CFR Part 60, Subpart JJJJ.

E.4.2 Standards of Performance for Stationary Spark Ignition Internal Combustion Engines [40 CFR Part 60, Subpart JJJJ][326 IAC 12]

Pursuant to CFR Part 60, Subpart JJJJ, the Permittee shall comply with the provisions of the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, which are incorporated by reference as 326 IAC 12, for the eight (8) coal bed methane-fired engine generator sets, identified as CBM1 to CBM8 as follows:

1) 40 CFR 60.4230(a)
2) 40 CFR 60.4230(4)(i)
3) 40 CFR 60.4233(e)
4) 40 CFR 60.4234
5) 40 CFR 60.4236(a)
6) 40 CFR 60.4243(a)(1)
7) 40 CFR 60.4243(a)(2)(iii)
8) 40 CFR 60.4243(b)
9) 40 CFR 60.4245(a)
10) 40 CFR 60.4245(c)
11) 40 CFR 60.4245(d)
12) Table 1 to Subpart JJJJ of Part 60

SECTION E.5 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

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

(o) Eight (8) 4-Stroke Lean Burn Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE), approved for construction in 2011, identified as CBM1 to CBM8, each rated at 4,601 bHp (25.46 MMBtu/hr). CBM1 to CBM8 use Catalytic Oxidation and Selective Catalytic Reduction (SCR) to control VOC, NOx and CO. CBM1 to CBM8 exhaust to stacks SV-CBM1 to SV-CBM8 or to the greenhouses, respectively. [40 CFR 63, Subpart ZZZZ]
[40 CFR 60, Subpart JJJJ]

Insignificant Activities:

(4) One (1) emergency diesel generator, identified as EMDG-1, constructed in 2007, rated at less than 1600 horsepower, engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

The emergency generator, identified as EMDG-1, is subject to the requirements of New Source Performance Standards (NSPS) for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), 40 CFR Part 60, Subpart IIII, and National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 63, Subpart ZZZZ.

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

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

E.5.1 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR Part 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected source, as designated by 40 CFR 63.6590(a)(1), except when otherwise specified in 40 CFR Part 63, Subpart ZZZZ.

E.5.2 National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

(a) Pursuant to CFR Part 63, Subpart ZZZZ (included as Attachment F of this permit), the Permittee shall comply with the provisions of National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, which are incorporated by reference as 326 IAC 20-82, for the one (1) emergency diesel generator as follows:

1) 40 CFR 63.6580
2) 40 CFR 63.6585(a), (b)
3) 40 CFR 63.6590(a), (a)(2), (b), (b)(1), (b)(1)(i)-(ii)
4) 40 CFR 63.6595(a), (c)
5) 40 CFR 63.6645(c), (d)
6) 40 CFR 63.6665
7) 40 CFR 63.6670(a)-(c), (c)(1)-(5)
8) 40 CFR 63.6675

(b) Pursuant to CFR Part 63, Subpart ZZZZ (included as Attachment F of this permit), the Permittee shall comply with the provisions of National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, which are incorporated by reference as 326 IAC 20-82, for eight (8) CBM engine generator sets, identified as CBM1 to CBM8, as follows:

1) 40 CFR 63.6600(b)
2) 40 CFR 63.6605
3) 40 CFR 63.6610
4) 40 CFR 63.6635(a), (b), (c)
5) 40 CFR 63.6645
6) 40 CFR 63.6650
7) 40 CFR 63.6655

SECTION E.6 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

(f) A limestone storage and handling system, constructed between 1978 and 1980, with a nominal throughput of 400,000 tons per year consisting of the following equipment:

(7) Located in the limestone preparation building are the following units:

(B) One (1) enclosed crusher fed by a vibratory feeder, identified as LPC1 constructed in 2008 with a maximum capacity of 45 tons per hour, using the baghouse identified as LPC Baghouse 1 beginning June 2009 as control, and exhausting to stack LPC Vent 1.

Under 40 CFR Part 60, Subpart OOO, crusher LPC1 is an affected facility.

(C) One (1) enclosed crusher fed by a vibratory feeder, identified as LPC2, constructed in 2010, with a maximum capacity of 45 tons per hour, using the baghouse identified as LPC Baghouse 2 as control, and exhausting to stack LPC Vent 2.

Under 40 CFR Part 60, Subpart OOO, crusher LPC2 is an affected facility.

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

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

E.6.1 General Provisions Relating to NSPS [326 IAC 12][40 CFR Part 60, Subpart A]

Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart OOO.

E.6.2 New Source Performance Standards (NSPS) for Nonmetallic Mineral Processing Plants [40 CFR Part 60, Subpart OOO] [326 IAC 12]

The Permittee shall comply with the applicable provisions of 40 CFR Part 60, Subpart OOO (included as Attachment G of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart OOO:

(a) 40 CFR 60.670 (a)(1), (d)(3),(e),(f)
(b) 40 CFR 60.671
(c) 40 CFR 60.672
(d) 40 CFR 60.675 (a), (b)(1)-(2), (c)(1)(i)-(ii), (c)(3)(i)-(ii), (g)
(e) 40 CFR 60.676 (a)(1)(i)-(ii), (g), (h)(i)(1), (j)

SECTION F ACID RAIN PROGRAM CONDITIONS

ORIS Code - 6213

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

(a) One (1) pulverized coal-fired dry bottom boiler, identified as Unit 1 or 1SG1, constructed in 1976, rated at 5,088 million BTU per hour (MMBTU/hr) energy input, used to generate up to 490 megawatts (gross) of electricity. Unit 1 uses No. 2 fuel oil for start ups and flame stabilization. Unit 1 cannot operate at load solely using No. 2 fuel oil.

Unit 1 utilizes the following control equipment:
SO3 Mitigation System (Trona Injection)
Electrostatic precipitator (ESP),
Flue Gas Desulfurization (FGD) Wet Nonregenerative Scrubber System (identified as CE1B), and
Selective Catalytic Reduction (SCR).

Controlled emissions from Unit 1 are exhausted to the atmosphere through a 19-foot diameter flue liner (SV1) which is housed in a 700-foot stack that is shared by both Unit 1 and Unit 2. Opacity is measured with a continuous opacity monitor (COM). Sulfur dioxide (SO_2) and nitrogen oxides (NO_x) emissions are measured with a SO_2 continuous emission monitor system (CEMS) and a NO_x CEMS, respectively.

(b) One (1) pulverized coal-fired dry bottom boiler, identified as Unit 2 or 2SG1, constructed in 1976, rated at 5,088 million BTU per hour (MMBTU/hr) energy input, used to generate up to 490 megawatts (gross) of electricity. Unit 1 uses No. 2 fuel oil for start ups and flame stabilization. Unit 2 cannot operate at load solely using No. 2 fuel oil.

Unit 2 utilizes the following control equipment:
SO3 Mitigation System (Trona Injection)
Electrostatic precipitator (ESP),
Flue Gas Desulfurization (FGD) Wet Nonregenerative Scrubber System (identified as CE2B), and
Selective Catalytic Reduction (SCR).

Controlled emissions from Unit 2 are exhausted to the atmosphere through a 19-foot diameter flue liner (SV2) which is housed in a 700-foot stack that is shared by both Unit 1 and Unit 2. Opacity is measured with a continuous opacity monitor (COM). Sulfur dioxide (SO_2) and nitrogen oxides (NO_x) emissions are measured with a SO_2 continuous emission monitor system (CEMS) and a NO_x CEMS, respectively.

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

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

(a) The Acid Rain permit for this source, is incorporated by reference into this Part 70 Permit. (Attachment G)

(b) Pursuant to 326 IAC 21 (Acid Deposition Control), the Permittee shall comply with all provisions of the Acid Rain Permit and Amendments issued for this source, and any other applicable requirements contained in 40 CFR 72 through 40 CFR 78.

(c) Where an applicable requirement of the Clean Air Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall apply.

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

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 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: 6213

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)

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

(a) One (1) pulverized coal-fired dry bottom boiler, identified as Unit 1 or 1SG1, constructed in 1976, rated at 5,088 million BTU per hour (MMBTU/hr) energy input, used to generate up to 490 megawatts (gross) of electricity. Unit 1 uses No. 2 fuel oil for start ups and flame stabilization. Unit 1 can not operate at load solely using No. 2 fuel oil.

Unit 1 utilizes the following control equipment:
SO3 Mitigation System (Trona Injection)
Electrostatic precipitator (ESP),
Flue Gas Desulfurization (FGD) Wet Nonregenerative Scrubber System (identified as CE1B), and
Selective Catalytic Reduction (SCR).

Controlled emissions from Unit 1 are exhausted to the atmosphere through a 19-foot diameter flue liner (SV1) which is housed in a 700-foot stack that is shared by both Unit 1 and Unit 2. Opacity is measured with a continuous opacity monitor (COM). Sulfur dioxide (SO_2) and nitrogen oxides (NO_x) emissions are measured with a SO_2 continuous emission monitor system (CEMS) and a NO_x CEMS, respectively.

(b) One (1) pulverized coal-fired dry bottom boiler, identified as Unit 2 or 1SG2, constructed in 1976, rated at 5,088 million BTU per hour (MMBTU/hr) energy input, used to generate up to 490 megawatts (gross) of electricity. Unit 1 uses No. 2 fuel oil for start ups and flame stabilization. Unit 2 cannot operate at load solely using No. 2 fuel oil.

Unit 2 utilizes the following control equipment:
SO3 Mitigation System (Trona Injection)
Electrostatic precipitator (ESP),
Flue Gas Desulfurization (FGD) Wet Nonregenerative Scrubber System (identified as CE2B), and
Selective Catalytic Reduction (SCR).

Controlled emissions from Unit 2 are exhausted to the atmosphere through a 19-foot diameter flue liner (SV2) which is housed in a 700-foot stack that is shared by both Unit 1 and Unit 2. Opacity is measured with a continuous opacity monitor (COM). Sulfur dioxide (SO_2) and nitrogen oxides (NO_x) emissions are measured with a SO_2 continuous emission monitor system (CEMS) and a NO_x CEMS, respectively.

(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 each CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source and CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit shall operate each source and unit in compliance with this CAIR permit.

(b) The CAIR NO_X unit(s), CAIR SO_2 unit(s), and CAIR NO_X ozone season unit(s) subject to this CAIR permit are Unit 1 and Unit 2.

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 SO_2 source, and CAIR NO_X ozone season source and CAIR NO_X unit, CAIR SO_2 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 SO_2 source, and CAIR NO_X ozone season source with the CAIR NO_X emissions limitation under 326 IAC 24-1-4(c), CAIR SO_2 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 H.4.1, Nitrogen Oxides Emission Requirements, Condition H.4.2, Sulfur Dioxide Emission Requirements, and Condition H.4.3, Nitrogen Oxides Ozone Season Emission Requirements.

G.4 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.5 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 SO_2 source and each CAIR SO_2 unit at the source shall hold, in the source's compliance account, a tonnage equivalent of CAIR SO_2 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 SO_2 units at the source, as determined in accordance with 326 IAC 24-2-10.

(b) A CAIR SO_2 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 SO_2 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 SO_2 allowance was allocated.

(d) CAIR SO_2 allowances shall be held in, deducted from, or transferred into or among CAIR SO_2 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 SO_2 allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO_2 trading program. No provision of the CAIR SO_2 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 SO_2 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 SO_2 allowance to or from a CAIR SO_2 source's compliance account is incorporated automatically in this CAIR permit.

G.6 Nitrogen Oxides Ozone Season Emission Requirements [326 IAC 24-3-4(c)] [40 CFR 97.306(c)]

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

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

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

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

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

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

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

G.7 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 SO_2 source and each CAIR SO_2 unit that emits sulfur dioxide during any control period in excess of the CAIR SO_2 emissions limitation shall do the following:

(1) Surrender the CAIR SO_2 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.8 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 SO_2 source, and CAIR NO_X ozone season source and each CAIR NO_X unit, CAIR SO_2 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), and 326 IAC 24-3-6(h) for the CAIR designated representative for the source and each CAIR NO_X unit, CAIR SO_2 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), and 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 SO_2 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 SO_2 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 SO_2 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.9 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 SO_2 source, and CAIR NO_X ozone season source and each CAIR NO_X unit, CAIR SO_2 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 SO_2 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 SO_2 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
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53, IGCN 1003
Indianapolis, Indiana 46204-2251

(d) Where 326 IAC 24-1, 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.10 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 SO_2 source, and CAIR NO_X ozone season source and each CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit shall be liable as follows:

(a) Each CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source and each CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit shall meet the requirements of the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program, respectively.

(b) Any provision of the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program that applies to a CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source or the CAIR designated representative of a CAIR NO_X source, CAIR SO_2 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 units, CAIR SO_2 units, and CAIR NO_X ozone season units at the source.

(c) Any provision of the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program that applies to a CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit or the CAIR designated representative of a CAIR NO_X unit, CAIR SO_2 unit, and CAIR NO_X ozone season unit shall also apply to the owners and operators of such unit.

G.11 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 SO_2 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 SO_2 source, and CAIR NO_X ozone season source or CAIR NO_X unit, CAIR SO_2 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.12 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]

Pursuant to 326 IAC 24-1-6, 326 IAC 24-2-6, and 326 IAC 24-3-6:

(a) Except as specified in 326 IAC 24-1-6(f)(3), 326 IAC 24-2-6(f)(3), and 326 IAC 24-3-6(f)(3), each CAIR NO_X source, CAIR SO_2 source, and CAIR NO_X ozone season source, including all CAIR NO_X units, CAIR SO_2 units, and CAIR NO_X ozone season units at the source, shall have one (1) and only one (1) CAIR designated representative, with regard to all matters under the CAIR NO_X annual trading program, CAIR SO_2 trading program, and CAIR NO_X ozone season trading program concerning the source or any CAIR NO_X unit, CAIR SO_2 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 SO_2 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), and 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: Hoosier Energy REC, Inc - Merom Generating Station
Source Address: 5500 West Old 54, Sullivan, Indiana 47882
Part 70 Permit No.: T153-28006-00005

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)

☐ Report (specify)

☐ Notification (specify)

☐ Affidavit (specify)

☐ Other (specify)

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

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Hoosier Energy REC, Inc - Merom Generating Station
Source Address: 5500 West Old 54, Sullivan, Indiana 47882
Part 70 Permit No.: T153-28006-00005

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

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

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Hoosier Energy REC, Inc - Merom Generating Station
Source Address: 5500 West Old 54, Sullivan, Indiana 47882
Part 70 Permit No.: T153-28006-00005

Months: _____ to _____ Year: _____

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

☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)

Date of Deviation:	**Duration of Deviation:**

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Permit Requirement (specify permit condition #)

Date of Deviation:	**Duration of Deviation:**

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

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

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM)
OFFICE OF AIR QUALITY (OAQ)

COMPLIANCE AND ENFORCEMENT BRANCH
Part 70 Quarterly Report

Source Name: Hoosier Energy REC, Inc. - Merom Generating Station
Source Address: 5500 West Old 54, Sullivan, Indiana 47882
Part 70 Permit No.: T153-28006-00005
Facility: CBM-fired Flare
Parameter: Coal Bed Methane Usage
Limit: 73.50 MMCF per 12 consecutive month period.

QUARTER _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on (date): _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM)
OFFICE OF AIR QUALITY (OAQ)

COMPLIANCE AND ENFORCEMENT BRANCH
Part 70 Quarterly Report

Source Name: Hoosier Energy REC, Inc. - Merom Generating Station
Source Address: 5500 West Old 54, Sullivan, Indiana 47882
Part 70 Permit No.: T153-28006-00005
Facility: CBM1-CMB8
Parameter: CO Emissions
Limit: Less than 91.8 tons per twelve (12) consecutive month period.

QUARTER _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on (date): _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM)
OFFICE OF AIR QUALITY (OAQ)

COMPLIANCE AND ENFORCEMENT BRANCH
Part 70 Quarterly Report

Source Name: Hoosier Energy REC, Inc. - Merom Generating Station
Source Address: 5500 West Old 54, Sullivan, Indiana 47882
Part 70 Permit No.: T153-28006-00005
Facility: CBM1-CMB8
Parameter: VOC
Limit: Less than 34.2 tons per twelve (12) consecutive month period.

QUARTER _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on (date): _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM)
OFFICE OF AIR QUALITY (OAQ)

COMPLIANCE AND ENFORCEMENT BRANCH
Part 70 Quarterly Report

Source Name: Hoosier Energy REC, Inc. - Merom Generating Station
Source Address: 5500 West Old 54, Sullivan, Indiana 47882
Part 70 Permit No.: T153-28006-00005
Facility: CBM1-CMB8
Parameter: NOx
Limit: Less than 36.7 tons per twelve (12) consecutive month period.

QUARTER _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on (date): _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

Attachment A

TITLE IV (ACID RAIN) PERMIT RENEWAL
OFFICE OF AIR QUALITY

Hoosier Energy REC, Inc. - Merom Generating Station
5500 West Old 54
Sullivan, Indiana, 47882

ORIS: 6213

The owners and operators (hereinafter collectively known as the Permittee) of the above source are issued this permit under the provisions of 326 Indiana Administrative Code (IAC) 21 [326 IAC 21] with conditions listed on the attached pages.

Operation Permit No.: AR 153-28876-00005	
Issued by:	Issuance Date: September 8, 2010
Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality	Expiration Date: September 8, 2015

Title IV Operating Conditions

Title IV Source Description:

(a) One (1) pulverized coal-fired, dry bottom wall-fired boiler, identified as Unit 1SG1 (Unit 1 in the Title V operating permit), constructed in 1976, rated at 5,088 million Btu per hour (MMBtu/hr) energy input, used to generate up to 490 megawatts (gross) of electricity. Unit 1SG1 uses No. 2 fuel oil for start ups and flame stabilization. Unit 1SG1 cannot operate at load solely using No. 2 fuel oil. Unit 1SG1 utilizes the following control equipment: Electrostatic Precipitator (ESP), Flue Gas Desulfurization (FGD) Wet Nonregenerative Scrubber System (identified as CE1B), and Selective Catalytic Reduction (SCR) and SO3 Mitigation System. Controlled emissions from Unit 1SG1 are exhausted to the atmosphere through a 19-foot diameter flue liner (Stack SV1) which is housed in a 700-foot shell that is shared by both Units 1SG1 and 2SG1. Opacity is measured with a continuous opacity monitor (COM). Sulfur dioxide (SO_2) and nitrogen oxides (NOx) emissions are measured with a continuous emission monitor system (CEMS).

(b) One (1) pulverized coal-fired, dry bottom wall-fired boiler, identified as Unit 2SG1 (Unit 2 in the Title V operating permit), constructed in 1976, rated at 5,088 MMBtu/hr energy input, used to generate up to 490 megawatts (gross) of electricity. Unit 2SG1 uses No. 2 fuel oil for start ups and flame stabilization. Unit 2SG1 can not operate at load solely using No. 2 fuel oil. Unit 2SG1 utilizes the following control equipment: Electrostatic Precipitator (ESP), Flue Gas Desulfurization (FGD) Wet Nonregenerative Scrubber System (identified as CE2B), and Selective Catalytic Reduction (SCR) and SO3 Mitigation System. Controlled emissions from Unit 2SG1 are exhausted to the atmosphere through a 19-foot diameter flue liner (Stack SV2) which is housed in a 700-foot shell that is shared by both Units 1SG1 and 2SG1. Opacity is measured with a continuous opacity monitor (COM). Sulfur dioxide (SO_2) and nitrogen oxides (NOx) emissions are measured with a continuous emission monitor system (CEMS).

(The information contained in this box is descriptive information and does not constitute enforceable conditions.)

1. Statutory and Regulatory Authorities

In accordance with IC 13-17-3-4 and IC 13-17-3-11, as well as Titles IV and V of the Clean Air Act, the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) issues this permit pursuant to 326 IAC 2 and 326 IAC 21 (incorporates by reference 40 Code of Federal Regulations (CFR) 72 through 78).

2. Standard Permit Requirements [326 IAC 21]

(a) The designated representative has submitted a complete acid rain permit application in accordance with 40 CFR 72.30.

(b) The Permittee shall operate Unit 1SG1 and Unit 2SG1 in compliance with this permit.

3. Monitoring Requirements [326 IAC 21]

(a) The Permittee and, to the extent applicable, the designated representative of Unit 1SG1 and Unit 2SG1 shall comply with the monitoring requirements as provided in 40 CFR 75 and 76.

(b) The emissions measurements recorded and reported in accordance with 40 CFR 75 and 76 shall be used to determine compliance by Unit 1SG1 and Unit 2SG1 with the acid rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.

(c) The requirements of 40 CFR 75 and 76 shall not affect the responsibility of the Permittee to monitor emissions of other pollutants or other emissions characteristics at Unit 1SG1 and Unit 2SG1 under other applicable requirements of the Clean Air Act and other provisions of the operating permit for the source.

4. Sulfur Dioxide Requirements [326 IAC 21]

(a) The Permittee shall:

(1) Hold allowances, as of the allowance transfer deadline (as defined in 40 CFR 72.2), in the compliance subaccount of Unit 1SG1 and Unit 2SG1, after deductions under 40 CFR 73.34(c), not less than the total annual emissions of sulfur dioxide for the previous calendar year from Unit 1SG1 and Unit 2SG1; and,

(2) Comply with the applicable acid rain emissions limitations for sulfur dioxide.

(b) Each ton of sulfur dioxide emitted in excess of the acid rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Clean Air Act.

(c) Unit 1SG1 and Unit 2SG1 shall be subject to the requirements under paragraph 4(a) of the sulfur dioxide requirements as follows:

(1) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or,

(2) Starting on the latter of January 1, 2000, or the deadline for monitor certification under 40 CFR 75, an affected unit under 40 CFR 72.6(a)(3).

(d) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.

(e) An allowance shall not be deducted in order to comply with the requirements under paragraph 4(a) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.

(f) An allowance allocated by the U.S. EPA under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the acid rain permit application, the acid rain permit, the acid rain portion of an operating permit, or the written exemption under 40 CFR 72.7 and 72.8 and 326 IAC 21, and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.

(g) An allowance allocated by U.S. EPA under the Acid Rain Program does not constitute a property right.

(h) No permit revision may be required for increases in emissions that are authorized by allowances acquired pursuant to the Acid Rain Program, provided that the increases do not require a permit revision under any other applicable requirement.
[326 IAC 2-7-5(4)(A)]

(i) No limit shall be placed on the number of allowances held by the Permittee. The Permittee may not, however, use allowances as a defense to noncompliance with any applicable requirement other than the requirements of the Acid Rain Program.
[326 IAC 2-7-5(4)(B)]

5. Nitrogen Oxides Requirements [326 IAC 21]

(a) The Permittee shall comply with the applicable acid rain emissions limitation of nitrogen oxides (NO_X) for Unit 1SG1 and Unit 2SG1.

(b) NO_X Emission Averaging Plan for Unit 1SG1:

(1) Pursuant to 40 CFR 76.11, the Indiana Department of Environmental Management, Office of Air Quality approves a NO_X emission averaging plan for Unit 1SG1**,** effective from calendar year 2010 through 2015. Under the plan, the NO_X emissions from Unit 1SG1 shall not exceed the annual Alternative Contemporaneous Emission Limitation (ACEL) of 0.20 lb/MMBtu. In addition, Unit 1SG1 shall not have an annual heat input less than 36,000,000 MMBtu.

(2) Under the plan, the actual Btu-weighted annual average NO_X emission rate for all the units in the plan shall be less than or equal to the Btu-weighted annual average NO_X emission rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitations under 40 CFR 76.5. If the designated representative demonstrates that the requirement of the prior sentence (as set forth in 40 CFR 76.11) is met for a year under the plan, then Unit 1SG1 shall be deemed to be in compliance for that year with its annual ACEL and annual heat input limit.

(c) NO_X Emission Averaging Plan for Unit 2SG1:

(1) Pursuant to 40 CFR 76.11, the Indiana Department of Environmental Management, Office of Air Quality approves a NO_X emission averaging plan for Unit 1SG1**,** effective from calendar year 2010 through 2015. Under the plan, the NO_X emissions from Unit 2SG1 shall not exceed the annual Alternative Contemporaneous Emission Limitation (ACEL) of 0.20 lb/MMBtu. In addition, Unit 1SG1 shall not have an annual heat input less than 36,000,000 MMBtu.

(2) Under the plan, the actual Btu-weighted annual average NO_X emission rate for all the units in the plan shall be less than or equal to the Btu-weighted annual average NO_X emission rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitations under 40 CFR 76.5. If the designated representative demonstrates that the requirement of the prior sentence (as set forth in 40 CFR 76.11) is met for a year under the plan, then Unit 2SG1 shall be deemed to be in compliance for that year with its annual ACEL and annual heat input limit.

(d) The Permittee must demonstrate annually that Unit 1SG1 and Unit 2SG1 each meet the lowest NO_X emission limit of all the units exhausting their emissions through the common stack, based upon the data from certified continuous emission monitoring systems (CEMS) at the common stack. CEMS certification must be performed in accordance with the requirements and specifications delineated at 40 CFR 75.17.

(e) In addition to the described NO_X compliance plan, Unit 1SG1 and Unit 2SG1 shall comply with all other applicable requirements of 40 CFR 76, including the duty to reapply for a NO_X compliance plan and requirements covering excess emissions.

6. Excess Emissions Requirements [40 CFR 77] [326 IAC 21]

(a) If Unit 1SG1 and Unit 2SG1 has excess emissions of sulfur dioxide in any calendar year, the designated representative shall submit a proposed offset plan to U.S. EPA and IDEM, OAQ as required under 40 CFR 77 and 326 IAC 21.

(b) The designated representative shall submit required information 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

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

(c) If Unit 1SG1 and Unit 2SG1 has excess emissions, as defined in 40 CFR 72.2, in any calendar year, the Permittee shall:

(1) Pay to U.S. EPA without demand the penalty required, and pay to U.S. EPA upon demand the interest on that penalty, as required by 40 CFR 77 and 326 IAC 21; and,

(2) Comply with the terms of an approved sulfur dioxide offset plan, as required by 40 CFR 77 and 326 IAC 21.

7. Record Keeping and Reporting Requirements [326 IAC 21]

(a) Unless otherwise provided, the Permittee shall keep on site each of the following documents for a period of 5 years, as required by 40 CFR 72.9(f), from the date the document is created. This period may be extended for cause, at any time prior to the end of the 5 years, in writing by U.S. EPA or IDEM, OAQ:

(1) The certificate of representation for the designated representative of Unit 1SG1 and Unit 2SG1 and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5 year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;

(2) All emissions monitoring information collected in accordance with 40 CFR 75 shall be retained on site for 3 years;

(3) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

(4) Copies of all documents used to complete an acid rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(b) The designated representative of Unit 1SG1 and Unit 2SG1 shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR 72.90 subpart I, 40 CFR 75, and 326 IAC 21. The required information is to be submitted to the appropriate authority(ies) as specified in 40 CFR 72.90 subpart I and 40 CFR 75.

8. Submissions [326 IAC 21]

(a) The designated representative of Unit 1SG1 and Unit 2SG1 shall submit a certificate of representation, and any superseding certificate of representation, to U.S. EPA and IDEM, OAQ in accordance with 40 CFR 72 and 326 IAC 21.

(b) The designated representative shall submit required information 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

and

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

(c) Each such submission under the Acid Rain Program shall be submitted, signed and certified by the designated representative for all sources on behalf of which the submission is made.

(d) In each submission under the Acid Rain Program, the designated representative shall certify, by his or her signature, the following statements which shall be included verbatim in the submission:

(1) “I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made.”; and,

(2) “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.”

(e) The designated representative of Unit 1SG1 and Unit 2SG1 shall notify the Permittee:

(1) By the date of submission, of any Acid Rain Program submissions by the designated representative;

(2) Within 10 business days of receipt of any written determination by U.S. EPA or IDEM, OAQ; and,

(3) Provided that the submission or determination covers Unit 1SG1 and Unit 2SG1.

(f) The designated representative of Unit 1SG1 and Unit 2SG1 shall provide the Permittee a copy of any submission or determination under paragraph 8(e), unless the Permittee expressly waives the right to receive a copy.

9. Severability [326 IAC 21]

Invalidation of the acid rain portion of an operating permit does not affect the continuing validity of the rest of the operating permit, nor shall invalidation of any other portion of the operating permit affect the continuing validity of the acid rain portion of the permit. [40 CFR 72.72(b), 326 IAC 21, and 326 IAC 2-7-5(5)]

10. Liability [326 IAC 21]

(a) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, an acid rain permit, an acid rain portion of an operation permit, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement by U.S. EPA pursuant to Section 113(c) of the Clean Air Act and shall be subject to enforcement by IDEM pursuant to 326 IAC 21 and IC 13-30-3.

(b) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to Section 113(c) of the Clean Air Act, 18 U.S.C. 1001 and IDEM pursuant to 326 IAC 21 and IC 13-30-6-2.

(c) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.

(d) Unit 1SG1 and Unit 2SG1 shall meet the requirements of the Acid Rain Program.

(e) Any provision of the Acid Rain Program that applies to Unit 1SG1 and Unit 2SG1, including a provision applicable to the designated representative of Unit 1SG1 and Unit 2SG1 shall also apply to the Permittee.

(f) Any provision of the Acid Rain Program that applies to Unit 1SG1 and Unit 2SG1, including a provision applicable to the designated representative, shall also apply to the Permittee. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO_X averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR 75, including 40 CFR 75.16, 75.17, and 75.18, the Permittee and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.

(g) Each violation of a provision of 40 CFR parts 72, 73, 75, 76, 77, and 78 by Unit 1SG1 and Unit 2SG1, or by the Permittee or designated representative, shall be a separate violation of the Clean Air Act.

11. Effect on Other Authorities [326 IAC 21]

No provision of the Acid Rain Program, an acid rain permit application, an acid rain permit, an acid rain portion of an operation permit, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(a) Except as expressly provided in Title IV of the Clean Air Act (42 USC 7651 to 7651(o)), exempting or excluding the Permittee and, to the extent applicable, the designated representative of Unit 1SG1 and Unit 2SG1 from compliance with any other provision of the Clean Air Act, including the provisions of Title I of the Clean Air Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;

(b) Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Clean Air Act;

(c) Requiring a change of any kind in any state law regulating electric utility rates and charges, affecting any state law regarding such state regulation, or limiting such state regulation, including any prudence review requirements under such state law;

(d) Modifying the Federal Power Act (16 USC 791(a) et seq.) or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,

(e) Interfering with or impairing any program for competitive bidding for power supply in a state in which such a program is established.

Indiana Department of Environmental Management
Office of Air Quality
Attachment B:

Source Description and Location

Source Name:	Hoosier Energy REC, Inc. – Merom Generating Station
Source Location:	5500 W Old 54, Sullivan, Indiana 47882
County:	Sullivan
SIC Code:	4911
TV Permit No.:	T 153-28006-00005
Operation Permit Issuance Date:	September 8, 2010
Permit Reviewer:	James Mackenzie

FOSSIL-FUEL-FIRED STEAM GENERATORS FOR WHICH CONSTRUCTION IS COMMENCED AFTER AUGUST 17, 1971
NSPS Requirements
[40 CFR Part 60, Subpart D]

§ 60.40 Applicability and designation of affected facility.

(a) The affected facilities to which the provisions of this subpart apply are:

(1) Each fossil-fuel-fired steam generating unit of more than 73 megawatts (MW) heat input rate (250 million British thermal units per hour (MMBtu/hr)).

(2) Each fossil-fuel and wood-residue-fired steam generating unit capable of firing fossil fuel at a heat input rate of more than 73 MW (250 MMBtu/hr).

(b) Any change to an existing fossil-fuel-fired steam generating unit to accommodate the use of combustible materials, other than fossil fuels as defined in this subpart, shall not bring that unit under the applicability of this subpart.

(c) Except as provided in paragraph (d) of this section, any facility under paragraph (a) of this section that commenced construction or modification after August 17, 1971, is subject to the requirements of this subpart.

(d) The requirements of §§60.44 (a)(4), (a)(5), (b) and (d), and 60.45(f)(4)(vi) are applicable to lignite-fired steam generating units that commenced construction or modification after December 22, 1976.

(e) Any facility covered under subpart Da is not covered under this subpart.

§ 60.41 Definitions.

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

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

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388 (incorporated by reference, see §60.17).

Coal refuse means waste-products of coal mining, cleaning, and coal preparation operations (e.g. culm, gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material.

Fossil fuel means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials for the purpose of creating useful heat.

Fossil fuel and wood residue-fired steam generating unit means a furnace or boiler used in the process of burning fossil fuel and wood residue for the purpose of producing steam by heat transfer.

Fossil-fuel-fired steam generating unit means a furnace or boiler used in the process of burning fossil fuel for the purpose of producing steam by heat transfer.

Wood residue means bark, sawdust, slabs, chips, shavings, mill trim, and other wood products derived from wood processing and forest management operations.

§ 60.42 Standard for particulate matter (PM).

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases that:

(1) Contain PM in excess of 43 nanograms per joule (ng/J) heat input (0.10 lb/MMBtu) derived from fossil fuel or fossil fuel and wood residue.

(2) Exhibit greater than 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.

(b)(1) On or after December 28, 1979, no owner or operator shall cause to be discharged into the atmosphere from the Southwestern Public Service Company's Harrington Station #1, in Amarillo, TX, any gases which exhibit greater than 35 percent opacity, except that a maximum or 42 percent opacity shall be permitted for not more than 6 minutes in any hour.

(2) Interstate Power Company shall not cause to be discharged into the atmosphere from its Lansing Station Unit No. 4 in Lansing, IA, any gases which exhibit greater than 32 percent opacity, except that a maximum of 39 percent opacity shall be permitted for not more than six minutes in any hour.

(c) As an alternate to meeting the requirements of paragraph (a) of this section, an owner or operator that elects to install, calibrate, maintain, and operate a continuous emissions monitoring systems (CEMS) for measuring PM emissions can petition the Administrator (in writing) to comply with §60.42Da(a) of subpart Da of this part. If the Administrator grants the petition, the source will from then on (unless the unit is modified or reconstructed in the future) have to comply with the requirements in §60.43Da(a) of subpart Da of this part.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5077, Jan. 28, 2009]

§ 60.43 Standard for sulfur dioxide (SO_2).

(a) Except as provided under paragraph (d) of this section, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases that contain SO_2in excess of:

(1) 340 ng/J heat input (0.80 lb/MMBtu) derived from liquid fossil fuel or liquid fossil fuel and wood residue.

(2) 520 ng/J heat input (1.2 lb/MMBtu) derived from solid fossil fuel or solid fossil fuel and wood residue, except as provided in paragraph (e) of this section.

(b) Except as provided under paragraph (d) of this section, when different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) shall be determined by proration using the following formula:

$$PS_{SO_2} = \frac{y\,(340) + z\,(520)}{(y + z)}$$

Where:

$PS_{SO}2$= Prorated standard for $S_{O2}$when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels or from all fossil fuels and wood residue fired;

y = Percentage of total heat input derived from liquid fossil fuel; and

z = Percentage of total heat input derived from solid fossil fuel.

(c) Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels.

(d) As an alternate to meeting the requirements of paragraphs (a) and (b) of this section, an owner or operator can petition the Administrator (in writing) to comply with §60.43Da(i)(3) of subpart Da of this part or comply with §60.42b(k)(4) of subpart Db of this part, as applicable to the affected source. If the Administrator grants the petition, the source will from then on (unless the unit is modified or reconstructed in the future) have to comply with the requirements in §60.43Da(i)(3) of subpart Da of this part or §60.42b(k)(4) of subpart Db of this part, as applicable to the affected source.

(e) Units 1 and 2 (as defined in appendix G of this part) at the Newton Power Station owned or operated by the Central Illinois Public Service Company will be in compliance with paragraph (a)(2) of this section if Unit 1 and Unit 2 individually comply with paragraph (a)(2) of this section or if the combined emission rate from Units 1 and 2 does not exceed 470 ng/J (1.1 lb/MMBtu) combined heat input to Units 1 and 2.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5077, Jan. 28, 2009]

§ 60.44 Standard for nitrogen oxides (NOX).

(a) Except as provided under paragraph (e) of this section, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases that contain NO_X, expressed as NO_2in excess of:

(1) 86 ng/J heat input (0.20 lb/MMBtu) derived from gaseous fossil fuel.

(2) 129 ng/J heat input (0.30 lb/MMBtu) derived from liquid fossil fuel, liquid fossil fuel and wood residue, or gaseous fossil fuel and wood residue.

(3) 300 ng/J heat input (0.70 lb/MMBtu) derived from solid fossil fuel or solid fossil fuel and wood residue (except lignite or a solid fossil fuel containing 25 percent, by weight, or more of coal refuse).

(4) 260 ng/J heat input (0.60 lb MMBtu) derived from lignite or lignite and wood residue (except as provided under paragraph (a)(5) of this section).

(5) 340 ng/J heat input (0.80 lb MMBtu) derived from lignite which is mined in North Dakota, South Dakota, or Montana and which is burned in a cyclone-fired unit.

(b) Except as provided under paragraphs (c), (d), and (e) of this section, when different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) is determined by proration using the following formula:

$$PS_{NO_x} = \frac{w\,(260) + x\,(86) + y\,(130) + z\,(300)}{(w + x + y + z)}$$

Where:

PS_{NOX}= Prorated standard for $NO_X$when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;

w = Percentage of total heat input derived from lignite;

x = Percentage of total heat input derived from gaseous fossil fuel;

y = Percentage of total heat input derived from liquid fossil fuel; and

z = Percentage of total heat input derived from solid fossil fuel (except lignite).

(c) When a fossil fuel containing at least 25 percent, by weight, of coal refuse is burned in combination with gaseous, liquid, or other solid fossil fuel or wood residue, the standard for NO_Xdoes not apply.

(d) Except as provided under paragraph (e) of this section, cyclone-fired units which burn fuels containing at least 25 percent of lignite that is mined in North Dakota, South Dakota, or Montana remain subject to paragraph (a)(5) of this section regardless of the types of fuel combusted in combination with that lignite.

(e) As an alternate to meeting the requirements of paragraphs (a), (b), and (d) of this section, an owner or operator can petition the Administrator (in writing) to comply with §60.44Da(e)(3) of subpart Da of this part. If the Administrator grants the petition, the source will from then on (unless the unit is modified or reconstructed in the future) have to comply with the requirements in §60.44Da(e)(3) of subpart Da of this part.

§ 60.45 Emissions and fuel monitoring.

(a) Each owner or operator shall install, calibrate, maintain, and operate continuous opacity monitoring system (COMS) for measuring opacity and a CEMS for measuring SO2emissions, NOXemissions, and either oxygen (O2) or carbon dioxide (CO2) except as provided in paragraph (b) of this section.

(b) Certain of the CEMS requirements under paragraph (a) of this section do not apply to owners or operators under the following conditions:

(1) For a fossil-fuel-fired steam generator that burns only gaseous or liquid fossil fuel (excluding residual oil) with potential SO2emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and that does not use post-combustion technology to reduce emissions of SO2or PM, CEMS for measuring the opacity of emissions and SO2 emissions are not required if the owner or operator monitors SO2emissions by fuel sampling and analysis or fuel receipts.

(2) For a fossil-fuel-fired steam generator that does not use a flue gas desulfurization device, a CEMS for measuring SO_2emissions is not required if the owner or operator monitors SO_2emissions by fuel sampling and analysis.

(3) Notwithstanding §60.13(b), installation of a CEMS for NO_Xmay be delayed until after the initial performance tests under §60.8 have been conducted. If the owner or operator demonstrates during the performance test that emissions of $NO_X$are less than 70 percent of the applicable standards in §60.44, a CEMS for measuring NO_Xemissions is not required. If the initial performance test results show that NO_Xemissions are greater than 70 percent of the applicable standard, the owner or operator shall install a CEMS for NO_Xwithin one year after the date of the initial performance tests under §60.8 and comply with all other applicable monitoring requirements under this part.

(4) If an owner or operator does not install any CEMS for sulfur oxides and NO_X, as provided under paragraphs (b)(1) and (b)(3) or paragraphs (b)(2) and (b)(3) of this section a CEMS for measuring either O_2or $CO_2$is not required.

(5) An owner or operator may petition the Administrator (in writing) to install a PM CEMS as an alternative to the CEMS for monitoring opacity emissions.

(6) A CEMS for measuring the opacity of emissions is not required for a fossil fuel-fired steam generator that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected source are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis. Owners and operators of affected sources electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (b)(6)(i) through (iv) of this section.

(i) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (b)(6)(i)(A) through (D) of this section.

(A) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(B) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(C) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

(D) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(ii) You must calculate the 1-hour average CO emissions levels for each boiler operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each boiler operating day.

(iii) You must evaluate the preceding 24-hour average CO emission level each boiler operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(iv) You must record the CO measurements and calculations performed according to paragraph (b)(6) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(7) The owner or operator of an affected facility subject to an opacity standard under §60.42 and that elects to not install a COMS because the affected facility burns only fuels as specified under paragraph (b)(1) of this section, monitors PM emissions as specified under paragraph (b)(5) of this section, or monitors CO emissions as specified under paragraph (b)(6) of this section shall conduct a performance test using Method 9 of appendix A–4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.42 and shall comply with either paragraphs (b)(7)(i), (b)(7)(ii), or (b)(7)(iii) of this section. If during the initial 60 minutes of observation all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent, the observation period may be reduced from 3 hours to 60 minutes.

(i) Except as provided in paragraph (b)(7)(ii) or (b)(7)(iii) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A–4 of this part performance tests using the procedures in paragraph (b)(7) of this section according to the applicable schedule in paragraphs (b)(7)(i)(A) through (b)(7)(i)(D) of this section, as determined by the most recent Method 9 of appendix A–4 of this part performance test results.

(A) If no visible emissions are observed, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;

(B) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;

(C) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or

(D) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 30 calendar days from the date that the most recent performance test was conducted.

(ii) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 of this part performance test, elect to perform subsequent monitoring using Method 22 of appendix A–7 of this part according to the procedures specified in paragraphs (b)(7)(ii)(A) and (B) of this section.

(A) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A–7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.* , 90 seconds per 30 minute period) the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.* , 90 seconds) or conduct a new Method 9 of appendix A–4 of this part performance test using the procedures in paragraph (b)(7) of this section within 30 calendar days according to the requirements in §60.46(b)(3).

(B) If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(iii) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (b)(7)(ii) of this section. For reference purposes in preparing the monitoring plan, see OAQPS “Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems.” This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(c) For performance evaluations under §60.13(c) and calibration checks under §60.13(d), the following procedures shall be used:

(1) Methods 6, 7, and 3B of appendix A of this part, as applicable, shall be used for the performance evaluations of $SO_2$and NO_Xcontinuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B of appendix A of this part are given in §60.46(d).

(2) Sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of appendix B to this part.

(3) For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100 percent. For a continuous monitoring system measuring sulfur oxides or $NO_X$the span value shall be determined using one of the following procedures:

(i) Except as provided under paragraph (c)(3)(ii) of this section, $SO_2$and NO_Xspan values shall be determined as follows:

Fossil fuel	In parts per million	
	Span value for SO_2	Span value for NO_X
Gas	([1])	500.
Liquid	1,000	500.
Solid	1,500	1,000.
Combinations	1,000y + 1,500z	500 (x + y) + 1,000z.

[1]Not applicable.

Where:

x = Fraction of total heat input derived from gaseous fossil fuel;

y = Fraction of total heat input derived from liquid fossil fuel; and

z = Fraction of total heat input derived from solid fossil fuel.

(ii) As an alternative to meeting the requirements of paragraph (c)(3)(i) of this section, the owner or operator of an affected facility may elect to use the $SO_2$and NO_Xspan values determined according to sections 2.1.1 and 2.1.2 in appendix A to part 75 of this chapter.

(4) All span values computed under paragraph (c)(3)(i) of this section for burning combinations of fossil fuels shall be rounded to the nearest 500 ppm. Span values that are computed under paragraph (c)(3)(ii) of this section shall be rounded off according to the applicable procedures in section 2 of appendix A to part 75 of this chapter.

(5) For a fossil-fuel-fired steam generator that simultaneously burns fossil fuel and nonfossil fuel, the span value of all CEMS shall be subject to the Administrator's approval.

(d) [Reserved]

(e) For any CEMS installed under paragraph (a) of this section, the following conversion procedures shall be used to convert the continuous monitoring data into units of the applicable standards (ng/J, lb/MMBtu):

(1) When a CEMS for measuring $O_2$is selected, the measurement of the pollutant concentration and O_2concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the Administrator shall be used when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used:

$$E = CF\left(\frac{20.9}{(20.9 - \%O_2)}\right)$$

Where E, C, F, and $\%O_2$are determined under paragraph (f) of this section.

(2) When a CEMS for measuring $CO_2$is selected, the measurement of the pollutant concentration and CO_2concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure shall be used:

$$E = CF_c\left(\frac{100}{\%CO_2}\right)$$

Where E, C, $F_c$and $\%CO_2$are determined under paragraph (f) of this section.

(f) The values used in the equations under paragraphs (e)(1) and (2) of this section are derived as follows:

(1) E = pollutant emissions, ng/J (lb/MMBtu).

(2) C = pollutant concentration, ng/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by 4.15×10^4 M ng/dscm per ppm (2.59×10^{-9}M lb/dscf per ppm) where M = pollutant molecular weight, g/g-mole (lb/lb-mole). M = 64.07 for $SO_2$and 46.01 for NO_X.

(3) $\%O_2$, $\%CO_2$= O_2or CO_2volume (expressed as percent), determined with equipment specified under paragraph (a) of this section.

(4) F, F_c= a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of CO_2generated to the calorific value of the fuel combusted (F_c), respectively. Values of F and $F_c$are given as follows:

(i) For anthracite coal as classified according to ASTM D388 (incorporated by reference, see §60.17), F = $2{,}723 \times 10^{-17}$dscm/J (10,140 dscf/MMBtu) and F_c= 0.532×10^{-17}scm CO_2/J (1,980 scf CO_2/MMBtu).

(ii) For subbituminous and bituminous coal as classified according to ASTM D388 (incorporated by reference, see §60.17), F = 2.637×10^{-7}dscm/J (9,820 dscf/MMBtu) and F_c= 0.486×10^{-7}scm CO_2/J (1,810 scf CO_2/MMBtu).

(iii) For liquid fossil fuels including crude, residual, and distillate oils, F = 2.476×10^{-7}dscm/J (9,220 dscf/MMBtu) and F_c= 0.384×10^{-7}scm CO_2/J (1,430 scf CO_2/MMBtu).

(iv) For gaseous fossil fuels, F = 2.347×10^{-7}dscm/J (8,740 dscf/MMBtu). For natural gas, propane, and butane fuels, F_c= 0.279×10^{-7}scm CO_2/J (1,040 scf CO_2/MMBtu) for natural gas, 0.322×10^{-7}scm CO_2/J (1,200 scf CO_2/MMBtu) for propane, and 0.338×10^{-7}scm CO_2/J (1,260 scf CO_2/MMBtu) for butane.

(v) For bark F = 2.589×10^{-7}dscm/J (9,640 dscf/MMBtu) and F_c= 0.500×10^{-7}scm CO_2/J (1,840 scf CO_2/MMBtu). For wood residue other than bark F = 2.492×10^{-7}dscm/J (9,280 dscf/MMBtu) and F_c= 0.494×10^{-7}scm CO_2/J (1,860 scf CO_2/MMBtu).

(vi) For lignite coal as classified according to ASTM D388 (incorporated by reference, see §60.17), F = 2.659×10^{-7}dscm/J (9,900 dscf/MMBtu) and F_c= 0.516×10^{-7}scm CO_2/J (1,920 scf CO_2/MMBtu).

(5) The owner or operator may use the following equation to determine an F factor (dscm/J or dscf/MMBtu) on a dry basis (if it is desired to calculate F on a wet basis, consult the Administrator) or Fc factor (scm CO_2/J, or scf CO_2/MMBtu) on either basis in lieu of the F or $F_c$factors specified in paragraph (f)(4) of this section:

$$F = 10^{-6}\,\frac{[227.2\ (\%H) + 95.5\ (\%C) + 35.6\ (\%S) + 8.7\ (\%N) - 28.7\ (\%O)]}{GCV}$$

$$F_c = \frac{2.0 \times 10^{-5}(\%C)}{GCV\ (SI\ units)}$$

$$F = 10^{-6}\,\frac{[3.64\ (\%H) + 1.53\ (\%C) + 0.57\ (\%S) + 0.14\ (\%N) - 0.46\ (\%O)]}{GCV\ (English\ units)}$$

$$F_c = \frac{20.0\ (\%C)}{GCV\ (SI\ units)}$$

$$F_c = \frac{321 \times 10^{3}\ (\%C)}{GCV\ (English\ units)}$$

(i) %H, %C, %S, %N, and %O are content by weight of hydrogen, carbon, sulfur, nitrogen, and O_2(expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM D3178 or D3176 (solid fuels), or computed from results using ASTM D1137, D1945, or D1946 (gaseous fuels) as applicable. (These five methods are incorporated by reference, see §60.17.)

(ii) GVC is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test methods D2015 or D5865 for solid fuels and D1826 for gaseous fuels as applicable. (These three methods are incorporated by reference, see §60.17.)

(iii) For affected facilities which fire both fossil fuels and nonfossil fuels, the F or Fc value shall be subject to the Administrator's approval.

(6) For affected facilities firing combinations of fossil fuels or fossil fuels and wood residue, the F or Fc factors determined by paragraphs (f)(4) or (f)(5) of this section shall be prorated in accordance with the applicable formula as follows:

$$F = \sum_{i=1}^{n} X_i F_i \quad \text{or} \quad F_c = \sum_{i=1}^{n} X_i (F_c)_i$$

Where:

X_i= Fraction of total heat input derived from each type of fuel (e.g. natural gas, bituminous coal, wood residue, etc.);

$F_i$or $(F_c)_i$= Applicable F or $F_c$factor for each fuel type determined in accordance with paragraphs (f)(4) and (f)(5) of this section; and

n = Number of fuels being burned in combination.

(g) Excess emission and monitoring system performance reports shall be submitted to the Administrator semiannually for each six-month period in the calendar year. All semiannual reports shall be postmarked by the 30th day following the end of each six-month period. Each excess emission and MSP report shall

include the information required in §60.7(c). Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

(1) *Opacity* . Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

(i) For sources subject to the opacity standard of §60.42(b)(1), excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 35 percent opacity, except that one six-minute average per hour of up to 42 percent opacity need not be reported.

(ii) For sources subject to the opacity standard of §60.42(b)(2), excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 32 percent opacity, except that one six-minute average per hour of up to 39 percent opacity need not be reported.

(2) *Sulfur dioxide.* Excess emissions for affected facilities are defined as:

(i) For affected facilities electing not to comply with §60.43(d), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of SO_2as measured by a CEMS exceed the applicable standard in §60.43; or

(ii) For affected facilities electing to comply with §60.43(d), any 30 operating day period during which the average emissions (arithmetic average of all one-hour periods during the 30 operating days) of SO_2as measured by a CEMS exceed the applicable standard in §60.43. Facilities complying with the 30-day SO_2standard shall use the most current associated SO_2compliance and monitoring requirements in §§60.48Da and 60.49Da of subpart Da of this part or §§60.45b and 60.47b of subpart Db of this part, as applicable.

(3) *Nitrogen oxides.* Excess emissions for affected facilities using a CEMS for measuring $NO_X$are defined as:

(i) For affected facilities electing not to comply with §60.44(e), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards in §60.44; or

(ii) For affected facilities electing to comply with §60.44(e), any 30 operating day period during which the average emissions (arithmetic average of all one-hour periods during the 30 operating days) of NO_Xas measured by a CEMS exceed the applicable standard in §60.44. Facilities complying with the 30-day NO_Xstandard shall use the most current associated NO_Xcompliance and monitoring requirements in §§60.48Da and 60.49Da of subpart Da of this part.

(4) *Particulate matter.* Excess emissions for affected facilities using a CEMS for measuring PM are defined as any boiler operating day period during which the average emissions (arithmetic average of all operating one-hour periods) exceed the applicable standards in §60.42. Affected facilities using PM CEMS must follow the most current applicable compliance and monitoring provisions in §§60.48Da and 60.49Da of subpart Da of this part.

(h) The owner or operator of an affected facility subject to the opacity limits in §60.42 that elects to monitor emissions according to the requirements in §60.45(b)(7) shall maintain records according to the requirements specified in paragraphs (h)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (h)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (h)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5077, Jan. 28, 2009]

§ 60.46 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, and subsequent performance tests as requested by the EPA Administrator, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (d) of this section.

(b) The owner or operator shall determine compliance with the PM, SO_2, and NO_Xstandards in §§60.42, 60.43, and 60.44 as follows:

(1) The emission rate (E) of PM, SO_2, or NO_Xshall be computed for each run using the following equation:

$$E = CF_d\left(\frac{20.9}{(20.9 - \%O_2)}\right)$$

Where:

E = Emission rate of pollutant, ng/J (1b/million Btu);

C = Concentration of pollutant, ng/dscm (1b/dscf);

$\%O_2$= O_2concentration, percent dry basis; and

F_d= Factor as determined from Method 19 of appendix A of this part.

(2) Method 5 of appendix A of this part shall be used to determine the PM concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems and Method 5B of appendix A of this part shall be used to determine the PM concentration (C) after FGD systems.

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train shall be set to provide an average gas temperature of 160±14 °C (320±25 °F).

(ii) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O_2concentration ($\%O_2$). The O_2sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O_2concentration for the run shall be the arithmetic mean of the sample O_2concentrations at all traverse points.

(iii) If the particulate run has more than 12 traverse points, the O_2traverse points may be reduced to 12 provided that Method 1 of appendix A of this part is used to locate the 12 O_2traverse points.

(3) Method 9 of appendix A of this part and the procedures in §60.11 shall be used to determine opacity.

(4) Method 6 of appendix A of this part shall be used to determine the SO_2concentration.

(i) The sampling site shall be the same as that selected for the particulate sample. The sampling location in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). The sampling time and sample volume for each sample run shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Two samples shall be taken during a 1-hour period, with each sample taken within a 30-minute interval.

(ii) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O_2concentration ($\%O_2$). The O_2sample shall be taken simultaneously with, and at the same point as, the SO_2sample. The SO_2emission rate shall be computed for each pair of $SO_2$and O_2samples. The SO_2emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples.

(5) Method 7 of appendix A of this part shall be used to determine the NO_Xconcentration.

(i) The sampling site and location shall be the same as for the SO_2sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.

(ii) For each NO_Xsample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O_2concentration ($\%O_2$). The sample shall be taken simultaneously with, and at the same point as, the NO_Xsample.

(iii) The NO_Xemission rate shall be computed for each pair of $NO_X$and O_2samples. The NO_Xemission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples.

(c) When combinations of fossil fuels or fossil fuel and wood residue are fired, the owner or operator (in order to compute the prorated standard as shown in §§60.43(b) and 60.44(b)) shall determine the percentage (w, x, y, or z) of the total heat input derived from each type of fuel as follows:

(1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.

(2) ASTM Methods D2015, or D5865 (solid fuels), D240 (liquid fuels), or D1826 (gaseous fuels) (all of these methods are incorporated by reference, see §60.17) shall be used to determine the gross calorific values of the fuels. The method used to determine the calorific value of wood residue must be approved by the Administrator.

(3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.

(d) The owner or operator may use the following as alternatives to the reference methods and procedures in this section or in other sections as specified:

(1) The emission rate (E) of PM, $SO_2$and NO_Xmay be determined by using the Fc factor, provided that the following procedure is used:

(i) The emission rate (E) shall be computed using the following equation:

$$E = CF_c\left(\frac{100}{\%CO_2}\right)$$

Where:

E = Emission rate of pollutant, ng/J (lb/MMBtu);

C = Concentration of pollutant, ng/dscm (lb/dscf);

$\%CO_2$= CO_2concentration, percent dry basis; and

F_c= Factor as determined in appropriate sections of Method 19 of appendix A of this part.

(ii) If and only if the average Fc factor in Method 19 of appendix A of this part is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B of appendix A of this part shall be used to determine the $O_2$and CO_2concentration according to the procedures in paragraph (b)(2)(ii), (4)(ii), or (5)(ii) of this section. Then if F_o(average of three runs), as calculated from the equation in Method 3B of appendix A of this part, is more than ±3 percent than the average $F_o$value, as determined from the average values of $F_d$and $F_c$in Method 19 of appendix A of this part, *i.e.* , F_{oa}= 0.209 (F_{da}/F_{ca}), then the following procedure shall be followed:

(A) When $F_o$is less than 0.97 F_{oa}, then E shall be increased by that proportion under 0.97 F_{oa}, *e.g.* , if $F_o$is 0.95 F_{oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the emission standard.

(B) When $F_o$is less than 0.97 $F_{oa}$and when the average difference (d) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under 0.97 F_{oa}, *e.g.* , if $F_o$is 0.95 F_{oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(C) When $F_o$is greater than 1.03 $F_{oa}$and when the average difference d is positive, then E shall be decreased by that proportion over 1.03 F_{oa}, *e.g.* , if $F_o$is 1.05 F_{oa}, E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(2) For Method 5 or 5B of appendix A–3 of this part, Method 17 of appendix A–6 of this part may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A–3 of this part may be used with Method 17 of appendix A–6 of this part only if it is used after wet FGD systems. Method 17 of appendix A–6 of this part shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.

(3) Particulate matter and SO_2may be determined simultaneously with the Method 5 of appendix A of this part train provided that the following changes are made:

(i) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 of appendix A of this part is used in place of the condenser (section 2.1.7) of Method 5 of appendix A of this part.

(ii) All applicable procedures in Method 8 of appendix A of this part for the determination of SO_2(including moisture) are used:

(4) For Method 6 of appendix A of this part, Method 6C of appendix A of this part may be used. Method 6A of appendix A of this part may also be used whenever Methods 6 and 3B of appendix A of this part data are specified to determine the SO_2emission rate, under the conditions in paragraph (d)(1) of this section.

(5) For Method 7 of appendix A of this part, Method 7A, 7C, 7D, or 7E of appendix A of this part may be used. If Method 7C, 7D, or 7E of appendix A of this part is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the O_2concentration ($\%O_2$) for the emission rate correction factor.

(6) For Method 3 of appendix A of this part, Method 3A or 3B of appendix A of this part may be used.

(7) For Method 3B of appendix A of this part, Method 3A of appendix A of this part may be used.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5078, Jan. 28, 2009]

Indiana Department of Environmental Management
Office of Air Quality
Attachment C:

Source Description and Location

Source Name:	Hoosier Energy REC, Inc. – Merom Generating Station
Source Location:	5500 W Old 54, Sullivan, Indiana 47882
County:	Sullivan
SIC Code:	4911
TV Permit No.:	T 153-28006-00005
Operation Permit Issuance Date:	September 8, 2010
Permit Reviewer:	James Mackenzie

COAL PREPARATION PLANTS
NSPS Requirements
[40 CFR Part 60, Subpart Y]

§ 60.250 Applicability and designation of affected facility.

(a) The provisions of this subpart apply to affected facilities in coal preparation and processing plants that process more than 181 megagrams (Mg) (200 tons) of coal per day.

(b) The provisions in §60.251, §60.252(a), §60.253(a), §60.254(a), §60.255(a), and §60.256(a) of this subpart are applicable to any of the following affected facilities that commenced construction, reconstruction or modification after October 27, 1974, and on or before April 28, 2008: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), and coal storage systems, transfer and loading systems.

(c) The provisions in §60.251, §60.252(b)(1) and (c), §60.253(b), §60.254(b), §60.255(b) through (h), §60.256(b) and (c), §60.257, and §60.258 of this subpart are applicable to any of the following affected facilities that commenced construction, reconstruction or modification after April 28, 2008, and on or before May 27, 2009: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), and coal storage systems, transfer and loading systems.

(d) The provisions in §60.251, §60.252(b)(1) through (3), and (c), §60.253(b), §60.254(b) and (c), §60.255(b) through (h), §60.256(b) and (c), §60.257, and §60.258 of this subpart are applicable to any of the following affected facilities that commenced construction, reconstruction or modification after May 27, 2009: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, transfer and loading systems, and open storage piles.

§ 60.251 Definitions.

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

(a) *Anthracite* means coal that is classified as anthracite according to the American Society of Testing and Materials in ASTM D388 (incorporated by reference, *see* §60.17).

(b) *Bag leak detection system* means a system that is capable of continuously monitoring relative particulate matter (dust loadings) in the exhaust of a fabric filter to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

(c) *Bituminous coal* means solid fossil fuel classified as bituminous coal by ASTM D388 (incorporated by reference— *see* §60.17).

(d) *Coal* means:

(1) For units constructed, reconstructed, or modified on or before May 27, 2009, all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388 (incorporated by reference— *see* §60.17).

(2) For units constructed, reconstructed, or modified after May 27, 2009, all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388 (incorporated by reference— *see* §60.17), and coal refuse.

(e) *Coal preparation and processing plant* means any facility (excluding underground mining operations) which prepares coal by one or more of the following processes: breaking, crushing, screening, wet or dry cleaning, and thermal drying.

(f) *Coal processing and conveying equipment* means any machinery used to reduce the size of coal or to separate coal from refuse, and the equipment used to convey coal to or remove coal and refuse from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts. Equipment located at the mine face is not considered to be part of the coal preparation and processing plant.

(g) *Coal refuse* means waste products of coal mining, physical coal cleaning, and coal preparation operations (*e.g.* culm, gob, *etc.*) containing coal, matrix material, clay, and other organic and inorganic material.

(h) *Coal storage system* means any facility used to store coal except for open storage piles.

(i) *Design controlled potential PM emissions rate* means the theoretical particulate matter (PM) emissions (Mg) that would result from the operation of a control device at its design emissions rate (grams per dry standard cubic meter (g/dscm)), multiplied by the maximum design flow rate (dry standard cubic meter per minute (dscm/min)), multiplied by 60 (minutes per hour (min/hr)), multiplied by 8,760 (hours per year (hr/yr)), divided by 1,000,000 (megagrams per gram (Mg/g)).

(j) *Indirect thermal dryer* means a thermal dryer that reduces the moisture content of coal through indirect heating of the coal through contact with a heat transfer medium. If the source of heat (the source of combustion or furnace) is subject to another subpart of this part, then the furnace and the associated emissions are not part of the affected facility. However, if the source of heat is not subject to another subpart of this part, then the furnace and the associated emissions are part of the affected facility.

(k) *Lignite* means coal that is classified as lignite A or B according to the American Society of Testing and Materials in ASTM D388 (incorporated by reference, *see* §60.17).

(l) *Mechanical vent* means any vent that uses a powered mechanical drive (machine) to induce air flow.

(m) *Open storage pile* means any facility, including storage area, that is not enclosed that is used to store coal, including the equipment used in the loading, unloading, and conveying operations of the facility.

(n) *Operating day* means a 24-hour period between 12 midnight and the following midnight during which coal is prepared or processed at any time by the affected facility. It is not necessary that coal be prepared or processed the entire 24-hour period.

(o) *Pneumatic coal-cleaning equipment* means:

(1) For units constructed, reconstructed, or modified on or before May 27, 2009, any facility which classifies bituminous coal by size or separates bituminous coal from refuse by application of air stream(s).

(2) For units constructed, reconstructed, or modified after May 27, 2009, any facility which classifies coal by size or separates coal from refuse by application of air stream(s).

(p) *Potential combustion concentration* means the theoretical emissions (nanograms per joule (ng/J) or pounds per million British thermal units (lb/MMBtu) heat input) that would result from combustion of a fuel in an uncleaned state without emission control systems, as determined using Method 19 of appendix A–7 of this part.

(q) *Subbituminous coal* means coal that is classified as subbituminous A, B, or C according to the American Society of Testing and Materials in ASTM D388 (incorporated by reference, *see* §60.17).

(r) *Thermal dryer* means:

(1) For units constructed, reconstructed, or modified on or before May 27, 2009, any facility in which the moisture content of bituminous coal is reduced by contact with a heated gas stream which is exhausted to the atmosphere.

(2) For units constructed, reconstructed, or modified after May 27, 2009, any facility in which the moisture content of coal is reduced by either contact with a heated gas stream which is exhausted to the atmosphere or through indirect heating of the coal through contact with a heated heat transfer medium.

(s) *Transfer and loading system* means any facility used to transfer and load coal for shipment.

§ 60.252 Standards for thermal dryers.

(a) On and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of a thermal dryer constructed, reconstructed, or modified on or before April 28, 2008, subject to the provisions of this subpart must meet the requirements in paragraphs (a)(1) and (a)(2) of this section.

(1) The owner or operator shall not cause to be discharged into the atmosphere from the thermal dryer any gases which contain PM in excess of 0.070 g/dscm (0.031 grains per dry standard cubic feet (gr/dscf)); and

(2) The owner or operator shall not cause to be discharged into the atmosphere from the thermal dryer any gases which exhibit 20 percent opacity or greater.

(b) Except as provided in paragraph (c) of this section, on and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of a thermal dryer constructed, reconstructed, or modified after April 28, 2008, subject to the provisions of this subpart must meet the applicable standards for PM and opacity, as specified in paragraph (b)(1) of this section. In addition, and except as provided in paragraph (c) of this section, on and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of a thermal dryer constructed, reconstructed, or modified after May 29, 2009, subject to the provisions of this subpart must also meet the applicable standards for sulfur dioxide (SO_2), and combined nitrogen oxides (NO_X) and carbon monoxide (CO) as specified in paragraphs (b)(2) and (b)(3) of this section.

(1) The owner or operator must meet the requirements for PM emissions in paragraphs (b)(1)(i) through (iii) of this section, as applicable to the affected facility.

(i) For each thermal dryer constructed or reconstructed after April 28, 2008, the owner or operator must meet the requirements of (b)(1)(i)(A) and (b)(1)(i)(B).

(A) The owner or operator must not cause to be discharged into the atmosphere from the thermal dryer any gases that contain PM in excess of 0.023 g/dscm (0.010 grains per dry standard cubic feet (gr/dscf)); and

(B) The owner or operator must not cause to be discharged into the atmosphere from the thermal dryer any gases that exhibit 10 percent opacity or greater.

(ii) For each thermal dryer modified after April 28, 2008, the owner or operator must meet the requirements of paragraphs (b)(1)(ii)(A) and (b)(1)(ii)(B) of this section.

(A) The owner or operator must not cause to be discharged to the atmosphere from the affected facility any gases which contain PM in excess of 0.070 g/dscm (0.031 gr/dscf); and

(B) The owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases which exhibit 20 percent opacity or greater.

(2) Except as provided in paragraph (b)(2)(iii) of this section, for each thermal dryer constructed, reconstructed, or modified after May 27, 2009, the owner or operator must meet the requirements for SO_2emissions in either paragraph (b)(2)(i) or (b)(2)(ii) of this section.

(i) The owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2in excess of 85 ng/J (0.20 lb/MMBtu) heat input; or

(ii) The owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases that either contain SO_2in excess of 520 ng/J (1.20 lb/MMBtu) heat input or contain SO_2in excess of 10 percent of the potential combustion concentration (*i.e.,* the facility must achieve at least a 90 percent reduction of the potential combustion concentration and may not exceed a maximum emissions rate of 1.2 lb/MMBtu (520 ng/J)).

(iii) Thermal dryers that receive all of their thermal input from a source other than coal or residual oil, that receive all of their thermal input from a source subject to an SO_2limit under another subpart of this part, or that use waste heat or residual from the combustion of coal or residual oil as their only thermal input are not subject to the SO_2limits of this section.

(3) Except as provided in paragraph (b)(3)(iii) of this section, the owner or operator must meet the requirements for combined $NO_X$and CO emissions in paragraph (b)(3)(i) or (b)(3)(ii) of this section, as applicable to the affected facility.

(i) For each thermal dryer constructed after May 27, 2009, the owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases which contain a combined concentration of $NO_X$and CO in excess of 280 ng/J (0.65 lb/MMBtu) heat input.

(ii) For each thermal dryer reconstructed or modified after May 27, 2009, the owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases which contain combined concentration of $NO_X$and CO in excess of 430 ng/J (1.0 lb/MMBtu) heat input.

(iii) Thermal dryers that receive all of their thermal input from a source other than coal or residual oil, that receive all of their thermal input from a source subject to a NO_Xlimit and/or CO limit under another subpart of this part, or that use waste heat or residual from the combustion of coal or residual oil as their only thermal input, are not subject to the combined $NO_X$and CO limits of this section.

(c) Thermal dryers receiving all of their thermal input from an affected facility covered under another 40 CFR Part 60 subpart must meet the applicable requirements in that subpart but are not subject to the requirements in this subpart.

§ 60.253 Standards for pneumatic coal-cleaning equipment.

(a) On and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of pneumatic coal-cleaning equipment constructed, reconstructed, or modified on or before April 28, 2008, must meet the requirements of paragraphs (a)(1) and (a)(2) of this section.

(1) The owner or operator must not cause to be discharged into the atmosphere from the pneumatic coal-cleaning equipment any gases that contain PM in excess of 0.040 g/dscm (0.017 gr/dscf); and

(2) The owner or operator must not cause to be discharged into the atmosphere from the pneumatic coal-cleaning equipment any gases that exhibit 10 percent opacity or greater.

(b) On and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of pneumatic coal-cleaning equipment constructed, reconstructed, or modified after April 28, 2008, must meet the requirements in paragraphs (b)(1) and (b)(2) of this section.

(1) The owner of operator must not cause to be discharged into the atmosphere from the pneumatic coal-cleaning equipment any gases that contain PM in excess or 0.023 g/dscm (0.010 gr/dscf); and

(2) The owner or operator must not cause to be discharged into the atmosphere from the pneumatic coal-cleaning equipment any gases that exhibit greater than 5 percent opacity.

§ 60.254 Standards for coal processing and conveying equipment, coal storage systems, transfer and loading systems, and open storage piles.

(a) On and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer

and loading system processing coal constructed, reconstructed, or modified on or before April 28, 2008, gases which exhibit 20 percent opacity or greater.

(b) On and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, reconstructed, or modified after April 28, 2008, must meet the requirements in paragraphs (b)(1) through (3) of this section, as applicable to the affected facility.

(1) Except as provided in paragraph (b)(3) of this section, the owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases which exhibit 10 percent opacity or greater.

(2) The owner or operator must not cause to be discharged into the atmosphere from any mechanical vent on an affected facility gases which contain particulate matter in excess of 0.023 g/dscm (0.010 gr/dscf).

(3) Equipment used in the loading, unloading, and conveying operations of open storage piles are not subject to the opacity limitations of paragraph (b)(1) of this section.

(c) The owner or operator of an open storage pile, which includes the equipment used in the loading, unloading, and conveying operations of the affected facility, constructed, reconstructed, or modified after May 27, 2009, must prepare and operate in accordance with a submitted fugitive coal dust emissions control plan that is appropriate for the site conditions as specified in paragraphs (c)(1) through (6) of this section.

(1) The fugitive coal dust emissions control plan must identify and describe the control measures the owner or operator will use to minimize fugitive coal dust emissions from each open storage pile.

(2) For open coal storage piles, the fugitive coal dust emissions control plan must require that one or more of the following control measures be used to minimize to the greatest extent practicable fugitive coal dust: Locating the source inside a partial enclosure, installing and operating a water spray or fogging system, applying appropriate chemical dust suppression agents on the source (when the provisions of paragraph (c)(6) of this section are met), use of a wind barrier, compaction, or use of a vegetative cover. The owner or operator must select, for inclusion in the fugitive coal dust emissions control plan, the control measure or measures listed in this paragraph that are most appropriate for site conditions. The plan must also explain how the measure or measures selected are applicable and appropriate for site conditions. In addition, the plan must be revised as needed to reflect any changing conditions at the source.

(3) Any owner or operator of an affected facility that is required to have a fugitive coal dust emissions control plan may petition the Administrator to approve, for inclusion in the plan for the affected facility, alternative control measures other than those specified in paragraph (c)(2) of this section as specified in paragraphs (c)(3)(i) through (iv) of this section.

(i) The petition must include a description of the alternative control measures, a copy of the fugitive coal dust emissions control plan for the affected facility that includes the alternative control measures, and information sufficient for EPA to evaluate the demonstrations required by paragraph (c)(3)(ii) of this section.

(ii) The owner or operator must either demonstrate that the fugitive coal dust emissions control plan that includes the alternate control measures will provide equivalent overall environmental protection or demonstrate that it is either economically or technically infeasible for the affected facility to use the control measures specifically identified in paragraph (c)(2).

(iii) While the petition is pending, the owner or operator must comply with the fugitive coal dust emissions control plan including the alternative control measures submitted with the petition. Operation in accordance with the plan submitted with the petition shall be deemed to constitute compliance with the requirement to operate in accordance with a fugitive coal dust emissions control plan that contains one of the control measures specifically identified in paragraph (c)(2) of this section while the petition is pending.

(iv) If the petition is approved by the Administrator, the alternative control measures will be approved for inclusion in the fugitive coal dust emissions control plan for the affected facility. In lieu of amending this subpart, a letter will be sent to the facility describing the specific control measures approved. The facility shall make any such letters and the applicable fugitive coal dust emissions control plan available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(4) The owner or operator must submit the fugitive coal dust emissions control plan to the Administrator or delegated authority as specified in paragraphs (c)(4)(i) and (c)(4)(ii) of this section.

(i) The plan must be submitted to the Administrator or delegated authority prior to startup of the new, reconstructed, or modified affected facility, or 30 days after the effective date of this rule, whichever is later.

(ii) The plan must be revised as needed to reflect any changing conditions at the source. Such revisions must be dated and submitted to the Administrator or delegated authority before a source can operate pursuant to these revisions. The Administrator or delegated authority may also object to such revisions as specified in paragraph (c)(5) of this section.

(5) The Administrator or delegated authority may object to the fugitive coal dust emissions control plan as specified in paragraphs (c)(5)(i) and (c)(5)(ii) of this section.

(i) The Administrator or delegated authority may object to any fugitive coal dust emissions control plan that it has determined does not meet the requirements of paragraphs (c)(1) and (c)(2) of this section.

(ii) If an objection is raised, the owner or operator, within 30 days from receipt of the objection, must submit a revised fugitive coal dust emissions control plan to the Administrator or delegated authority. The owner or operator must operate in accordance with the revised fugitive coal dust emissions control plan. The Administrator or delegated authority retain the right, under paragraph (c)(5) of this section, to object to the revised control plan if it determines the plan does not meet the requirements of paragraphs (c)(1) and (c)(2) of this section.

(6) Where appropriate chemical dust suppression agents are selected by the owner or operator as a control measure to minimize fugitive coal dust emissions, (1) only chemical dust suppressants with Occupational Safety and Health Administration (OSHA)-compliant material safety data sheets (MSDS) are to be allowed; (2) the MSDS must be included in the fugitive coal dust emissions control plan; and (3) the owner or operator must consider and document in the fugitive coal dust emissions control plan the site-specific impacts associated with the use of such chemical dust suppressants.

§ 60.255 Performance tests and other compliance requirements.

(a) An owner or operator of each affected facility that commenced construction, reconstruction, or modification on or before April 28, 2008, must conduct all performance tests required by §60.8 to demonstrate compliance with the applicable emission standards using the methods identified in §60.257.

(b) An owner or operator of each affected facility that commenced construction, reconstruction, or modification after April 28, 2008, must conduct performance tests according to the requirements of §60.8 and the methods identified in §60.257 to demonstrate compliance with the applicable emissions standards in this subpart as specified in paragraphs (b)(1) and (2) of this section.

(1) For each affected facility subject to a PM, SO_2, or combined $NO_X$and CO emissions standard, an initial performance test must be performed. Thereafter, a new performance test must be conducted according the requirements in paragraphs (b)(1)(i) through (iii) of this section, as applicable.

(i) If the results of the most recent performance test demonstrate that emissions from the affected facility are greater than 50 percent of the applicable emissions standard, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.

(ii) If the results of the most recent performance test demonstrate that emissions from the affected facility are 50 percent or less of the applicable emissions standard, a new performance test must be conducted within 24 calendar months of the date that the previous performance test was required to be completed.

(iii) An owner or operator of an affected facility that has not operated for the 60 calendar days prior to the due date of a performance test is not required to perform the subsequent performance test until 30 calendar days after the next operating day.

(2) For each affected facility subject to an opacity standard, an initial performance test must be performed. Thereafter, a new performance test must be conducted according to the requirements in paragraphs (b)(2)(i) through (iii) of this section, as applicable, except as provided for in paragraphs (e) and (f) of this section. Performance test and other compliance requirements for coal truck dump operations are specified in paragraph (h) of this section.

(i) If any 6-minute average opacity reading in the most recent performance test exceeds half the applicable opacity limit, a new performance test must be conducted within 90 operating days of the date that the previous performance test was required to be completed.

(ii) If all 6-minute average opacity readings in the most recent performance test are equal to or less than half the applicable opacity limit, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.

(iii) An owner or operator of an affected facility continuously monitoring scrubber parameters as specified in §60.256(b)(2) is exempt from the requirements in paragraphs (b)(2)(i) and (ii) if opacity performance tests are conducted concurrently with (or within a 60-minute period of) PM performance tests.

(c) If any affected coal processing and conveying equipment (*e.g.,* breakers, crushers, screens, conveying systems), coal storage systems, or coal transfer and loading systems that commenced construction, reconstruction, or modification after April 28, 2008, are enclosed in a building, and emissions from the building do not exceed any of the standards in *§* 60.254 that apply to the affected facility, then the facility shall be deemed to be in compliance with such standards.

(d) An owner or operator of an affected facility (other than a thermal dryer) that commenced construction, reconstruction, or modification after April 28, 2008, is subject to a PM emission standard and uses a control device with a design controlled potential PM emissions rate of 1.0 Mg (1.1 tons) per year or less is exempted from the requirements of paragraphs (b)(1)(i) and (ii) of this section provided that the owner or operator meets all of the conditions specified in paragraphs (d)(1) through (3) of this section. This exemption does not apply to thermal dryers.

(1) PM emissions, as determined by the most recent performance test, are less than or equal to the applicable limit,

(2) The control device manufacturer's recommended maintenance procedures are followed, and

(3) All 6-minute average opacity readings from the most recent performance test are equal to or less than half the applicable opacity limit or the monitoring requirements in paragraphs (e) or (f) of this section are followed.

(e) For an owner or operator of a group of up to five of the same type of affected facilities that commenced construction, reconstruction, or modification after April 28, 2008, that are subject to PM emissions standards and use identical control devices, the Administrator or delegated authority may allow the owner or operator to use a single PM performance test for one of the affected control devices to demonstrate that the group of affected facilities is in compliance with the applicable emissions standards provided that the owner or operator meets all of the conditions specified in paragraphs (e)(1) through (3) of this section.

(1) PM emissions from the most recent performance test for each individual affected facility are 90 percent or less of the applicable PM standard;

(2) The manufacturer's recommended maintenance procedures are followed for each control device; and

(3) A performance test is conducted on each affected facility at least once every 5 calendar years.

(f) As an alternative to meeting the requirements in paragraph (b)(2) of this section, an owner or operator of an affected facility that commenced construction, reconstruction, or modification after April 28, 2008, may elect to comply with the requirements in paragraph (f)(1) or (f)(2) of this section.

(1) Monitor visible emissions from each affected facility according to the requirements in paragraphs (f)(1)(i) through (iii) of this section.

(i) Conduct one daily 15-second observation each operating day for each affected facility (during normal operation) when the coal preparation and processing plant is in operation. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Each observer determining the presence of visible emissions must meet the training requirements specified in §2.3 of Method 22 of appendix A–7 of this part. If visible emissions are observed during any 15-second observation, the owner or operator must adjust the operation of the affected facility and demonstrate within 24 hours that no visible emissions are observed from the affected facility. If visible emissions are observed, a Method 9, of appendix A–4 of this part, performance test must be conducted within 45 operating days.

(ii) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible.

(iii) Conduct a performance test using Method 9 of appendix A–4 of this part at least once every 5 calendar years for each affected facility.

(2) Prepare a written site-specific monitoring plan for a digital opacity compliance system for approval by the Administrator or delegated authority. The plan shall require observations of at least one digital image every 15 seconds for 10-minute periods (during normal operation) every operating day. An approvable monitoring plan must include a demonstration that the occurrences of visible emissions are not in excess of 5 percent of the observation period. For reference purposes in preparing the monitoring plan, *see* OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. The monitoring plan approved by the Administrator or delegated authority shall be implemented by the owner or operator.

(g) As an alternative to meeting the requirements in paragraph (b)(2) of this section, an owner or operator of an affected facility that commenced construction, reconstruction, or modification after April 28, 2008, subject to a visible emissions standard under this subpart may install, operate, and maintain a continuous opacity monitoring system (COMS). Each COMS used to comply with provisions of this subpart must be installed, calibrated, maintained, and continuously operated according to the requirements in paragraphs (g)(1) and (2) of this section.

(1) The COMS must meet Performance Specification 1 in 40 CFR part 60, appendix B.

(2) The COMS must comply with the quality assurance requirements in paragraphs (g)(2)(i) through (v) of this section.

(i) The owner or operator must automatically (intrinsic to the opacity monitor) check the zero and upscale (span) calibration drifts at least once daily. For particular COMS, the acceptable range of zero and upscale calibration materials is as defined in the applicable version of Performance Specification 1 in 40 CFR part 60, appendix B.

(ii) The owner or operator must adjust the zero and span whenever the 24-hour zero drift or 24-hour span drift exceeds 4 percent opacity. The COMS must allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified. The optical surfaces exposed to the effluent gases must be cleaned prior to performing the zero and span drift adjustments, except for systems using automatic zero adjustments. For systems using automatic zero adjustments, the optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(iii) The owner or operator must apply a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. All procedures applied must provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.

(iv) Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS must be in continuous operation and must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(v) The owner or operator must reduce all data from the COMS to 6-minute averages. Six-minute opacity averages must be calculated from 36 or more data points equally spaced over each 6-minute period. Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments must not be included in the data averages. An arithmetic or integrated average of all data may be used.

(h) The owner or operator of each affected coal truck dump operation that commenced construction, reconstruction, or modification after April 28, 2008, must meet the requirements specified in paragraphs (h)(1) through (3) of this section.

(1) Conduct an initial performance test using Method 9 of appendix A–4 of this part according to the requirements in paragraphs (h)(1)(i) and(ii).

(i) Opacity readings shall be taken during the duration of three separate truck dump events. Each truck dump event commences when the truck bed begins to elevate and concludes when the truck bed returns to a horizontal position.

(ii) Compliance with the applicable opacity limit is determined by averaging all 15-second opacity readings made during the duration of three separate truck dump events.

(2) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible.

(3) Conduct a performance test using Method 9 of appendix A–4 of this part at least once every 5 calendar years for each affected facility.

§ 60.256 Continuous monitoring requirements.

(a) The owner or operator of each affected facility constructed, reconstructed, or modified on or before April 28, 2008, must meet the monitoring requirements specified in paragraphs (a)(1) and (2) of this section, as applicable to the affected facility.

(1) The owner or operator of any thermal dryer shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

(i) A monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within ±1.7 °C (±3 °F).

(ii) For affected facilities that use wet scrubber emission control equipment:

(A) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±1 inch water gauge.

(B) A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design water supply pressure. The pressure sensor or tap must be located close to the water discharge point. The Administrator shall have discretion to grant requests for approval of alternative monitoring locations.

(2) All monitoring devices under paragraph (a) of this section are to be recalibrated annually in accordance with procedures under §60.13(b).

(b) The owner or operator of each affected facility constructed, reconstructed, or modified after April 28, 2008, that has one or more mechanical vents must install, calibrate, maintain, and continuously operate the monitoring devices specified in paragraphs (b)(1) through (3) of this section, as applicable to the mechanical vent and any control device installed on the vent.

(1) For mechanical vents with fabric filters (baghouses) with design controlled potential PM emissions rates of 25 Mg (28 tons) per year or more, a bag leak detection system according to the requirements in paragraph (c) of this section.

(2) For mechanical vents with wet scrubbers, monitoring devices according to the requirements in paragraphs (b)(2)(i) through (iv) of this section.

(i) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±1 inch water gauge.

(ii) A monitoring device for the continuous measurement of the water supply flow rate to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design water supply flow rate.

(iii) A monitoring device for the continuous measurement of the pH of the wet scrubber liquid. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design pH.

(iv) An average value for each monitoring parameter must be determined during each performance test. Each monitoring parameter must then be maintained within 10 percent of the value established during the most recent performance test on an operating day average basis.

(3) For mechanical vents with control equipment other than wet scrubbers, a monitoring device for the continuous measurement of the reagent injection flow rate to the control equipment, as applicable. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design injection flow rate. An average reagent injection flow rate value must be determined during each performance test. The reagent injection flow rate must then be maintained within 10 percent of the value established during the most recent performance test on an operating day average basis.

(c) Each bag leak detection system used to comply with provisions of this subpart must be installed, calibrated, maintained, and continuously operated according to the requirements in paragraphs (c)(1) through (3) of this section.

(1) The bag leak detection system must meet the specifications and requirements in paragraphs (c)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (mg/dscm) (0.00044 grains per actual cubic foot (gr/acf)) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (*e.g.,* using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (c)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, the owner or operator must not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (c)(2)(vi) of this section.

(vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (c)(2) of this section.

(vii) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) The owner or operator must develop and submit to the Administrator or delegated authority for approval a site-specific monitoring plan for each bag leak detection system. This plan must be submitted to the Administrator or delegated authority 30 days prior to startup of the affected facility. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (c)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored; and

(vi) Corrective action procedures as specified in paragraph (c)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow the owner and operator more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(3) For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (c)(2)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the PM emissions.

§ 60.257 Test methods and procedures.

(a) The owner or operator must determine compliance with the applicable opacity standards as specified in paragraphs (a)(1) through (3) of this section.

(1) Method 9 of appendix A–4 of this part and the procedures in §60.11 must be used to determine opacity, with the exceptions specified in paragraphs (a)(1)(i) and (ii).

(i) The duration of the Method 9 of appendix A–4 of this part performance test shall be 1 hour (ten 6-minute averages).

(ii) If, during the initial 30 minutes of the observation of a Method 9 of appendix A–4 of this part performance test, all of the 6-minute average opacity readings are less than or equal to half the applicable opacity limit, then the observation period may be reduced from 1 hour to 30 minutes.

(2) To determine opacity for fugitive coal dust emissions sources, the additional requirements specified in paragraphs (a)(2)(i) through (iii) must be used.

(i) The minimum distance between the observer and the emission source shall be 5.0 meters (16 feet), and the sun shall be oriented in the 140-degree sector of the back.

(ii) The observer shall select a position that minimizes interference from other fugitive coal dust emissions sources and make observations such that the line of vision is approximately perpendicular to the plume and wind direction.

(iii) The observer shall make opacity observations at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. Water vapor is not considered a visible emission.

(3) A visible emissions observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions specified in paragraphs (a)(3)(i) through (iii) of this section are met.

(i) No more than three emissions points may be read concurrently.

(ii) All three emissions points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.

(iii) If an opacity reading for any one of the three emissions points is within 5 percent opacity from the applicable standard (excluding readings of zero opacity), then the observer must stop taking readings for the other two points and continue reading just that single point.

(b) The owner or operator must conduct all performance tests required by §60.8 to demonstrate compliance with the applicable emissions standards specified in §60.252 according to the requirements in §60.8 using the applicable test methods and procedures in paragraphs (b)(1) through (8) of this section.

(1) Method 1 or 1A of appendix A–4 of this part shall be used to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) prior to any releases to the atmosphere.

(2) Method 2, 2A, 2C, 2D, 2F, or 2G of appendix A–4 of this part shall be used to determine the volumetric flow rate of the stack gas.

(3) Method 3, 3A, or 3B of appendix A–4 of this part shall be used to determine the dry molecular weight of the stack gas. The owner or operator may use ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses (incorporated by reference— *see* §60.17) as an alternative to Method 3B of appendix A–2 of this part.

(4) Method 4 of appendix A–4 of this part shall be used to determine the moisture content of the stack gas.

(5) Method 5, 5B or 5D of appendix A–4 of this part or Method 17 of appendix A–7 of this part shall be used to determine the PM concentration as follows:

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin. A minimum of three valid test runs are needed to comprise a PM performance test.

(ii) Method 5 of appendix A of this part shall be used only to test emissions from affected facilities without wet flue gas desulfurization (FGD) systems.

(iii) Method 5B of appendix A of this part is to be used only after wet FGD systems.

(iv) Method 5D of appendix A–4 of this part shall be used for positive pressure fabric filters and other similar applications (*e.g.,* stub stacks and roof vents).

(v) Method 17 of appendix A–6 of this part may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A–3 of this part may be used in Method 17 of appendix A–6 of this part only if it is used after a wet FGD system. Do not use Method 17 of appendix A–6 of this part after wet FGD systems if the effluent is saturated or laden with water droplets.

(6) Method 6, 6A, or 6C of appendix A–4 of this part shall be used to determine the SO_2concentration. A minimum of three valid test runs are needed to comprise an SO_2performance test.

(7) Method 7 or 7E of appendix A–4 of this part shall be used to determine the NO_Xconcentration. A minimum of three valid test runs are needed to comprise an NO_Xperformance test.

(8) Method 10 of appendix A–4 of this part shall be used to determine the CO concentration. A minimum of three valid test runs are needed to comprise a CO performance test. CO performance tests are conducted concurrently (or within a 60-minute period) with NO_Xperformance tests.

§ 60.258 Reporting and recordkeeping.

(a) The owner or operator of a coal preparation and processing plant that commenced construction, reconstruction, or modification after April 28, 2008, shall maintain in a logbook (written or electronic) on-site and make it available upon request. The logbook shall record the following:

(1) The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, shall be noted.

(2) The date and time of periodic coal preparation and processing plant visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall be noted.

(3) The amount and type of coal processed each calendar month.

(4) The amount of chemical stabilizer or water purchased for use in the coal preparation and processing plant.

(5) Monthly certification that the dust suppressant systems were operational when any coal was processed and that manufacturer's recommendations were followed for all control systems. Any variance from the manufacturer's recommendations, if any, shall be noted.

(6) Monthly certification that the fugitive coal dust emissions control plan was implemented as described. Any variance from the plan, if any, shall be noted. A copy of the applicable fugitive coal dust emissions control plan and any letters from the Administrator providing approval of any alternative control measures shall be maintained with the logbook. Any actions, *e.g.* objections, to the plan and any actions relative to the alternative control measures, *e.g.* approvals, shall be noted in the logbook as well.

(7) For each bag leak detection system, the owner or operator must keep the records specified in paragraphs (a)(7)(i) through (iii) of this section.

(i) Records of the bag leak detection system output;

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection settings; and

(iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.

(8) A copy of any applicable monitoring plan for a digital opacity compliance system and monthly certification that the plan was implemented as described. Any variance from plan, if any, shall be noted.

(9) During a performance test of a wet scrubber, and each operating day thereafter, the owner or operator shall record the measurements of the scrubber pressure loss, water supply flow rate, and pH of the wet scrubber liquid.

(10) During a performance test of control equipment other than a wet scrubber, and each operating day thereafter, the owner or operator shall record the measurements of the reagent injection flow rate, as applicable.

(b) For the purpose of reports required under section 60.7(c), any owner operator subject to the provisions of this subpart also shall report semiannually periods of excess emissions as follow:

(1) The owner or operator of an affected facility with a wet scrubber shall submit semiannual reports to the Administrator or delegated authority of occurrences when the measurements of the scrubber pressure loss, water supply flow rate, or pH of the wet scrubber liquid vary by more than 10 percent from the average determined during the most recent performance test.

(2) The owner or operator of an affected facility with control equipment other than a wet scrubber shall submit semiannual reports to the Administrator or delegated authority of occurrences when the measurements of the reagent injection flow rate, as applicable, vary by more than 10 percent from the average determined during the most recent performance test.

(3) All 6-minute average opacities that exceed the applicable standard.

(c) The owner or operator of an affected facility shall submit the results of initial performance tests to the Administrator or delegated authority, consistent with the provisions of section 60.8. The owner or operator who elects to comply with the reduced performance testing provisions of sections 60.255(c) or (d) shall include in the performance test report identification of each affected facility that will be subject to the reduced testing. The owner or operator electing to comply with section 60.255(d) shall also include information which demonstrates that the control devices are identical.

(d) After July 1, 2011, within 60 days after the date of completing each performance evaluation conducted to demonstrate compliance with this subpart, the owner or operator of the affected facility must submit the test data to EPA by successfully entering the data electronically into EPA's WebFIRE data base available at *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main.* For performance tests that cannot be entered into WebFIRE (*i.e.,* Method 9 of appendix A–4 of this part opacity performance tests) the owner or operator of the affected facility must mail a summary copy to United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; mail code: D243–01; RTP, NC 27711.

Indiana Department of Environmental Management
Office of Air Quality
Attachment D:

Source Description and Location

Source Name:	Hoosier Energy REC, Inc. – Merom Generating Station
Source Location:	5500 W Old 54, Sullivan, Indiana 47882
County:	Sullivan
SIC Code:	4911
TV Permit No.:	T 153-28006-00005
Operation Permit Issuance Date:	September 8, 2010
Permit Reviewer:	James Mackenzie

Stationary Compression Ignition Internal Combustion Engines
NSPS Requirements
[40 CFR Part 60, Subpart IIII]

§ 60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (3) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005 where the stationary CI ICE are:

(i) Manufactured after April 1, 2006 and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

Emission Standards for Manufacturers

§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

Emission Standards for Owners and Operators

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.

Fuel Requirements for Owners and Operators

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

(c) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of paragraphs (a) and (b) of this section beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

Other Requirements for Owners and Operators

§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in the previous model year?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine, you must install a non-resettable hour meter prior to startup of the engine.

Compliance Requirements

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. You must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications.

(e) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. For owners and operators of emergency engines meeting standards under §60.4205 but not §60.4204, any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited.

Notification, Reports, and Records for Owners and Operators

§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

General Provisions

§ 60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

Definitions

§ 60.4219 What definitions apply to this subpart?

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

Combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

Emergency stationary internal combustion engine means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Engine manufacturer means the manufacturer of the engine. See the definition of “manufacturer” in this section.

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Manufacturer has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means either:

(1) The calendar year in which the engine was originally produced, or

(2) The annual new model production period of the engine manufacturer if it is different than the calendar year. This must include January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year. For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was originally produced.

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart IIII.

Useful life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for useful life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for useful life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

Tables to Subpart IIII of Part 60

Table 8 to Subpart IIII of Part 60 - Applicability of General Provisions to Subpart IIII

[As stated in § 60.4218, you must comply with the following applicable General Provisions:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§ 60.1	General applicability of the General Provisions.....	Yes.	
§ 60.2	Definitions	Yes	Additional terms defined in § 60.4219.
§ 60.3	Units and abbreviations	Yes.	
§ 60.4	Address.	Yes.	
§ 60.5	Determination of construction or modification.	Yes.	
§ 60.6	Review of plans.....	Yes.	

Table 8 to Subpart IIII of Part 60 - Applicability of General Provisions to Subpart IIII [As stated in § 60.4218, you must comply with the following applicable General Provisions:]			
§ 60.7	Notification and Recordkeeping.	Yes	Except that § 60.7 only applies as specified in § 60.4214(a).
§ 60.8	Performance tests	Yes	Except that § 60.8 only applies to stationary CI ICE with a displacement of (>=30 liters per cylinder and engines that are not certified.
§ 60.9	Availability of information.	Yes.	
§ 60.10	State Authority.....	Yes.	
§ 60.11	Compliance with standards and maintenance requirements.	No	Requirements are specified in subpart IIII.
§ 60.12	Circumvention	Yes.	
§ 60.13	Monitoring requirements	Yes	Except that § 60.13 only applies to stationary CI ICE with a displacement of (>=30 liters per cylinder.
§ 60.14	Modification	Yes.	
§ 60.15	Reconstruction	Yes.	
§ 60.16	Priority list.....	Yes.	
§ 60.17	Incorporations by reference.	Yes.	
§ 60.18	General control device requirements.	No.	
§ 60.19	General notification and reporting requirements.	Yes.	

Indiana Department of Environmental Management
Office of Air Quality
Attachment E

Source Description and Location

Source Name:	Hoosier Energy REC, Inc. – Merom Generating Station
Source Location:	5500 W Old 54, Sullivan, Indiana 47882
County:	Sullivan
SIC Code:	4911
TV Permit No.:	T 153-28006-00005
Operation Permit Issuance Date:	September 8, 2010
Permit Reviewer:	James Mackenzie

Subpart JJJJ — Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Source: 73 FR 3591, Jan. 18, 2008, unless otherwise noted.

What This Subpart Covers

§ 60.4230 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (5) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary SI ICE with a maximum engine power less than or equal to 19 kilowatt (KW) (25 horsepower (HP)) that are manufactured on or after July 1, 2008.

(2) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are gasoline fueled or that are rich burn engines fueled by liquefied petroleum gas (LPG), where the date of manufacture is:

(i) On or after July 1, 2008; or

(ii) On or after January 1, 2009, for emergency engines.

(3) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are not gasoline fueled and are not rich burn engines fueled by LPG, where the manufacturer participates in the voluntary manufacturer certification program described in this subpart and where the date of manufacture is:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) On or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

(iii) On or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) On or after January 1, 2009, for emergency engines.

(4) Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) on or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

(iii) on or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).

(5) Owners and operators of stationary SI ICE that commence modification or reconstruction after June 12, 2006.

(b) The provisions of this subpart are not applicable to stationary SI ICE being tested at an engine test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(d) For the purposes of this subpart, stationary SI ICE using alcohol-based fuels are considered gasoline engines.

(e) Stationary SI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR parts 90 and 1048, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

(f) Owners and operators of facilities with internal combustion engines that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

Emission Standards for Manufacturers

§ 60.4231 What emission standards must I meet if I am a manufacturer of stationary SI internal combustion engines?

(a) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008, to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90.

(b) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that use gasoline and that are manufactured on or after the applicable date in §60.4230(a)(2), or manufactured on or after the applicable date in §60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE greater than 25 HP and less than 130 HP that are manufactured on or after the applicable date in §60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cubic centimeters (cc) to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90.

(c) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that are rich burn engines that use LPG and that are manufactured on or after the applicable date in §60.4230(a)(2), or manufactured on or after the applicable date in §60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE greater than 25 HP and less than 130 HP that are manufactured on or after the applicable date in §60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90.

(d) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) under the voluntary manufacturer certification program described in this subpart must certify those engines to the certification emission standards for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers who choose to certify their emergency stationary SI ICE greater than 25 HP and less than 130 HP, must certify those engines to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards for new nonroad SI engines in 40 CFR part 90. For stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) manufactured prior to January 1, 2011, manufacturers may choose to certify these engines to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP.

(e) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) under the voluntary manufacturer certification program described in this subpart must certify those engines to the emission standards in Table 1 to this subpart. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) that are lean burn engines that use LPG to the certification emission standards for new nonroad SI engines in 40 CFR part 1048. For stationary SI ICE with a maximum engine power greater than or equal to 100 HP (75 KW) and less than 500 HP (373 KW) manufactured prior to January 1, 2011, and for stationary SI ICE with a maximum engine power greater than or equal to 500 HP (373 KW) manufactured prior to July 1, 2010, manufacturers may choose to certify these engines to the certification emission standards for new nonroad SI engines in 40 CFR part 1048 applicable to engines that are not severe duty engines.

§ 60.4232 How long must my engines meet the emission standards if I am a manufacturer of stationary SI internal combustion engines?

Engines manufactured by stationary SI internal combustion engine manufacturers must meet the emission standards as required in §60.4231 during the certified emissions life of the engines.

Emission Standards for Owners and Operators

§ 60.4233 What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?

(a) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008, must comply with the emission standards in §60.4231(a) for their stationary SI ICE.

(b) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in §60.4230(a)(4) that use gasoline must comply with the emission standards in §60.4231(b) for their stationary SI ICE.

(c) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in §60.4230(a)(4) that are rich burn engines that use LPG must comply with the emission standards in §60.4231(c) for their stationary SI ICE.

(d) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards for field testing in 40 CFR 1048.101(c) for their non-emergency stationary SI ICE and with the emission standards in Table 1 to this subpart for their emergency stationary SI ICE. Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) manufactured prior to January 1, 2011, that were certified to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP, may optionally choose to meet those standards.

(e) Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO)

standard above the standard in Table 1 to this subpart, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified.

(f) Owners and operators of any modified or reconstructed stationary SI ICE subject to this subpart must meet the requirements as specified in paragraphs (f)(1) through (5) of this section.

(1) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (a) of this section.

(2) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that use gasoline engines, that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (b) of this section.

(3) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are rich burn engines that use LPG, that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (c) of this section.

(4) Owners and operators of stationary SI natural gas and lean burn LPG engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (d) or (e) of this section, except that such owners and operators of non-emergency engines and emergency engines greater than or equal to 130 HP must meet a nitrogen oxides (NO_X) emission standard of 3.0 grams per HP-hour (g/HP-hr), a CO emission standard of 4.0 g/HP-hr (5.0 g/HP-hr for non-emergency engines less than 100 HP), and a volatile organic compounds (VOC) emission standard of 1.0 g/HP-hr, or a NO_X emission standard of 250 ppmvd at 15 percent oxygen (O_2), a CO emission standard 540 ppmvd at 15 percent O_2(675 ppmvd at 15 percent $O_2$for non-emergency engines less than 100 HP), and a VOC emission standard of 86 ppmvd at 15 percent O_2, where the date of manufacture of the engine is:

(i) Prior to July 1, 2007, for non-emergency engines with a maximum engine power greater than or equal to 500 HP;

(ii) Prior to July 1, 2008, for non-emergency engines with a maximum engine power less than 500 HP;

(iii) Prior to January 1, 2009, for emergency engines.

(5) Owners and operators of stationary SI landfill/digester gas ICE engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (e) of this section for stationary landfill/digester gas engines.

(g) Owners and operators of stationary SI wellhead gas ICE engines may petition the Administrator for approval on a case-by-case basis to meet emission standards no less stringent than the emission standards that apply to stationary emergency SI engines greater than 25 HP and less than 130 HP due to the presence of high sulfur levels in the fuel, as specified in Table 1 to this subpart. The request must, at a minimum, demonstrate that the fuel has high sulfur levels that prevent the use of after treatment controls and also that the owner has reasonably made all attempts possible to

obtain an engine that will meet the standards without the use of after treatment controls. The petition must request the most stringent standards reasonably applicable to the engine using the fuel.

(h) Owners and operators of stationary SI ICE that are required to meet standards that reference 40 CFR 1048.101 must, if testing their engines in use, meet the standards in that section applicable to field testing, except as indicated in paragraph (e) of this section.

§ 60.4234 How long must I meet the emission standards if I am an owner or operator of a stationary SI internal combustion engine?

Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine.

Other Requirements for Owners and Operators

§ 60.4235 What fuel requirements must I meet if I am an owner or operator of a stationary SI gasoline fired internal combustion engine subject to this subpart?

Owners and operators of stationary SI ICE subject to this subpart that use gasoline must use gasoline that meets the per gallon sulfur limit in 40 CFR 80.195.

§ 60.4236 What is the deadline for importing or installing stationary SI ICE produced in the previous model year?

(a) After July 1, 2010, owners and operators may not install stationary SI ICE with a maximum engine power of less than 500 HP that do not meet the applicable requirements in §60.4233.

(b) After July 1, 2009, owners and operators may not install stationary SI ICE with a maximum engine power of greater than or equal to 500 HP that do not meet the applicable requirements in §60.4233, except that lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP that do not meet the applicable requirements in §60.4233 may not be installed after January 1, 2010.

(c) For emergency stationary SI ICE with a maximum engine power of greater than 19 KW (25 HP), owners and operators may not install engines that do not meet the applicable requirements in §60.4233 after January 1, 2011.

(d) In addition to the requirements specified in §§60.4231 and 60.4233, it is prohibited to import stationary SI ICE less than or equal to 19 KW (25 HP), stationary rich burn LPG SI ICE, and stationary gasoline SI ICE that do not meet the applicable requirements specified in paragraphs (a), (b), and (c) of this section, after the date specified in paragraph (a), (b), and (c) of this section.

(e) The requirements of this section do not apply to owners and operators of stationary SI ICE that have been modified or reconstructed, and they do not apply to engines that were removed from one existing location and reinstalled at a new location.

§ 60.4237 What are the monitoring requirements if I am an owner or operator of an emergency stationary SI internal combustion engine?

(a) Starting on July 1, 2010, if the emergency stationary SI internal combustion engine that is greater than or equal to 500 HP that was built on or after July 1, 2010, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.

(b) Starting on January 1, 2011, if the emergency stationary SI internal combustion engine that is greater than or equal to 130 HP and less than 500 HP that was built on or after January 1, 2011, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.

(c) If you are an owner or operator of an emergency stationary SI internal combustion engine that is less than 130 HP, was built on or after July 1, 2008, and does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter upon startup of your emergency engine.

Compliance Requirements for Manufacturers

§ 60.4238 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines ≤19 KW (25 HP)?

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in §60.4231(a) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, and must test their engines as specified in that part.

§ 60.4239 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines >19 KW (25 HP) that use gasoline?

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in §60.4231(b) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must test their engines as specified in that part. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90, and manufacturers of stationary SI emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, and must test their engines as specified in that part.

§ 60.4240 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines >19 KW (25 HP) that are rich burn engines that use LPG?

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in §60.4231(c) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must test their engines as specified in that part. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90, and manufacturers of emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, and must test their engines as specified in that part.

§ 60.4241 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines participating in the voluntary certification program?

(a) Manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to certify their engines to the emission standards in §60.4231(d) or (e), as applicable, under the voluntary certification program described in this subpart. Manufacturers who certify their engines under the voluntary certification program must meet the requirements as specified in paragraphs (b) through (g) of this section. In addition, manufacturers of stationary SI internal combustion engines who choose to certify their engines under the voluntary certification program, must also meet the requirements as specified in §60.4247.

(b) Manufacturers of engines other than those certified to standards in 40 CFR part 90 must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must follow the same test procedures that apply to large SI nonroad engines under 40 CFR part 1048, but must use the D–1 cycle of International Organization of Standardization 8178–4: 1996(E) (incorporated by reference, see 40 CFR 60.17) or the test cycle requirements specified in Table 5 to 40 CFR 1048.505, except that Table 5 of 40 CFR 1048.505 applies to high load engines only. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90, and manufacturers of emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, and must test their engines as specified in that part.

(c) Certification of stationary SI ICE to the emission standards specified in §60.4231(d) or (e), as applicable, is voluntary, but manufacturers who decide to certify are subject to all of the requirements indicated in this subpart with regard to the engines included in their certification. Manufacturers must clearly label their stationary SI engines as certified or non-certified engines.

(d) Manufacturers of natural gas fired stationary SI ICE who conduct voluntary certification of stationary SI ICE to the emission standards specified in §60.4231(d) or (e), as applicable, must certify their engines for operation using fuel that meets the definition of pipeline-quality natural gas. The fuel used for certifying stationary SI natural gas engines must meet the definition of pipeline-quality natural gas as described in §60.4248. In addition, the manufacturer must provide information to the owner and operator of the certified stationary SI engine including the specifications of the pipeline-quality natural gas to which the engine is certified and what adjustments the owner or operator must make to the engine when installed in the field to ensure compliance with the emission standards.

(e) Manufacturers of stationary SI ICE that are lean burn engines fueled by LPG who conduct voluntary certification of stationary SI ICE to the emission standards specified in §60.4231(d) or (e), as applicable, must certify their engines for operation using fuel that meets the specifications in 40 CFR 1065.720.

(f) Manufacturers may certify their engines for operation using gaseous fuels in addition to pipeline-quality natural gas; however, the manufacturer must specify the properties of that fuel and provide testing information showing that the engine will meet the emission standards specified in §60.4231(d) or (e), as applicable, when operating on that fuel. The manufacturer must also provide instructions for configuring the stationary engine to meet the emission standards on fuels that do not meet the pipeline-quality natural gas definition. The manufacturer must also provide information

to the owner and operator of the certified stationary SI engine regarding the configuration that is most conducive to reduced emissions where the engine will be operated on gaseous fuels with different quality than the fuel that it was certified to.

(g) A stationary SI engine manufacturer may certify an engine family solely to the standards applicable to landfill/digester gas engines as specified in §60.4231(d) or (e), as applicable, but must certify their engines for operation using landfill/digester gas and must add a permanent label stating that the engine is for use only in landfill/digester gas applications. The label must be added according to the labeling requirements specified in 40 CFR 1048.135(b).

(h) For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

§ 60.4242 What other requirements must I meet if I am a manufacturer of stationary SI internal combustion engines?

(a) Stationary SI internal combustion engine manufacturers must meet the provisions of 40 CFR part 90 or 40 CFR part 1048, as applicable, as well as 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1048, except that engines certified pursuant to the voluntary certification procedures in §60.4241 are subject only to the provisions indicated in §60.4247 and are permitted to provide instructions to owners and operators allowing for deviations from certified configurations, if such deviations are consistent with the provisions of paragraphs §60.4241(c) through (f). Labels on engines certified to 40 CFR part 1048 must refer to stationary engines, rather than or in addition to nonroad engines, as appropriate.

(b) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR part 90 or 40 CFR part 1048 for that model year may certify any such family that contains both nonroad and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

(c) Manufacturers of engine families certified to 40 CFR part 1048 may meet the labeling requirements referred to in paragraph (a) of this section for stationary SI ICE by either adding a separate label containing the information required in paragraph (a) of this section or by adding the words “and stationary” after the word “nonroad” to the label.

(d) For all engines manufactured on or after January 1, 2011, and for all engines with a maximum engine power greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, a stationary SI engine manufacturer that certifies an engine family solely to the standards applicable to emergency engines must add a permanent label stating that the engines in that family are for emergency use only. The label must be added according to the labeling requirements specified in 40 CFR 1048.135(b).

(e) All stationary SI engines subject to mandatory certification that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230. Stationary SI engines subject to standards in 40 CFR part 90 may use the provisions in 40 CFR 90.909. Manufacturers of stationary engines with a maximum engine power greater than 25 HP that are not certified to standards and other requirements under 40 CFR part 1048 are subject to the labeling provisions of 40 CFR 1048.20 pertaining to excluded stationary engines.

Compliance Requirements for Owners and Operators

§ 60.4243 What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?

(a) If you are an owner or operator of a stationary SI internal combustion engine that is manufactured after July 1, 2008, and must comply with the emission standards specified in §60.4233(a) through (c), you must comply by purchasing an engine certified to the emission standards in §60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance. In addition, you must meet one of the requirements specified in (a)(1) and (2) of this section.

(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator.

(2) If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to (a)(2)(i) through (iii) of this section, as appropriate.

(i) If you are an owner or operator of a stationary SI internal combustion engine less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions, but no performance testing is required if you are an owner or operator.

(ii) If you are an owner or operator of a stationary SI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup to demonstrate compliance.

(iii) If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

(b) If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.

(1) Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of this section.

(2) Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) and according to the requirements specified in §60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of this section.

(i) If you are an owner or operator of a stationary SI internal combustion engine greater than 25 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance.

(ii) If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

(c) If you are an owner or operator of a stationary SI internal combustion engine that must comply with the emission standards specified in §60.4233(f), you must demonstrate compliance according paragraph (b)(2)(i) or (ii) of this section, except that if you comply according to paragraph (b)(2)(i) of this section, you demonstrate that your non-certified engine complies with the emission standards specified in §60.4233(f).

(d) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

(e) Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of §60.4233.

(f) If you are an owner or operator of a stationary SI internal combustion engine that is less than or equal to 500 HP and you purchase a non-certified engine or you do not operate and maintain your certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, you are required to perform initial performance

testing as indicated in this section, but you are not required to conduct subsequent performance testing unless the stationary engine is rebuilt or undergoes major repair or maintenance. A rebuilt stationary SI ICE means an engine that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(g) It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

(h) If you are an owner/operator of an stationary SI internal combustion engine with maximum engine power greater than or equal to 500 HP that is manufactured after July 1, 2007 and before July 1, 2008, and must comply with the emission standards specified in sections 60.4233(b) or (c), you must comply by one of the methods specified in paragraphs (h)(1) through (h)(4) of this section.

(1) Purchasing an engine certified according to 40 CFR part 1048. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

Testing Requirements for Owners and Operators

§ 60.4244 What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?

Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 to this subpart.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.

(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.

(d) To determine compliance with the NO_X mass per unit output emission limitation, convert the concentration of NO_X in the engine exhaust using Equation 1 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{HP - hr} \qquad \text{(Eq. 1)}$$

Where:
ER = Emission rate of NO_X in g/HP-hr.
C_d= Measured NO_X concentration in parts per million by volume (ppmv).
1.912×10^{-3} = Conversion constant for ppm NO_X to grams per standard cubic meter at 20 degrees Celsius.
Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.
T = Time of test run, in hours.
HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

(e) To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of this section:

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr} \qquad \text{(Eq. 2)}$$

Where:
ER = Emission rate of CO in g/HP-hr.
Cd= Measured CO concentration in ppmv.
1.164×10^{-3} = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.
Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.
T = Time of test run, in hours.
HP-hr = Brake work of the engine, in HP-hr.

(f) For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this section:

$$ER = \frac{C_d \times 1.833 \times 10^{-3} \times Q \times T}{HP - hr} \qquad \text{(Eq. 3)}$$

Where:
ER = Emission rate of VOC in g/HP-hr.
Cd= VOC concentration measured as propane in ppmv.
1.833×10^{-3} = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.
Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.
T = Time of test run, in hours.
HP-hr = Brake work of the engine, in HP-hr.

(g) If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this section.

$$RF_i = \frac{C_{mi}}{C_{Ai}} \qquad \text{(Eq. 4)}$$

Where:
RFi= Response factor of compound i when measured with EPA Method 25A.

$C_M i$= Measured concentration of compound i in ppmv as carbon.
$C_A i$= True concentration of compound i in ppmv as carbon.

$$C_{icorr} = RF_i \times C_{imeas} \qquad \text{(Eq. 5)}$$

Where:
Ci_{corr}= Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.
Ci_{meas}= Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{Peq} = 0.6098 \times C_{icorr} \qquad \text{(Eq. 6)}$$

Where:
CPeq= Concentration of compound i in mg of propane equivalent per DSCM.

Notification, Reports, and Records for Owners and Operators

§ 60.4245 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?

Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.

(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(2) Maintenance conducted on the engine.

(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90 and 1048.

(4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

(b) For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

(c) Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in §60.4231 must submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section.

(1) Name and address of the owner or operator;

(2) The address of the affected source;

(3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(4) Emission control equipment; and

(5) Fuel used.

(d) Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed.

General Provisions

§ 60.4246 What parts of the General Provisions apply to me?
Table 3 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

Mobile Source Provisions

§ 60.4247 What parts of the mobile source provisions apply to me if I am a manufacturer of stationary SI internal combustion engines?

(a) Manufacturers certifying to emission standards in 40 CFR part 90, including manufacturers certifying emergency engines below 130 HP, must meet the provisions of 40 CFR part 90.

(b) Manufacturers certifying to emission standards in 40 CFR part 1048 must meet the provisions of 40 CFR part 1048. Manufacturers of stationary SI internal combustion engines that are less than 100 HP participating in the voluntary certification program must meet the requirements in Table 4 to this subpart.

(c) For manufacturers of stationary SI internal combustion engines participating in the voluntary certification program and certifying engines to Table 1 to this subpart, Table 4 to this subpart shows which parts of the mobile source provisions in 40 CFR parts 1048, 1065, and 1068 apply to you. Compliance with the deterioration factor provisions under 40 CFR 1048.205(n) and 1048.240 will be required for engines built new on and after January 1, 2010. Prior to January 1, 2010, manufacturers of stationary internal combustion engines participating in the voluntary certification program have the option to develop their own deterioration factors based on an engineering analysis.

Definitions

§ 60.4248 What definitions apply to this subpart?
As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) are given in 40 CFR 90.105. The values for certified emissions life for stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) certified to 40 CFR part 1048 are given in 40 CFR 1048.101(g). The certified emissions life for stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) certified under the voluntary manufacturer certification program of this subpart is 5,000 hours or 7 years, whichever comes first.

Certified stationary internal combustion engine means an engine that belongs to an engine family that has a certificate of conformity that complies with the emission standards and requirements in this part, or of 40 CFR part 90 or 40 CFR part 1048, as appropriate.

Combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and carbon dioxide (CO2).

Emergency stationary internal combustion engine means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary SI ICE used for peak shaving are not considered emergency stationary ICE. Stationary ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Engine manufacturer means the manufacturer of the engine. See the definition of “manufacturer” in this section.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Manufacturer has the meaning given in section 216(1) of the Clean Air Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1048.801.

Model year means either: The calendar year in which the engine was originally produced, or the annual new model production period of the engine manufacturer if it is different than the calendar year. This must include January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year, and it must end by December 31 of the named calendar year. For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was originally produced.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Pipeline-quality natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by a supplier through a pipeline. Pipeline-quality natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1,100 British thermal units per standard cubic foot.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to June 12, 2006, with passive emission control technology for NO_X (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to either: a gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Stationary internal combustion engine test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that test stationary ICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Subpart means 40 CFR part 60, subpart JJJJ.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

Volatile organic compounds means volatile organic compounds as defined in 40 CFR 51.100(s).

Voluntary certification program means an optional engine certification program that manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to participate in to certify their engines to the emission standards in §60.4231(d) or (e), as applicable.

Table 1 to Subpart JJJJ of Part 60—
NO_X, CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines >25 HP

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards[a]					
			g/HP-hr			ppmvd at 15% O_2		
			NO_X	CO	VOC[d]	NO_X	CO	VOC[d]
Non-Emergency SI Natural Gas[b] and Non-Emergency SI Lean Burn LPG[b]	100 ≤ HP < 500	7/1/2008 1/1/2011	2.0 1.0	4.0 2.0	1.0 0.7	160 82	540 270	86 60
Non-Emergency SI Lean Burn Natural Gas and LPG	500 ≥ HP < 1,350	1/1/2008 7/1/2010	2.0 1.0	4.0 2.0	1.0 0.7	160 82	540 270	86 60
Non-Emergency SI Natural Gas and Non-Emergency SI Lean Burn LPG (except lean burn 500=≥HP<1,350)	HP ≥ 500 HP ≥ 500	7/1/2007 7/1/2010	2.0 1.0	4.0 2.0	1.0 0.7	160 82	540 270	86 60
Landfill/Digester	HP < 500	7/1/2008	3.0	5.0	1.0	220	610	80

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards[a]					
			g/HP-hr			ppmvd at 15% O_2		
			NO_X	CO	VOC[d]	NO_X	CO	VOC[d]
Gas (except lean burn 500≥HP<1,350)		1/1/2011	2.0	5.0	1.0	150	610	80
	HP ≥ 500	7/1/2007 7/1/2010	3.0 2.0	5.0 5.0	1.0 1.0	220 150	610 610	80 80
Landfill/Digester Gas Lean Burn	500 ≥ HP < 1,350	1/1/2008 7/1/2010	3.0 2.0	5.0 5.0	1.0 1.0	220 150	610 610	80 80
Emergency	25 > HP < 130	1/1/2009	[c]10 2.0	387 4.0	N/A 1.0	N/A 160	N/A 540	N/A 86
	HP ≥ 130							

[a]Owners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O2.

[b]Owners and operators of new or reconstructed non-emergency lean burn SI stationary engines with a site rating of greater than or equal to 250 brake HP located at a major source that are meeting the requirements of 40 CFR part 63, subpart ZZZZ, Table 2A do not have to comply with the CO emission standards of Table 1 of this subpart.

[c]The emission standards applicable to emergency engines between 25 HP and 130 HP are in terms of NO_X+HC.

[d]For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

Table 2 to Subpart JJJJ of Part 60—Requirements for Performance Tests

[As stated in §60.4244, you must comply with the following requirements for performance tests within 10 percent of 100 percent peak (or the highest achievable) load]

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary SI internal combustion engine demonstrating compliance according to §60.4244.	a. limit the concentration of NO_X in the stationary SI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, Appendix A or ASTM Method D6522–00(2005)[a].	(a) If using a control device, the sampling site must be located at the outlet of the control device.
	ii. Determine the O_2concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B[b]of 40 CFR part 60, appendix A or ASTM Method D6522–00(2005)[a].	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for NO_X concentration.	
	iii. Determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60.		
	iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see §60.17).	(c) Measurements to determine moisture must be made at the same time as the measurement for NO_X concentration.	
	v. Measure NO_Xat the exhaust of the stationary internal combustion engine.	(5) Method 7E of 40 CFR part 60, appendix A, Method D6522–00(2005)[a], Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see §60.17).	(d) Results of this test consist of the average of the three 1-hour or longer runs.	
	b. limit the	i. Select the sampling port	(1) Method 1 or 1A of	(a) If using a

For each	Complying with the requirement to	You must	Using	According to the following requirements
	concentration of CO in the stationary SI internal combustion engine exhaust.	location and the number of traverse points;	40 CFR part 60, Appendix A.	control device, the sampling site must be located at the outlet of the control device.
	ii. Determine the O_2concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3Bb of 40 CFR part 60, appendix A or ASTM Method D6522–00(2005)[a].	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for CO concentration.	
	iii. Determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60.		
	iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see §60.17).	(c) Measurements to determine moisture must be made at the same time as the measurement for CO concentration.	
	v. Measure CO at the exhaust of the stationary internal combustion engine.	(5) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522–00(2005)[a], Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17).	(d) Results of this test consist of the average of the three 1-hour or longer runs.	
	c. limit the concentration of VOC in the stationary SI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, Appendix A.	(a) If using a control device, the sampling site must be located at

For each	Complying with the requirement to	You must	Using	According to the following requirements
				the outlet of the control device.
	ii. Determine the O_2concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B[b]of 40 CFR part 60, appendix A or ASTM Method D6522–00(2005)[a].	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for VOC concentration.	
	iii. Determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60.		
	iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see §60.17).	(c) Measurements to determine moisture must be made at the same time as the measurement for VOC concentration.	
	v. Measure VOC at the exhaust of the stationary internal combustion engine.	(5) Methods 25A and 18 of 40 CFR part 60, appendix A, Method 25A with the use of a methane cutter as described in 40 CFR 1065.265, Method 18 or 40 CFR part 60, appendix A,[cd]Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see §60.17).	(d) Results of this test consist of the average of the three 1-hour or longer runs.	

[a]ASTM D6522–00 is incorporated by reference; see 40 CFR 60.17. Also, you may petition the Administrator for approval to use alternative methods for portable analyzer.
[b]You may use ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses, for measuring the O_2content of the exhaust gas as an alternative to EPA Method 3B.
[c]You may use EPA Method 18 of 40 CFR part 60, appendix A, provided that you conduct an adequate presurvey test prior to the emissions test, such as the one described in OTM 11 on EPA's Web site (http://www.epa.gov/ttn/emc/prelim/otm11.pdf).
[d]You may use ASTM D6420–99 (2004), Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography/Mass Spectrometry as an alternative to EPA Method 18 for measuring total nonmethane organic.

Table 3 to Subpart JJJJ of Part 60—Applicability of General Provisions to Subpart JJJJ
[As stated in §60.4246, you must comply with the following applicable General Provisions]

General provisions citation	Subject of citation	Applies to subpart	Explanation
§60.1	General applicability of the General Provisions	Yes	
§60.2	Definitions	Yes	Additional terms defined in §60.4248.
§60.3	Units and abbreviations	Yes	
§60.4	Address	Yes	
§60.5	Determination of construction or modification	Yes	
§60.6	Review of plans	Yes	
§60.7	Notification and Recordkeeping	Yes	Except that §60.7 only applies as specified in §60.4245.
§60.8	Performance tests	Yes	Except that §60.8 only applies to owners and operators who are subject to performance testing in subpart JJJJ.
§60.9	Availability of information	Yes	
§60.10	State Authority	Yes	
§60.11	Compliance with standards and maintenance requirements	Yes	Requirements are specified in subpart JJJJ.
§60.12	Circumvention	Yes	
§60.13	Monitoring requirements	No	
§60.14	Modification	Yes	
§60.15	Reconstruction	Yes	
§60.16	Priority list	Yes	
§60.17	Incorporations by reference	Yes	
§60.18	General control device requirements	No	
§60.19	General notification and reporting requirements	Yes	

Table 4 to Subpart JJJJ of Part 60—Applicability of Mobile Source Provisions for Manufacturers Participating in the Voluntary Certification Program and Certifying Stationary SI ICE to Emission Standards in Table 1 of Subpart JJJJ

[As stated in §60.4247, you must comply with the following applicable mobile source provisions if you are a manufacturer participating in the voluntary certification program and certifying stationary SI ICE to emission standards in Table 1 of Subpart JJJJ]

Mobile source provisions citation	Subject of citation	Applies to subpart	Explanation
1048 Subpart A	Overview and Applicability	Yes	
1048 Subpart B	Emission Standards and Related Requirements	Yes	Except for the specific sections below.
1048.101	Exhaust Emission Standards	No	
1048.105	Evaporative Emission Standards	No	
1048.110	Diagnosing Malfunctions	No	
1048.140	Certifying Blue Sky Series Engines	No	
1048.145	Interim Provisions	No	
1048 Subpart C	Certifying Engine Families	Yes	Except for the specific sections below.
1048.205(b)	AECD reporting	Yes	
1048.205(c)	OBD Requirements	No	
1048.205(n)	Deterioration Factors	Yes	Except as indicated in 60.4247(c).
1048.205(p)(1)	Deterioration Factor Discussion	Yes	
1048.205(p)(2)	Liquid Fuels as they require	No	
1048.240(b)(c)(d)	Deterioration Factors	Yes	
1048 Subpart D	Testing Production-Line Engines	Yes	
1048 Subpart E	Testing In-Use Engines	No	
1048 Subpart F	Test Procedures	Yes	
1065.5(a)(4)	Raw sampling (refers reader back to the specific emissions regulation for guidance)	Yes	
1048 Subpart G	Compliance Provisions	Yes	
1048 Subpart H	Reserved		
1048 Subpart I	Definitions and Other Reference Information	Yes	

Mobile source provisions citation	Subject of citation	Applies to subpart	Explanation
1048 Appendix I and II	Yes		
1065 (all subparts)	Engine Testing Procedures	Yes	Except for the specific section below.
1065.715	Test Fuel Specifications for Natural Gas	No	
1068 (all subparts)	General Compliance Provisions for Nonroad Programs	Yes	Except for the specific sections below.
1068.245	Hardship Provisions for Unusual Circumstances	No	
1068.250	Hardship Provisions for Small-Volume Manufacturers	No	
1068.255	Hardship Provisions for Equipment Manufacturers and Secondary Engine Manufacturers	No	

Indiana Department of Environmental Management
Office of Air Quality
Attachment F:

Source Description and Location

Source Name:	Hoosier Energy REC, Inc. – Merom Generating Station
Source Location:	5500 W Old 54, Sullivan, Indiana 47882
County:	Sullivan
SIC Code:	4911
TV Permit No.:	T 153-28006-00005
Operation Permit Issuance Date:	September 8 , 2010
Permit Reviewer:	James Mackenzie

Stationary Reciprocating Internal Combustion Engines
NESHAP Requirements
[40 CFR Part 63, Subpart ZZZZ]

§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§ 63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

§ 63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraph (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(h).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions; or

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(h) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) A stationary RICE which is an existing spark ignition 4 stroke rich burn (4SRB) stationary RICE located at an area source, an existing spark ignition 4SRB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source, an existing spark ignition 2 stroke lean burn (2SLB) stationary RICE, an existing spark ignition 4 stroke lean burn (4SLB) stationary RICE, an existing compression ignition (CI) stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, does not have to meet the requirements of this subpart and of subpart A of this part. No initial notification is necessary.

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that is a new or reconstructed stationary RICE located at an area source, or is a new or reconstructed stationary RICE located at a major source of HAP emissions and is a spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of less than 500 brake HP, a spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of less than 250 brake HP, or a 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP, a stationary RICE with a site rating of less than or equal to 500 brake HP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP, or a compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP, must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008]

§ 63.6595 When do I have to comply with this subpart?

(a) *Affected Sources.* (1) If you have an existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008]

Emission and Operating Limitations

§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a and 2a to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE, an existing 4SLB stationary RICE, or an existing CI stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

[73 FR 3605, General Compliance Requirements

§ 63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times, except during periods of startup, shutdown, and malfunction.

(b) If you must comply with emission limitations and operating limitations, you must operate and maintain your stationary RICE, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during startup, shutdown, and malfunction.

Testing and Initial Compliance Requirements

§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

Jan. 18, 2008]

§ 63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§ 63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements in §63.7(e)(1) and under the specific conditions that this subpart specifies in Table 4. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

(c) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §63.7(e)(1).

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 1)}$$

Where:

C_i= concentration of CO or formaldehyde at the control device inlet,

C_o= concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

(2) You must normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2concentration is measured in lieu of oxygen concentration measurement, a CO_2correction factor is needed. Calculate the CO_2correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific $F_o$value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:

$$F_o = \frac{0.209\, F_d}{F_c} \qquad \text{(Eq. 2)}$$

Where:

F_o= Fuel factor based on the ratio of oxygen volume to the ultimate CO_2volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F_d= Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

F_c= Ratio of the volume of CO_2produced to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

(ii) Calculate the CO_2correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{co_2} = \frac{5.9}{F_o} \qquad \text{(Eq. 3)}$$

Where:

X_{co2}= CO_2correction factor, percent.

5.9 = 20.9 percent O_2−15 percent O_2, the defined O_2correction value, percent.

(iii) Calculate the $NO_X$and SO_2gas concentrations adjusted to 15 percent O_2using CO_2as follows:

$$C_{adj} = C_d \frac{X_{co_2}}{\%CO_2} \qquad \text{(Eq. 4)}$$

Where:

$\%CO_2$= Measured CO_2concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.,* operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.,* wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

§ 63.6625 What are my monitoring, installation, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO_2at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in §63.8.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008]

§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

Continuous Compliance Requirements

§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously at all times that the stationary RICE is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b and Tables 2a and 2b of this subpart that apply to you according to methods specified in Table 6 of this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b and Tables 2a and 2b of this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) [Reserved]

(d) Consistent with §§63.6(e) and 63.7(e)(1), deviations from the emission or operating limitations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with §63.6(e)(1). For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations.

Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR §94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate any stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing CI stationary RICE, an existing emergency stationary RICE, an existing limited use emergency stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008]

Notifications, Reports, and Records

§ 63.6645 What notifications must I submit and when?

(a) If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions or a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions, you must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

[73 FR 3606, Jan. 18, 2008]

§ 63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.

(1) The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) The first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period, the compliance report must include the information in §63.10(d)(5)(i).

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

§ 63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(3), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

§ 63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form on-site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off-site for the remaining 3 years.

Other Requirements and Information

§ 63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate any stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a stationary RICE located at an area source of HAP

emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions: An existing 2SLB RICE, an existing 4SLB stationary RICE, an existing CI stationary RICE, an existing stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[73 FR 3606, Jan. 18, 2008]

§ 63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§ 63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101–549, 104 Stat. 2399).

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary RICE whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines. Emergency stationary RICE with a site-rating of more than 500 brake HP located at a major source of HAP emissions that were installed prior to June 12, 2006, may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine.

Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance. Emergency stationary RICE with a site-rating of more than 500 brake HP located at a major source of HAP emissions that were installed prior to June 12, 2006, may also operate an additional 50 hours per year in non-emergency situations. Emergency stationary RICE with a site-rating of more than 500 brake HP located at a major source of HAP emissions that were installed on or after June 12, 2006, must comply with requirements specified in 40 CFR 60.4243(d).

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes “rich” glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The “lean” glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X, CO, and volatile organic compounds (VOC) into CO_2, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the

limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_X(such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008]

Table2ato Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

[As stated in §§63.6600 and 63.6601, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent]

For each...	You must meet the following emission limitation...
1. 2SLB stationary RICE	a. reduce CO emissions by 58 percent or more;
	or
	b. limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O_2. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O_2until June 15, 2007.
2. 4SLB stationary RICE	a. reduce CO emissions by 93 percent or more;
	or
	b. limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2.
3. CI stationary RICE	a. reduce CO emissions by 70 percent or more;
	or
	b. limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2.

[73 FR 3608, Jan. 18, 2008]

Table2bto Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and 4SLB Burn Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

[As stated in §§63.6600, 63.6601, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary]

For each...	You must meet the following operating limitation...
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst	Comply with any operating limitations approved by the Administrator.

[73 FR 3608, Jan. 18, 2008]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

[As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements]

For each . . .	Complying with the requirement to . . .	You must . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]
2. 4SRB stationary RICE with a brake horsepower ≥5,000	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE (all stationary RICE subcategories and all brake horsepower ratings)	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]

[1]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

[As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE]

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. Reduce CO emissions	i. Measure the O_2at the inlet and outlet of the control device; and	(1) Portable CO and O_2analyzer	(a) Using ASTM D6522–00 (2005)[a](incorporated by reference, see §63.14). Measurements to determine O2 must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) Portable CO and O_2analyzer	(a) Using ASTM D6522–00 (2005)[a](incorporated by reference, see §63.14) or Method 10 of 40 CFR, appendix A. The CO concentration must be at 15 percent O2, dry basis.
2. 4SRB stationary RICE	a. Reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00 (2005).	(a) Measurements to determine O2 concentration must be made at the same time as the measurements for formaldehyde concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure	(1) Method 320 or 323 of	(a) Formaldehyde

		formaldehyde at the inlet and the outlet of the control device	40 CFR part 63, appendix A; or ASTM D6348–03[b], provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	concentration must be at 15 percent O2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. Limit the concentration of formaldehyde in the stationary RICE exhaust	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O2 concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00 (2005)	(a) Measurements to determine O2 concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03[b], provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

[a]You may also use Methods 3A and 10 as options to ASTM–D6522–00 (2005). You may obtain a copy of ASTM–D6522–00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[b]You may obtain a copy of ASTM–D6348–03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[73 FR 3609, Jan. 18, 2008]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations and Operating Limitations

[As stated in §§63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following]

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. the average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
3. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2or CO_2at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and
		ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
4. 4SRB stationary RICE	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements

		in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
5. 4SRB stationary RICE	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
6. Stationary RICE	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
7. Stationary RICE	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations and Operating Limitations

[As stated in §63.6640, you must continuously comply with the emissions and operating limitations as required by the following]

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved[1]; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved[1]; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction of CO emissions according to §63.6620; and
		ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period; and
		iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B,

		as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. 4SRB stationary RICE	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. 4SRB stationary RICE	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		ii. reducing these data to 4-hour rolling averages;
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. 4SRB stationary RICE with a brake horsepower ≥5,000	Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved[1].
7. Stationary RICE	Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit[1]; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. Stationary RICE	Limit the concentration of	i. Conducting semiannual performance tests for

	formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit[1]; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

[1]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

[As stated in §63.6650, you must comply with the following requirements for reports]

You must submit a(n)	The report must contain . . .	You must submit the report . . .
1. Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or	i. Semiannually according to the requirements in §63.6650(b).
	b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or	i. Semiannually according to the requirements in §63.6650(b).
	c. If you had a startup, shutdown or malfunction during the reporting period, the information in §63.10(d)(5)(i)	i. Semiannually according to the requirements in §63.6650(b).
2. An immediate startup, shutdown, and malfunction report if actions addressing	a. Actions taken for the event; and	i. By fax or telephone within 2 working days after starting actions inconsistent with the

the startup, shutdown, or malfunction were inconsistent with your startup, shutdown, or malfunction plan during the reporting period		plan.
	b. The information in §63.10(d)(5)(ii).	i. By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authorities. (§63.10(d)(5)(ii))
3. Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and	i. Annually, according to the requirements in §63.6650.
	b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 3.a.i.
	c. Any problems or errors suspected with the meters	i. See item 3.a.i.

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ

[As stated in §63.6665, you must comply with the following applicable general provisions]

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes	
§63.4	Prohibited activities and circumvention	Yes	
§63.5	Construction and reconstruction	Yes	
§63.6(a)	Applicability	Yes	
§63.6(b)(1)–(4)	Compliance dates for new and reconstructed sources	Yes	
§63.6(b)(5)	Notification	Yes	

§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes	
§63.6(c)(1)–(2)	Compliance dates for existing sources	Yes	
§63.6(c)(3)–(4)	[Reserved]		
§36.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes	
§63.6(d)	[Reserved]		
§63.6(e)(1)	Operation and maintenance	Yes	
§63.6(e)(2)	[Reserved]		
§63.6(e)(3)	Startup, shutdown, and malfunction plan	Yes	
§63.6(f)(1)	Applicability of standards except during startup shutdown malfunction (SSM)	Yes	
§63.6(f)(2)	Methods for determining compliance	Yes	
§63.6(f)(3)	Finding of compliance	Yes	
§63.6(g)(1)–(3)	Use of alternate standard	Yes	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes	
§63.6(j)	Presidential compliance exemption	Yes	
§63.7(a)(1)–(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610 and 63.6611.
§63.7(a)(3)	CAA section 114 authority	Yes	
§63.7(b)(1)	Notification of performance test	Yes	
§63.7(b)(2)	Notification of rescheduling	Yes	
§63.7(c)	Quality assurance/test plan	Yes	
§63.7(d)	Testing facilities	Yes	
§63.7(e)(1)	Conditions for conducting	Yes	

	performance tests		
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes	
§63.7(f)	Alternative test method provisions	Yes	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes	
§63.7(h)	Waiver of tests	Yes	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No	
§63.8(b)(1)	Monitoring	Yes	
§63.8(b)(2)–(3)	Multiple effluents and multiple monitoring systems	Yes	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes	
§63.8(c)(1)(i)	Routine and predictable SSM	Yes	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	Yes	
§63.8(c)(2)–(3)	Monitoring system installation	Yes	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)–(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which

			applies to COMS.
§63.8(f)(1)–(5)	Alternative monitoring method	Yes	
§63.8(f)(6)	Alternative to relative accuracy test	Yes	
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes	
§63.9(b)(1)–(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
§63.9(c)	Request for compliance extension	Yes	
§63.9(d)	Notification of special compliance requirements for new sources	Yes	
§63.9(e)	Notification of performance test	Yes	
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
§63.9(h)(1)–(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
§63.9(i)	Adjustment of submittal deadlines	Yes	
§63.9(j)	Change in previous information	Yes	
§63.10(a)	Administrative provisions for record keeping/reporting	Yes	
§63.10(b)(1)	Record retention	Yes	
§63.10(b)(2)(i)–(v)	Records related to SSM	Yes	
§63.10(b)(2)(vi)–(xi)	Records	Yes	
§63.10(b)(2)(xii)	Record when under waiver	Yes	
§63.10(b)(2)(xiii)	Records when using alternative to	Yes	For CO standard if using RATA

	RATA		alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes	
§63.10(b)(3)	Records of applicability determination	Yes	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)–(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes	
§63.10(d)(2)	Report of performance test results	Yes	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	Yes	
§63.10(e)(1) and (2)(i)	Additional CMS reports	Yes	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes	Except that §63.10(e)(3)(i)(C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes	
§63.11	Flares	No	
§63.12	State authority and delegations	Yes	
§63.13	Addresses	Yes	
§63.14	Incorporation by reference	Yes	
§63.15	Availability of information	Yes	

[73 FR 3610, Jan. 18, 2008]

Indiana Department of Environmental Management
Office of Air Quality
Attachment G:

Source Description and Location	
Source Name:	Hoosier Energy REC, Inc. – Merom Generating Station
Source Location:	5500 W Old 54, Sullivan, Indiana 47882
County:	Sullivan
SIC Code:	4911
TV Permit No.:	T 153-28006-00005
Operation Permit Issuance Date:	September 8, 2010
Permit Reviewer:	James Mackenzie

Nonmetallic Mineral Processing Plants
NSPS Requirements
[40 CFR Part 60, Subpart OOO]

§ 60.670 Applicability and designation of affected facility.

(a)(1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.

(2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; and stand-alone screening operations at plants without crushers or grinding mills.

(b) An affected facility that is subject to the provisions of subpart F or I or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.

(c) Facilities at the following plants are not subject to the provisions of this subpart:

(1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 23 megagrams per hour (25 tons per hour) or less;

(2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 136 megagrams per hour (150 tons per hour) or less; and

(3) Common clay plants and pumice plants with capacities, as defined in §60.671, of 9 megagrams per hour (10 tons per hour) or less.

(d)(1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in §60.671, having the same function as the existing facility, the new facility is exempt from the provisions of §§60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.

(2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in §60.676(a).

(3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§60.672, 60.674 and 60.675.

(e) An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983 is subject to the requirements of this part.

(f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that apply and those that do not apply to owners and operators of affected facilities subject to this subpart.

Table 1—Applicability of Subpart A to Subpart OOO

Subpart A reference	Applies to Subpart OOO	Comment
60.1, Applicability	Yes	
60.2, Definitions	Yes	
60.3, Units and abbreviations	Yes	
60.4, Address:		
(a)	Yes	
(b)	Yes	
60.5, Determination of construction or modification	Yes	
60.6, Review of plans	Yes	
60.7, Notification and recordkeeping	Yes	Except in (a)(2) report of anticipated date of initial startup is not required (§60.676(h)).
60.8, Performance tests	Yes	Except in (d), after 30 days notice for an initially scheduled performance test, any rescheduled performance test requires 7 days notice, not 30 days (§60.675(g)).
60.9, Availability of information	Yes	
60.10, State authority	Yes	
60.11, Compliance with standards and maintenance requirements	Yes	Except in (b) under certain conditions (§§60.675 (c)(3) and (c)(4)), Method 9 observation may be reduced from 3 hours to 1 hour. Some affected facilities exempted from Method 9 tests (§60.675(h)).
60.12, Circumvention	Yes	
60.13, Monitoring requirements	Yes	

60.14, Modification	Yes	
60.15, Reconstruction	Yes	
60.16, Priority list	Yes	
60.17, Incorporations by reference	Yes	
60.18, General control device	No	Flares will not be used to comply with the emission limits.
60.19, General notification and reporting requirements	Yes	

[51 FR 31337, Aug. 1, 1985, as amended at 62 FR 31359, June 9, 1997]

§ 60.671 Definitions.

All terms used in this subpart, but not specifically defined in this section, shall have the meaning given them in the Act and in subpart A of this part.

Bagging operation means the mechanical process by which bags are filled with nonmetallic minerals.

Belt conveyor means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

Bucket elevator means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

Building means any frame structure with a roof.

Capacity means the cumulative rated capacity of all initial crushers that are part of the plant.

Capture system means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more process operations to a control device.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more process operations at a nonmetallic mineral processing plant.

Conveying system means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to the following: Feeders, belt conveyors, bucket elevators and pneumatic systems.

Crusher means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

Enclosed truck or railcar loading station means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

Fixed plant means any nonmetallic mineral processing plant at which the processing equipment specified in §60.670(a) is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock.

Fugitive emission means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation.

Grinding mill means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

Initial crusher means any crusher into which nonmetallic minerals can be fed without prior crushing in the plant.

Nonmetallic mineral means any of the following minerals or any mixture of which the majority is any of the following minerals:

(a) Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.

(b) Sand and Gravel.

(c) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.

(d) Rock Salt.

(e) Gypsum.

(f) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.

(g) Pumice.

(h) Gilsonite.

(i) Talc and Pyrophyllite.

(j) Boron, including Borax, Kernite, and Colemanite.

(k) Barite.

(l) Fluorospar.

(m) Feldspar.

(n) Diatomite.

(o) Perlite.

(p) Vermiculite.

(q) Mica.

(r) Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

Nonmetallic mineral processing plant means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in §60.670 (b) and (c).

Portable plant means any nonmetallic mineral processing plant that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit.

Production line means all affected facilities (crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or are connected together by a conveying system.

Screening operation means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens).

Size means the rated capacity in tons per hour of a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station; the total surface area of the top screen of a screening operation; the width of a conveyor belt; and the rated capacity in tons of a storage bin.

Stack emission means the particulate matter that is released to the atmosphere from a capture system.

Storage bin means a facility for storage (including surge bins) or nonmetallic minerals prior to further processing or loading.

Transfer point means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.

Truck dumping means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include but are not limited to: trucks, front end loaders, skip hoists, and railcars.

Vent means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities.

Wet mining operation means a mining or dredging operation designed and operated to extract any nonmetallic mineral regulated under this subpart from deposits existing at or below the water table, where the nonmetallic mineral is saturated with water.

Wet screening operation means a screening operation at a nonmetallic mineral processing plant which removes unwanted material or which separates marketable fines from the product by a washing process which is designed and operated at all times such that the product is saturated with water.

[51 FR 31337, Aug. 1, 1985, as amended at 62 FR 31359, June 9, 1997]

§ 60.672 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any stack emissions which:

(1) Contain particulate matter in excess of 0.05 g/dscm (0.022 gr/dscf); and

(2) Exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing control device. Facilities using a wet scrubber must comply with the reporting provisions of §60.676 (c), (d), and (e).

(b) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11 of this part, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity, except as provided in paragraphs (c), (d), and (e) of this section.

(c) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11 of this part, no owner or operator shall cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity.

(d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

(e) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a), (b) and (c) of this section, or the building enclosing the affected facility or facilities must comply with the following emission limits:

(1) No owner or operator shall cause to be discharged into the atmosphere from any building enclosing any transfer point on a conveyor belt or any other affected facility any visible fugitive emissions except emissions from a vent as defined in §60.671.

(2) No owner or operator shall cause to be discharged into the atmosphere from any vent of any building enclosing any transfer point on a conveyor belt or any other affected facility emissions which exceed the stack emissions limits in paragraph (a) of this section.

(f) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11 of this part, no owner or operator shall cause to be discharged into the atmosphere from any baghouse that controls emissions from only an individual, enclosed storage bin, stack emissions which exhibit greater than 7 percent opacity.

(g) Owners or operators of multiple storage bins with combined stack emissions shall comply with the emission limits in paragraph (a)(1) and (a)(2) of this section.

(h) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup, no owner or operator shall cause to be discharged into the atmosphere any visible emissions from:

(1) Wet screening operations and subsequent screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to the next crusher, grinding mill or storage bin.

(2) Screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations, where such screening operations, bucket elevators, and belt conveyors process saturated materials up to the first crusher, grinding mill, or storage bin in the production line.

[51 FR 31337, Aug. 1, 1985, as amended at 62 FR 31359, June 9, 1997; 65 FR 61778, Oct. 17, 2000]

§ 60.673 Reconstruction.

(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital cost that would be required to construct a comparable new facility” under §60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.

(b) Under §60.15, the “fixed capital cost of the new components” includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

§ 60.674 Monitoring of operations.

The owner or operator of any affected facility subject to the provisions of this subpart which uses a wet scrubber to control emissions shall install, calibrate, maintain and operate the following monitoring devices:

(a) A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±250 pascals ±1 inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(b) A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.

§ 60.675 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of this section.

(b) The owner or operator shall determine compliance with the particulate matter standards in §60.672(a) as follows:

(1) Method 5 or Method 17 shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.

(2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

(c)(1) In determining compliance with the particulate matter standards in §60.672 (b) and (c), the owner or operator shall use Method 9 and the procedures in §60.11, with the following additions:

(i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.

(iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(2) In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under §60.672(f) of this subpart, using Method 9, the duration of the Method 9 observations shall be 1 hour (ten 6-minute averages).

(3) When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:

(i) There are no individual readings greater than 10 percent opacity; and

(ii) There are no more than 3 readings of 10 percent for the 1-hour period.

(4) When determining compliance with the fugitive emissions standard for any crusher at which a capture system is not used as described under §60.672(c) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:

(i) There are no individual readings greater than 15 percent opacity; and

(ii) There are no more than 3 readings of 15 percent for the 1-hour period.

(d) In determining compliance with §60.672(e), the owner or operator shall use Method 22 to determine fugitive emissions. The performance test shall be conducted while all affected facilities inside the building are operating. The performance test for each building shall be at least 75 minutes in duration, with each side of the building and the roof being observed for at least 15 minutes.

(e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For the method and procedure of paragraph (c) of this section, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:

(i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.

(ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.

(f) To comply with §60.676(d), the owner or operator shall record the measurements as required in §60.676(c) using the monitoring devices in §60.674 (a) and (b) during each particulate matter run and shall determine the averages.

(g) If, after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting any rescheduled performance test required in this section, the owner or operator of an affected facility shall submit a notice to the Administrator at least 7 days prior to any rescheduled performance test.

(h) Initial Method 9 performance tests under §60.11 of this part and §60.675 of this subpart are not required for:

(1) Wet screening operations and subsequent screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to, but not including the next crusher, grinding mill or storage bin.

(2) Screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations, that process saturated materials up to the first crusher, grinding mill, or storage bin in the production line.

[54 FR 6680, Feb. 14, 1989, as amended at 62 FR 31360, June 9, 1997]

§ 60.676 Reporting and recordkeeping.

(a) Each owner or operator seeking to comply with §60.670(d) shall submit to the Administrator the following information about the existing facility being replaced and the replacement piece of equipment.

(1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:

(i) The rated capacity in megagrams or tons per hour of the existing facility being replaced and

(ii) The rated capacity in tons per hour of the replacement equipment.

(2) For a screening operation:

(i) The total surface area of the top screen of the existing screening operation being replaced and

(ii) The total surface area of the top screen of the replacement screening operation.

(3) For a conveyor belt:

(i) The width of the existing belt being replaced and

(ii) The width of the replacement conveyor belt.

(4) For a storage bin:

(i) The rated capacity in megagrams or tons of the existing storage bin being replaced and

(ii) The rated capacity in megagrams or tons of replacement storage bins.

(b) [Reserved]

(c) During the initial performance test of a wet scrubber, and daily thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.

(d) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow rate differ by more than ±30 percent from the averaged determined during the most recent performance test.

(e) The reports required under paragraph (d) shall be postmarked within 30 days following end of the second and fourth calendar quarters.

(f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672 of this subpart, including reports of opacity observations made using Method 9 to demonstrate compliance with §60.672(b), (c), and (f), and reports of observations using Method 22 to demonstrate compliance with §60.672(e).

(g) The owner or operator of any screening operation, bucket elevator, or belt conveyor that processes saturated material and is subject to §60.672(h) and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the 10 percent opacity limit in §60.672(b) and the emission test requirements of §60.11 and this subpart. Likewise a screening operation, bucket elevator, or belt conveyor that processes unsaturated material but subsequently processes saturated material shall submit a report of this change within 30 days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the no visible emission limit in §60.672(h).

(h) The subpart A requirement under §60.7(a)(2) for notification of the anticipated date of initial startup of an affected facility shall be waived for owners or operators of affected facilities regulated under this subpart.

(i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.

(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.

(2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.

(j) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected facilities within the State will be relieved of the obligation to comply with the reporting requirements of this section, provided that they comply with requirements established by the State.

[51 FR 31337, Aug. 1, 1985, as amended at 54 FR 6680, Feb. 14, 1989; 62 FR 31360, June 9, 1997; 65 FR 61778, Oct. 17, 2000]

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (ATSD) for a New Source Construction and Part 70 Operating Permit

Source Description and Location

Source Name:	Hoosier Energy REC, Inc. – Merom Generating Station
Source Location:	5500 W Old 54, Sullivan, Indiana 47882
County:	Sullivan
SIC Code:	4911
TV Permit No.:	T 153-28006-00005
Operation Permit Issuance Date:	September 8, 2010
SSM No.:	153-29394-00005
SPM No.:	153-29410-00005
Permit Reviewer:	David J. Matousek

Public Notice Information

On September 19, 2011, the Office of Air Quality (OAQ) had a notice published in the Sullivan Daily Times located in Sullivan, Indiana stating that, Hoosier Energy REC, Inc. – Merom Generating Station had applied to add eight (8) Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE) each rated at 4,601 bHp and a Coal Bed Methane/Propane-fired standby flare. The RICE engines will be used to generate electricity for sale to the grid.

The notice also stated that the OAQ proposed to issue a Part 70 Significant Source Modification and Significant Permit Modification to a Part 70 Operating Permit Renewal for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and IDEM's Responses

IDEM received comments during the public notice period from US EPA Region 5. IDEM's responses to the comments are shown below. Appendix A to the ATSD contains revised emission calculations for this source as a result of the comments received by IDEM.

Comment # 1 The Technical Support Document lists the potential to emit (PTE) of GHGs as CO_2e (CO_2-equivalent) consisting of the combined emissions of CO_2, CH_4 and N_2O emissions. If any other GHG are emitted from units at the source, please ensure that the CO_2e PTE accounts for them. As an example, this source may have circuit breakers that could have fugitive emissions of sulfur hexafluoride.

IDEM Response The coal bed methane combusted by Hoosier Energy REC, Inc. - Merom Generating Station should not contain fluorine; therefore, HFCs, PFCs and SF6 should not be created during the combustion process. Hoosier Energy REC, Inc. provided information indicating that the electrical transmission and distribution system components related to this modification do not contain any HFCs or PFCs. There will be two high voltage circuit breakers using SF6 dielectric with an enclosed pressure system and a density alarm to indicate the loss of dielectric. These breakers have an estimated leakage rate of less than 0.5% annually. Hoosier Energy REC, Inc. indicates annual fugitive emissions would be 0.07 lb SF6 per year or 0.9 tons of CO2e per year. IDEM has determined that fugitive emissions from these circuit breakers are insignificant and would be prohibitively expensive to capture and control.

Comment # 2 The averaging time for the GHG emission limits is not specified in the draft permit. EPA recommends that IDEM consider establishing a 30-day rolling average or a 12-month rolling average emissions limit, in order to account for the cumulative impact of GHG emissions

IDEM Response IDEM agrees that a long term limit would better account for the cumulative impact of GHG emissions. Condition D.7.2 has been revised to update the GHG limits to show a long term limit with an averaging period. IDEM did not include compliance monitoring or determination requirements for the new limits because emissions are uncontrolled and are based on an emission factor and continuous operation of the units. Additionally, IDEM is correcting a typographical error in Condition D.7.2(e) and a rounding error in Conditions D.7.2(c) and (i). Revised emission calculations have been attached to support this change. Revisions to the permit and BACT analysis are shown below:

D.7.2 Prevention of Significant Deterioration (PSD) BACT Limit [326 IAC 2-2-3]

****

(b) The CO_2 emission rate for each CBM-fired RICE shall not exceed 1,100 lb per MW-hr **and 16,030 tons per twelve (12) consecutive month period with compliance determined at the end of each month**.

(c) The CH_4 emission rate for each CBM-fired RICE shall not exceed 9.5**47** lb/MW-hr **and 139.4 tons per twelve (12) consecutive month period with compliance determined at the end of each month**.

(d) The N_2O emission rate for each CBM-fired RICE shall not exceed 0.23 lb/MW-hr **and 3.35 tons per twelve (12) consecutive month period with compliance determined at the end of each month**.

(e) The CO_2 emission rate for the CBM-fired flare shall not exceed ~~2,940~~ **3,235** lb/hr **and 4,852 tons per twelve consecutive month period with compliance determined at the end of each month**.

(f) The CH_4 emission rate for the CBM-fired flare shall not exceed 0.06 lb/hr **and 0.08 tons per twelve consecutive month period with compliance determined at the end of each month**.

(g) The N_2O emission rate for the CBM-fired flare shall not exceed 0.05 lb/hr **and 0.08 tons per twelve consecutive month period with compliance determined at the end of each month**.

(h) The CBM Dehydrator Units and flash tanks shall be operated and maintained in accordance with manufacturer's recommendations.

(i) The CO2 emission rate for each CBM Dehydrator Units shall not exceed ~~58.32~~**59.36** lb/hr **and 260 tons per twelve consecutive month period with compliance determined at the end of each month**.

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Greenhouse Gas (GHG) BACT – CBM Engines, Identified as CBM1 to CBM8

****

Most Stringent Control Technology:
The most stringent control technology is catalytic oxidation, energy efficiency, good combustion practices and proper maintenance.

Regulatory Limits: None

Permit Limits: None

Based on this data, Hoosier Energy REC, Inc. – Merom Generating Station believes that GHG BACT for the CBM-fired RICE engines is a combination of a high electrical efficiency, catalytic oxidation along with good combustion practices and proper maintenance to achieve a CO_2 emission rate of 1,100 lb CO_2 per MW-hr, a CH_4 emission rate of 9.5~~4~~**7** lb CH_4 per MW-hr and a N_2O emission rate of 0.23 lb N_2O per MW-hr.

Step 5: Select BACT
Pursuant to 326 IAC 2-2-3 (Prevention of Significant Deterioration (PSD), IDEM, OAQ has approved the proposed Greenhouse Gases (GHGs) BACT for reciprocating internal combustion engines CBM1 to CBM8. IDEM agrees that the Greenhouse Gases (GHGs) BACT for CBM Generators CBM1 to CBM8 shall be as follows:

Proposed GHG BACT for Hoosier Energy - CBM Engines			
Source Name	**Unit Description**	**BACT CONTROL**	**BACT LIMIT**
Hoosier Energy REC, Inc. - Merom Generating Station	CBM Engines 1 to 8	Good Combustion Practices and Electrical Efficiency	CO_2 emission rate of 1,100 lb/MW-hr and 16,030 TPY CH_4 emission rate of 9.5~~4~~**7** lb/MW-hr and 139**.4** TPY N_2O emission rate of 0.23 lb/MW-hr and 3.35 TPY

Greenhouse Gas (GHG) BACT – CBM Dehydrator Units ~~and Flash Tanks~~

****

Step 4: Evaluate the Most Effective Controls and Document the Results
The U.S. EPA RACT/BACT/LAER Clearinghouse (RBLC) does not include any entries for GHG emissions from coal bed methane dehydrating systems or flash tanks.

Most Stringent Control Technology:
Proper maintenance in accordance with manufacturer's recommendations.

Regulatory Limits: None

Permit Limits: None

Based on this data, Hoosier Energy REC, Inc. – Merom Generating Station believes that GHG BACT for the coal bed methane dehydrating units and flash tanks is proper maintenance in accordance with manufacturer's recommendations. The coal bed methane dehydrator units shall achieve a CO_2 emission rate of ~~58.32~~**59.36** lb CO_2 per hour, for each unit.

Step 5: Select BACT

Pursuant to 326 IAC 2-2-3 (Prevention of Significant Deterioration (PSD)), IDEM, OAQ has approved the proposed Greenhouse Gas BACT for the coal bed methane dehydrator systems and flash tanks as proper maintenance in accordance with manufacturer's recommendations to achieve a CO_2 emission rate of ~~58.32~~**59.36** lb CO_2 per hour. IDEM is not establishing CH_4 and N_2O emission rate limitations, because, these emission rates are small compared to the overall CO_2 emission rate of the project.

The IDEM agrees that the Greenhouse Gas BACT ~~for flare CBM FL shall be established as follows~~ **for the dehydrator unit consisting of the dehydrator and flash tank shall be established as follows**:

Proposed GHG BACT - CBM Flare			
Source Name	**Unit Description**	**BACT CONTROL**	**Emission Limitation**
Hoosier Energy REC, Inc. – Merom Generating Station	CBM Dehydrator Units and Flash Tanks	Proper Maintenance	~~58.32~~**59.36** lb CO_2 per hr for each dehydrator and ~~255~~**260** TPY

Comment # 3 The Compliance Determination Requirements in section D.7.5 of the draft permit require emission testing of CO_2 for the RICE, but it is unclear how compliance will be determined for the non-CO_2 GHG emissions. Since CH_4 is the primary fuel burned in the RICE, EPA recommends that IDEM also consider emission testing of CH_4 and develop a method to calculate emissions of any other GHG(s) that may be emitted by the RICE units (e.g., reliance upon established fuel factors, such as those contained in EPA's Greenhouse Gas Mandatory Reporting Rule at 40 CFR 98). Furthermore, the draft permit needs to contain monitoring and recordkeeping requirements to assure compliance with the GHG BACT emission limits. This applies to the GHG emissions from the CBM RICE, CBM flare and CBM dehydrator.

IDEM Response Methane emissions are shown in the emission calculations and are based on natural gas combustion factors in 40 CFR 98. The methane emitted will be from incomplete combustion of the coal bed methane gas. Hoosier Energy has an economic incentive to ensure all of the fuel is used. IDEM has a requirement in the current permit to operate the RICE and flare in accordance with good combustion practices and maintain them in accordance with manufacturer's recommendations. As a result of the comment, IDEM has included a onetime testing requirement in the permit for methane. Compliance monitoring and determination requirements for the flare and dehydrator are addressed in IDEM's Response to Comments #4. Revisions as a result of this comment are shown below:

D.7.5 Testing Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-6(6)]

(a) **********

(e) In order to demonstrate the compliance status with Condition D.7.2(c) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform one time CH4 testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8 during steady state and the cold startup, utilizing methods approved by the commissioner. 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 obligation with regard to the performance testing required by this condition.

Comment # 4 The draft permit does not contain compliance determination or monitoring requirements for the emissions of CO, VOC, NOx, and GHG from the CBM-fired flare and the CBM dehydrator. Please include these requirements in the final permit.

IDEM Response The coal bed methane flare will be operated by Hoosier Energy REC, Inc. on an intermittent basis during repair and maintenance of the engines and gas supply piping when methane must be purged for safety reasons. However, the pilot can operate continuously. This flare is not intended to provide control of VOC, CO, NOx or GHGs. Coal bed methane should not contain elemental fluorine; therefore, coal bed methane combustion in the flare should not create HFCs, PFCs or SF6. IDEM included emission limitations for VOC, CO, NOx, CO2, CH4 and N2O as well as a fuel usage limit on coal bed methane to ensure the project is minor for PSD for all pollutants except GHGs. Compliance Monitoring Requirements for the flare will include monitoring the amount of coal bed methane combusted in the flare and monitoring the presence of the burner flame by monitoring burner temperature with a thermocouple. Condition D.7.6 has been revised to clarify these requirements. Compliance Determination Requirements will include a requirement to operate the flare in accordance with good combustion practices and to maintain the flare in accordance with manufacturer's recommendations (Condition D.7.2(a)) to achieve emission limitations contained in D.7.1 and D.7.2.

In regards to the coal bed methane dehydrator units, these units condition coal bed methane prior to combustion in the engine sets. The two dehydrators being proposed at the Merom Generating Station Coal Bed Methane Project each contain a triethylene glycol (TEG) scrubber (contactor) and a 0.5 MMBtu/hr reboiler. A simple explanation of how the system works is described below:

The contactor is a vessel with an operating pressure of approximately 50 psi. Incoming fuel gas rich with water (rich gas) is introduced into the contactor which is filled with inert contact media to increase liquid vapor interface area. TEG is introduced into the contactor which has an ability to absorb water from the fuel gas. Fuel gas leaves the contactor with less water and is now called lean gas.

The TEG now rich with water is fed through a pressure reducer to the regenerator. The regenerator uses a 0.5 MMBtu/hr reboiler fueled by coal bed methane to boil off the water contained in the TEG. The now lean TEG is pressurized and reintroduced into the contactor and the water vapor is emitted from the stack.

Emissions from the dehydrator include emissions from the combustion of fuel in the reboiler and emissions from the process of flashing off the water from the TEG. Combustion emissions are estimated by using emission factors from AP-42 Section 1.4 for natural gas and include standard combustion emissions. Flash off emissions contain water vapor, carbon dioxide, and methane which were estimated by Hoosier Energy REC, Inc. using EPA's program GRI-GLYCALC. GRI-GLYCALC is a standard model used for estimating the emissions from dehydrators in the natural gas processing industry.

The coal bed methane dehydrator units qualify as insignificant units in regards to PM, PM10, PM2.5, SO2, NOx, VOC, CO and HAPs and IDEM does not normally impose compliance monitoring and compliance determination requirements for these pollutants on insignificant units. However, the coal bed methane dehydrators are subject to PSD-BACT for GHGs. IDEM has determined that a compliance determination requirement to operate and maintain the dehydrator units in accordance with manufacturer's recommendations is BACT and is sufficient to ensure compliance without additional monitoring requirements. In this case, the dehydrator units account for only 0.3% of GHG emissions from this source and so additional monitoring on this insignificant emission unit would be unnecessary.

D.7.6 Parametric Monitoring Requirements

****

(c) In order to demonstrate the compliance status with Condition D.7.1(b), (c) and (d), the Permittee shall monitor the presence of a burner flame using a thermocouple **to measure burner temperature** at all times the flare is in use.

(d) In order to demonstrate the compliance status with Condition D.7.1(a), the Permittee shall monitor the amount of coal bed methane combusted in the flare.

Comment # 5 The GHG BACT determination includes the use of good combustion practices for the RICE, but these practices are not listed in the permit record. In the final permit, please describe the types of good combustion practices that will be used.

IDEM Response Typically IDEM does not include a detailed list of the combustion practices intended to be employed by the Permittee in the BACT determination. IDEM gives the source some flexibility to fine tune the combustion process to achieve emission limitations. In other BACT determinations for pollutants such as CO and NOx, IDEM intends the applicant to follow generally accepted US EPA guidelines for good combustion practices listed on the US EPA website at www.epa.gov/ttn/atw/iccr/dirss/gcp.pdf. In the case of CO2, there are competing combustion reactions controlled by operating parameters that favor the formation of CO2 over CO. As a result of this comment, IDEM has included a permit Condition to include a general condition as included in EPA Region 10 recently issued PSD permit to Shell Offshore Inc. (Permit Number: R10OCS030000 Issuance Date: October 21, 2011).

IDEM will revise Condition D.7.2 to include three practices. Revisions to Condition D.7.2 as a result of this comment are shown below:

D.7.2 Prevention of Significant Deterioration (PSD) BACT Limit [326 IAC 2-2-3]

****

(a) The eight (8) CBM fired RICE and CBM-fired flare shall be operated in accordance with good combustion practices and maintained in accordance with manufacturer's recommendations. **Good combustion practices shall include:**

(1) Perform regular maintenance using the manufacturer's or operator's maintenance procedures.

(2) Keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format; and

(3) Keep a copy of either the manufacturer's or the operator's maintenance procedures.

****

Comment # 6 Section D.7.5 requires emissions testing of 2 out of the 8 CBM RICE units at 180 days after startup and every 5 years thereafter. EPA recommends that IDEM include a rotational schedule in the final permit to ensure that not the same RICE units are tested each time. Also, we note that the 5-year emissions testing requirement applies to NOx, VOC, and CO, but not CO_2. Will there be a regular testing interval for CO_2 emissions from the RICE in the final permit?

IDEM Response IDEM concurs that testing on a rotational schedule should be included in the Part 70 Operating Permit. IDEM has revised Condition D.7.5(b), (c) and (d) to reflect a rotation of engines tested. IDEM did not intend to include regular testing of CO2 emissions from the RICE. The proposed emission rate of 1,100 lb/MW-hr is based on a mass balance approach. The approach used can be verified on a one time basis and should not vary because no control equipment is proposed. Revisions as a result of this comment are shown below:

D.7.5 Testing Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-6(6)]

(a) **********

(b) In order to demonstrate the compliance status with Condition D.7.1(e) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform CO testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8 during the steady state and the cold startup, utilizing methods approved by the commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. **Repeat testing shall be conducted in a manner to ensure the time period between tests on a single unit is the same for every unit.** 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 obligation with regard to the performance testing required by this condition.

(c) In order to demonstrate the compliance status with Condition D.7.1(f) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform VOC testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8 during the steady state and the cold startup, utilizing methods approved by the commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. **Repeat testing shall be conducted in a manner to ensure the time period between tests on a single unit is the same for every unit.** 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 obligation with regard to the performance testing required by this condition.

(d) In order to demonstrate the compliance status with Condition D.7.1(g) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform NOx testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8 during the steady state and the cold startup, utilizing methods approved by the commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. **Repeat testing shall be conducted in a manner to ensure the time period between tests on a single unit is the same for every unit.** 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 obligation with regard to the performance testing required by this condition.

****

Comment # 7 The testing interval of 2 CBM RICE units every 5 years equates to 20 years between testing for each RICE, assuming the RICE are rotated each interval (recommended in the above comment). Given that the RICE will have synthetic minor limits for NOx, VOC and CO to avoid PSD applicability, IDEM should consider more frequent testing to ensure that the units are in compliance with the minor source limits at all times.

IDEM Response On several occasions in the past, IDEM has used representative testing when multiple identical units are installed. If the units are maintained and operated in accordance with manufacturer recommendations, gradual erosion in the effectiveness of control devices would be apparent in all units at the same interval and would be detected by the stack test. Catastrophic failures of a control device would be immediately evident to the operations staff and may not be detected at all by a five year test cycle. An effective Preventive Maintenance Plan along with compliance testing of a small representative sample of multiple identical units seems to be the best balance between protecting human health and the environment and the costs associated with compliance testing.

No changes to the draft permit are required as a result of this comment.

Comment # 8 Please ensure all applicable portions of 40 CFR Part 60, Subpart JJJJ (Spark Ignition Engine NSPS) are included in the final permit. Specifically, if the CBM RICE units are not certified engines, other portions of the NSPS (e.g., testing and monitoring) will likely apply to these units and the final permit should reflect these requirements.

IDEM Response IDEM has revised draft Condition E.4.2 to incorporate the requirements of 40 CFR 60, Subpart JJJJ as they relate to non certified engine requirements. Revisions as a result of this comment are shown below:

E.4.2 Standards of Performance for Stationary Spark Ignition Internal Combustion Engines [40 CFR Part 60, Subpart JJJJ][326 IAC 12]

****

~~1) 40 CFR 60.4233(e), (g)~~
~~2) 40 CFR 60.4234~~
~~3) Table 1~~
1) 40 CFR 60.4230(a)

2) 40 CFR 60.4230(4)(i)
3) 40 CFR 60.4233(e)
4) 40 CFR 60.4234
5) 40 CFR 60.4236(a)
6) 40 CFR 60.4243(a)(1)
7) 40 CFR 60.4243(a)(2)(iii)
8) 40 CFR 60.4243(b)
9) 40 CFR 60.4245(a)
10) 40 CFR 60.4245(c)
11) 40 CFR 60.4245(d)
12) Table 1 to Subpart JJJJ of Part 60

Comment # 9 Section D.7.6 (ii) refers to a secondary monitoring system in the event that the continuous emissions monitoring system (CEMS) is not in operation. It is unclear what is required by the secondary monitoring system (e.g., specific requirements, calibration or certification). Will catalyst bed temperature readings be taken at the same frequency as the CEMS? Please provide additional information in the final permit.

IDEM Response The source indicates the secondary monitoring system will consist of a back up temperature probe. The recording frequency would be the same as the primary temperature probe. IDEM has revised draft Condition D.7.6(a)(ii) to clarify what is required. Revisions as a result of this comment are shown below:

D.7.6 Parametric Monitoring Requirements

(a) **********

(i) **********

(ii) If the primary continuous monitoring system is not in operation, the reduction catalyst bed temperature will be recorded using ~~some manner of~~ **a** secondary system **consisting of a backup temperature probe**. **Temperature measurements shall be made no less than once per fifteen (15) minutes.** In the event of a monitoring system malfunction, failure to measure the operating temperature of the reduction catalyst bed is not a deviation of the permit. Failure to take response steps shall be considered a deviation from the permit.

****

Comment # 10 IDEM has made several corrections to the process weights of the existing facility. Since the process weight rate and limits correspond to particulate matter emissions, please ensure that these corrections and new emission limits do not change the status of a previous project and will not contribute to violations of the CAA.

IDEM Response During IDEM's review of the Part 70 Operating Permit Renewal application (T153-28006-00005 issued on September 8, 2010) for Hoosier Energy REC, Inc. - Merom Generating Station, IDEM requested Hoosier Energy to better describe the throughputs of the coal handling and processing operations and the fly ash operations. These emission units were briefly described in the initial Part 70 application but were not adequately described in the initial Part 70 Operating Permit. It was IDEM's intent to provide a more accurate 326 IAC 6-3-2 (Particulate Emission Limitations, Work Practices and Control Technologies) particulate matter emission limitation for as many of the individual emission units as possible. Hoosier Energy reviewed the throughput capacities listed in the equipment specifications and compared these design throughputs with actual throughputs. Hoosier Energy provided their best estimate of actual throughputs to IDEM and they were added to

the Part 70 Operating Permit Renewal, T153-28006-00005. Hoosier Energy now believes three of the throughputs were incorrectly incorporated in T153-28006-00005 and requested IDEM to revise them. These units were constructed in the 1970's with the rest of the site and have not been modified. IDEM is simply correcting descriptive information. IDEM has no reason to believe these descriptive changes are anything more than administrative changes to the permit. These revisions do not change the status of any previous permit and do not increase emissions resulting in a violation of the Clean Air Act.

No changes to the Part 70 Permit are required as a result of this comment.

IDEM Contact

Questions regarding this proposed permit can be directed to:

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E-mail: dmatouse@idem.in.gov

Please reference permit numbers 153-29394-00005 and T153-29410-00005 in all correspondence.

Addendum to the Technical Support Document - Appendix A - Emission Summary Sheet

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: August 5, 2010

Limited Potential to Emit (ton/yr)										
Emission Unit	**PM**	**PM10**	**PM2.5**	**SO_2**	**VOC**	**CO**	**NOx**	**GHGs (CO_2e)**	**Single HAP**	**Total HAPs**
CBM Engine #1	0.89	0.89	0.89	0.07	34.20	91.80	36.70	19,996	1.77	3.39
CBM Engine #2	0.89	0.89	0.89	0.07				19,996	1.77	3.39
CBM Engine #3	0.89	0.89	0.89	0.07				19,996	1.77	3.39
CBM Engine #4	0.89	0.89	0.89	0.07				19,996	1.77	3.39
CBM Engine #5	0.89	0.89	0.89	0.07				19,996	1.77	3.39
CBM Engine #6	0.89	0.89	0.89	0.07				19,996	1.77	3.39
CBM Engine #7	0.89	0.89	0.89	0.07				19,996	1.77	3.39
CBM Engine #8	0.89	0.89	0.89	0.07				19,996	1.77	3.39
Flare - CBM Combustion	0.64	0.64	0.64	0.06	5.63	7.50	2.25	4,879	0.07	0.07
Flare Pilot - Propane Combustion	0.03	0.03	0.03	0.06	0.04	0.29	0.50	489	0.00	0.00
Dehydrator Units	0.03	0.03	0.03	0.00	0.02	0.36	0.43	620	0.186	0.192
Flash Tanks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	108.00	0.000	0.000
Total for Modification	7.82	7.82	7.82	0.68	39.89	99.95	38.38	166,064	14.16	27.38
PSD Significant Level	25.00	15.00	10.00	40.00	40.00	100.00	40.00	75,000	---	---
Significant Modification	No	No	No	No	No	No	No	Yes	---	---

Uncontrolled Potential to Emit (ton/yr)										
Emission Unit	**PM**	**PM10**	**PM2.5**	**SO_2**	**VOC**	**CO**	**NOx**	**GHGs (CO_2e)**	**Single HAP**	**Total HAPs**
CBM Engine #1	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,996	5.58	7.20
CBM Engine #2	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,996	5.58	7.20
CBM Engine #3	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,996	5.58	7.20
CBM Engine #4	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,996	5.58	7.20
CBM Engine #5	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,996	5.58	7.20
CBM Engine #6	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,996	5.58	7.20
CBM Engine #7	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,996	5.58	7.20
CBM Engine #8	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,996	5.58	7.20
Flare - CBM Combustion	1.86	1.86	1.86	0.17	16.42	21.90	6.57	14,249	0.19	0.21
Flare Pilot - Propane Combustion	0.03	0.03	0.03	0.06	0.04	0.29	0.50	489	0.00	0.00
Dehydrator Units	0.03	0.03	0.03	0.002	0.024	0.36	0.43	620	0.186	0.192
Flash Tanks	0.00	0.00	0.00	0.000	0.000	0.00	0.00	108	0.00	0.00
Total for Modification	9.04	9.04	9.04	0.79	123.12	911.19	398.54	175,434	44.64	58.00

Addendum to the Technical Support Document - Appendix A - Emission Calculation Sheet
One Coal Bed Methane Engine - Criteria Pollutants

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: July 15, 2011

Coal Bed Methane Engine Parameters

Heat Input Capacity	25.46	MMBtu/hr	(Each Engine)			
Heat Content	1,020	Btu/CF				
Fuel Input	5,533	Btu/bhp-hr	(Each Engine)			
Engine Rating	4,601	bHp	(Each Engine)			
Fuel Input Rate from Manufacturer	29,329	SCFH	or	256.92	MMCF/yr	(Each Engine)

1) CBM Emissions - Uncontrolled

Emissions Based on 8,760.00 hrs/yr

	PM	PM10/2.5	SO2	VOC	CO	NOx
Emission Factor	0.0200	0.0200	5.88E-04	0.3000	2.50	1.10
	g/bhp-hr	g/bhp-hr	lb/MMBtu	g/bhp-hr	g/bhp-hr	g/bhp-hr

Each Engine						
Continuous PTE (lb/hr)	0.203	0.203	0.015	3.043	25.361	11.159
Continuous PTE (TPY)	0.889	0.889	0.066	13.330	111.080	48.880
PTE (lb/MMBtu)	0.008	0.008	5.88E-04	0.120	0.996	0.438
All Eight Engines						
Continuous PTE (TPY)	7.11	7.11	0.53	106.64	888.64	391.04

2) CBM Emissions - Limited Potential to Emit

Emissions Based on 8,760.00 hrs/yr

	PM	PM10/2.5	SO2	VOC	CO	NOx
Uncontrolled Emission Factor	0.02	0.02	5.88E-04	0.30	2.50	1.10
	g/bhp-hr	g/bhp-hr	lb/MMBtu	g/bhp-hr	g/bhp-hr	g/bhp-hr
Control Efficiency	0.00%	0.00%	0.00%	68.27%	90.20%	91.00%
Controlled Emission Factor	0.02	0.02	5.88E-04	0.0952	0.2450	0.0990
	g/bhp-hr	g/bhp-hr	lb/MMBtu	g/bhp-hr	g/bhp-hr	g/bhp-hr

Each Engine						
Controlled PTE (lb/hr)	0.203	0.203	0.015	0.966	2.485	1.004
Controlled PTE (TPY)	0.889	0.889	0.066	4.230	10.886	4.399
All Eight Engines						
Controlled PTE (TPY)	7.112	7.112	0.528	33.840	87.088	35.192

Methodology:
1) PTE (lb/hr) = Heat input (MMBtu/hr) x (1,000,000 Btu/MMBtu) x EF (g/bhp-hr) x (1 lb / 453.59 g) x (1 bhp-hr / 5,533 Btu)
2) PTE (lb/hr) = Heat input (MMBtu/hr) x EF(lb/MMBtu)
3) PTE (TPY) = PTE (lb/hr) x (8,760 hr/yr) x (1 ton / 2,000 lb)
4) PTE (lb/hr) = PTE (TPY) x (2,000 lb/ton) x (1 yr/8,760 hr)

Notes:
1) The applicant provided emission factors for NOx, CO, VOC, PM, PM10 and PM2.5 from manufacturer performance guarantees. IDEM will verify the emission factors with emissions stack testing to ensure compliance with permit limits.
2) The applicant provided emission factors for SO2 from AP-42, Table 3.2-2, July 2000. IDEM increased the emission factor to allow emissions just under the major source threshold.
3) IDEM reviewed information supplied by the Permittee that indicates unsteady state startup emissions of 30 minutes are more

3) Greenhouse Gas Emissions

PTE Greenhouse Gases (TPY)							
Emission Unit	**Heat Input Capacity (MMBtu/hr)**	**CO_2 Emission Factor (lb/MMBtu)**	**CH_4 Emission Factor (lb/MMBtu)**	**N_2O Emission Factor (lb/MMBtu)**	**CO_2 Emissions (ton/yr)**	**CH_4 Emissions (ton/yr)**	**N_2O Emissions (ton/yr)**
CBM Engine 1	25.46	143.75	1.25	0.03	16,030	139.4	3.35
CBM Engine 2	25.46	143.75	1.25	0.03	16,030	139.4	3.35
CBM Engine 3	25.46	143.75	1.25	0.03	16,030	139.4	3.35
CBM Engine 4	25.46	143.75	1.25	0.03	16,030	139.4	3.35
CBM Engine 5	25.46	143.75	1.25	0.03	16,030	139.4	3.35
CBM Engine 6	25.46	143.75	1.25	0.03	16,030	139.4	3.35
CBM Engine 7	25.46	143.75	1.25	0.03	16,030	139.4	3.35
CBM Engine 8	25.46	143.75	1.25	0.03	16,030	139.4	3.35

PTE Greenhouse Gases - CO_2e Calculation							
	Worst Case Emissions			**Global Warming Potential**			**CO2e (TPY)**
	CO_2 Emissions (ton/yr)	**CH_4 Emissions (ton/yr)**	**N_2O Emissions (ton/yr)**	**CO_2 (Unitless)**	**CH_4 (Unitless)**	**N_2O Emissions (Unitless)**	
CBM Engine 1	16,030	139.4	3.35	1	21	310	19,996
CBM Engine 2	16,030	139.4	3.35	1	21	310	19,996
CBM Engine 3	16,030	139.4	3.35	1	21	310	19,996
CBM Engine 4	16,030	139.4	3.35	1	21	310	19,996
CBM Engine 5	16,030	139.4	3.35	1	21	310	19,996
CBM Engine 6	16,030	139.4	3.35	1	21	310	19,996
CBM Engine 7	16,030	139.4	3.35	1	21	310	19,996
CBM Engine 8	16,030	139.4	3.35	1	21	310	19,996
Total CO_2e Emissions							159,968

326 IAC 2-2 Prevention of Significant Deterioration (PSD) BACT Limit for GHGs						
Electrical Generating Capacity	3.328	MW	each unit			
CO_2e Emissions	19,988	TPY	each unit			
	4,563	lb/hr	each unit			
CO_2 Emissions	16,030	TPY	each unit	3,660	lb/hr	each unit
CH_4 Emissions	139.4	TPY	each unit	31.83	lb/hr	each unit
N_2O Emissions	3.35	TPY	each unit	0.76	lb/hr	each unit
CO_2e (lb/MW-hr) =	1,371	lb CO_2e / MW-hr	each unit			
CO_2 (lb/MW-hr) =	1,100	lb CO2 / MW-hr	each unit			
CH_4 (lb/MW-hr) =	9.57	lb CH_4 / MW-hr	each unit			
N_2O (lb/MW-hr) =	0.23	lb N_2O/ MW-hr	each unit			

Notes:
1) Emission Factors are from a performance guarantee and were supplied by the applicant.
2) IDEM reviewed information supplied by the Permittee that indicates unsteady state startup emissions of 30 minutes are more than offset by the loss of operation of the engine for a period lasting 10 to 36 hours for the engine to reach ambient temperature.

Methodology:
1) PTE (TPY) = (throughput x emission factor) / 2,000lb per ton
2) CO_2e = sum(pollutant emissions x global warming potential)
3) English Emission Factor (lb/MMBtu) = Metric Emission Factor (kg/MMBtu) x 2.2 lb/Kg
4) CO2e (lb/MW-hr) = CO2/e emissions (lb/hr) / elec trical generating capacity (MW)

Addendum to the Technical Support Document - Appendix A - Emission Calculation Sheet
One CBM Generator - HAP Emissions

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: March 2, 2011

Maximum Heat Input Rate 25.46 MMBtu/hr (One Engine)

Potential to Emit HAPs

	Emissions Before Control			Emission Factor Source
HAP	lb/MMBtu	lb/hr	TPY	
1,1,2,2-Tetrachloroethane	4.00E-05	1.0184E-03	4.4606E-03	AP-42, Chapter 3.2-2, July 2000
1,1,2-Trichloroethane	3.18E-05	8.0963E-04	3.5462E-03	AP-42, Chapter 3.2-2, July 2000
1,3-Butadiene	2.67E-04	6.7978E-03	2.9774E-02	AP-42, Chapter 3.2-2, July 2000
1,2-Dichloropropene	2.64E-05	6.7214E-04	2.9440E-03	AP-42, Chapter 3.2-2, July 2000
2-Methylnaphthalene	3.32E-05	8.4527E-04	3.7023E-03	AP-42, Chapter 3.2-2, July 2000
2,2,4-Trimethylpentane	2.50E-04	6.3650E-03	2.7879E-02	AP-42, Chapter 3.2-2, July 2000
Acenaphthene	1.25E-06	3.1825E-05	1.3939E-04	AP-42, Chapter 3.2-2, July 2000
Acenaphthylene	5.53E-06	1.4079E-04	6.1668E-04	AP-42, Chapter 3.2-2, July 2000
Acetaldehyde	8.36E-03	2.1285E-01	9.3226E-01	AP-42, Chapter 3.2-2, July 2000
Acrolein	3.12E-04	7.9486E-03	3.4815E-02	AP-42, Chapter 3.2-2, July 2000
Benzene	4.40E-04	1.1202E-02	4.9067E-02	AP-42, Chapter 3.2-2, July 2000
Benzo(b)fluoranthene	1.66E-07	4.2270E-06	1.8515E-05	AP-42, Chapter 3.2-2, July 2000
Benzo(e)pyrene	4.15E-07	1.0566E-05	4.6280E-05	AP-42, Chapter 3.2-2, July 2000
Benzo(g,h,i)perylene	4.14E-07	1.0541E-05	4.6170E-05	AP-42, Chapter 3.2-2, July 2000
Biphenyl	2.12E-04	5.3975E-03	2.3641E-02	AP-42, Chapter 3.2-2, July 2000
Carbon Tetrachloride	3.67E-05	9.3438E-04	4.0926E-03	AP-42, Chapter 3.2-2, July 2000
Chlorobenzene	3.04E-05	7.7398E-04	3.3901E-03	AP-42, Chapter 3.2-2, July 2000
Chloroform	2.85E-05	7.2561E-04	3.1782E-03	AP-42, Chapter 3.2-2, July 2000
Chrysene	6.93E-07	1.7644E-05	7.7281E-05	AP-42, Chapter 3.2-2, July 2000
Ethylbenzene	3.97E-05	1.0108E-03	4.4271E-03	AP-42, Chapter 3.2-2, July 2000
Ethylene Dibromide	4.43E-05	1.1279E-03	4.9401E-03	AP-42, Chapter 3.2-2, July 2000
Fluoranthene	1.11E-06	2.8261E-05	1.2378E-04	AP-42, Chapter 3.2-2, July 2000
Fluorene	5.67E-06	1.4436E-04	6.3229E-04	AP-42, Chapter 3.2-2, July 2000
Formaldehyde	5.00E-02	1.2730E+00	5.5757E+00	Manufacturer Performance Guarantee
Methanol	2.50E-03	6.3650E-02	2.7879E-01	AP-42, Chapter 3.2-2, July 2000
Methylene Chloride	2.00E-05	5.0920E-04	2.2303E-03	AP-42, Chapter 3.2-2, July 2000
n-Hexane	1.11E-03	2.8261E-02	1.2378E-01	AP-42, Chapter 3.2-2, July 2000
Naphthalene	7.44E-05	1.8942E-03	8.2967E-03	AP-42, Chapter 3.2-2, July 2000
PAH	2.69E-05	6.8487E-04	2.9997E-03	AP-42, Chapter 3.2-2, July 2000
Phenanthrene	1.04E-05	2.6478E-04	1.1598E-03	AP-42, Chapter 3.2-2, July 2000
Phenol	2.40E-05	6.1104E-04	2.6764E-03	AP-42, Chapter 3.2-2, July 2000
Pyrene	1.36E-06	3.4626E-05	1.5166E-04	AP-42, Chapter 3.2-2, July 2000
Styrene	2.36E-05	6.0086E-04	2.6318E-03	AP-42, Chapter 3.2-2, July 2000
Tetrachloroethane	2.48E-06	6.3141E-05	2.7656E-04	AP-42, Chapter 3.2-2, July 2000
Toluene	4.08E-04	1.0388E-02	4.5498E-02	AP-42, Chapter 3.2-2, July 2000
Vinyl Chloride	1.49E-05	3.7935E-04	1.6616E-03	AP-42, Chapter 3.2-2, July 2000
Xylene (o,m,p)	1.84E-04	4.6846E-03	2.0519E-02	AP-42, Chapter 3.2-2, July 2000
Single (Formaldehyde)			5.58	
Total			7.20	
			68.27%	Formaldehyde Control Efficiency
			1.77	Controlled Formaldehyde Emissions
			3.39	Controlled Total HAP Emissions

Sample Calculation

Emission Rate (lb/hr) = 5.53 E-06 lb/MMBtu x 25.46 MMBtu/hr = 1.41 E-04 lb/hr
Emission Rate (ton/yr) = 1.41 E-04 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 6.167 E-04 tons/yr
Controlled Formaldehyde (TPY) = 5.58 TPY * (1 - 68.27%) = 1.77 TPY
Controlled Total HAP (TPY) = (7.20 - 5.58) + 1.77 TPY = 3.39 TPY

Addendum to the Technical Support Document - Appendix A - Emission Calculation Sheet
Coal Bed Methane Flare - NOx, CO, VOC, GHG and Particulate from Natural Gas Combustion

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Reviewer: David J. Matousek
Date: August 5, 2010

Max. Heat Input MMBtu/hr

25.00

Limited Hours of Operation (hr/yr) = 3,000 hrs
Gas Heating Value = 1,020.00 Btu/CF

Hourly Gas Usage	0.0245 MMCF/hr			
Limited Gas Usage	73.50 MMCF/yr	based on	3,000.00	hrs
Unlimited Gas Usage	214.62 MMCF/yr			

Flare Emissions

	Pollutant				
	NOx	**CO**	**VOC**	**PM**	**PM10/2.5**
Emission Factor in lb/MMBtu	0.060	0.2000	0.150	0.017	0.017
Emission Factor in lb/MMCF	61.20	204.00	153.00	17.00	17.00
Unlimited PTE (tons/yr)	6.57	21.90	16.42	1.86	1.86
Limited PTE (tons/yr)	2.25	7.50	5.63	0.64	0.64

Notes:
1) PM and PM10 are assumed to equal PM2.5 as stated in AP-42, Chapter 2.4, Table 2.4-4. The applicant submitted an emission factor for all PM of 17 lb/MMCF of CH4 with all of the gas assumed to be CH4. This emission factor is 1.13 times higher than the emission emission factor listed in AP-42, Chapter 2.4, Table 2.4-4, 10/08 of 15 lb/MMCF of CH4.
2) The applicant submitted an emission factor for VOC of 0.15 lb/MMBtu. This emission factor is 28 times higher than the AP-42 emission factor of 5.5 lb/MMCF in Table 1.4-2, 7/98, after conversion.
3) The applicant submitted a CO emission factor of 0.2lb/MMBtu. This emission factor is 2 times higher than the AP-42 emission factor of 98 lb/MMCF listed in Table 1.4-1, 7/98, after conversion.
4) The applicant submitted a NOx emission factor of 0.06 lb/MMBtu. This emission factor is 1.2 times higher than the AP-42 emission factor of 50 lb/MMCF listed in Table 1.4-1, 7/98, after conversion. IDEM assumed the flare operates in a manner similar to a small boiler with low NOx burners.

Methodology:
1) Fuel Usage = [Heat Input (MMBtu/hr) x Operating Hours (hr/yr) x 1,000,000 Btu/MMBtu x 1 CF/1020 Btu x MMCF/1,000,000 CF]
2) Estimated Loading = [PTE (ton/yr) x 2000 lb/ton] / Total Fuel Used (MMCF/yr)
3) Unlimited PTE (tons/yr) = Max. Heat Input (MMBtu/hr) x Emission Factor (lbs/MMBtu) x 8760 hrs/yr x 1 ton/2000 lbs.
4) Limited PTE (tons/yr) = Max. Heat Input (MMBtu/hr) x Emission Factor (lbs/MMBtu) x Limited Hours of operation (hrs/yr) x 1 ton/2000 lbs.
5) PTE/Limited PTE GHG (TPY) = Emission Factor (lb/MMCF) x Usage (MMCF/yr)/2000 lb per ton

Greenhouse Gas Emissions - Flare

Emission Factors and Input Data

CO2	132038	lb/MMCF	Supplied by Applicant from Manufacturer
CH4	2.3	lb/MMCF	Supplied by Applicant from Manufacturer
N2O	2.2	lb/MMCF	Supplied by Applicant from Manufacturer
Unlimited Usage	214.62	MMCF/yr	
Limited Usage	73.50	MMCF/yr	

PTE Greenhouse Gases - CO_2e Calculation - Flare

	PTE (TPY)			Global Warming Potential (Unitless)			CO2e (TPY)
	CO_2 Emissions	CH_4 Emissions	N_2O Emissions	CO_2	CH_4	N_2O	
Flare	14,169	0.25	0.24	1	21	310	14,249
Total CO_2e Emissions							14,249

Limited PTE Greenhouse Gases - CO_2e Calculation - Flare

	PTE (TPY)			Global Warming Potential (Unitless)			CO2e (TPY)
	CO_2 Emissions	CH_4 Emissions	N_2O Emissions	CO_2	CH_4	N_2O	
Flare	4,852	0.08	0.08	1	21	310	4,879
Total CO_2e Emissions							4,879

Greenhouse Gas Emission Rates at PTE

Pollutant	TPY	lb/hr
CO_2	14,169	3,235
CH_4	0.25	0.06
N_2O	0.24	0.05

Addendum to the Technical Support Document - Appendix A - Emission Calculation Sheet
Coal Bed Methane Flare - SO2 from Natural Gas Combustion

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: August 5, 2010

Max. Heat Input MMBtu/hr		Hours of Operation (hr/yr)	Estimated Gas Usage Based on 8,760 Hours (MMCF/yr)	
25.00	Flare (CBM)	3,000	214.71	Flare
			1,020.00	Btu/CF

SO2 Emission Calculation

Sulfur Content of Gas = 10 PPM (Estimated) MW of Sulfur = 32.065 g/gmol
Temperature (°C) = 21.11 °C MW of SO2 = 64.07 g/gmol
Temperature (°K) = 294.11 °K

Step 1 - Calculate the flow rate of sulfur in the CBM stream (8,760 hrs of Operation)

Note : 10 ppm is the same as 10 parts of pollutant in a gas containing 1,000,000 parts as a whole.

Q Sulfur (MMCF/yr) = 214.71 MMCF CBM/yr x 10 MMCF S / 1,000,000 MMCF CBM
Q Sulfur (MMCF/yr) = 0.0021 MMCF/yr
Q Sulfur (CFM) = 0.0040 SCFM
Q Sulfur (M^3/yr) = 59.5413 M^3/yr

Step 2 - Calculate the Uncontrolled Mass Emissions (UME) for Sulfur (8,760 hr of Operation)

Note : Use Equation (4) in AP-42, Chapter 2.4-10, October 2008

$$\text{UME Sulfur (Kg/yr)} = \frac{[\text{Q Sulfur } (M^3/\text{yr})] \times [\text{MW of Sulfur (g/gmol)}] \times [1 \text{ atm}]}{[8.205 \times 10^{-5}\ M^3\text{ - atm / gmol - K}] \times [1{,}000 \text{ g/Kg}] \times [273 + T\ (C)]}$$

$$\text{UME Sulfur (Kg/yr)} = \frac{[59.5413] \times [32.065] \times [1]}{[8.205\text{ E -05}] \times [1000] \times [273 + 21.11]} = 79.12 \text{ Kg/yr}$$

Step 3 - Calculate the Uncontrolled Mass Emissions (UME) for SO2 (8,760 hrs of Operation)

UME SO2 (kg/yr) = UME Sulfur x [MW SO2 / MW S] = 158.09 Kg/yr

UME SO2 (ton/yr) = UME Sulfur x [2.2 lb / Kg] x [1 ton / 2,000 lb] = **0.17 TPY SO2**
UME SO2 (lb/hr) = (0.18 TPY * 2000 lb/ton) / (8,760 hr/yr) = **0.039 lb/hr**

Step 4 - Calculate the Limited Mass Emissions (UME) for SO2 (3,000 hrs of Operation)

Uncontrolled SO2 Emission Rate =	0.039	lb/hr	
Limited Hours of Operation =	3,000	hrs/yr	
Limited SO2 Emission Rate =	**117**	**lb/yr**	**SO2**
	0.06	**TPY**	**SO2**

Addendum to the Technical Support Document - Appendix A - Emission Calculation Sheet
Coal Bed Methane Flare - HAP Emissions from Natural Gas Combustion

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: March 2, 2010

Maximum Heat Input Rate	**25.00**	**MMBtu/hr**
CBM Heating Value	**1,020.00**	**Btu/CF**
Fuel Usage	**0.0246**	**MMCF/hr**
Hours of Operation	**3,000**	**hr**

Potential to Emit HAPs

	Unlimited PTE			Limited PTE	Emission Factor Source
HAP	**lb/MMCF**	**lb/hr**	**TPY**	**TPY**	
2-Methylnaphthalene	2.40E-05	5.90E-07	2.59E-06	8.86E-07	AP-42, Table 1.4-3, 7/98
3-Methylchloranthrene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
7,12-Dimethylbenz(a)anthracene	1.60E-05	3.94E-07	1.72E-06	5.90E-07	AP-42, Table 1.4-3, 7/98
Acenapthene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Acenapthylene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Anthracene	2.40E-06	5.90E-08	2.58E-07	8.85E-08	AP-42, Table 1.4-3, 7/98
Benz(a)anthracene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Benzene	2.10E-03	5.17E-05	2.26E-04	7.75E-05	AP-42, Table 1.4-3, 7/98
Benzo(a)pyrene	1.20E-06	2.95E-08	1.29E-07	4.43E-08	AP-42, Table 1.4-3, 7/98
Benzo(b)fluroanthene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Benzo(g,h,i)perylene	1.20E-06	2.95E-08	1.29E-07	4.43E-08	AP-42, Table 1.4-3, 7/98
Benzo(k)fluoranthene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Chrysene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Dibenzo(a,h)anthracene	1.20E-06	2.95E-08	1.29E-07	4.43E-08	AP-42, Table 1.4-3, 7/98
Dichlorobenzene	1.20E-03	2.95E-05	1.29E-04	4.43E-05	AP-42, Table 1.4-3, 7/98
Fluoranthene	3.00E-06	7.38E-08	3.23E-07	1.11E-07	AP-42, Table 1.4-3, 7/98
Fluorene	2.80E-06	6.89E-08	3.02E-07	1.03E-07	AP-42, Table 1.4-3, 7/98
Formaldehyde	7.50E-02	1.85E-03	8.08E-03	2.77E-03	AP-42, Table 1.4-3, 7/98
n-Hexane	1.80E+00	4.43E-02	1.94E-01	6.64E-02	AP-42, Table 1.4-3, 7/98
Indeno(1,2,3-cd)pyrene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Naphthalene	6.40E-06	1.57E-07	6.89E-07	2.36E-07	AP-42, Table 1.4-3, 7/98
Phenanthrene	1.70E-05	4.18E-07	1.83E-06	6.27E-07	AP-42, Table 1.4-3, 7/98
Pyrene	5.00E-06	1.23E-07	5.39E-07	1.85E-07	AP-42, Table 1.4-3, 7/98
Toluene	3.40E-03	8.36E-05	3.66E-04	1.25E-04	AP-42, Table 1.4-3, 7/98
Arsenic	2.00E-04	4.92E-06	2.15E-05	7.38E-06	AP-42, Table 1.4-3, 7/98
Beryllium	1.20E-05	2.95E-07	1.29E-06	4.43E-07	AP-42, Table 1.4-3, 7/98
Cadmium	1.10E-03	2.71E-05	1.19E-04	4.06E-05	AP-42, Table 1.4-3, 7/98
Chromium	1.40E-03	3.44E-05	1.51E-04	5.17E-05	AP-42, Table 1.4-3, 7/98
Cobalt	8.40E-05	2.07E-06	9.05E-06	3.10E-06	AP-42, Table 1.4-3, 7/98
Manganese	3.80E-04	9.35E-06	4.09E-05	1.40E-05	AP-42, Table 1.4-3, 7/98
Mercury	2.60E-04	6.40E-06	2.80E-05	9.59E-06	AP-42, Table 1.4-3, 7/98
Nickel	2.10E-03	5.17E-05	2.26E-04	7.75E-05	AP-42, Table 1.4-3, 7/98
Selenium	2.40E-05	5.90E-07	2.59E-06	8.86E-07	AP-42, Table 1.4-3, 7/98
Zinc	2.90E-02	7.13E-04	3.12E-03	1.07E-03	AP-42, Table 1.4-3, 7/98
Single HAP (n-Hexane)			0.19	0.066	
Total HAP			0.21	0.071	

Sample Calculation

Emission Rate (lb/hr) = 2.40 E-05 lb/MMCF x 25.00 MMBtu/hr = 5.90 E-07 lb/hr
Unlimited PTE (ton/yr) = 5.90 E-07 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 2.59 E-06 tons/yr
Limited PTE (ton/yr) = 5.90 E-07 lb/hr x hours of operation x 1 ton/2,000 lb = 2.59 E-06 tons/yr

Addendum to the Technical Support Document - Appendix A - Emission Calculation Sheet
Coal Bed Methane Flare - Potential to Emit from Pilot Propane Combustion

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: August 5, 2010

Max. Heat Input MMBtu/hr	Hours of Operation (hr/yr)	Estimate Annual Gas Usage Based on Hours (Kgal/yr)	Heat Content Propane (Btu / gallon)
0.80	8,760	76.59	91,500

Flare Emissions

	Pollutant				
	NOx	CO	VOC	PM	PM10/2.5
Emission Factor in lb/Kgal	13.000	7.5000	1.000	0.7	0.7
PTE (tons/yr)	0.50	0.29	0.04	0.03	0.03

Greenhouse Gas Emissions - Flare Pilot

Emission Factors and Input Data

CO2	62.98	kg/MMBtu	or	139	lb/MMBtu
CH4	3.00E-03	kg/MMBtu	or	0.007	lb/MMBtu
N2O	6.00E-04	kg/MMBtu	or	0.001	lb/MMBtu
Heat Input Rate	0.8	MMBtu/hr			

PTE Greenhouse Gases - CO_2e Calculation - Flare

	PTE (TPY)			Global Warming Potential (Unitless)			CO2e (TPY)
	CO_2 Emissions	CH_4 Emissions	N_2O Emissions	CO_2	CH_4	N_2O	
Flare	487	0.02	0.004	1	21	310	489
Total CO_2e Emissions							489

Notes:
1) NOx, CO, VOC, PM and PM10 emission factors are from AP-42, Table 1.5-1, July 2008.
2) HAP emissions are not reported in AP-42.

Methodology:
1) Propane Usage = [0.8 MMBtu/hr] x [8,760 hr/yr] x [1 gallon/91,500 Btu] x [1E+06Btu/MMBtu] x [Kgal/1,000 gallon]
2) Emissions (tons/yr) = [Emission Factor (lb/Kgal) x Usage (Kgal/yr)] / [2000 lb/ton]
3) GHG (TPY) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr) x (8,760 hr per year / 2,000 lb per ton)

Addendum to the Technical Support Document - Appendix A - Emission Calculation Sheet
Coal Bed Methane Flare - SO2 from Propane Combustion

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: August 5, 2010

Max Heat Input Capacity =	0.8	MMBtu/hr
Hours of Operation =	8,760	Hours
Liquid Propane Heat Content =	91,500	Btu/gallon
Vaporized Propane Heat Content =	2,500	Btu/scf

Estimated Propane Gas Usage Flare Pilot (SCFM)

Usage (SCFM) = 0.8 MMBtu/hr x 1 SCF / 2500 Btu x 1,000,000 BTU / MMBtu x 1 hr / 60 Min
= 5.33 SCFM Propane Gas

SO2 Emission Calculation

Sulfur Content of Gas =	254	PPM (Estimated)	MW of Sulfur =	32.065 g/gmol
Temperature (°C) =	25	°C	MW of SO2 =	64.07 g/gmol
Temperature (°K) =	298	°K		

Step 1 - Calculate the flow rate of sulfur in the CBM stream

Note : 254 ppm is the same as 254 parts of pollutant in a gas containing 1,000,000 parts as a whole.

Q Sulfur (SCFM) = 5.33 SCFM x 254 Parts Sulfur / 1,000,000 Parts Gas
= 0.0014 SCFM Sulfur

Q Sulfur (M^3/yr) = 0.0014 SCFM x 60 min/hr x 8,760 hr/yr x 1 Cubic Meter/35.31 Cubic Feet
= 20.84 M^3/yr

Step 2 - Calculate the Uncontrolled Mass Emissions (UME) for Sulfur

Note : Use Equation (4) in AP-42, Chapter 2.4-10, October 2008

$$\text{UME Sulfur (Kg/yr)} = \frac{[\text{Q Sulfur } (M^3/\text{yr})] \times [\text{MW of Sulfur (g/gmol)}] \times [1 \text{ atm}]}{[8.205 \times 10^{-5}\ M^3\text{ - atm / gmol - K}] \times [1{,}000 \text{ g/Kg}] \times [273 + T\ (C)]}$$

$$\text{UME Sulfur (Kg/yr)} = \frac{[20.84] \times [32.065] \times [1]}{[8.205\text{ E -05}] \times [1000] \times [273 + 25]} = 27.33 \text{ Kg/yr}$$

Step 3 - Calculate the Uncontrolled Mass Emissions (UME) for SO2

UME SO2 (kg/yr) = UME Sulfur x [MW SO2 / MW S] = 54.61 Kg/yr

UME SO2 (ton/yr) = UME Sulfur x [2.2 lb / Kg] x [1 ton / 2,000 lb] = 0.06 TPY SO2

Addendum to the Technical Support Document - Appendix A - Emission Calculation Sheet
Particulate Emission Limitations - Reclaim Conveyor CH-CV-4/5/6-A/B

Company Name: **Hoosier Energy REC, Inc. - Merom Generating Station**
Address: **550 West Old 54, Sullivan, Indiana 47882**
Permit Number: **SSM 153-29394-00005 & SPM 153-29410-00005**
Plt ID: **153-00005**
Reviewer: **David J. Matousek**
Date: **March 2, 2011**

Particulate Matter Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations, work practices, and control technologies), the particulate matter emissions from the reclaim conveyor CH-CV-4/5/6-A/B shall not exceed 74.7 pounds per hour based on a process weight rate of 800 tons per hour. The emission rate of 74.7 pounds per hour was calculated by use of the following equation:

$$E = 55.0\ P^{0.11} - 40$$

Where:

P = The process weight rate in tons per hour
E = The allowable emission rate in lb/hr

P = 800 tons/hr
E = 55.0 P ^ (800) - 40

E = 74.7 lb/hr

Addendum to the Technical Support Document - Appendix A - Emission Calculation Sheet
Greenhouse Gas Emissions - CBM Dehydrator Units with Flash Tanks

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Reviewer: David J. Matousek
August 5, 2010

Coal Bed Methane Usage 0.50 MMBtu/hr

Greenhouse Gas - Dehydrator			
	CO2	CH4	N2O
Emission Factor (Kg/MMBtu)	53.02	1.00E-03	1.00E-04
Emission Factor (lb/MMBtu)	116.91	2.21E-03	2.21E-04
Potential Emission in tons/yr	256	0.0048290	0.0004829
Potential Emission in lb/hr	58.45	0.0011025	0.0001103
Global Warming Potential	1	21.0	310.0
Single Unit // CO2e Total in tons/yr		256	
Both Units // CO2e Total in tons/yr		512	

Coal Bed Methane Usage 4.90E-04 MMCF/hr

Greenhouse Gas - Flash Tank			
	CO2	CH4	N2O
Emission Factor (lb/MMCF)	1,870.75	1,105.45	0.00
Potential Emission in tons/yr	4	2.37	0.00
Potential Emission in lb/hr	0.92	0.54	0.00
Global Warming Potential	1	21.0	310.0
Single Unit // CO2e Total in tons/yr		54	
Both Units // CO2e Total in tons/yr		108	

PTE - Flash Tank and Dehydrator		
Pollutant	PTE Single Unit (TPY)	PTE Both Units (TPY)
PM	0.016	0.032
PM10	0.016	0.032
PM2.5	0.016	0.032
SO2	0.001	0.002
NOx	0.215	0.430
VOC	0.012	0.024
CO	0.180	0.360
HAP - Acenapthene	0.093	0.186
Total HAP	0.096	0.192

Greenhouse Gas Emissions Summary (TPY)				
Unit	**CO2**	**CH4**	**N20**	**CO2e**
Dehydrator	256	0.0048	0.00048	256
Flash Tank	4	2.37	0	54
One Unit	260	2.37	0	310
Both Units	520	4.74	0	620

Methodology:
1) PTE (TPY) = (throughput x emission factor) / 2,000lb per ton
2) CO_2e = sum(pollutant emissions x global warming potential)
3) Emission factors provided by applicant.
4) PM, PM10, PM2.5, SO2, NOx, VOC, CO emissions estimates were provided by the applicant and were accepted by IDEM.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a PSD / Part 70 Significant Source Modification and a Part 70 Significant Permit Modification

Source Description and Location

Source Name:	Hoosier Energy REC, Inc. – Merom Generating Station
Source Location:	5500 W Old 54, Sullivan, Indiana 47882
County:	Sullivan
SIC Code:	4911
TV Permit No.:	T 153-28006-00005
Operation Permit Issuance Date:	September 8, 2010
SSM No.:	153-29394-00005
SPM No.:	153-29410-00005
Permit Reviewer:	David J. Matousek

Source Definition

Hoosier Energy Rural Electric Cooperative, Inc. (hereafter referred to as Hoosier Energy) owns and operates the Merom Generating Station, producing electricity. Another corporation, Village Farms, Inc. will be building a new greenhouse on property contiguous with Merom Generating Station property. IDEM, OAQ has examined whether the Merom Generating Station and the proposed Village Farms greenhouse are part of the same major source. The term “major source” is defined at 326 IAC 2-7-1(22). In order for these two operations to be considered one major source, they must meet all three of the following criteria:

(1) the operations must be under common ownership or common control;

(2) the operations must have the same two-digit Standard Industrial Classification (SIC) Code or one must serve as a support facility for the other; and,

(3) the operations must be located on contiguous or adjacent properties.

Hoosier Energy and Village Farms have no common owners, corporate officers or directors. They are separate corporations with no common ownership.

IDEM’s Nonrule Policy Document Air-005 sets out two independent tests to determine if common control exists. The first test, the auxiliary activity test, determines whether one source performs an auxiliary activity which directly serves the purpose of a primary activity and whether the owner or operator of the primary activity has a major role in the day-to-day operations of the auxiliary activity. An auxiliary activity directly serves the purpose of a primary activity by supplying a necessary raw material to the primary activity or performing an integral part of the production process for the primary activity.

Day-to-day control of the auxiliary activity by the primary activity is evidenced by several factors, including:

- is a majority of the output of the auxiliary activity provided to the primary activity?
- can the auxiliary activity contract to provide it products/services to a third-party without the consent of the primary activity?
- can the primary activity assume control of the auxiliary activity under certain circumstances?
- Is the auxiliary activity required to complete periodic reports to the primary activity?

If one or a combination of these questions is answered affirmatively, common control may exist.

Village Farms will be purchasing land currently part of the Merom Generating Station from Hoosier Energy to construct the greenhouse and will purchase the right to operate groundwater wells. Hoosier Energy and Village Farms anticipate that the Merom Generating Station will sell electricity and carbon dioxide to the Village Farms greenhouse. The greenhouse will use approximately 54 megawatts of electricity, about 5% of the Merom Generating Station's peak capacity. The greenhouse will use carbon dioxide.

The Village Farms greenhouse will not qualify as an auxiliary activity since it does not directly serve the purpose of the Merom Generating Station. None of the greenhouse production will go to the station. The greenhouse will not provide any raw material necessary for production of electricity or perform any integral part of the production of electricity. The greenhouse's purchase of carbon dioxide does not assist in the production of electricity, since the carbon dioxide is currently emitted to the atmosphere and the station is not required to control or limit that emission. In addition, the greenhouse will be free to obtain carbon dioxide from other sources without Hoosier Energy's consent, there are no circumstances under which Hoosier Energy can assume control of the greenhouse and there is no requirement that Village Farms submit any periodic reports to Hoosier Energy.

The Merom Generating Station will also not qualify as an auxiliary activity of the greenhouse, since it will not directly serve the purpose of the greenhouse. Although the greenhouse will be a customer of the station, it will not consume a majority of the electricity. The station's carbon dioxide will help plants in the greenhouse grow more rapidly, but carbon dioxide can also be produced with on-site carbon dioxide generators, which is how many greenhouses increase the carbon dioxide levels for their plants. Although the initial source determination from Hoosier Energy stated that the greenhouse may use coal bed methane produced on Merom's property. The greenhouse will use propane to power its on-site boilers. The propane will be provided from third parties. There are not circumstances under which Village Farms can assume control of the station and there is no requirement that the station submit any periodic reports to Village Farms. Therefore, the first common control test is not satisfied.

The second common control test in the nonrule policy is the but/for test. This test focuses on whether the auxiliary activity would exist absent the needs of the primary activity. If all or a majority of the output of the auxiliary activity is consumed by the primary activity the but/for test is satisfied. Here, neither operation consumes a majority of the other's output. If the Merom Generating Station were to close Village Farms could use on-site carbon dioxide generators to produce its own carbon dioxide. The greenhouse could purchase electricity off of the electrical grid.

If the greenhouse were to close the Merom Generating Station would still have 95% of its customer base. The station could emit the carbon dioxide to the atmosphere. Therefore the second common control test is also not satisfied. Since the two operations are not under common ownership or common control, the first part of the major source definition is not met.

The SIC Code Manual of 1987 sets out how to determine the proper SIC Code for each type of business. More information about SIC Codes is available at http://www.osha.gov/pls/imis/sic_manual.html on the internet. The Merom Generating Station produces electricity and has the two-digit SIC Code 49 for the Major Group of Electric, Gas, and Sanitary Services. The Village Farms greenhouse will have the two-digit SIC code, 01 for the Major Group of Agricultural Production – Crops.

A plant is considered a support facility if at least 50% of its output is dedicated to another plant. As discussed above, the Merom Generating Station will dedicate about 5% of its electrical output to the Village Farms greenhouse. The Village Farms greenhouse will not dedicate any of its output to the Merom Station. The greenhouse's use of the station's carbon dioxide emissions has no role in supporting the station, since the station is allowed to emit carbon dioxide directly into the atmosphere. No employees will be sent from either operation to the other. Therefore, neither operation will serve as a support facility to the other. Since the operations do not have the same two-digit SIC Code and there is no support facility relationship, they do not meet the second part of the major source definition.

The last part of the definition is whether the operations are on contiguous or adjacent properties. The Village Farms greenhouse will be located on property that borders the Merom Generating Station property on all sides, making the two properties contiguous. Since the two operations are located on contiguous properties, the third part of the major source definition is met.

Since the Merom Generating Station and the Village Farms greenhouse do not meet all three parts of the major source definition, IDEM, OAQ finds that they are not part of the same major source. Each operation will be permitted separately. IDEM is basing this determination on Village Farm's business plan. If the actual operations differ significantly from the facts cited above, IDEM reserves the right to revisit this determination.

Existing Approvals

The source was issued Part 70 Operating Permit No. T 153-28006-00005 on September 8, 2010. The source has since received the following approvals:

(a) Temporary Operation No. 153-29820-00005, issued on October 28, 2010;
(b) Minor Source Modification No. 153-30486-00005, issued on May 23, 2011; and
(c) Minor Permit Modification No. 153-30547-00005, issued on July 22, 2011.

County Attainment Status

The source is located in Sullivan County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.

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

Unclassifiable or attainment effective April 5, 2005, for $PM_{2.5}$.

(a) Ozone Standards

Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Sullivan County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$

Sullivan County has been classified as attainment for $PM_{2.5}$. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for $PM_{2.5}$ emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct $PM_{2.5}$ significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct $PM_{2.5}$ and SO_2 emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants

Sullivan County has been classified as attainment or unclassifiable in Indiana for SO_2, CO, PM_{10}, NO_2, and Pb. 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 plants of more than two hundred fifty million (250,000,000) British thermal units per hour 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

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	14,152
PM_{10}	46,343
$PM_{2.5}$	> 100
SO_2	53,527
VOC	128
CO	12,063
NO_X	20,564
CO_2e	> 100,000
Single HAP	> 10
Total HAPs	> 25

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 100 tons per year or more, emissions of GHGs are equal to or greater than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-1.1-1(29)) of a combination of HAPs is greater than or equal to twenty-five (25) tons per year. Therefore, the source is a major source under Section 112 of the Clean Air Act (CAA).

(c) Since this type of operation is one of the twenty-eight (28) listed source categories under 326 IAC 2-2, the fugitive emissions are counted toward determination of PSD applicability.

(d) Emissions for PM, PM_{10}, SO_2, VOC, CO, and NOx were taken from Part 70 Operating Permit Renewal No. T153-28006-00005, issued on September 8, 2010. IDEM is assuming $PM_{2.5}$ emissions are greater than 100 TPY and single and total HAPs are greater than 10 TPY and 25 TPY, respectively and GHG emissions are greater than 100,000 TPY CO_2e.

Description of Proposed Modification

On June 25, 2010, Hoosier Energy REC, Inc. – Merom Generating Station submitted an application for the modification of their Part 70 Operating Permit. The application requested the addition of eight (8) Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE) each rated at 4,601 bHp, four (4) cooling towers and a Coal Bed Methane (CBM)-fired standby flare with a propane-fired pilot. The RICE engines will be used to generate electricity for sale to the grid.

The following is a list of the proposed emission units and pollution control devices:

(a) Eight (8) 4-Stroke Lean Burn Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE), approved for construction in 2011, identified as CBM1 to CBM8, each rated at 4,601 bHp (25.46 MMBtu/hr). CBM1 to CBM8 use Catalytic Oxidation and Selective Catalytic Reduction (SCR) to control VOC, NOx and CO. CBM1 to CBM8 exhaust to stacks SV-CBM1 to SV-CBM8 or to the greenhouses, respectively. [40 CFR 63, Subpart ZZZZ][40 CFR 60, Subpart JJJJ]

(b) One (1) Coal Bed Methane (CBM)-fired Standby Flare with a propane-fired pilot, approved for construction in 2011, identified as CBM FL, rated at 25 MMBtu/hr with a 0.8 MMBtu/hr pilot, emissions are uncontrolled, no stack.

(c) Two (2) Coal Bed Methane Fuel Dehydrator Units, each containing a 0.5 MMBtu/hr CBM-fired reboiler and a flash tank.

Enforcement Issues

There are no pending enforcement actions related to this modification.

Emission Calculations

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

Permit Level Determination – Part 70

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency."

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (ton/yr)
PM	9.04
PM_{10}	9.04
PM2.5	9.04
SO_2	0.79
VOC	123.12
CO	911.19
NO_X	398.54
CO_2e	175,262
Single HAPs	Greater Than 10
Total HAPs	Greater Than 25

This source modification is subject to 326 IAC 2-7-10.5(f)(4)(C) and (D); because, the modification has a potential to emit greater than or equal to twenty-five tons per year of VOC, CO and NOx. The potential to emit greenhouse gases (GHGs) is greater than 75,000 tons per year CO_2e; therefore, the modification will be reviewed under 326 IAC 2-2 (Prevention of Significant Deterioration). Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(b)(1)(C)(i); because, the modification involves a case-by-case determination of an emission limitation or other standard.

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

Limited Potential to Emit (ton/yr)										
Emission Unit	**PM**	**PM10**	**PM2.5***	**SO_2**	**VOC**	**CO**	**NOx**	**GHGs (CO_2e)**	**Single HAP**	**Total HAPs**
CBM Engine #1	0.89	0.89	0.89	0.07	34.2	91.8	36.7	19,988	1.77	3.39
CBM Engine #2	0.89	0.89	0.89	0.07				19,988	1.77	3.39
CBM Engine #3	0.89	0.89	0.89	0.07				19,988	1.77	3.39
CBM Engine #4	0.89	0.89	0.89	0.07				19,988	1.77	3.39
CBM Engine #5	0.89	0.89	0.89	0.07				19,988	1.77	3.39
CBM Engine #6	0.89	0.89	0.89	0.07				19,988	1.77	3.39
CBM Engine #7	0.89	0.89	0.89	0.07				19,988	1.77	3.39
CBM Engine #8	0.89	0.89	0.89	0.07				19,988	1.77	3.39
Flare - CBM Combustion	0.64	0.64	0.64	0.06	5.63	7.50	2.25	4,879	0.07	0.07
Flare Pilot - Propane Combustion	0.03	0.03	0.03	0.06	0.04	0.29	0.50	489	0.00	0.00
CBM Dehydrator Units	0.03	0.03	0.03	0.06	0.02	0.36	0.43	512	0.186	0.192
Flash Tanks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	108	0.00	0.00
Total for Modification	7.82	7.82	7.82	0.68	39.89	99.95	39.88	165,892	14.16	27.38
PSD Significant Level	25.00	15.00	10.00	40.00	40.00	100.00	40.00	75,000	---	---

* PM2.5 listed is direct PM2.5

This modification to an existing major stationary source is major; because, the greenhouse gas emissions increases are greater than 75,000 TPY CO2e, the PSD significant level for greenhouse gases. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do apply to greenhouse gases.

The potential to emit of the modification for VOC and NOx are greater than 40 tons per year. The potential to emit of the modification for CO is greater than 100 tons per year. However, the source has accepted PSD minor limits to keep the potential to emit after issuance of VOC and NOx to less than 40 tons per year and the CO to less than 100 tons per year. Therefore, the PSD requirements do not apply to this modification for CO, VOC and NOx.

Federal Rule Applicability Determination

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

NSPS:

40 CFR Part 60, Subpart JJJJ [326 IAC 12]

(a) Eight (8) 4-Stroke Lean Burn Coal Bed Methane-fired Reciprocating Internal Combustion Engines (RICE), identified as CBM1 to CBM8, are subject to Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines), which is incorporated by reference as 326 IAC 12. It is subject because they were manufactured after July 1, 2007 and are lean burn engines with a maximum engine power greater than 500 HP.

CBM engines, identified as CBM1 to CBM8, are subject to the following portions of Subpart JJJJ.

1) 40 CFR 60.4233(e), (g)
2) 40 CFR 60.4234
3) Table 1

NESHAP:

40 CFR Part 63, Subpart ZZZZ and 326 IAC 20

(b) Eight (8) 4-Stroke Lean Burn Coal Bed Methane-fired Reciprocating Internal Combustion Engines (RICE), identified as CBM1 to CBM8, are subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR Part 60, Subpart ZZZZ, which is incorporated by reference as 326 IAC 20-82-1. They are subject because they are stationary reciprocating internal combustion engines (RICE) located at a major source of HAP emissions.

CBM engines, identified as CBM1 to CBM8, are subject to the following portions of Subpart ZZZZ:

1) 40 CFR 63.6600(b)
2) 40 CFR 63.6605
3) 40 CFR 63.6610
4) 40 CFR 63.6635(a), (b), (c)
5) 40 CFR 63.6645
6) 40 CFR 63.6650
7) 40 CFR 63.6655

CAM:

(c) 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 following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each new or modified emission unit involved:

CAM Applicability Analysis – Carbon Monoxide (CO)							
Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
Engine – CBM1	Y	Y	111.08	11.45	100	Y	N
Engine – CBM2	Y	Y	111.08	11.45	100	Y	N
Engine – CBM3	Y	Y	111.08	11.45	100	Y	N
Engine – CBM4	Y	Y	111.08	11.45	100	Y	N
Engine – CBM5	Y	Y	111.08	11.45	100	Y	N
Engine – CBM6	Y	Y	111.08	11.45	100	Y	N
Engine – CBM7	Y	Y	111.08	11.45	100	Y	N
Engine – CBM8	Y	Y	111.08	11.45	100	Y	N

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to the coal bed methane engines CBM1 to CBM8 upon issuance of SPM 153-29410-00005 for CO.

The potential to emit of PM_{10}, $PM_{2.5}$, SO_2, VOC and NOx are less than 100 tons per year for each coal bed methane engine and the flare, so they are not subject to CAM for PM_{10}, $PM_{2.5}$, SO_2, VOC and NOx. The potential to emit of a single HAP is less than 10 tons per year and total HAPs is less than 25 tons per year; therefore, the coal bed methane engines and flare are not subject to CAM for HAPs. The potential to emit GHGs is less than 75,000 tons per year; therefore, the flare and coal bed methane engines are not subject to CAM for GHGs.

Acid Rain Provisions [40 CFR 72 to 40 CFR 78]:
The Acid Rain provisions under 40 CFR 72 to 40 CFR 78 do not apply to any new utility unit which is burning coal bed methane. The coal bed methane engines are exempt new units under 40 CFR 72.2; therefore, the provisions of the acid rain program do not apply.

State Rule Applicability Determination - Entire Source

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

326 IAC 2-2 (Prevention of Significant Deterioration)
The total potential to emit of CO, VOC and NOx are in excess of 100 tons per year. The source has requested a minor limit to keep the limited potential to emit of these units to less than 100 tons per year in order to avoid the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) for CO, VOC and NOx. The proposed limits are shown below:

(a) The coal bed methane usage in the CBM-fired flare, identified as CBM FL, shall not exceed 73.50 MMCF per twelve consecutive month period with compliance determined at the end of each month.

(b) CO emissions from the CBM-fired flare, identified as CBM FL, shall not exceed 204.0 lb/MMCF, while combusting coal bed methane.

(c) VOC emissions from the CBM-fired flare, identified as CBM FL, shall not exceed 153.0 lb/MMCF while combusting coal bed methane.

(d) NOx emissions from the CBM-fired flare, identified as CBM FL, shall not exceed 61.20 lb/MMCF while combusting coal bed methane.

(e) The combined CO emissions from the CBM-fired engine generator set, identified as CBM1 to CBM8, shall be limited to less than 91.8 tons per twelve (12) consecutive month period with compliance determined at the end of the month.

The CO emissions shall be determined by the following equations:

CO emissions (tons/month) = (Y_1 x Ef1) + (Y2 x Ef2)

Where:

Ef1 = Steady State Emission limit of Engines (0.2450 g/bhp-hr) or emissions determined from the most recent compliance stack test

Ef2 = Cold Startup Emission limit of Engines (2.50 g/bhp-hr) or emissions determined from the most recent compliance stack test

Y_1 = Number of hours of operation at steady state startup

Y_2 **=** Number of hours of operation at cold startup

(f) The combined VOC emissions from the CBM-fired engine generator set, identified as CBM1 to CBM8, shall be limited to less than 34.2 tons per twelve (12) consecutive month period with compliance determined at the end of the month.

The VOC emissions shall be determined by the following equations:

VOC emissions (tons/month) = (Y_1 x Ef3) + (Y2 x Ef4)

Where:

Ef3 = Steady State Emission limit of Engines (0.0952 g/bhp-hr) or emissions determined from the most recent compliance stack test

Ef4 = Cold Startup Emission limit of Engines (0.3 g/bhp-hr) or emissions determined from the most recent compliance stack test

Y_1 = Number of hours of operation at steady state startup

Y_2 **=** Number of hours of operation at cold startup

(g) The combined NOx emissions from the CBM-fired engine generator set, identified as CBM1 to CBM8, shall be limited to less than 36.7 tons per twelve (12) consecutive month period with compliance determined at the end of the month.

The NOx emissions shall be determined by the following equations:

NOx emissions (tons/month) = (Y_1 x Ef5) + (Y2 x Ef6)

Where:

Ef5	=	Steady State Emission limit of Engines (0.099 g/bhp-hr) or emissions determined from the most recent compliance stack test
Ef6	=	Cold Startup Emission limit of Engines (1.10 g/bhp-hr) or emissions determined from the most recent compliance stack test
Y_1	=	Number of hours of operation at steady state startup
Y_2	=	Number of hours of operation at cold startup

Compliance with these emission limits and the emissions of other emission units will ensure the potential to emit CO is less than 100 tons, VOC is less than 40 tons and NOx is less than 40 tons per year and render the requirements of 326 IAC 2-2 (PSD), not applicable to Significant Source Modification 153-29394-00005.

326 IAC 2-2-3 (BACT)
The potential to emit Greenhouse Gases (GHGs) is in excess of the PSD significant level. IDEM has determined PSD BACT for GHGs is as follows:

Prevention of Significant Deterioration (PSD) BACT Limits [326 IAC 2-2]
Pursuant to PSD/Significant Source Modification Permit No. 153-29394-00005 and 326 IAC 2-2-3 (Prevention of Significant Deterioration (PSD)), the Best Available Control Technology (BACT) for the eight CBM-fired RICE, the two (2) CBM Dehydrator Units, and the CBM-fired flare shall be as follows:

(a) The eight (8) CBM fired RICE and CBM-fired flare shall be operated in accordance with good combustion practices and maintained in accordance with manufacturer's recommendations.

(b) The CO_2 emission rate for each CBM-fired RICE shall not exceed 1,100 lb per MW-hr.

(c) The CH_4 emission rate for each CBM-fired RICE shall not exceed 9.54 lb/MW-hr.

(d) The N_2O emission rate for each CBM-fired RICE shall not exceed 0.23 lb/MW-hr.

(e) The CO_2 emission rate for the CBM-fired flare shall not exceed 2,940 lb/hr.

(f) The CH_4 emission rate for the CBM-fired flare shall not exceed 0.06 lb/hr.

(g) The N_2O emission rate for the CBM-fired flare shall not exceed 0.05 lb/hr

(h) The CBM Dehydrator Units and flash tanks shall be operated and maintained in accordance with manufacturer's recommendations.

(i) The CO2 emission rate for each CBM Dehydrator Unit shall not exceed 58.32 lb/hr.

326 IAC 2-2-4 (Air Quality Analysis Requirements)
Section (4)(a) of this rule, requires that the PSD application shall contain an analysis of ambient air quality in the area that the major stationary source would affect for pollutants that are emitted at major levels or significant amount. The requirements for an Air Quality Analysis do not apply to green house gases; therefore, this rule does not apply.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
Pursuant to 326 IAC 2-4.1-1(b)(2), the requirements of 326 IAC 2-4.1-1 do not apply to a utility exempt from regulation by a standard issued pursuant to Section 112(d), 112(h), or 112(j) of the CAA.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
This rule establishes emission limitations for particulate emissions from manufacturing processes located anywhere in the state. A manufacturing process is defined, in the rule, as any single or series of actions, operations, or treatments in which a mechanical, physical, or chemical transformation of material occurs that emits, or has the potential to emit, particulate in the production of the product. The non-contact cooling towers are exempt under 326 IAC 6-3-1(b)(11). The reciprocating internal combustion engines (RICE) are not manufacturing processes. They are combustion processes. The flare is not considered a manufacturing process. Therefore, the requirements of 326 IAC 6-3-2 do not apply to any of the emission units in this modification.

326 IAC 7 (Sulfur Dioxide Emission Limitations)
This rule applies to emission units with a potential to emit twenty-five (25) tons per year or more of SO_2. None of the emission units included in this modification are capable of emitting twenty-five (25) tons per year or more of SO_2. Therefore, 326 IAC 7 does not apply.

326 IAC 8-1-6 (New Facilities; general reduction requirements)
This rule applies to new facilities as of January 1, 1980, that have potential VOC emissions of twenty-five (25) tons or more per year, are located anywhere in the state and are not regulated by other provisions of 326 IAC 8, 326 IAC 20-48 or 326 IAC 20-56. This rule does not apply to emission units CBM1 to CBM8, CBM FL or CBM CT1 to CBM CT4, because each unit has a potential to emit VOC of less than twenty-five (25) tons per year.

326 IAC 24-1 (Clean Air Interstate Rule (CAIR) Nitrogen Oxides (NOx) Annual Trading Program)
This rule establishes an annual NOx emissions budget and an annual NOx trading program for any stationary fossil fuel-fired boiler or stationary fossil-fuel-fired combustion turbine, serving since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with a nameplate capacity of more than twenty-five (25) megawatt electrical producing electricity for sale. The coal bed methane engines in this modification are reciprocating internal combustion engines (RICE) and not a boiler or combustion turbine. Therefore, this rule is not applicable to the RICE engines.

On July 6, 2011, the U.S. EPA finalized a rule known as the Cross-State Air Pollution Rule (CSAPR). The CSAPR will replace the Clean Air Interstate Rule beginning on January 1, 2012. The CSAPR requires twenty-three states to reduce annual SO2 and NOx emissions to help downwind areas attain the 24-hour and/or annual PM2.5 National Ambient Air Quality Standards. The final rule was published in the Federal Register on August 8, 2011 with an effective date of October 7, 2011. This rule applies to electric generating units that are fossil fuel-fired boilers and combustion turbines producing electricity for sale. RICE are not regulated by the CSAPR; therefore, this rule does not apply to the RICE.

326 IAC 24-2 (Clean Air Interstate Rule (CAIR) Sulfur Dioxide (SO_2) Trading Program)
This rule establishes an SO_2 emissions budget and an SO_2 trading program for any stationary fossil-fuel-fired boiler or stationary fossil-fuel-fired combustion turbine, serving since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with a nameplate capacity of more than twenty-five (25) megawatt electrical producing electricity for sale. The coal bed methane engines in this modification are reciprocating internal combustion engines (RICE) and not fossil-fuel-fired combustion turbines. Therefore, this rule is not applicable to the RICE engines.

326 IAC 24-3 (Clean Air Interstate Rule (CAIR) NOx Ozone Season Trading Program)
This rule establishes a NO_X ozone season emissions budget and a NO_x trading program for fossil-fuel-fired generating units and large affected units. This rule applies to any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with a nameplate capacity of more than twenty-five (25) megawatt electrical producing electricity for sale or any large affected unit. The coal bed methane engines in this modification are reciprocating internal combustion engines (RICE) and not fossil-fuel-fired boilers, combustion turbines or large affected units as defined in 326 IAC 24-3-2. Therefore, this rule is not applicable to the RICE engines.

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.

The Compliance Determination Requirements applicable to this modification are as follows:

Emission Unit	Parameter	Frequency
CBM Engine Sets CBM1 to CBM8	Use of Oxidation Catalyst to control CO and VOC	At all times process is in operation, except during periods of startup
CBM Engine Sets CBM1 to CBM8	Use of SCR to control NOx	At all times the process is in operation except during periods of startup

Summary of Testing Requirements						
Emission Unit	**Test condition**	**Control Device**	**Timeframe for Testing**	**Pollutant**	**Frequency of Testing**	**Limit or Requirement**
Two of Eight CBM Engines (CBM1 to CBM8)	Steady State	Oxidation Catalyst	Within 60 days of max. capacity but no later than 180 days after startup	VOC	Every Five Years	---
	Cold Startup					
Two of Eight CBM Engines (CBM1 to CBM8)	Steady State	SCR	Within 60 days of max. capacity but no later than 180 days after startup	NOx	Every Five Years	---
	Cold Startup					
Two of Eight CBM Engines (CBM1 to CBM8)	Steady State	Oxidation Catalyst	Within 60 days of max. capacity but no later than 180 days after startup	CO	Every Five Years	---
	Cold Startup					
Two of Eight CBM Engines (CBM1 to CBM8)		None	Within 60 days of max. capacity but no later than 180 days after startup	CO_2	One Time	1,100 lb CO_2/MW-hr

Note: The CMB engines shall be tested during the steady state startup and the cold startup conditions.

The Compliance Monitoring Requirements applicable to this modification are as follows:

Emission Unit	Parameter	Frequency	Response
Each CBM Engine CBM1 to CBM8	Catalyst Bed Temperature	Continuous	Reasonable Response Steps
Each CBM Engine CBM1 to CBM8	Urea Injection Rate	Once per day	Reasonable Response Steps
Standby Flare CBM FL	Burner Flame Temperature	Continuous	Reasonable Response Steps

These monitoring conditions are necessary to ensure compliance with the Prevention of Significant Deterioration (PSD) minor limit.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit Renewal No. T 153-28006-00005. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

Section B and C Modifications

Modification #1 IDEM, OAQ has decided to remove all references to the source mailing address. IDEM will continue to maintain records of the mailing address.

Modification #2 326 IAC 2-7 requires that "a responsible official" perform certain actions. 326 IAC 2-7-1(34) allows for multiple people to meet the definition of "responsible official." Therefore, IDEM, OAQ is revising all instances of "the responsible official" to read "a responsible official." A rule citation has been added to define the requirements for the notifications by a responsible official. The conditions affected by this change are existing Conditions B.7 to B.11, B.15 to B.18, B.20, B.23, C.7, C.8, C.10, C.16, C.17 and C.19. Revisions to Conditions B.9, B.16, B.18, B.20, B.23 and C.7 are shown directly below. Revisions to the remaining conditions are shown along with other modifications listed in this TSD.

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

****

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

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

****

B.18 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12] [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 ~~shall be certified~~ **does require a certification that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

****

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

****

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

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

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

(3) Any change in emissions; and

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

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require ~~the~~**a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

****

B.23 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

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(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

~~The~~**Any such** application ~~which shall be submitted by the Permittee~~ does require ~~the~~**a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

****

C.7 Asbestos Abatement Projects [326 IAC 14-10][326 IAC 18][40 CFR 61, Subpart M]

****

(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 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification~~ by the~~ **that meets the requirements of 326 IAC 2-7-6(1) by a** "responsible official" as defined by 326 IAC 2-7-1(34).

~~**********~~

Modification #3 Section B – Duty to Provide Information has been revised. Revisions are shown below:

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

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. ~~The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).~~ Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

~~**********~~

Modification #4 To clarify that Section B – Certification only states what a certification must be, IDEM, OAQ has revised this condition. Revisions are shown below:

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

(a) ~~Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance~~**A** certification ~~submitted shall contain~~ **required by this permit meets the requirements of 326 IAC 2-7-6(1) if:**

(1) **it contains a** certification by ~~the~~**a** "responsible official" **as defined by 326 IAC 2-7-1(34), and**~~ of truth, accuracy, and completeness. This~~

(2) **the** certification ~~shall~~ state**s** that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) ~~One (1) certification shall be included, using t~~**T**he **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.

~~**********~~

Modification #5 IDEM, OAQ has decided to clarify Section B – Preventive Maintenance Plan to be consistent with the rule. All references to “the responsible official” have been changed to “a responsible official.” IDEM, OAQ has added a new paragraph (b) to handle a future situation where the Permittee adds units that need preventive maintenance plans developed. IDEM, OAQ has decided that the phrases "no later than" and "not later than" are clearer than "within" in relation to the end of a timeline. Therefore all timelines have been switched to "no later than" or "not later than". IDEM, OAQ has decided to clarify other aspects of Section B - Preventive Maintenance Plan. Revisions are shown below:

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

(a) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMP's) ~~within~~ **no later than** ninety (90) days after issuance of this permit, for the source as described in 326 IAC 1-6-3. At a minimum, the PMP's shall include:

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

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

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

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

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

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

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

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

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

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

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

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

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

(~~b~~**c**) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions ~~or potential to emit~~. The PMPs **and their submittal** do not require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34).

(~~c~~**d**) 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.

Modification #6 IDEM, OAQ is revising Section B - Emergency Provisions to delete paragraph (h). 326 IAC 2-7-5(3)(C)(ii) allows that deviations reported under an independent requirement do not have to be included in the Quarterly Deviation and Compliance Monitoring Report.

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

****

(b) **********

(5) **********

The notification which shall be submitted by the Permittee does not require **a**~~the~~ certification **that meets the requirements of 326 IAC 2-7-6(1)** by **a**~~the~~ "responsible official" as defined by 326 IAC 2-7-1(34).

****

~~(h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report. Any emergencies that have been previously reported pursuant to paragraph (b)(5) of this condition and certified by the "responsible official" need only referenced by the date of the original report.~~

Modification #7 Condition B.13 was revised to remove the references to a combined new source review and Part 70 Operating permit. Separate source and permit modifications will be issued for this modification. This wording is intended for greenfield sources.

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

****

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

Modification #8 IDEM, OAQ has decided that having a separate condition for the reporting of deviations is unnecessary. Therefore, IDEM, OAQ has removed Section B - Deviation from Permit Requirements and Conditions and added the requirements of that condition to Section C - General Reporting Requirements. Paragraph (d) of Section C - General Reporting Requirements has been removed because IDEM, OAQ already states the timeline and certification needs of each report in the condition requiring the report. IDEM, OAQ has decided that the phrases "no later than" and "not later than" are clearer than "within" in relation to the end of a timeline. Therefore all timelines have been switched to "no later than" or "not later than."

B.15 **Reserved**~~Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]~~

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

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

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

~~The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).~~

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

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)][326 IAC 2-1.1-11][326 IAC 2-2]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported **except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report**. This report shall be submitted ~~within~~ **no later than** thirty (30) days **after**~~of~~ the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include ~~the~~**a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34). **A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.**

(b) The ~~report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitt`ed to~~**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

****

(d) **Reserved**~~Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).~~

****

(g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:

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

(2) The annual emissions calculated in accordance with (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 deems fit to include in this report~~.

****

Modification #9 IDEM, OAQ has decided to state which rule establishes the authority to set a deadline for the Permittee to submit additional information. Therefore, Section B - Permit Renewal has been revised.

B.17 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require **a**~~the~~ certification **that meets the requirements of 326 IAC 2-7-6(1)** by **a**~~the~~ "responsible official" as defined by 326 IAC 2-7-1(34).

****

(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.

Modification #10 IDEM, OAQ has decided to state that no notice is required for approved changes in Section B - Permit Revision Under Economic Incentives and Other Programs.

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.

****

Modification #11 IDEM, OAQ has added 326 IAC 5-1-1 to the exception clause of Section C - Opacity, since 326 IAC 5-1-1 does list exceptions.

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:

****

Modification #12 IDEM, OAQ has revised Section C - Incineration to more closely reflect the two underlying rules.

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

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

Modification #13 IDEM, OAQ has removed the first paragraph of Section C - Performance Testing due to the fact that specific testing conditions elsewhere in the permit will specify the timeline and procedures.

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

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

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

****

Modification #14 IDEM, OAQ has revised Section C - Compliance Monitoring. The reference to recordkeeping has been removed due to the fact that other conditions already address recordkeeping. The voice of the condition has been changed to clearly indicate that it is the Permittee that must follow the requirements of the condition.

C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

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

~~**********~~

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

~~**********~~

Modification #15 IDEM, OAQ has removed Section C - Monitoring Methods. The conditions that require the monitoring or testing, if required, state what methods shall be used.

C.11 **Reserved**~~Monitoring Methods [326 IAC 3][40 CFR 60][40 CFR 63]~~

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

Modification #16 IDEM, OAQ has revised Section C - Response to Excursions or Exceedances. The introduction sentence has been added to clarify that it is only when an excursion or exceedance is detected that the requirements of this condition need to be followed. The word "excess" was added to the last sentence of paragraph (a) because the Permittee only has to minimize excess emissions. The middle of paragraph (b) has been deleted as it was duplicative of paragraph (a). The phrase "or are returning" was added to subparagraph (b)(2) as this is an acceptable response assuming the operation or emission unit does return to normal or its usual manner of operation. The phrase "within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable" was replaced with "normal or usual manner of operation" because the first phrase is just a limited list of the second phrase. The recordkeeping required by paragraph (e) was changed to require only records of the response because the previously listed items are required to be recorded elsewhere in the permit.

C.15 Response to Excursions or Exceedances [326 IAC 2-7-5][326 IAC 2-7-6]

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

(a) ~~Upon detecting an excursion or exceedance, t~~**T**he Permittee shall **take reasonable response steps to** restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing **excess** emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction ~~and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions)~~. ~~Corrective actions~~**The response** may include, but ~~are~~**is** not limited to, the following:

(1) initial inspection and evaluation;

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

(3) any necessary follow-up actions to return operation to ~~within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable~~**normal or usual manner of operation**.

~~**********~~

(e) The Permittee shall **record the reasonable response steps taken.**~~maintain the following records:~~

~~(1) monitoring data;~~

~~(2) monitor performance data, if applicable; and~~

~~(3) corrective actions taken.~~

Modification #17 IDEM, OAQ has revised Section C - Actions Related to Noncompliance Demonstrated by a Stack Test. The requirements to take response steps and minimize excess emissions have been removed because Section C - Response to Excursions or Exceedances already requires response steps related to exceedances and excess emissions minimization. The start of the timelines was switched from "the receipt of the test results" to "the date of the test". There was confusion if the "receipt" was by IDEM, OAQ, the Permittee, or someone else. Since the start of the timelines has been moved up, the length of the timelines was increased. The new timelines require action within a comparable timeline; and the new timelines still ensure that the Permittee will return to compliance within a reasonable timeframe.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the ~~Permittee shall take appropriate response actions. The~~ Permittee shall submit a description of **its**~~these~~ response actions to IDEM, OAQ, ~~within thirty (30) days of receipt of the test results~~**no later than seventy-five (75) days after the date of the test**. ~~The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.~~

(b) A retest to demonstrate compliance shall be performed ~~within one hundred twenty (120) days of receipt of the original test results~~**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 ~~twenty (120)~~ **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 ~~the~~**a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

Modification #18 Paragraph (b) of Section C - Emission Statement has been removed. It was duplicative of the requirement in Section C - General Reporting Requirements.

C.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

~~(a)~~ Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an

****

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

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

Modification #19 IDEM, OAQ has decided that the phrases "no later than" and "not later than" are clearer than "within" in relation to the end of a timeline. Therefore all timelines have been switched to "no later than" or "not later than."

C.18 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6][326 IAC 2-2] [326 IAC 2-3]

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(b) Unless otherwise specified in this permit, **for** all record keeping requirements not already legally required**, the Permittee** shall be ~~implemented within~~**allowed up to** ninety (90) days **from the date** of permit issuance or ~~ninety (90) days~~**the date** of initial start-up, whichever is later**, to begin such record keeping**.

Modification #20 IDEM, OAQ has decided to simplify the referencing in Section C - Compliance with 40 CFR 82 and 326 IAC 22-1.

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

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

~~(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.~~

~~(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.~~

~~(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.~~

Section A Modifications

Modification #21 The coal bed methane generating station was added to Section A.2 – Emission Units and Pollution Control Equipment Summary and Section A.3 – Specifically Regulated Insignificant Activities. The emission unit numbering in Section A.3 was updated. Revisions are shown below:

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

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

****

(o) Eight (8) 4-Stroke Lean Burn Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE), approved for construction in 2011, identified as CBM1 to CBM8, each rated at 4,601 bHp (25.46 MMBtu/hr). CBM1 to CBM8 use Catalytic Oxidation and Selective Catalytic Reduction (SCR) to control VOC, NOx and CO. CBM1 to CBM8 exhaust to stacks SV-CBM1 to SV-CBM8 or to the greenhouses, respectively. [40 CFR 63, Subpart ZZZZ][40 CFR 60, Subpart JJJJ]

(p) One (1) Coal Bed Methane (CBM)-fired Standby Flare with a propane-fired pilot, approved for construction in 2011, identified as CBM FL, rated at 25 MMBtu/hr with a 0.8 MMBtu/hr pilot, emissions are uncontrolled, no stack.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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

****

(~~q~~**b**) This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

****

(37) Two (2) Coal Bed Methane Fuel Dehydrator Units, each containing a 0.5 MMBtu/hr CBM-fired reboiler and a flash tank.

Section D Modifications

Modification #22 326 IAC 2-7 requires that "a responsible official" perform certain actions. 326 IAC 2-7-1(34) allows for multiple people to meet the definition of "responsible official." Therefore, IDEM, OAQ is revising all instances of "the responsible official" to read "a responsible official." A rule citation has been added to define the requirements for the notifications by a responsible official. The condition affected by this change is existing Condition D.2.8. The revisions are shown below:

D.2.8 Reporting Requirements

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

Modification #23 The facility description box in Section D.6 was revised to match the numbering in Section A.3

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

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

Specifically Regulated Insignificant Activities:

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

****

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

Modification #24 Section D.7 was added to the permit. This section includes requirements applicable to the CBM engine sets and standby flare. The Section added is shown below:

SECTION D.7 EMISSION UNIT OPERATION CONDITIONS

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

(o) Eight (8) 4-Stroke Lean Burn Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE), approved for construction in 2011, identified as CBM1 to CBM8, each rated at 4,601 bHp (25.46 MMBtu/hr). CBM1 to CBM8 use Catalytic Oxidation and Selective Catalytic Reduction (SCR) to control VOC, NOx and CO. CBM1 to CBM8 exhaust to stacks SV-CBM1 to SV-CBM8 or to the greenhouses, respectively. [40 CFR 63, Subpart ZZZZ][40 CFR 60, Subpart JJJJ]

(p) One (1) Coal Bed Methane (CBM)-fired Standby Flare with a propane-fired pilot, approved for construction in 2011, identified as CBM FL, rated at 25 MMBtu/hr with a 0.8 MMBtu/hr pilot, emissions are uncontrolled, no stack.

Insignificant Activities

(37) Two (2) Coal Bed Methane Dehydrator Units, each containing a 0.5 MMBtu/hr CBM-fired reboiler and a flash tank.

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

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

D.7.1 Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

(a) The coal bed methane usage in the CBM-fired flare, identified as CBM FL, shall not exceed 73.50 MMCF per twelve consecutive month period with compliance determined at the end of each month.

(b) CO emissions from the CBM-fired flare, identified as CBM FL, shall not exceed 204.0 lb/MMCF, while combusting coal bed methane.

(c) VOC emissions from the CBM-fired flare, identified as CBM FL, shall not exceed 153.0 lb/MMCF while combusting coal bed methane.

(d) NOx emissions from the CBM-fired flare, identified as CBM FL, shall not exceed 61.20 lb/MMCF while combusting coal bed methane.

(e) The combined CO emissions from the CBM-fired engine generator set, identified as CBM1 to CBM8, shall be limited to less than 91.8 tons per twelve (12) consecutive month period with compliance determined at the end of the month.

The CO emissions shall be determined by the following equations:

CO emissions (tons/month) = (Y_1 x Ef1) + (Y2 x Ef2)

Where:

Ef1 = Steady State Emission limit of Engines (0.2450 g/bhp-hr) or emissions determined from the most recent compliance stack test

Ef2 = Cold Startup Emission limit of Engines (2.50 g/bhp-hr) or emissions determined from the most recent compliance stack test

Y_1 = Number of hours of operation at steady state startup

Y_2 = Number of hours of operation at cold startup

(f) The combined VOC emissions from the CBM-fired engine generator set, identified as CBM1 to CBM8, shall be limited to less than 34.2 tons per twelve (12) consecutive month period with compliance determined at the end of the month.

The VOC emissions shall be determined by the following equations:

VOC emissions (tons/month) = (Y_1 x Ef3) + (Y2 x Ef4)

Where:

Ef3 = Steady State Emission limit of Engines (0.0952 g/bhp-hr) or emissions determined from the most recent compliance stack test

Ef4 = Cold Startup Emission limit of Engines (0.3 g/bhp-hr) or emissions determined from the most recent compliance stack test

Y_1 = Number of hours of operation at steady state startup

Y_2 = Number of hours of operation at cold startup

(g) The combined NOx emissions from the CBM-fired engine generator set, identified as CBM1 to CBM8, shall be limited to less than 36.7 tons per twelve (12)

consecutive month period with compliance determined at the end of the month.

The NOx emissions shall be determined by the following equations:

NOx emissions (tons/month) = (Y_1 x Ef5) + (Y2 x Ef6)

Where:

Ef5	**=**	**Steady State Emission limit of Engines (0.099 g/bhp-hr) or emissions determined from the most recent compliance stack test**
Ef6	**=**	**Cold Startup Emission limit of Engines (1.10 g/bhp-hr) or emissions determined from the most recent compliance stack test**
Y_1	**=**	**Number of hours of operation at steady state startup**
Y_2	**=**	**Number of hours of operation at cold startup**

Compliance with these emission limits and the emissions of other emission units will ensure the potential to emit CO is less than 100 tons, VOC is less than 40 tons and NOx is less than 40 tons per year and render the requirements of 326 IAC 2-2 (PSD), not applicable to Significant Source Modification 153-29394-00005.

D.7.2 Prevention of Significant Deterioration (PSD) BACT Limit [326 IAC 2-2-3]

Pursuant to PSD/Significant Source Modification Permit No. 153-29394-00005 and 326 IAC 2-2-3 (Prevention of Significant Deterioration (PSD)), the Best Available Control Technology (BACT) for the eight CBM-fired RICE and the CBM-fired flare shall be as follows:

(a) The eight (8) CBM fired RICE and CBM-fired flare shall be operated in accordance with good combustion practices and maintained in accordance with manufacturer's recommendations.

(b) The CO_2 emission rate for each CBM-fired RICE shall not exceed 1,100 lb per MW-hr.

(c) The CH_4 emission rate for each CBM-fired RICE shall not exceed 9.54 lb/MW-hr.

(d) The N_2O emission rate for each CBM-fired RICE shall not exceed 0.23 lb/MW-hr.

(e) The CO_2 emission rate for the CBM-fired flare shall not exceed 2,940 lb/hr.

(f) The CH_4 emission rate for the CBM-fired flare shall not exceed 0.06 lb/hr.

(g) The N_2O emission rate for the CBM-fired flare shall not exceed 0.05 lb/hr.

(h) The CBM Dehydrator Units and flash tanks shall be operated and maintained in accordance with manufacturer's recommendations.

(i) The CO2 emission rate for each CBM Dehydrator Unit shall not exceed 58.32 lb/hr.

Compliance Determination Requirements

D.7.3 VOC and CO Control [326 IAC 2-2]

In order to ensure compliance with Condition D.7.1(e) and (f), VOC and CO emissions from each coal bed methane engine, identified as CBM1 to CBM8, shall be controlled with oxidation catalyst at all times the units are in operation, except during periods of startup.

D.7.4 NOx Control [326 IAC 2-2]

In order to ensure compliance with Condition D.7.1(g), NOx emissions from each coal bed methane engine, identified as CBM1 to CBM8, shall be controlled with selective catalytic reduction at all times the units are in operation except during periods of startup.

D.7.5 Testing Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-6(6)]

(a) In order to demonstrate the compliance status with Condition D.7.2(b) and (c) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform CO2 testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8, utilizing methods approved by the commissioner. 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 obligation with regard to the performance testing required by this condition.

(b) In order to demonstrate the compliance status with Condition D.7.1(e) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform CO testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8 during the steady state and the cold startup, utilizing methods approved by the commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(c) In order to demonstrate the compliance status with Condition D.7.1(f) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform VOC testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8 during the steady state and the cold startup, utilizing methods approved by the commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(d) In order to demonstrate the compliance status with Condition D.7.1(g) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, the Permittee shall perform NOx testing of two (2) of the eight (8) coal bed methane engines, identified as CBM1 to CBM8, exhausting to stacks SV-CBM1 to SV-CBM8 during the steady state and the cold startup, utilizing methods approved by the commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

Compliance Monitoring Requirements

D.7.6 Parametric Monitoring Requirements

(a) In order to demonstrate the compliance status with Conditions D.7.1(e) and (f) and D.7.3, the Permittee shall monitor the reduction catalyst bed temperature used in conjunction with coal bed methane engines CBM1 to CBM8 with a continuous temperature monitoring system. The Permittee shall comply with the following:

(i) A continuous monitoring system shall be installed, calibrated, maintained, and operated on each Coal Bed Methane (CBM)-fired engine, identified as CBM1 to CBM8, for measuring operating temperature of the reduction catalyst bed temperature. For the purposes of this condition, continuous monitoring shall mean no less often than once per fifteen (15) minutes. The output from this monitoring system and the three hour average temperatures shall be recorded whenever the coal bed methane engines are in operation.

(ii) If the primary continuous monitoring system is not in operation, the reduction catalyst bed temperature will be recorded using some manner of secondary system. In the event of a monitoring system malfunction, failure to measure the operating temperature of the reduction catalyst bed is not a deviation of the permit. Failure to take response steps shall be considered a deviation from the permit.

(iii) The Coal Bed Methane (CBM)-fired engines shall operate such that if the three-hour average temperature falls below the 3 hour block average minimum required temperature of 380 °C, or a temperature determined during the most recent compliant stack test, reasonable response steps shall be taken to return the reduction catalyst bed temperature to at least the required minimum temperature. A reading that is below the minimum average required temperature of 380 °C, or a temperature established in the most recent compliant stack test, 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 as a deviation from the permit. The Permittee shall operate at or above 380 °C until the stack test results are available. After the stack test results are available, the Permittee shall operate at or above the 3 hour block average minimum required temperature determined during the latest compliant stack test.

(b) In order to demonstrate the compliance status with Conditions D.7.1(d) and D.7.4, the Permittee shall monitor the urea flow rate used in conjunction with coal bed methane engines CBM1 to CBM8 at least once per day. When for any one reading, the urea flow rate is outside the normal range of 0.5 liters/MW-hr to 6.0 liters/MW-hr, or a range established during the latest complaint stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A urea flow rate that is outside the above mentioned range is not a deviation from this permit. Failure to take reasonable response steps shall be considered a deviation from this permit.

(c) In order to demonstrate the compliance status with Condition D.7.1(b), (c) and (d), the Permittee shall monitor the presence of a burner flame using a thermocouple at all times the flare is in use.

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

D.7.7 Record Keeping Requirements

(a) In order to document the compliance status with Condition D.7.5, the Permittee shall maintain records of the data and results of the stack and/or performance test for each engine generator set.

(b) In order to document the compliance status with Condition D.7.1(a), the Permittee shall maintain records of the amount of coal bed methane burned in the CBM-fired flare, identified as CBM FL, each month.

(c) In order to document the compliance status with Condition D.7.3 and D.7.6(a), the Permittee shall maintain records of the reduction catalyst bed temperature used in conjunction with coal bed methane engines, CBM1 to CBM8. The Permittee shall include in its record when a temperature reading is not taken and the reason for the lack of a temperature reading (e.g. the process did not operate that day).

(d) In order to document the compliance status with Condition D.7.4 and D.7.6(b), the Permittee shall maintain records of the urea injection rate used in conjunction with coal bed methane engines, CBM1 to CBM8. The Permittee shall include in its record when a urea injection rate reading is not taken and the reason for the lack of a urea injection rate reading (e.g. the process did not operate that day).

(e) In order to document the compliance status with Condition D.7.6(b), the Permittee shall maintain records of the burner temperature used in conjunction with the Coal Bed Methane (CBM)-fired flare, identified as CBM FL. The Permittee shall include in its daily record when a temperature reading is not taken and the reason for the lack of a temperature reading (e.g. the process did not operate that day).

(f) To document the compliance status with Condition D.7.1(e), (f) and (g), the Permittee shall maintain the monthly records of the CO, VOC and NOx emissions, from the CBM-fired engine generator set.

(g) Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.

(h) Section C – General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.

D.7.8 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.7.1(a), (e), (f) and (g) 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. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official," as defined by 326 IAC 2-7-1 (34).

Section E Modifications

Modification #25 Original Section E.4 was updated. The updated section incorporates the requirements of 40 CFR 60, Subpart JJJJ.

~~SECTION E.4 [Reserved]~~

SECTION E.4 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

(o) Eight (8) 4-Stroke Lean Burn Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE), approved for construction in 2011, identified as CBM1 to CBM8, each rated at 4,601 bHp (25.46 MMBtu/hr). CBM1 to CBM8 use Catalytic Oxidation and Selective Catalytic Reduction (SCR) to control VOC, NOx and CO. CBM1 to CBM8 exhaust to stacks SV-CBM1 to SV-CBM8 or to the greenhouses, respectively. [40 CFR 63, Subpart ZZZZ][40 CFR 60, Subpart JJJJ]

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

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

E.4.1 General Provisions Relating to NSPS [326 IAC 12][40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated as 326 IAC 12, apply to the affected source, as designated by Table 3 to Subpart JJJJ of Part 60, except when otherwise specified in 40 CFR Part 60 Subpart JJJJ.

E.4.2 Standards of Performance for Stationary Spark Ignition Internal Combustion Engines [40 CFR Part 60, Subpart JJJJ][326 IAC 12]

Pursuant to CFR Part 60, Subpart JJJJ, the Permittee shall comply with the provisions of the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, which are incorporated by reference as 326 IAC 12, for the eight (8) coal bed methane-fired engine generator sets, identified as CBM1 to CBM8 as follows:

1) 40 CFR 60.4233(e), (g)
2) 40 CFR 60.4234
3) Table 1

Modification #26 Original Section E.5 was revised to include the requirements of 40 CFR 63, Subpart ZZZZ for the CBM engines.

SECTION E.5 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

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

(o) Eight (8) 4-Stroke Lean Burn Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE), approved for construction in 2011, identified as CBM1 to CBM8, each rated at 4,601 bHp (25.46 MMBtu/hr). CBM1 to CBM8 use Catalytic Oxidation and Selective Catalytic Reduction (SCR) to control VOC, NOx and CO. CBM1 to CBM8 exhaust to stacks SV-CBM1 to SV-CBM8 or to the greenhouses, respectively. [40 CFR 63, Subpart ZZZZ] [40 CFR 60, Subpart JJJJ]

****

E.5.2 National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

(a) **********

(b) Pursuant to CFR Part 63, Subpart ZZZZ (included as Attachment F of this permit), the Permittee shall comply with the provisions of National Emission Standards for

Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, which are incorporated by reference as 326 IAC 20-82, for eight (8) CBM engine generator sets, identified as CBM1 to CBM8, as follows:

1) 40 CFR 63.6600(b)
2) 40 CFR 63.6605
3) 40 CFR 63.6610
4) 40 CFR 63.6635(a), (b), (c)
5) 40 CFR 63.6645
6) 40 CFR 63.6650
7) 40 CFR 63.6655

Reporting Forms

Modification #27 Where applicable, IDEM, OAQ removed the following statement, "Attach a signed certification to complete the report," because the conditions requiring the form to be completed already include this statement.

Modification #28 The phrase "of this permit" has been added to the paragraph of the Quarterly Deviation and Compliance Monitoring Report to match the underlying rule.

****

Page 1 of 2

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

****

Modification #29 A reporting form was added to the permit to allow the source to report the amount of coal bed methane combusted in the CBM-fired flare identified as CBM FL. The form is shown below:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM)
OFFICE OF AIR QUALITY (OAQ)

COMPLIANCE AND ENFORCEMENT BRANCH
Part 70 Quarterly Report

Source Name: Hoosier Energy REC, Inc. - Merom Generating Station
Source Address: 5500 West Old 54, Sullivan, Indiana 47882
Part 70 Permit No.: T153-28006-00005
Facility: CBM-fired Flare
Parameter: Coal Bed Methane Usage
Limit: 73.50 MMCF per 12 consecutive month period.

QUARTER _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ **No deviation occurred in this quarter.**

☐ **Deviation/s occurred in this quarter.**
Deviation has been reported on (date): _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM)
OFFICE OF AIR QUALITY (OAQ)

COMPLIANCE AND ENFORCEMENT BRANCH
Part 70 Quarterly Report

Source Name: Hoosier Energy REC, Inc. - Merom Generating Station
Source Address: 5500 West Old 54, Sullivan, Indiana 47882
Part 70 Permit No.: T153-28006-00005
Facility: CBM1-CMB8
Parameter: CO Emissions
Limit: Less than 91.8 tons per twelve (12) consecutive month period.

QUARTER _____ **YEAR:** _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ **No deviation occurred in this quarter.**

☐ **Deviation/s occurred in this quarter.**
Deviation has been reported on (date): _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM)
OFFICE OF AIR QUALITY (OAQ)

COMPLIANCE AND ENFORCEMENT BRANCH
Part 70 Quarterly Report

Source Name: Hoosier Energy REC, Inc. - Merom Generating Station
Source Address: 5500 West Old 54, Sullivan, Indiana 47882
Part 70 Permit No.: T153-28006-00005
Facility: CBM1-CMB8
Parameter: VOC
Limit: Less than 34.2 tons per twelve (12) consecutive month period.

QUARTER _____ **YEAR:** _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ **No deviation occurred in this quarter.**

☐ **Deviation/s occurred in this quarter.**
Deviation has been reported on (date): _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM)
OFFICE OF AIR QUALITY (OAQ)

COMPLIANCE AND ENFORCEMENT BRANCH
Part 70 Quarterly Report

Source Name: Hoosier Energy REC, Inc. - Merom Generating Station
Source Address: 5500 West Old 54, Sullivan, Indiana 47882
Part 70 Permit No.: T153-28006-00005
Facility: CBM1-CMB8
Parameter: NOx
Limit: Less than 36.7 tons per twelve (12) consecutive month period.

QUARTER _____ **YEAR:** _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ **No deviation occurred in this quarter.**

☐ **Deviation/s occurred in this quarter.**
Deviation has been reported on (date): _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

Modification #30 The references to attachments in existing Conditions E.1.2, E.2.2, E.3.2 and E.6.2, along with the table of contents have been updated to reflect the new numbering of attachments.

Modification #31 On March 1, 2011, Hoosier Energy REC, Inc. - Merom Generating Station submitted a request to IDEM to correct an error in the descriptive information for the reclaim conveying system consisting of the following equipment: Conveyors CH-CV-4A, CH-CV-4B, CH-CV-5A, CH-CV-5B, CH-CV-6A and CH-CV-6B. The correct nominal throughput is 800 tons per hour and not 750 tons per hour. Emission calculations for the conveying system were conducted at 800 tons per hour. On August 19, 2011, Hoosier Energy requested the correction of emission unit descriptive information and the associated 326 IAC 6-3-2 limit listed in Condition D.3.1 for the crusher house. The following revisions are proposed to correct the descriptive information:

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

****

(d) **********

(7) One (1) reclaim conveying system, with nominal throughput of ~~750~~**800** tons per hour, with particulate matter emissions controlled by enclosures. Including the following equipment:

****

SECTION D.3 EMISSION UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] Coal/LKD Handling Facilities

(d) A coal storage and handling system, commencing construction in 1977, with a nominal throughput of 4,351,419 tons per year, consisting of the following equipment:

****

(7) One (1) reclaim conveying system, with nominal throughput of ~~750~~**800** tons per hour, with particulate matter emissions controlled by enclosures. Including the following equipment:

****

(9) One (1) crusher house, identified as F09, with a combined nominal throughput of ~~1,500~~**1600** tons per hour, with particulate matter emissions controlled by a wet spray suppression and exhausting directly to atmosphere. Including the following equipment:

****

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

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations, work practices, and control technologies), the particulate emission rates shall not exceed the given values as follows:

Emission Unit	**Process Weight Rate, P: (tons/hr)**	**Emission Rate, E: (lbs/hr)**
Rotary Railcar Dumper, F02	2000	86.9
Truck Unload, hopper (A,B, & C), F03	500	69.0
Truck Unload, pile, F04	1000	77.6
Breaker House, F05	2000	86.9
Convy. CH-CV- 1, 2, & 3	2000	86.9
Stockout, F06	2000	86.9
Reclaim (i, ii, & iii), F07	1600	83.8
Reclaim convy. CH-CV-4/5/6-A/B	~~750~~**800**	~~73.9~~**74.7**
Emergency Reclaim (i,ii, & iii), F08	600	71.2
Crusher House (i, ii, iii, & iv), F09	~~1500~~**1600**	~~83.0~~**83.8**
Boiler Bunker (i, ii, & iii), F10	1600	83.8
LKD Silos; 1, 2; each	3.75	9.94

****

SECTION E.2 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

(d) A coal storage and handling system, commencing construction in 1977, with a nominal throughput of 4,351,419 tons per year, consisting of the following equipment:

****

(7) One (1) reclaim conveying system, with nominal throughput of ~~750~~**800** tons per hour, with particulate matter emissions controlled by enclosures. Including the following equipment:

****

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

Modification #32 The existing attachments to the permit have been renumbered. The headers have been revised to more closely match the format shown in the permit.

Modification #33 IDEM has removed existing permit conditions D.1.10, D.1.15 (b), D.1.16 (c) and the related reporting forms, which require sulfur fuel sampling at Hoosier Energy's coal-fired boiler based on the requirements of 326 IAC 7-2-1. After review and consideration, IDEM believes the sulfur fuel sampling is unnecessary and unwarranted at Hoosier Energy's Merom Plant because sulfur dioxide emissions from the coal-fired boilers are controlled by a flue-gas desulfurization system and measured by continuous emission monitors (CEMS). Because Hoosier Energy uses a CEMS to continuously monitor sulfur dioxide emissions, the fuel sampling requirements of 326 IAC 7-2-1 do not apply. In addition, because sulfur is removed at variable rates during the desulfurization process, it is not possible to obtain meaningful sulfur dioxide emission estimates by performing the fuel sampling required in these permit conditions. Permit conditions in section D.1 have been renumbered to account for the deletion of D.1.10. The conditions removed and the headers of the reporting forms are shown below:

~~D.1.10 Standard Operating Procedure [326 IAC 3-7-5(a)]~~

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

D.1.1~~5~~**4** Record Keeping Requirements

****

~~(b) Pursuant to 326 IAC 7-2-1, and in order to document compliance with Conditions D.1.4 the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be sufficient to demonstrate compliance using a thirty (30) day rolling weighted average and shall be complete and sufficient to establish compliance with the SO_2 limit established in Condition D.1.4.~~

~~(1) Calendar dates covered in the compliance demonstration period;~~

~~(2) Daily average sulfur content;~~

~~(3) Coal heat content;~~

~~(4) Weighting factor;~~

~~(5) Daily average sulfur dioxide emission rate;~~

~~(6) Thirty (30) day rolling weighted average sulfur dioxide emission rate.~~

(~~c~~**b**) Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

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

D.1.1~~6~~**5** Reporting Requirements

****

(b) ~~The Permittee shall submit any revision to the standard operating procedure (SOP) within 30 days after the revision. This revision shall be submitted in accordance with Section C - General Reporting Requirements of this permit.~~

~~(c)~~ ~~A quarterly report of sulfur dioxide emission data 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 to document compliance with D.1.4. [326 IAC 7-2-1(c)(1)]. The report shall contain the following:~~

~~(1) Calendar dates covered in the compliance demonstration period;~~

~~(2) Daily average sulfur content;~~

~~(3) Coal heat content;~~

~~(4) Weighting factor;~~

~~(5) Daily average sulfur dioxide emission rate;~~

~~(6) Thirty (30) day rolling weighted average sulfur dioxide emission rate.~~

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

****

~~**PART 70 OPERATING PERMIT**~~
~~**SULFUR DIOXIDE EMISSION QUARTERLY REPORT**~~

~~Source Name:~~	~~Hoosier Energy Rural Electric Coop. (REC), Inc. Merom Generating Station~~
~~Source Address:~~	~~5500 West Old 54, Sullivan, Indiana 47882~~
~~Part 70 Permit No.:~~	~~T153-28006-00005~~
~~Facility:~~	~~Unit 1 and Unit 2~~
~~Parameter:~~	~~SO_2 emissions, coal analysis (Unit 1 & Unit 2)~~
~~Limit:~~	~~SO_2 emissions from each boiler shall not exceed 1.2 pounds per million Btu when using coal.~~

****

~~**PART 70 OPERATING PERMIT**~~
~~**SULFUR DIOXIDE EMISSION QUARTERLY REPORT**~~

~~Source Name:~~	~~Hoosier Energy Rural Electric Coop. (REC), Inc. Merom Generating Station~~
~~Source Address:~~	~~5500 West Old 54, Sullivan, Indiana 47882~~
~~Part 70 Permit No.:~~	~~T153-28006-00005~~
~~Facilities:~~	~~2 Auxiliary Boilers~~
~~Parameter:~~	~~Fuel Usage~~
~~Limit:~~	~~Less than 1,126.76 kilo-gallons of No. 2 fuel oil per twelve (12) consecutive months~~

Modification #34 IDEM has updated the General Source Phone Number in Section A.1 of the permit.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary Electric Generating Station.

Source Address: 5500 West Old 54, Sullivan, Indiana 47882
General Source Phone Number: ~~812-876-0370~~**(812) 935-4715**

****

Modification #35 IDEM is correcting descriptive information in existing sections A.2(d)(9), (i)(2) and (j)(1) of the permit. The applicant states the existing throughputs are inaccurate. IDEM is removing the construction date of the Pozz-o-Tec landfill in Section A.2(n). Revisions are shown below:

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

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

****

(d) **********

(9) One (1) crusher house, identified as F09, with a combined nominal throughput of ~~1500~~**1600** tons per hour, with particulate matter emissions controlled by a wet spray suppression and exhausting directly to atmosphere. Including the following equipment:

****

(i) **********

(2) One (1) fly ash silo at IUCS, identified as Fly Ash Silo IUCS, with a nominal throughput of ~~75~~**100** tons per hour, particulate matter emissions controlled with a baghouse identified as Fly Ash IUCS Baghouse, and exhausting to stack Fly Ash IUCS Vent.

****

(j) A lime kiln dust storage and handling system at IUCS, constructed in 1979, with a nominal throughput of 26,280 tons of lime kiln dust per year consisting of the following equipment;

(1) One (1) lime kiln dust silo at IUCS, identified as Lime Silo at IUCS, with a nominal throughput of ~~3~~**5** tons per hour, particulate matter emissions controlled with a baghouse, identified as Lime Silo IUCS Baghouse, and exhausting to stack Lime Silo IUCS Vent.

****

(n) A Pozz-o-tec landfill, identified as Landfill~~, constructed in 2003~~ with emissions controlled with wet and/or dry (agent) suppression and annual coverage.

****

Modification #36 IDEM is revising Condition D.1.1 to more closely match the language from 40 CFR 60, Subpart D. Revisions are shown below:

D.1.1 New Source Performance Standard (NSPS) [326 IAC 12][40 CFR 60, Subpart D] [40 CFR Part 60, Subpart A]

****

(d) Sulfur Dioxide (SO_2) Emissions
Pursuant to 40 CFR 60.43(a)(2), the SO_2 emissions from Unit 1 and Unit 2 shall not exceed 1.2 pounds of SO_2 per MMBTU**, for each unit based on a 30 day rolling average**.

(e) Nitrogen Oxides (NO_x) Emissions
Pursuant to 40 CFR 60.44(a)(3), the NO_x emissions from Unit 1 and Unit 2 shall not exceed 0.70 pounds of NO_x per MMBTU**, for each unit based on a 30 day rolling average**.

Modification #37 IDEM is clarifying descriptive information in original Condition D.1.9. Revisions are shown below:

D.1.9 Operation of Selective Catalytic Reduction (SCR) [326 IAC 2-7-6(6)] [40 CFR 75]

Except as otherwise provided by statute or rule or in this permit, the Selective Catalytic Reduction (SCR) shall be operated as needed to maintain compliance with applicable emission limits **in Condition D.1.1(e)**.

Modification #38 Hoosier Energy request corrections to the descriptive information and the resulting 326 IAC 6-3-2 emission limit for the fly ash silo at IUCS and the lime kiln dust silo at IUCS. The equipment has not been modified. Finally, the date of construction has been removed for the Poz-O-Tec landfill operation. Revisions are shown below:

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]
Fly Ash/Lime Kiln Dust/FGD Slurry/Bottom Ash Handling Facilities:

(i) **********

(1) **********

(2) One (1) fly ash silo at IUCS, identified as Fly Ash Silo IUCS, with a nominal throughput of ~~75~~**100** tons per hour, particulate matter emissions controlled with a baghouse identified as Fly Ash IUCS Baghouse, and exhausting to stack Fly Ash IUCS Vent.

****

(j) A lime kiln dust storage and handling system at IUCS, constructed in 1979, with a nominal throughput of 26,280 tons of lime kiln dust per year consisting of the following equipment;

(1) One (1) lime kiln dust silo at IUCS, identified as Lime Silo at IUCS, with a nominal throughput of ~~3~~**5** tons per hour, particulate matter emissions controlled with a baghouse, identified as Lime Silo IUCS Baghouse, and exhausting to stack Lime Silo IUCS Vent.

****

(n) A Pozz-o-tec landfill, identified as Landfill, ~~constructed in 2003~~ with~~,~~ emissions controlled with wet and/or dry (agent) suppression and annual coverage.

****

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

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations, work practices, and control technologies), the particulate emission rates shall not exceed the given values as follows:

Emission Unit	Process Weight Rate, P: (tons/hr)	Emission Rate, E: (lbs/hr)
Fly Ash Silos: 1A, 1B, 2A, 2B; each	100	51.3
Fly Ash Silo IUCS	~~75~~**100**	~~48.4~~**51.28**
Lime Silo at IUCS	~~3~~**5**	~~8.6~~**12.05**
Lime Silo at WWT	0.0125	0.551
Pug Mills: 1, 2; each	300	63.0
Pozz-O-Tec Drop Point	300	63.0
Bottom Ash Decant (comb. = 125 tph)	125	53.5

Modification #39 The facility description box in Section E.2 has been updated to include all emission units subject to 40 CFR 60, Subpart Y. They were accidentally omitted on issuance of the last renewal. Also, the throughput of the crusher house has been corrected. Revisions are shown below:

SECTION E.2 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

(d) A coal storage and handling system, commencing construction in 1977, with a nominal throughput of 4,351,419 tons per year, consisting of the following equipment:

(1) One (1) outdoor storage area, identified as F01, with a nominal storage capacity of 1,500,000 tons, with particulate matter emissions controlled by layering and compaction and exhausting directly to the atmosphere.

(2) One (1) rail unloading (rotary car dumper) building, with a nominal throughput of 2000 tons per hour, identified as F02, controlled by being partially enclosed and exhausting directly to the atmosphere. Including the following equipment:

(i) Rotary Car Dumper
(ii) Vibrating Feeder(s)
(iii) Underground coal conveyor transfer point
(iv) Traveling hammer mill

(3) Two (2) receiving systems, where truck shipments of coal are discharged into one of the following stations:

(i) One (1) truck unloading station, which feeds a truck hopper, identified as F03, with a nominal throughput of 500 tons per hour with particulate matter emissions controlled by partial enclosure and exhausting directly to the atmosphere. Including the following equipment:

(A) Truck Hopper
(B) Vibrating Feeder
(C) Underground coal conveyor transfer point

(ii) One (1) truck unloading area, directly to coal storage pile(s), identified as F04, with a nominal unloading capacity of 1,000 tons per hour, which is utilized on an as needed basis, with particulate matter emissions exhausting directly to the atmosphere.

(4) One (1) breaker house with enclosed chutes, identified as F05, with a nominal throughput of 2,000 tons per hour, with particulate matter emissions controlled by partial enclosure and exhausting directly to the atmosphere.

(i) Conveyor transfer point(s)

****

(9) One (1) crusher house, identified as F09, with a combined nominal throughput of ~~1500~~ **1600** tons per hour, with particulate matter emissions controlled by a wet spray suppression and exhausting directly to atmosphere. Including the following equipment:
(i) Surge bins(s)
(ii) Vibrating feeder(s)
(iii) Two (2) enclosed crushers with bypass, with a nominal throughput 750 tons per hour, each.
(iv) Enclosed conveyor transfer point(s)

****

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

Modification #40 IDEM is revising the emission unit description for LPC2 in Section A.2 and E.6 to match the emission unit description in Section D.4. Revisions are shown below:

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

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

****

(f) **********

(7) **********

(C) ~~One (1) existing enclosed crusher fed by a vibratory feeder, identified as Old LPC2 with a maximum capacity of 45 tons per hour. Old LPC2 is to be replaced with one (1) enclosed crusher, identified as LPC2. LPC2 is to be constructed in 2010 with a maximum capacity of 45 tons per hour, using a newly constructed baghouse identified as LPC Baghouse 2 as control, and exhausting to a new stack LPC Vent 2.~~

~~Under 40 CFR Part 60, Subpart OOO, crusher LPC2 is an affected facility.~~ **One (1) enclosed crusher fed by a vibratory feeder, identified as LPC2, constructed in 2010, with a maximum capacity of 45 tons per hour, using the baghouse identified as LPC Baghouse 2 as control, and exhausting to stack LPC Vent 2.**

Under 40 CFR Part 60, Subpart OOO, crusher LPC2 is an affected facility.

SECTION E.6 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

(f) **********

(7) **********:

(C) ~~One (1) existing enclosed crusher fed by a vibratory feeder, identified as Old LPC2 with a maximum capacity of 45 tons per hour. Old LPC2 is to be replaced with one (1) enclosed crusher, identified as LPC2. LPC2 is to be constructed in 2010 with a maximum capacity of 45 tons per hour, using a newly constructed baghouse identified as LPC Baghouse 2 as control, and exhausting to a new stack LPC Vent 2.~~

~~Under 40 CFR Part 60, Subpart OOO, crusher LPC2 is an affected facility.~~
One (1) enclosed crusher fed by a vibratory feeder, identified as LPC2, constructed in 2010, with a maximum capacity of 45 tons per hour, using the baghouse identified as LPC Baghouse 2 as control, and exhausting to stack LPC Vent 2.

Under 40 CFR Part 60, Subpart OOO, crusher LPC2 is an affected facility.

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

Modification #4 IDEM is revising the emission unit description for CMDG-1 in Section E.3 and E.5 to match the emission unit description in Section A.3. Revisions are shown below:

SECTION E.3 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

Insignificant Activities:

~~(4) One (1) emergency diesel generator, identified as EMDG-1, constructed in 2007, rated at less than 1600 horsepower, engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.~~

~~The emergency diesel generator, identified as EMDG-1, is subject to New Source Performance Standards (NSPS) for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), 40 CFR Part 60, Subpart IIII.~~

(4) One (1) emergency diesel generator, identified as EMDG-1, constructed in 2007, rated at less than 1600 horsepower, engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

The emergency generator, identified as EMDG-1, is subject to the requirements of New Source Performance Standards (NSPS) for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), 40 CFR Part 60, Subpart IIII, and National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 63, Subpart ZZZZ.

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

SECTION E.5 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

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

****

Insignificant Activities:

~~(4) One (1) emergency diesel generator, identified as EMDG-1, constructed in 2007, rated at less than 1600 horsepower, engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere. The emergency diesel generator, identified as EMDG-1, is subject to National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 63, Subpart ZZZZ.~~

(4) One (1) emergency diesel generator, identified as EMDG-1, constructed in 2007, rated at less than 1600 horsepower, engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

The emergency generator, identified as EMDG-1, is subject to the requirements of New Source Performance Standards (NSPS) for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), 40 CFR Part 60, Subpart IIII, and National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 63, Subpart ZZZZ.

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

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed PSD/Part 70 Significant Source Modification No. 153-29394-00005 and Significant Permit Modification No. 153-29410-00005. The staff recommends to the Commissioner that this Part 70 Significant Source and Significant Permit Modification be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to David Matousek 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) 232-8253 or toll free at 1-800-451-6027 extension (2-8253).

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov.

Technical Support Document - Appendix A - Emission Summary Sheet

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: August 5, 2010

Limited Potential to Emit (ton/yr)										
Emission Unit	**PM**	**PM10**	**PM2.5**	**SO_2**	**VOC**	**CO**	**NOx**	**GHGs (CO_2e)**	**Single HAP**	**Total HAPs**
CBM Engine #1	0.89	0.89	0.89	0.07	34.20	91.80	36.70	19,988	1.77	3.39
CBM Engine #2	0.89	0.89	0.89	0.07				19,988	1.77	3.39
CBM Engine #3	0.89	0.89	0.89	0.07				19,988	1.77	3.39
CBM Engine #4	0.89	0.89	0.89	0.07				19,988	1.77	3.39
CBM Engine #5	0.89	0.89	0.89	0.07				19,988	1.77	3.39
CBM Engine #6	0.89	0.89	0.89	0.07				19,988	1.77	3.39
CBM Engine #7	0.89	0.89	0.89	0.07				19,988	1.77	3.39
CBM Engine #8	0.89	0.89	0.89	0.07				19,988	1.77	3.39
Flare - CBM Combustion	0.64	0.64	0.64	0.06	5.63	7.50	2.25	4,879	0.07	0.07
Flare Pilot - Propane Combustion	0.03	0.03	0.03	0.06	0.04	0.29	0.50	489	0.00	0.00
Dehydrator Units	0.03	0.03	0.03	0.00	0.02	0.36	0.43	512	0.186	0.192
Flash Tanks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	108.00	0.000	0.000
Total for Modification	7.82	7.82	7.82	0.68	39.89	99.95	38.38	165,892	14.16	27.38
PSD Significant Level	25.00	15.00	10.00	40.00	40.00	100.00	40.00	75,000	---	---
Significant Modification	No	No	No	No	No	No	No	Yes	---	---

Uncontrolled Potential to Emit (ton/yr)										
Emission Unit	**PM**	**PM10**	**PM2.5**	**SO_2**	**VOC**	**CO**	**NOx**	**GHGs (CO_2e)**	**Single HAP**	**Total HAPs**
CBM Engine #1	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,988	5.58	7.20
CBM Engine #2	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,988	5.58	7.20
CBM Engine #3	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,988	5.58	7.20
CBM Engine #4	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,988	5.58	7.20
CBM Engine #5	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,988	5.58	7.20
CBM Engine #6	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,988	5.58	7.20
CBM Engine #7	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,988	5.58	7.20
CBM Engine #8	0.89	0.89	0.89	0.07	13.33	111.08	48.88	19,988	5.58	7.20
Flare - CBM Combustion	1.86	1.86	1.86	0.17	16.42	21.90	6.57	14,249	0.19	0.21
Flare Pilot - Propane Combustion	0.03	0.03	0.03	0.06	0.04	0.29	0.50	489	0.00	0.00
Dehydrator Units	0.03	0.03	0.03	0.002	0.024	0.36	0.43	512	0.186	0.192
Flash Tanks	0.00	0.00	0.00	0.000	0.000	0.00	0.00	108	0.00	0.00
Total for Modification	9.04	9.04	9.04	0.79	123.12	911.19	398.54	175,262	44.64	58.00

Technical Support Document - Appendix A - Emission Calculation Sheet
One Coal Bed Methane Engine - Criteria Pollutants

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: July 15, 2011

Coal Bed Methane Engine Parameters

Heat Input Capacity	25.46	MMBtu/hr	(Each Engine)			
Heat Content	1,020	Btu/CF				
Fuel Input	5,533	Btu/bhp-hr	(Each Engine)			
Engine Rating	4,601	bHp	(Each Engine)			
Fuel Input Rate from Manufacturer	29,329	SCFH	or	256.92	MMCF/yr	(Each Engine)

1) CBM Emissions - Uncontrolled

Emissions Based on 8,760.00 hrs/yr

	PM	PM10/2.5	SO2	VOC	CO	NOx
Emission Factor	0.0200	0.0200	5.88E-04	0.3000	2.50	1.10
	g/bhp-hr	g/bhp-hr	lb/MMBtu	g/bhp-hr	g/bhp-hr	g/bhp-hr

Each Engine						
Continuous PTE (lb/hr)	0.203	0.203	0.015	3.043	25.361	11.159
Continuous PTE (TPY)	0.889	0.889	0.066	13.330	111.080	48.880
PTE (lb/MMBtu)	0.008	0.008	5.88E-04	0.120	0.996	0.438
All Eight Engines						
Continuous PTE (TPY)	7.11	7.11	0.53	106.64	888.64	391.04

2) CBM Emissions - Limited Potential to Emit

Emissions Based on 8,760.00 hrs/yr

	PM	PM10/2.5	SO2	VOC	CO	NOx
Uncontrolled Emission Factor	0.02	0.02	5.88E-04	0.30	2.50	1.10
	g/bhp-hr	g/bhp-hr	lb/MMBtu	g/bhp-hr	g/bhp-hr	g/bhp-hr
Control Efficiency	0.00%	0.00%	0.00%	68.27%	90.20%	91.00%
Controlled Emission Factor	0.02	0.02	5.88E-04	0.0952	0.2450	0.0990
	g/bhp-hr	g/bhp-hr	lb/MMBtu	g/bhp-hr	g/bhp-hr	g/bhp-hr

Each Engine						
Controlled PTE (lb/hr)	0.203	0.203	0.015	0.966	2.485	1.004
Controlled PTE (TPY)	0.889	0.889	0.066	4.230	10.886	4.399
All Eight Engines						
Controlled PTE (TPY)	7.112	7.112	0.528	33.840	87.088	35.192

Methodology:
1) PTE (lb/hr) = Heat input (MMBtu/hr) x (1,000,000 Btu/MMBtu) x EF (g/bhp-hr) x (1 lb / 453.59 g) x (1 bhp-hr / 5,533 Btu)
2) PTE (lb/hr) = Heat input (MMBtu/hr) x EF(lb/MMBtu)
3) PTE (TPY) = PTE (lb/hr) x (8,760 hr/yr) x (1 ton / 2,000 lb)
4) PTE (lb/hr) = PTE (TPY) x (2,000 lb/ton) x (1 yr/8,760 hr)

Notes:
1) The applicant provided emission factors for NOx, CO, VOC, PM, PM10 and PM2.5 from manufacturer performance guarantees. IDEM will verify the emission factors with emissions stack testing to ensure compliance with permit limits.
2) The applicant provided emission factors for SO2 from AP-42, Table 3.2-2, July 2000. IDEM increased the emission factor to allow emissions just under the major source threshold.
3) IDEM reviewed information supplied by the Permittee that indicates unsteady state startup emissions of 30 minutes are more

3) Greenhouse Gas Emissions

PTE Greenhouse Gases (TPY)							
Emission Unit	**Heat Input Capacity (MMBtu/hr)**	**CO_2 Emission Factor (lb/MMBtu)**	**CH_4 Emission Factor (lb/MMBtu)**	**N_2O Emission Factor (lb/MMBtu)**	**CO_2 Emissions (ton/yr)**	**CH_4 Emissions (ton/yr)**	**N_2O Emissions (ton/yr)**
CBM Engine 1	25.46	143.75	1.25	0.03	16,030	139	3.35
CBM Engine 2	25.46	143.75	1.25	0.03	16,030	139	3.35
CBM Engine 3	25.46	143.75	1.25	0.03	16,030	139	3.35
CBM Engine 4	25.46	143.75	1.25	0.03	16,030	139	3.35
CBM Engine 5	25.46	143.75	1.25	0.03	16,030	139	3.35
CBM Engine 6	25.46	143.75	1.25	0.03	16,030	139	3.35
CBM Engine 7	25.46	143.75	1.25	0.03	16,030	139	3.35
CBM Engine 8	25.46	143.75	1.25	0.03	16,030	139	3.35

PTE Greenhouse Gases - CO_2e Calculation							
	Worst Case Emissions			**Global Warming Potential**			**CO2e (TPY)**
	CO_2 Emissions (ton/yr)	**CH_4 Emissions (ton/yr)**	**N_2O Emissions (ton/yr)**	**CO_2 (Unitless)**	**CH_4 (Unitless)**	**N_2O Emissions (Unitless)**	
CBM Engine 1	16,030	139	3.35	1	21	310	19,988
CBM Engine 2	16,030	139	3.35	1	21	310	19,988
CBM Engine 3	16,030	139	3.35	1	21	310	19,988
CBM Engine 4	16,030	139	3.35	1	21	310	19,988
CBM Engine 5	16,030	139	3.35	1	21	310	19,988
CBM Engine 6	16,030	139	3.35	1	21	310	19,988
CBM Engine 7	16,030	139	3.35	1	21	310	19,988
CBM Engine 8	16,030	139	3.35	1	21	310	19,988
Total CO_2e Emissions							159,904

326 IAC 2-2 Prevention of Significant Deterioration (PSD) BACT Limit for GHGs						
Electrical Generating Capacity	3.328	MW	each unit			
CO_2e Emissions	19,988	TPY	each unit			
	4,563	lb/hr	each unit			
CO_2 Emissions	16,030	TPY	each unit	3,660	lb/hr	each unit
CH_4 Emissions	139	TPY	each unit	31.74	lb/hr	each unit
N_2O Emissions	3.35	TPY	each unit	0.76	lb/hr	each unit
CO_2e (lb/MW-hr) =	1,371	lb CO_2e / MW-hr	each unit			
CO_2 (lb/MW-hr) =	1,100	lb CO2 / MW-hr	each unit			
CH_4 (lb/MW-hr) =	9.54	lb CH_4 / MW-hr	each unit			
N_2O (lb/MW-hr) =	0.23	lb N_2O/ MW-hr	each unit			

Notes:
1) Emission Factors are from a performance guarantee and were supplied by the applicant.
2) IDEM reviewed information supplied by the Permittee that indicates unsteady state startup emissions of 30 minutes are more than offset by the loss of operation of the engine for a period lasting 10 to 36 hours for the engine to reach ambient temperature.

Methodology:
1) PTE (TPY) = (throughput x emission factor) / 2,000lb per ton
2) CO_2e = sum(pollutant emissions x global warming potential)
3) English Emission Factor (lb/MMBtu) = Metric Emission Factor (kg/MMBtu) x 2.2 lb/Kg
4) CO2e (lb/MW-hr) = CO2/e emissions (lb/hr) / elec trical generating capacity (MW)

Technical Support Document - Appendix A - Emission Calculation Sheet
One CBM Generator - HAP Emissions

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: March 2, 2011

Maximum Heat Input Rate 25.46 MMBtu/hr (One Engine)

Potential to Emit HAPs

	Emissions Before Control			Emission Factor Source
HAP	lb/MMBtu	lb/hr	TPY	
1,1,2,2-Tetrachloroethane	4.00E-05	1.0184E-03	4.4606E-03	AP-42, Chapter 3.2-2, July 2000
1,1,2-Trichloroethane	3.18E-05	8.0963E-04	3.5462E-03	AP-42, Chapter 3.2-2, July 2000
1,3-Butadiene	2.67E-04	6.7978E-03	2.9774E-02	AP-42, Chapter 3.2-2, July 2000
1,2-Dichloropropene	2.64E-05	6.7214E-04	2.9440E-03	AP-42, Chapter 3.2-2, July 2000
2-Methylnaphthalene	3.32E-05	8.4527E-04	3.7023E-03	AP-42, Chapter 3.2-2, July 2000
2,2,4-Trimethylpentane	2.50E-04	6.3650E-03	2.7879E-02	AP-42, Chapter 3.2-2, July 2000
Acenaphthene	1.25E-06	3.1825E-05	1.3939E-04	AP-42, Chapter 3.2-2, July 2000
Acenaphthylene	5.53E-06	1.4079E-04	6.1668E-04	AP-42, Chapter 3.2-2, July 2000
Acetaldehyde	8.36E-03	2.1285E-01	9.3226E-01	AP-42, Chapter 3.2-2, July 2000
Acrolein	3.12E-04	7.9486E-03	3.4815E-02	AP-42, Chapter 3.2-2, July 2000
Benzene	4.40E-04	1.1202E-02	4.9067E-02	AP-42, Chapter 3.2-2, July 2000
Benzo(b)fluoranthene	1.66E-07	4.2270E-06	1.8515E-05	AP-42, Chapter 3.2-2, July 2000
Benzo(e)pyrene	4.15E-07	1.0566E-05	4.6280E-05	AP-42, Chapter 3.2-2, July 2000
Benzo(g,h,i)perylene	4.14E-07	1.0541E-05	4.6170E-05	AP-42, Chapter 3.2-2, July 2000
Biphenyl	2.12E-04	5.3975E-03	2.3641E-02	AP-42, Chapter 3.2-2, July 2000
Carbon Tetrachloride	3.67E-05	9.3438E-04	4.0926E-03	AP-42, Chapter 3.2-2, July 2000
Chlorobenzene	3.04E-05	7.7398E-04	3.3901E-03	AP-42, Chapter 3.2-2, July 2000
Chloroform	2.85E-05	7.2561E-04	3.1782E-03	AP-42, Chapter 3.2-2, July 2000
Chrysene	6.93E-07	1.7644E-05	7.7281E-05	AP-42, Chapter 3.2-2, July 2000
Ethylbenzene	3.97E-05	1.0108E-03	4.4271E-03	AP-42, Chapter 3.2-2, July 2000
Ethylene Dibromide	4.43E-05	1.1279E-03	4.9401E-03	AP-42, Chapter 3.2-2, July 2000
Fluoranthene	1.11E-06	2.8261E-05	1.2378E-04	AP-42, Chapter 3.2-2, July 2000
Fluorene	5.67E-06	1.4436E-04	6.3229E-04	AP-42, Chapter 3.2-2, July 2000
Formaldehyde	5.00E-02	1.2730E+00	5.5757E+00	Manufacturer Performance Guarantee
Methanol	2.50E-03	6.3650E-02	2.7879E-01	AP-42, Chapter 3.2-2, July 2000
Methylene Chloride	2.00E-05	5.0920E-04	2.2303E-03	AP-42, Chapter 3.2-2, July 2000
n-Hexane	1.11E-03	2.8261E-02	1.2378E-01	AP-42, Chapter 3.2-2, July 2000
Naphthalene	7.44E-05	1.8942E-03	8.2967E-03	AP-42, Chapter 3.2-2, July 2000
PAH	2.69E-05	6.8487E-04	2.9997E-03	AP-42, Chapter 3.2-2, July 2000
Phenanthrene	1.04E-05	2.6478E-04	1.1598E-03	AP-42, Chapter 3.2-2, July 2000
Phenol	2.40E-05	6.1104E-04	2.6764E-03	AP-42, Chapter 3.2-2, July 2000
Pyrene	1.36E-06	3.4626E-05	1.5166E-04	AP-42, Chapter 3.2-2, July 2000
Styrene	2.36E-05	6.0086E-04	2.6318E-03	AP-42, Chapter 3.2-2, July 2000
Tetrachloroethane	2.48E-06	6.3141E-05	2.7656E-04	AP-42, Chapter 3.2-2, July 2000
Toluene	4.08E-04	1.0388E-02	4.5498E-02	AP-42, Chapter 3.2-2, July 2000
Vinyl Chloride	1.49E-05	3.7935E-04	1.6616E-03	AP-42, Chapter 3.2-2, July 2000
Xylene (o,m,p)	1.84E-04	4.6846E-03	2.0519E-02	AP-42, Chapter 3.2-2, July 2000
Single (Formaldehyde)			5.58	
Total			7.20	
			68.27%	Formaldehyde Control Efficiency
			1.77	Controlled Formaldehyde Emissions
			3.39	Controlled Total HAP Emissions

Sample Calculation

Emission Rate (lb/hr) = 5.53 E-06 lb/MMBtu x 25.46 MMBtu/hr = 1.41 E-04 lb/hr
Emission Rate (ton/yr) = 1.41 E-04 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 6.167 E-04 tons/yr
Controlled Formaldehyde (TPY) = 5.58 TPY * (1 - 68.27%) = 1.77 TPY
Controlled Total HAP (TPY) = (7.20 - 5.58) + 1.77 TPY = 3.39 TPY

Technical Support Document - Appendix A - Emission Calculation Sheet
Coal Bed Methane Flare - NOx, CO, VOC, GHG and Particulate from Natural Gas Combustion

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Reviewer: David J. Matousek
Date: August 5, 2010

Max. Heat Input MMBtu/hr

25.00

Limited Hours of Operation (hr/yr) = 3,000 hrs
Gas Heating Value = 1,020.00 Btu/CF

Hourly Gas Usage	0.0245	MMCF/hr			
Limited Gas Usage	73.50	MMCF/yr	based on	3,000.00	hrs
Unlimited Gas Usage	214.62	MMCF/yr			

Flare Emissions

	Pollutant				
	NOx	**CO**	**VOC**	**PM**	**PM10/2.5**
Emission Factor in lb/MMBtu	0.060	0.2000	0.150	0.017	0.017
Emission Factor in lb/MMCF	61.20	204.00	153.00	17.00	17.00
Unlimited PTE (tons/yr)	6.57	21.90	16.42	1.86	1.86
Limited PTE (tons/yr)	2.25	7.50	5.63	0.64	0.64

Notes:
1) PM and PM10 are assumed to equal PM2.5 as stated in AP-42, Chapter 2.4, Table 2.4-4. The applicant submitted an emission factor for all PM of 17 lb/MMCF of CH4 with all of the gas assumed to be CH4. This emission factor is 1.13 times higher than the emission emission factor listed in AP-42, Chapter 2.4, Table 2.4-4, 10/08 of 15 lb/MMCF of CH4.
2) The applicant submitted an emission factor for VOC of 0.15 lb/MMBtu. This emission factor is 28 times higher than the AP-42 emission factor of 5.5 lb/MMCF in Table 1.4-2, 7/98, after conversion.
3) The applicant submitted a CO emission factor of 0.2lb/MMBtu. This emission factor is 2 times higher than the AP-42 emission factor of 98 lb/MMCF listed in Table 1.4-1, 7/98, after conversion.
4) The applicant submitted a NOx emission factor of 0.06 lb/MMBtu. This emission factor is 1.2 times higher than the AP-42 emission factor of 50 lb/MMCF listed in Table 1.4-1, 7/98, after conversion. IDEM assumed the flare operates in a manner similar to a small boiler with low NOx burners.

Methodology:
1) Fuel Usage = [Heat Input (MMBtu/hr) x Operating Hours (hr/yr) x 1,000,000 Btu/MMBtu x 1 CF/1020 Btu x MMCF/1,000,000 CF]
2) Estimated Loading = [PTE (ton/yr) x 2000 lb/ton] / Total Fuel Used (MMCF/yr)
3) Unlimited PTE (tons/yr) = Max. Heat Input (MMBtu/hr) x Emission Factor (lbs/MMBtu) x 8760 hrs/yr x 1 ton/2000 lbs.
4) Limited PTE (tons/yr) = Max. Heat Input (MMBtu/hr) x Emission Factor (lbs/MMBtu) x Limited Hours of operation (hrs/yr) x 1 ton/2000 lbs.
5) PTE/Limited PTE GHG (TPY) = Emission Factor (lb/MMCF) x Usage (MMCF/yr)/2000 lb per ton

Greenhouse Gas Emissions - Flare

Emission Factors and Input Data

CO2	132038	lb/MMCF	Supplied by Applicant from Manufacturer
CH4	2.3	lb/MMCF	Supplied by Applicant from Manufacturer
N2O	2.2	lb/MMCF	Supplied by Applicant from Manufacturer
Unlimited Usage	214.62	MMCF/yr	
Limited Usage	73.50	MMCF/yr	

PTE Greenhouse Gases - CO_2e Calculation - Flare

	PTE (TPY)			Global Warming Potential (Unitless)			CO2e (TPY)
	CO_2 Emissions	CH_4 Emissions	N_2O Emissions	CO_2	CH_4	N_2O	
Flare	14,169	0.25	0.24	1	21	310	14,249
Total CO_2e Emissions							14,249

Limited PTE Greenhouse Gases - CO_2e Calculation - Flare

	PTE (TPY)			Global Warming Potential (Unitless)			CO2e (TPY)
	CO_2 Emissions	CH_4 Emissions	N_2O Emissions	CO_2	CH_4	N_2O	
Flare	4,852	0.08	0.08	1	21	310	4,879
Total CO_2e Emissions							4,879

Greenhouse Gas Emission Rates at PTE

Pollutant	TPY	lb/hr
CO_2	14,169	3,235
CH_4	0.25	0.06
N_2O	0.24	0.05

Technical Support Document - Appendix A - Emission Calculation Sheet
Coal Bed Methane Flare - SO2 from Natural Gas Combustion

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: August 5, 2010

Max. Heat Input MMBtu/hr		Hours of Operation (hr/yr)	Estimated Gas Usage Based on 8,760 Hours (MMCF/yr)	
25.00	Flare (CBM)	3,000	214.71	Flare
			1,020.00	Btu/CF

SO2 Emission Calculation

Sulfur Content of Gas = 10 PPM (Estimated) MW of Sulfur = 32.065 g/gmol
Temperature (°C) = 21.11 °C MW of SO2 = 64.07 g/gmol
Temperature (°K) = 294.11 °K

Step 1 - Calculate the flow rate of sulfur in the CBM stream (8,760 hrs of Operation)

Note : 10 ppm is the same as 10 parts of pollutant in a gas containing 1,000,000 parts as a whole.

Q Sulfur (MMCF/yr) = 214.71 MMCF CBM/yr x 10 MMCF S / 1,000,000 MMCF CBM
Q Sulfur (MMCF/yr) = 0.0021 MMCF/yr
Q Sulfur (CFM) = 0.0040 SCFM
Q Sulfur (M^3/yr) = 59.5413 M^3/yr

Step 2 - Calculate the Uncontrolled Mass Emissions (UME) for Sulfur (8,760 hr of Operation)

Note : Use Equation (4) in AP-42, Chapter 2.4-10, October 2008

$$\text{UME Sulfur (Kg/yr)} = \frac{[\text{Q Sulfur } (M^3/\text{yr})] \times [\text{MW of Sulfur (g/gmol)}] \times [1 \text{ atm}]}{[8.205 \times 10^{-5}\ M^3\text{ - atm / gmol - K}] \times [1{,}000 \text{ g/Kg}] \times [273 + T\ (C)]}$$

$$\text{UME Sulfur (Kg/yr)} = \frac{[59.5413] \times [32.065] \times [1]}{[8.205\text{ E -05}] \times [1000] \times [273 + 21.11]} = 79.12 \text{ Kg/yr}$$

Step 3 - Calculate the Uncontrolled Mass Emissions (UME) for SO2 (8,760 hrs of Operation)

UME SO2 (kg/yr) = UME Sulfur x [MW SO2 / MW S] = 158.09 Kg/yr

UME SO2 (ton/yr) = UME Sulfur x [2.2 lb / Kg] x [1 ton / 2,000 lb] = **0.17 TPY SO2**
UME SO2 (lb/hr) = (0.18 TPY * 2000 lb/ton) / (8,760 hr/yr) = **0.039 lb/hr**

Step 4 - Calculate the Limited Mass Emissions (UME) for SO2 (3,000 hrs of Operation)

Uncontrolled SO2 Emission Rate =	0.039	lb/hr	
Limited Hours of Operation =	3,000	hrs/yr	
Limited SO2 Emission Rate =	**117**	**lb/yr**	**SO2**
	0.06	**TPY**	**SO2**

Technical Support Document - Appendix A - Emission Calculation Sheet
Coal Bed Methane Flare - HAP Emissions from Natural Gas Combustion

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: March 2, 2010

Maximum Heat Input Rate	**25.00**	**MMBtu/hr**
CBM Heating Value	**1,020.00**	**Btu/CF**
Fuel Usage	**0.0246**	**MMCF/hr**
Hours of Operation	**3,000**	**hr**

Potential to Emit HAPs

	Unlimited PTE			Limited PTE	Emission Factor Source
HAP	**lb/MMCF**	**lb/hr**	**TPY**	**TPY**	
2-Methylnaphthalene	2.40E-05	5.90E-07	2.59E-06	8.86E-07	AP-42, Table 1.4-3, 7/98
3-Methylchloranthrene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
7,12-Dimethylbenz(a)anthracene	1.60E-05	3.94E-07	1.72E-06	5.90E-07	AP-42, Table 1.4-3, 7/98
Acenapthene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Acenapthylene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Anthracene	2.40E-06	5.90E-08	2.58E-07	8.85E-08	AP-42, Table 1.4-3, 7/98
Benz(a)anthracene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Benzene	2.10E-03	5.17E-05	2.26E-04	7.75E-05	AP-42, Table 1.4-3, 7/98
Benzo(a)pyrene	1.20E-06	2.95E-08	1.29E-07	4.43E-08	AP-42, Table 1.4-3, 7/98
Benzo(b)fluroanthene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Benzo(g,h,i)perylene	1.20E-06	2.95E-08	1.29E-07	4.43E-08	AP-42, Table 1.4-3, 7/98
Benzo(k)fluoranthene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Chrysene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Dibenzo(a,h)anthracene	1.20E-06	2.95E-08	1.29E-07	4.43E-08	AP-42, Table 1.4-3, 7/98
Dichlorobenzene	1.20E-03	2.95E-05	1.29E-04	4.43E-05	AP-42, Table 1.4-3, 7/98
Fluoranthene	3.00E-06	7.38E-08	3.23E-07	1.11E-07	AP-42, Table 1.4-3, 7/98
Fluorene	2.80E-06	6.89E-08	3.02E-07	1.03E-07	AP-42, Table 1.4-3, 7/98
Formaldehyde	7.50E-02	1.85E-03	8.08E-03	2.77E-03	AP-42, Table 1.4-3, 7/98
n-Hexane	1.80E+00	4.43E-02	1.94E-01	6.64E-02	AP-42, Table 1.4-3, 7/98
Indeno(1,2,3-cd)pyrene	1.80E-06	4.43E-08	1.94E-07	6.65E-08	AP-42, Table 1.4-3, 7/98
Naphthalene	6.40E-06	1.57E-07	6.89E-07	2.36E-07	AP-42, Table 1.4-3, 7/98
Phenanthrene	1.70E-05	4.18E-07	1.83E-06	6.27E-07	AP-42, Table 1.4-3, 7/98
Pyrene	5.00E-06	1.23E-07	5.39E-07	1.85E-07	AP-42, Table 1.4-3, 7/98
Toluene	3.40E-03	8.36E-05	3.66E-04	1.25E-04	AP-42, Table 1.4-3, 7/98
Arsenic	2.00E-04	4.92E-06	2.15E-05	7.38E-06	AP-42, Table 1.4-3, 7/98
Beryllium	1.20E-05	2.95E-07	1.29E-06	4.43E-07	AP-42, Table 1.4-3, 7/98
Cadmium	1.10E-03	2.71E-05	1.19E-04	4.06E-05	AP-42, Table 1.4-3, 7/98
Chromium	1.40E-03	3.44E-05	1.51E-04	5.17E-05	AP-42, Table 1.4-3, 7/98
Cobalt	8.40E-05	2.07E-06	9.05E-06	3.10E-06	AP-42, Table 1.4-3, 7/98
Manganese	3.80E-04	9.35E-06	4.09E-05	1.40E-05	AP-42, Table 1.4-3, 7/98
Mercury	2.60E-04	6.40E-06	2.80E-05	9.59E-06	AP-42, Table 1.4-3, 7/98
Nickel	2.10E-03	5.17E-05	2.26E-04	7.75E-05	AP-42, Table 1.4-3, 7/98
Selenium	2.40E-05	5.90E-07	2.59E-06	8.86E-07	AP-42, Table 1.4-3, 7/98
Zinc	2.90E-02	7.13E-04	3.12E-03	1.07E-03	AP-42, Table 1.4-3, 7/98
Single HAP (n-Hexane)			0.19	0.066	
Total HAP			0.21	0.071	

Sample Calculation

Emission Rate (lb/hr) = 2.40 E-05 lb/MMCF x 25.00 MMBtu/hr = 5.90 E-07 lb/hr
Unlimited PTE (ton/yr) = 5.90 E-07 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 2.59 E-06 tons/yr
Limited PTE (ton/yr) = 5.90 E-07 lb/hr x hours of operation x 1 ton/2,000 lb = 2.59 E-06 tons/yr

Technical Support Document - Appendix A - Emission Calculation Sheet
Coal Bed Methane Flare - Potential to Emit from Pilot Propane Combustion

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: August 5, 2010

Max. Heat Input MMBtu/hr	Hours of Operation (hr/yr)	Estimate Annual Gas Usage Based on Hours (Kgal/yr)	Heat Content Propane (Btu / gallon)
0.80	8,760	76.59	91,500

Flare Emissions

	Pollutant				
	NOx	CO	VOC	PM	PM10/2.5
Emission Factor in lb/Kgal	13.000	7.5000	1.000	0.7	0.7
PTE (tons/yr)	0.50	0.29	0.04	0.03	0.03

Greenhouse Gas Emissions - Flare Pilot

Emission Factors and Input Data

CO2	62.98	kg/MMBtu	or	139	lb/MMBtu
CH4	3.00E-03	kg/MMBtu	or	0.007	lb/MMBtu
N2O	6.00E-04	kg/MMBtu	or	0.001	lb/MMBtu
Heat Input Rate	0.8	MMBtu/hr			

PTE Greenhouse Gases - CO_2e Calculation - Flare

	PTE (TPY)			Global Warming Potential (Unitless)			CO2e (TPY)
	CO_2 Emissions	CH_4 Emissions	N_2O Emissions	CO_2	CH_4	N_2O	
Flare	487	0.02	0.004	1	21	310	489
Total CO_2e Emissions							489

Notes:
1) NOx, CO, VOC, PM and PM10 emission factors are from AP-42, Table 1.5-1, July 2008.
2) HAP emissions are not reported in AP-42.

Methodology:
1) Propane Usage = [0.8 MMBtu/hr] x [8,760 hr/yr] x [1 gallon/91,500 Btu] x [1E+06Btu/MMBtu] x [Kgal/1,000 gallon]
2) Emissions (tons/yr) = [Emission Factor (lb/Kgal) x Usage (Kgal/yr)] / [2000 lb/ton]
3) GHG (TPY) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr) x (8,760 hr per year / 2,000 lb per ton)

Technical Support Document - Appendix A - Emission Calculation Sheet
Coal Bed Methane Flare - SO2 from Propane Combustion

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Plt ID: 153-00005
Reviewer: David J. Matousek
Date: August 5, 2010

Max Heat Input Capacity =	0.8	MMBtu/hr
Hours of Operation =	8,760	Hours
Liquid Propane Heat Content =	91,500	Btu/gallon
Vaporized Propane Heat Content =	2,500	Btu/scf

Estimated Propane Gas Usage Flare Pilot (SCFM)

Usage (SCFM) = 0.8 MMBtu/hr x 1 SCF / 2500 Btu x 1,000,000 BTU / MMBtu x 1 hr / 60 Min
= 5.33 SCFM Propane Gas

SO2 Emission Calculation

Sulfur Content of Gas =	254	PPM (Estimated)	MW of Sulfur =	32.065 g/gmol
Temperature (°C) =	25	°C	MW of SO2 =	64.07 g/gmol
Temperature (°K) =	298	°K		

Step 1 - Calculate the flow rate of sulfur in the CBM stream

Note : 254 ppm is the same as 254 parts of pollutant in a gas containing 1,000,000 parts as a whole.

Q Sulfur (SCFM) = 5.33 SCFM x 254 Parts Sulfur / 1,000,000 Parts Gas
= 0.0014 SCFM Sulfur

Q Sulfur (M^3/yr) = 0.0014 SCFM x 60 min/hr x 8,760 hr/yr x 1 Cubic Meter/35.31 Cubic Feet
= 20.84 M^3/yr

Step 2 - Calculate the Uncontrolled Mass Emissions (UME) for Sulfur

Note : Use Equation (4) in AP-42, Chapter 2.4-10, October 2008

$$\text{UME Sulfur (Kg/yr)} = \frac{[\text{Q Sulfur } (M^3/\text{yr})] \times [\text{MW of Sulfur (g/gmol)}] \times [1 \text{ atm}]}{[8.205 \times 10^{-5}\ M^3\text{ - atm / gmol - K}] \times [1{,}000 \text{ g/Kg}] \times [273 + T\ (C)]}$$

$$\text{UME Sulfur (Kg/yr)} = \frac{[20.84] \times [32.065] \times [1]}{[8.205\text{ E -05}] \times [1000] \times [273 + 25]} = 27.33 \text{ Kg/yr}$$

Step 3 - Calculate the Uncontrolled Mass Emissions (UME) for SO2

UME SO2 (kg/yr) = UME Sulfur x [MW SO2 / MW S] = 54.61 Kg/yr

UME SO2 (ton/yr) = UME Sulfur x [2.2 lb / Kg] x [1 ton / 2,000 lb] = 0.06 TPY SO2

Technical Support Document - Appendix A - Emission Calculation Sheet
Particulate Emission Limitations - Reclaim Conveyor CH-CV-4/5/6-A/B

Company Name: **Hoosier Energy REC, Inc. - Merom Generating Station**
Address: **550 West Old 54, Sullivan, Indiana 47882**
Permit Number: **SSM 153-29394-00005 & SPM 153-29410-00005**
Plt ID: **153-00005**
Reviewer: **David J. Matousek**
Date: **March 2, 2011**

Particulate Matter Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations, work practices, and control technologies), the particulate matter emissions from the reclaim conveyor CH-CV-4/5/6-A/B shall not exceed 74.7 pounds per hour based on a process weight rate of 800 tons per hour. The emission rate of 74.7 pounds per hour was calculated by use of the following equation:

$$E = 55.0\ P^{0.11} - 40$$

Where:

P = The process weight rate in tons per hour
E = The allowable emission rate in lb/hr

P = 800 tons/hr
E = 55.0 P ^ (800) - 40

E = 74.7 lb/hr

Technical Support Document - Appendix A - Emission Calculation Sheet
Greenhouse Gas Emissions - CBM Dehydrator Units with Flash Tanks

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
Address: 550 West Old 54, Sullivan, Indiana 47882
Permit Number: SSM 153-29394-00005 & SPM 153-29410-00005
Reviewer: David J. Matousek
August 5, 2010

Coal Bed Methane Usage 0.5 MMBtu/hr

Greenhouse Gas - Dehydrator			
	CO2	CH4	N2O
Emission Factor (Kg/MMBtu)	53.02	1.00E-03	1.00E-04
Emission Factor (lb/MMBtu)	116.64	2.20E-03	2.20E-04
Potential Emission in tons/yr	255	4.82E-03	4.82E-04
Potential Emission in lb/hr	58.32	1.10E-03	1.10E-04
Global Warming Potential	1	21.0	310.0
Single Unit // CO2e Total in tons/yr		256	
Both Units // CO2e Total in tons/yr		512	

Coal Bed Methane Usage 4.90E-04 MMCF/hr

Greenhouse Gas - Flash Tank			
	CO2	CH4	N2O
Emission Factor (lb/MMCF)	1,870.75	1,105.45	0.00
Potential Emission in tons/yr	4.03	2.37	0.00
Potential Emission in lb/hr	0.92	0.54	0.00
Global Warming Potential	1	21.0	310.0
Single Unit // CO2e Total in tons/yr		54	
Both Units // CO2e Total in tons/yr		108	

PTE - Dehydrator Units		
Pollutant	PTE Single Unit (TPY)	PTE Both Units (TPY)
PM	0.016	0.032
PM10	0.016	0.032
PM2.5	0.016	0.032
SO2	0.001	0.002
NOx	0.215	0.430
VOC	0.012	0.024
CO	0.180	0.360
HAP - Acenapthene	0.093	0.186
Total HAP	0.096	0.192

Methodology:
1) PTE (TPY) = (throughput x emission factor) / 2,000lb per ton
2) CO_2e = sum(pollutant emissions x global warming potential)
3) Emission factors provided by applicant.
4) PM, PM10, PM2.5, SO2, NOx, VOC, CO emissions estimates were provided by the applicant and were accepted by IDEM.

Indiana Department of Environmental Management
Office of Air Quality

Appendix B – BACT Analyses

Technical Support Document (TSD) for a Prevention of Significant Deterioration (PSD) / Part 70 Significant Source Modification and Part 70 Significant Permit Modification

Source Background and Description

Source Name:	Hoosier Energy REC, Inc. – Merom Generating Station
Source Location:	5500 W Old 54, Sullivan, Indiana 47882
County:	Sullivan
SIC Code:	4911
TV Permit No.:	T 153-28006-00005
Operation Permit Issuance Date:	September 7, 2010
PSD/Part 70 SSM No.:	153-29394-00005
SPM No.:	153-29410-00005
Permit Reviewer:	David J. Matousek

Proposed Modification

On June 25, 2010, Hoosier Energy REC, Inc. – Merom Generating Station submitted an application for the modification of their Part 70 Operating Permit issued on September 7, 2010. The application requested the addition of eight (8) Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE) each rated at 4,601 bHp, two (2) Coal Bed Methane Fuel Dehydrator Units and a Coal Bed Methane (CBM)/Propane-fired standby flare. The RICE engines will power generators to provide electricity for sale to the grid.

Hoosier Energy REC, Inc. – Merom Generating Station is required to undergo a review of control technology for pollutants above PSD significant levels for Major Sources, under State Prevention of Significant Deterioration (PSD) regulations. Hoosier Energy REC, Inc. – Merom Generating Station, located at 5500 W Old 54, Sullivan, Indiana, in Sullivan County submitted a PSD and Title V Operating Permit application to IDEM, OAQ on June 25, 2010.

Requirement for Best Available Control Technology (BACT)

326 IAC 2-2 requires a Best Available Control Technology (BACT) review to be performed on the proposed New Source Review (NSR); because, this modification has the potential to emit of greenhouse gases (GHGs), which exceed the PSD significant level of 75,000 tons per year.

See Appendix A – Emission Calculations of this technical support document for detailed Potential to Emit (PTE) calculations.

Fuel Specification for the CBM Engines, identified as CBM1 to CBM8

Emission Units CBM1 to CBM8, as described below, shall combust coal bed methane only:

> Eight (8) 4-Stroke Lean Burn Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE), approved for construction in 2011, identified as CBM1 to CBM8, each rated at 4,601 bHp (25.46 MMBtu/hr). CBM1 to CBM8 use Catalytic Oxidation and Selective Catalytic Reduction (SCR) to control VOC, NOx and CO. CBM1 to CBM8 exhaust to stacks SV-CBM1 to SV-CBM8 or to the greenhouses, respectively. [40 CFR 63, Subpart ZZZZ]
> [40 CFR 60, Subpart JJJJ]

Fuel Specification for the Standby Flare, identified as CBM FL

Emission Unit CBM FL, as described below, shall combust coal bed methane or propane only:

One (1) Coal Bed Methane (CBM)-fired Standby Flare with a propane-fired pilot, approved for construction in 2011, identified as CBM FL, rated at 25 MMBtu/hr with a 0.8 MMBtu/hr pilot, emissions are uncontrolled, no stack.

Emission Units Subject to Best Available Control Technology (BACT)

The following emission units are subject to the requirements of 326 IAC 2-2 for the Prevention of Significant Deterioration (PSD-BACT) for Greenhouse Gases (GHGs):

(a) Eight (8) 4-Stroke Lean Burn Coal Bed Methane (CBM)-fired Reciprocating Internal Combustion Engines (RICE), approved for construction in 2011, identified as CBM1 to CBM8, each rated at 4,601 bHp (25.46 MMBtu/hr). CBM1 to CBM8 use Catalytic Oxidation and Selective Catalytic Reduction (SCR) to control VOC, NOx and CO. CBM1 to CBM8 exhaust to stacks SV-CBM1 to SV-CBM8 or to the greenhouses, respectively. [40 CFR 63, Subpart ZZZZ]
[40 CFR 60, Subpart JJJJ]

(b) One (1) Coal Bed Methane (CBM)-fired Standby Flare with a propane-fired pilot, approved for construction in 2011, identified as CBM FL, rated at 25 MMBtu/hr with a 0.8 MMBtu/hr pilot, emissions are uncontrolled, no stack.

(c) Two (2) Coal Bed Methane Fuel Dehydrator Units, each containing a 0.5 MMBtu/hr CBM-fired reboiler and a flash tank.

(d) Electrical transmission and distribution system components.

Summary of the Best Available Control Technology (BACT) Process

BACT is a mass emission limitation based on the maximum degree of pollution reduction of emissions, which is achievable on a case-by-case basis. BACT analysis takes into account the energy, environmental, and economic impacts on the source. These reductions may be determined through the application of available control techniques, process design, work practices, and operational limitations. There will still be air pollution from this project; however, Hoosier Energy will be required to demonstrate that the emissions will be reduced to the maximum extent.

Federal EPA generally requires an evaluation that follows a “top down” process. In this approach, the applicant identifies the best controlled similar source on the basis of controls required by regulation or permit, or controls achieved in practice. The highest level of control is then evaluated for technical feasibility. IDEM evaluates BACT based on a "top down" approach.

The five (5) basic steps of a top-down BACT analysis used by the Office of Air Quality (OAQ) to make BACT determinations are listed below:

Step 1: Identify Potential Control Technologies

The first step is to identify potentially “available” control options for each emission unit and for each pollutant under review. Available options should consist of a comprehensive list of those technologies with a potentially practical application to the emissions unit in question. The list should include lowest achievable emission rate (LAER) technologies and controls applied to similar source categories.

Step 2: Eliminate Technically Infeasible Options

The second step is to eliminate technically infeasible options from further consideration. To be considered feasible, a technology must be both available and applicable. It is important in this step that any presentation of a technical argument for eliminating a technology from further consideration be clearly documented based on physical, chemical, engineering, and source specific factors related to safe and successful use of the controls. Innovative control means a control that has not been demonstrated in a commercial application on similar units. Innovative controls are normally given a waiver from the BACT requirements due to the uncertainty of actual control efficiency. IDEM evaluates any innovative controls if proposed by the source. Hoosier Energy REC, Inc. – Merom Generating Station has not submitted any innovative control technology. Only available and proven control technologies are evaluated. A control technology is considered available when there are sufficient data indicating that the technology results in a reduction in emissions of regulated pollutants.

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

The third step is to rank the technologies not eliminated in Step 2 in order of descending control effectiveness for each pollutant of concern. The ranked alternatives are reviewed in terms of control effectiveness (percent pollutant removed). If the highest ranked technology is proposed as BACT, it is not necessary to perform any further technical or economic evaluation, except, for the environmental analyses.

Step 4: Evaluate the Most Effective Controls and Document the Results

The fourth step begins with an evaluation of the remaining technologies under consideration for each pollutant of concern in regards to energy, environmental, and economic impacts for determining a final control technology. The highest ranked alternative is evaluated for environmental, energy and economic impacts specific to the proposed modification. If the analysis determines that the highest ranked control is not appropriate as BACT, due to any of the energy, environmental, and economic impacts, then the next most effective control is evaluated. The evaluation continues until a technology under consideration cannot be eliminated based on adverse energy, environmental, or economic impacts. If the highest ranked technology is proposed as BACT, it is not necessary to perform any further technical, economic or environmental analysis for a greenhouse gas BACT. An Air Quality Impact Analysis would be required for a non-greenhouse gas BACT.

Step 5: Select BACT

The most effective option not eliminated in step 4 is BACT.

Greenhouse Gas (GHG) BACT – CBM Engines, Identified as CBM1 to CBM8

Step 1: Identify Potential Control Technologies

The greenhouse gas (GHG) emissions can be controlled by the following:

(a) Energy Efficiency

(b) Good Combustion Practices and Proper Maintenance

(c) Amine Scrubbing

(d) Catalytic Oxidation

(e) Thermal Oxidation

Step 2: Eliminate Technically Infeasible Options

(a) Energy Efficiency

Maximizing the amount of electricity generated with a given input of energy will reduce greenhouse gas emissions. More efficient engines and proper reuse of thermal energy will reduce the amount of fuel combusted and will result in a reduction of greenhouse gas emissions. In regards to energy reuse, the CBM engines will generate thermal energy in the exhaust gas and cooling and lubrication systems. Hoosier Energy REC, Inc. - Merom Generating Station can extract thermal energy from the exhaust gases and the cooling and lubrication systems; however, they do not have a long term and reliable use for the energy to justify installing equipment to extract the energy for reuse. In terms of motor efficiency, Hoosier Energy REC, Inc. - Merom Generating Station can select an engine with a high efficiency to minimize greenhouse gas emissions. Therefore, energy efficiency in regards to selection of the engines is a technologically feasible option.

(b) Good Combustion Practices and Proper Maintenance

Good combustion practices and proper maintenance in accordance with the manufacture's recommendations will keep the engines in optimum operation and will minimize GHG and other emissions. Therefore, good combustion practices and proper maintenance is a technologically feasible option.

(c) Amine Scrubbing

Amine scrubbing systems are used to remove hydrogen sulfide and carbon dioxide from gas streams in natural gas conditioning plants and oil refineries. This technology uses a fine particle ion exchange resin contained in a resin column and a lean amine solution to remove CO2 and H2S from the gas stream. Dilute caustic soda is used to regenerate the resin. Amine Scrubbing systems have not been used on RICE engines due to the low pressure of the engine exhaust and the relatively high back pressure of the amine scrubbing equipment. The exhaust gas from the engine does not have the correct physical properties, mainly pressure, to effectively use an amine scrubbing system. Also, operation of the system would require the use of additional electricity that would result in a decrease in the overall thermal efficiency of the engine system. Therefore, amine scrubbing is not a technologically feasible option.

(d) Catalytic Oxidation

Catalytic oxidation is also a widely used control technology to control pollutants where the waste gas is passed through a flame area and then through a catalyst bed for complete combustion of the waste in the gas. This technology is typically applied for destruction of organic vapors, nevertheless it is considered as a technology for controlling GHG emissions. A catalyst is an element or compound that speeds up a reaction at lower temperatures compared to thermal oxidation without undergoing change itself. Catalytic oxidizers operate at 650°F to 1000°F and approximately require 1.5 to 2.0 ft^3 of catalyst per 1000 standard ft^3 per gas flow rate. Catalytic oxidation systems are capable of reducing greenhouse gas emissions and are considered a technologically feasible option.

(e) Thermal Oxidation

Thermal oxidation is normally used to remove organic contaminants by combusting them at high temperatures to create CO_2 and water vapor. This technology will create greenhouse gas emissions from the volatile organic compounds in the exhaust gas. Therefore, this is not a technologically feasible option.

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

The above control technologies have been identified for control of greenhouse gas emissions resulting from operation of the coal bed methane-fired engines. Based on the technical feasibility analysis in Step 2, the source has chosen all technologically feasible control options.

(1) Energy Efficiency

(2) Good Combustion Practices and Proper Maintenance

(3) Catalytic Oxidation

Step 4: Evaluate the Most Effective Controls and Document the Results

The U.S. EPA RACT/BACT/LAER Clearinghouse (RBLC), and electronic versions of permits available at the websites of other permitting agencies were reviewed and no GHG BACT determinations exist for a coal bed methane-fired RICE engine. The source has selected to implement all technologically feasible options.

Energy Efficiency

Hoosier Energy, as part of its PSD application, provided one of the highest efficiency RICE engines available. A total of four manufactures were examined. A summary of their electrical efficiencies are shown below:

Manufacturer	Engine Rating (kW)	Electrical Efficiency
Jenbacher (620)	3328	44.6%
Caterpiller (3520)	2055	38.4%
Waukesha (16V275GL)	3110	38.4%
Wartsila (9L34SG)	4169	45.9%

The highest overall efficiency for a RICE engine is the Wartsila (9L34SG) with an efficiency of 46.1%. Hoosier Energy selected the Jenbacher (620) engine with an overall efficiency of 44.6% for this installation because of the following:

(1) The Jenbacher engine is part of a pre-engineered package system consisting of a RICE engine, pollution control equipment and a generator. The complete system was engineered by the manufacturer for the specific installation at Hoosier Energy. None of the other units are available as a pre-engineered system and would require a redefinition of the project.

(2) The Jenbacher (620) is the only pre-engineered package system capable of operating in this application.

Catalytic Oxidation, Good Combustion Practices and Proper Maintenance

Hoosier Energy is proposing to install catalytic oxidation and use good combustion practices and proper maintenance to achieve the following emission limitations:

GHG	Emission Factor (lb/MMBtu)	CO2e Emissions (TPY)
CO2	143.75	128,242
CH4	1.25	23,416
N2O	0.03	8,296
Total		159,954

The emission factors shown above are the only GHG emission factors available. The CH_4 emission factor is from AP-42, Table 3.2-1 and the N_2O emission factor is from the

American Petroleum Institute's "Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Gas industry," February 2004, Table 4-5. The emission factor for CO_2 shown above contains a safety factor of 15% above the AP-42 emission factor. This safety factor is needed because of the fuel selected. The AP-42 emission factor for CO_2 assumes pipeline grade natural gas while coal bed methane may show more significant variation in physical properties. Also, the AP-42 emission factors for CO_2 do not take into account modern control technologies for CO and NOx which tend to encourage the formation of CO_2. The CO_2e emission factors shown in the table above equate to a GHG emission limitation of 1,371 tons of CO_2e per MW-hr.

Most Stringent Control Technology:
The most stringent control technology is catalytic oxidation, energy efficiency, good combustion practices and proper maintenance.

Regulatory Limits: None

Permit Limits: None

Based on this data, Hoosier Energy REC, Inc. – Merom Generating Station believes that GHG BACT for the CBM-fired RICE engines is a combination of a high electrical efficiency, catalytic oxidation along with good combustion practices and proper maintenance to achieve a CO_2 emission rate of 1,100 lb CO_2 per MW-hr, a CH_4 emission rate of 9.57 lb CH_4 per MW-hr and a N_2O emission rate of 0.23 lb N_2O per MW-hr.

Step 5: Select BACT

Pursuant to 326 IAC 2-2-3 (Prevention of Significant Deterioration (PSD), IDEM, OAQ has approved the proposed Greenhouse Gases (GHGs) BACT for reciprocating internal combustion engines CBM1 to CBM8. IDEM agrees that the Greenhouse Gases (GHGs) BACT for CBM Generators CBM1 to CBM8 shall be as follows:

Proposed GHG BACT for Hoosier Energy - CBM Engines

Source Name	Unit Description	BACT CONTROL	BACT LIMIT
Hoosier Energy REC, Inc. - Merom Generating Station	CBM Engines 1 to 8	Good Combustion Practices and Electrical Efficiency	CO_2 emission rate of 1,100 lb/MW-hr and 16,030 TPY CH_4 emission rate of 9.57 lb/MW-hr and 139.4 TPY N_2O emission rate of 0.23 lb/MW-hr and 3.35 TPY

Greenhouse Gas (GHG) BACT – CBM Flare, Identified as CBM FL

Step 1: Identify Potential Control Technologies

Hoosier Energy will install an enclosed flare capable of combustion using coal bed methane in the main burner and propane for the pilot. The flares operation temperature and residence time are such that no commercially available add-on technologies are available to control greenhouse gas emissions. In addition, the RACT/BACT/LEAR data base does not reveal any other control technologies for GHG control for coal bed methane/propane fired flares. IDEM has identified good combustion practices and proper maintenance in accordance with manufacturer's recommendation as the only control technology for GHG emissions.

Step 2: Eliminate Technically Infeasible Options

The test for technical feasibility of any control option is whether it is both available and applicable to reducing GHG emissions from the CBM flare. For other pollutants, BACT for a flare usually include a requirement to operate the flare to achieve good combustion and to maintain the flare in accordance with manufacturer's recommendations. These requirements are also applicable to GHG emissions from the flare. Therefore, good combustion practices and proper maintenance are considered technologically feasible.

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

Good combustion practices and proper maintenance are the only commercially available methods of controlling GHG emissions from the flare.

Step 4: Evaluate the Most Effective Controls and Document the Results

The U.S. EPA RACT/BACT/LAER Clearinghouse (RBLC) does not include any entries for GHG emissions from coal bed methane/propane fired flares. The RBLC does include entries for other PSD pollutants emitted from flares and most include good combustion practices and proper operation.

Most Stringent Control Technology:

The most stringent control technology is good combustion practices and proper maintenance.

Regulatory Limits: None

Permit Limits: None

Based on this data, Hoosier Energy REC, Inc. – Merom Generating Station believes that GHG BACT for the flare identified as CBM FL is good combustion practices and proper maintenance to achieve a CO_2 emission rate of 3,235 lb CO_2/hr, a CH_4 emission rate of 0.06 lb/hr and an N_2O emission rate of 0.05 lb/hr.

Step 5: Select BACT

Pursuant to 326 IAC 2-2-3 (Prevention of Significant Deterioration (PSD)), IDEM, OAQ has approved the proposed Greenhouse Gas BACT for the coal bed methane/propane flare identified as CBM FL.

The IDEM agrees that the Greenhouse Gas BACT for flare CBM FL shall be established as follows:

Proposed GHG BACT - CBM Flare			
Source Name	**Unit Description**	**BACT CONTROL**	**Emission Limitation**
Hoosier Energy REC, Inc. – Merom Generating Station	CBM FL	Good Combustion Practices	3,235 lb CO_2 per hr and 4,852 TPY 0.06 lb CH_4/hr and 0.08 TPY 0.05 lb N_2O/hr and 0.08 TPY

Greenhouse Gas (GHG) BACT – CBM Dehydrator Units and Flash Tanks

Step 1: Identify Potential Control Technologies

Hoosier Energy will install two (2) CBM Dehydrator Units with two flash tanks to condition the coal bed methane prior to combustion in the RICE. The configuration of the units is such that no commercially available add-on technologies are available to control greenhouse gas emissions. In addition, the RACT/BACT/LEAR data base does not reveal any other control technologies for GHG control for coal bed methane dehydrator units or flash tanks. IDEM has identified proper maintenance in accordance with manufacturer's recommendations as the only control technology for GHG emissions from these units.

Step 2: Eliminate Technically Infeasible Options

The test for technical feasibility of any control option is whether it is both available and applicable to reducing GHG emissions from the CBM. There are no technologically feasible control technologies for coal bed methane dehydrating systems and flash tanks other than proper maintenance in accordance with manufacturer's recommendations.

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

Proper maintenance in accordance with manufacturer's recommendations is the only commercially available method of controlling GHG emissions from the dehydrator units and the flash tanks.

Step 4: Evaluate the Most Effective Controls and Document the Results

The U.S. EPA RACT/BACT/LAER Clearinghouse (RBLC) does not include any entries for GHG emissions from coal bed methane dehydrating systems or flash tanks.

Most Stringent Control Technology:
Proper maintenance in accordance with manufacturer's recommendations.

Regulatory Limits: None

Permit Limits: None

Based on this data, Hoosier Energy REC, Inc. – Merom Generating Station believes that GHG BACT for the coal bed methane dehydrating units and flash tanks is proper maintenance in accordance with manufacturer's recommendations. The coal bed methane dehydrator units shall achieve a CO_2 emission rate of 59.36 lb CO_2 per hour, for each unit.

Step 5: Select BACT

Pursuant to 326 IAC 2-2-3 (Prevention of Significant Deterioration (PSD)), IDEM, OAQ has approved the proposed Greenhouse Gas BACT for the coal bed methane dehydrator systems and flash tanks as proper maintenance in accordance with manufacturer's recommendations to achieve a CO_2 emission rate of 59.36 lb CO_2 per hour. IDEM is not establishing CH_4 and N_2O emission rate limitations, because, these emission rates are small compared to the overall CO_2 emission rate of the project.

The IDEM agrees that the Greenhouse Gas BACT for the dehydrator unit consisting of the dehydrator and flash tank shall be established as follows:

Proposed GHG BACT - CBM Flare			
Source Name	**Unit Description**	**BACT CONTROL**	**Emission Limitation**
Hoosier Energy REC, Inc. – Merom Generating Station	CBM Dehydrator Units and Flash Tanks	Proper Maintenance	59.36 lb CO_2 per hr for each dehydrator and 260 TPY

Greenhouse Gas (GHG) BACT – Electrical Transmission and Distribution System Components

There will be two high voltage circuit breakers using SF6 dielectric with an enclosed pressure system and a density alarm to indicate the loss of dielectric. These breakers have an estimated leakage rate of less than 0.5% annually. Hoosier Energy REC, Inc. indicates annual fugitive emissions would be 0.07 lb SF6 per year or 0.9 tons of CO2e per year. IDEM has determined that fugitive emissions from these circuit breakers are insignificant and would be prohibitively expensive to capture and control.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Angie Lee
Hoosier Energy REC
PO Box 908
Bloomington, IN 47402

DATE: November 29, 2011

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

SUBJECT: Final Decision
Renewal
153-29410-00005

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:
Karl Back, Plant Manager
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Thomas W. Easterly
Commissioner

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Indianapolis, Indiana 46204
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Toll Free (800) 451-6027
www.idem.IN.gov

TO: Sullivan County Public Library

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

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

Applicant Name: Hoosier Energy
Permit Number: 153-29410-00005

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	DPABST 11/29/2011 Hoosier Energy REC, Inc. - Merom Generating Station 153-29410-00005 Final			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Angie Lee Hoosier Energy REC, Inc. - Merom Generating Statio PO Box 908 Bloomington IN 47402-0908 (Source CAATS) Confirm Delivery									
2		Karl Back Plant Manager Hoosier Energy REC, Inc. - Merom Generating Statio 5500 W Old 54 Sullivan IN 47882 *(RO CAATS)*									
3		Mr. Wendell Hibdon Plumbers & Steam Fitters Union, Local 136 2300 St. Joe Industrial Park Dr Evansville IN 47720 *(Affected Party)*									
4		Ms. Beverly Coulson 4800 W. State Rd 54 Sullivan IN 47882 *(Affected Party)*									
5		Sullivan City Council and Mayors Office 32 N. Court St. Sullivan IN 47882 *(Local Official)*									
6		Sullivan County Health Department 31 N Court Street Sullivan IN 47882-1509 *(Health Department)*									
7		Sullivan County Commissioners 100 Courthouse Square Sullivan IN 47882-1593 *(Local Official)*									
8		Sullivan Co Public Library 100 S Crowder Sullivan IN 47882-1750 *(Library)*									
9		Mr. Richard Monday 545 E. Margaret Dr. Terre Haute IN 47801 *(Affected Party)*									
10		Ms. Kathy Cash 1200 G St. NW Suite 1000 Washington DC 2005 *(Affected Party)*									
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