December 23, 2002

RE: PSEG Lawrenceburg Energy Company, Inc 029-12517-00033
TO: Interested Parties / Applicant

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

Notice of Decision - PSD Permit Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision on the enclosed Prevention of Significant Deterioration (PSD) Permit. Pursuant to IC 13-15-5-3 and the federal requirements codified at 40 CFR Part 124.15 (b), this permit is effective thirty (30) days after the service of this notice. This permit may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1 require that you file a petition for administrative review. This petition describing your intent must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within eighteen (18) days of service 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 and date of this notice. Additionally, IC 13-15-6-2 requires that a petition include:

(1) the name and address of the person making the request; and
(2) the interest of the person making the request; and
(3) identification of any persons represented by the person making the request; and
(4) the reasons, with particularity, for the request; and
(5) the issues, with particularity, proposed for consideration at the 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.

(over)

If you wish to challenge this decision under federal law, 40 CFR 124.19 requires that you petition the Environmental Appeals Board **within thirty (30) days of the service of this notice**, at the following address:

U.S. Environmental Protection Agency
Environmental Appeals Board (MC-1103B)
Ariel Rios Building
1200 North Pennsylvania Ave., N.W.
Washington, D.C. 20406

Pursuant to 40 CFR Part 124.19, the petition must include a statement of the reasons supporting review, including a demonstration that any issues being raised were raised during the public comment period or public hearing. When appropriate, the petition must also include a showing that the permit condition in question is based on:

(1) a finding of fact or conclusion of law which is clearly erroneous; or,
(2) an exercise of discretion or an important policy consideration which the Environmental Appeals Board should, in its discretion, review.

Pursuant to 40 CFR Part 124.19, the Environmental Appeals Board shall provide public notice of any grant or review. Notice of denial or review shall be sent only to the person(s) requesting review.

If you technical questions regarding the enclosed document, please call 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

December 23, 2002

Mr. John Westphal
Project Manager
PSEG Lawrenceburg Energy Company Inc.
80 Park Plaza, 24th Floor
Newark, NJ 07102

Re: 029-16235-00033
First Significant Modification to
CP-029-12517-00033

Dear Mr. Westphal:

PSEG Lawrenceburg Energy Company Inc. was issued a PSD permit on June 07, 2001 authorizing the construction and operation of a 1,130 megawatt combined cycle electrical generating station consisting of four combustion turbines, four heat recovery steam generators, four selective catalytic reduction systems, two steam turbines, two cooling towers, one auxiliary boiler, one diesel fire pump, and one diesel backup electric generator. An application requesting the addition of a 2.4 MMBtu/hr Startup Gas Heater was received on July 19, 2002. Pursuant to the provisions of 326 IAC 2-2 and IC 13-15-7-1 a significant modification to this permit is hereby approved as described in the attached Technical Support Document.

The following construction conditions are applicable to the construction of the startup gas heater:

General Construction Conditions

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

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

3. Effective Date of the Permit
Pursuant to 40 CFR 124.15, 40 CFR 124.19, and 40 CFR 124.20, this permit is effective immediately after the service of notice of the decision, except as provided in 40 CFR 124. Three (3) days shall be added if service of notice is by mail.

4. Pursuant to 326 IAC 2-2-8(a)(1) and 40 CFR 52.21 the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of eighteen (18) months or more.

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

6. Pursuant to 326 IAC 2-2 the source may start upon completion of construction.

The permit is hereby modified as follows:

1. The startup gas heater will be indicated in Section A.2 as follows:

(i) One (1) startup gas heater, designated as GH1 with a maximum heat input capacity of 2.4 MMBtu/hr (higher heating value basis), and exhausts to stacks GH1.

2. A new Section D.4 and Quarterly Report were added for the startup gas heater as follows:

SECTION D.4 FACILITY DESCRIPTION – Startup Gas Heater

Facility Description [326 IAC 2-5.1-3] One (1) startup gas heater, designated GH1, with a maximum heat input capacity of 2.4 MMBtu/hr (higher heating value basis), and exhausts to stack GH1. (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.4.1 Opacity Limitations
Pursuant to 326 IAC 2-2 (PSD Requirements) the opacity of the startup gas heater shall not exceed twenty (20) percent (6-minute average), except for one 6-minute period per hour of not more than 27 percent. The opacity standards apply at all times, except during periods of startup, shutdown or malfunction.

D.4.2 BACT Limitations for the Startup Gas Heater:
Pursuant to 326 IAC 2-2 (PSD Requirement), the source shall comply with the following:

(a) Use natural gas as the only fuel for the gas heater.
(b) Perform good combustion practices.
(c) The natural gas usage for the startup gas heater shall not exceed 5.3 million standard cubic feet (MMSCF) per twelve (12) consecutive month period rolled on a monthly basis.
(d) The NOx emissions from the startup gas heater shall be limited to 0.14 lb/MMBtu.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.4.3 Record Keeping Requirements

(a) To document compliance with Condition D.4.2, the Permittee shall maintain records of the amount of natural gas combusted by the Startup Gas Heater during each month.

(b) All records shall be maintained in accordance with Section C – General Record Keeping Requirements.

D.4.4 Reporting Requirements

The Permittee shall submit on a quarterly basis a summary of the information to document compliance with Condition D.4.2 to the addresses listed in Section C - General Reporting

Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

Indiana Department of Environmental Management
Office of Air Quality
Compliance Data Section
Quarterly Report

Company Name: PSEG Lawrenceburg Energy Company Inc.
Location: 582 West Eads Parkway, Lawrenceburg, IN 47025
Permit No.: CP-029-12517-00033
Source: Startup Gas Heater
Limit: 5.3 MMSCF per twelve (12) consecutive month period rolled on a monthly basis

Year: _____

Month	Column 1	Column 2	Column 1 + 2
	This Month	Previous 11 months	12 Month Total

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

All other conditions of the permit shall remain unchanged and in effect. Please find enclosed the entire amended permit document.

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 Ghassan Shalabi, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call at (800) 451-6027, press 0 and ask for Ghassan Shalabi or extension (3-0431), or dial (317) 233-0431.

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

cc: File - Dearborn County
Dearborn County Health Department
Air Compliance Section Inspector– Joseph Foyst
Compliance Data Section - Karen Nowak
Administrative and Development - Lisa Lawrence
Technical Support and Modeling - Michele Boner

NEW SOURCE CONSTRUCTION PERMIT
Prevention of Significant Deterioration (PSD) Permit
Office of Air Quality

PSEG Lawrenceburg Energy Facility
582 West Eads Parkway
Lawrenceburg, IN 47025

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

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

This permit is also issued under the provisions of 326 IAC 2-2, 40 CFR 52.21, and 40 CFR 52.124 (Prevention of Significant Deterioration), with conditions listed on the attached pages.

Construction Permit No.: CP 029-12517-00033	
Original signed by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: June 7, 2001

First Notice Only Change No.: 029-16091-00033, issued July 3, 2002
First Minor Permit Revision No.: 029-15867-00033, issued August 30, 2002

First Significant Modification 029-16235-00033	Pages Affected: Page 6 Added Section D.4 and report form
Original signed by Paul Dubenetzky Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: December 23, 2002

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SECTION A SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a natural gas merchant power plant.

Authorized Individual:	Frederick Pastor
Source Address:	582 West Eads Parkway, Lawrenceburg, Indiana 47025
Mailing Address:	PSEG Power LLC, 80 Park Plaza, 24th Floor, Newark, NJ 07102
Phone Number:	(973)-430-6983
SIC Code:	4911
County Location:	Dearborn
County Status:	Attainment for all Criteria Pollutants
Source Status:	Major, under PSD rules

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

(a) Four (4) natural gas-fired combustion turbine generators, designated as units CT1, CT2, CT3, CT4, with a maximum heat input capacity of 1906.4 MMBtu/hr (per unit on a higher heating value), and exhausts to stacks designated as S1, S2, S3, S4, respectively.

(b) Four (4) heat recovery steam generators, designated as units HRSG1, HRSG2, HRSG3, HRSG4 with duct burners, and a maximum rate heat input capacity of 310 MMBtu/hr (per unit on a higher heating value), exhausting to stacks designated as S1, S2, S3, and S4, respectively.

(c) Four (4) selective catalytic reduction systems, designated as units SCR11, SCR12, SCR21, SCR22.

(d) Two (2) steam turbines, designated as units ST1 and ST2.

(e) Two (2) cooling towers, designated as units Cooling Tower 1 and Cooling Tower 2, exhausting to stacks designated S6 and S7, respectively.

(f) One (1) natural gas fired auxiliary boiler, designated Auxiliary Boiler, with a maximum heat input capacity of 124.6 MMBtu/hr (higher heating value), and exhausting to stack S5.

(g) One (1) diesel fire pump, with a rated capacity of 265 horsepower (hp), exhausting to stack S9.

(h) One (1) diesel backup electric generator, with a rated capacity of 1000 kilowatts (KW), exhausting to stack S8.

(i) One (1) startup gas heater, designated as GH1 with a maximum heat input capacity of 2.4 MMBtu/hr (higher heating value basis), and exhausts to stacks GH1.

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

(c) 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).

A.4 Acid Rain Permit Applicability [326 IAC 2-7-2]

This stationary source shall be required to have a Phase II, Acid Rain permit by 40 CFR 72.30 (Applicability) because:

(a) The combustion turbines are new units under 40 CFR 72.6.

(b) The source cannot operate the combustion units until their Phase II, Acid Rain permit has been issued.

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

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

B.2 Definitions

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, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [40 CFR 124]

Pursuant to 40 CFR 124.15, 40 CFR 124.19, and 40 CFR 124.20, the effective date of this permit will be thirty (30) days after the service of notice of the decision, as comments were received during the public comment period for this permit. Three (3) days shall be added to the thirty (30) day period if service of notice is by mail.

B.4 Revocation of Permits [326 IAC 2-2-8]

Pursuant to 326 IAC 2-2-8(a)(1) and 40 CFR 52.21, this permit to construct shall expire if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is discontinued for a period of eighteen (18) months or more.

B.5 First Time Operation Permit [326 IAC 2-6.1]

This document shall also become a first time operating permit pursuant to 326 IAC 2-5.1-3 when, prior to start of operation, the following requirements are met:

(a) Any modifications required by 326 IAC 2-1.1 and 326 IAC 2-7-10.5 as a result of a change in the design or operation of emissions units described by this permit have been obtained prior to obtaining an Operation Permit Validation Letter.

(b) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section.

(1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.

(2) If the Affidavit of Construction does not verify that the facilities covered in this Construction Permit were constructed as proposed in the application, then the Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section prior to beginning operation of the facilities.

(c) If construction is completed in phases; i.e., the entire construction is not done

continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

(d) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.

(e) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-7-19 (Fees).

(f) Pursuant to 326 IAC 2-7-4(a)(1)(A)(ii) and 326 IAC 2-5.1-4, the Permittee shall apply for a Title V operating permit within twelve (12) months of the date on which the source first meets an applicability criterion of 326 IAC 2-7-2.

B.6 NSPS Reporting Requirement

Pursuant to the New Source Performance Standards (NSPS), Part 60.7, Part 60.8, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

(a) Commencement of construction date (no later than 30 days after such date);

(b) Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);

(c) Actual start-up date (within 15 days after such date); and

(d) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

Reports are to be sent to:

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

The application and enforcement of these standards have been delegated to the IDEM, OAQ. The requirements of 40 CFR Part 60 are also federally enforceable.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 Major Source

Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21, and 326 IAC 2-7 (Part 70 Permit Program) this source is a major source.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) ninety (90) days after the commencement of normal operations after the first construction phase, including the following information on each emissions unit:

(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;

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

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Source Modification [326 IAC 2-7-10.5]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-10.5 whenever the Permittee seeks to construct new emissions units, modify existing emissions units, or otherwise modify the source.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule.

C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

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 permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;

(c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;

(d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)]

(a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.

(b) The written notification shall be sufficient to transfer the permit to the new owner by a notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).

(c) IDEM, OAQ shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

(a) Violation of any conditions of this permit.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

(d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.

(e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 Opacity [326 IAC 5-1]

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

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

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

C.8 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.9 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 by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

Testing Requirements

C.10 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 than180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

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

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) IDEM, OAQ must receive all test reports within forty-five (45) days after the completion of the testing. IDEM, OAQ may grant an extension, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.11 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.12 Maintenance of Monitoring Equipment [IC 13-14-1-13]

(a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less than one (1) hour until such time as the continuous monitor is back in operation.

(b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.13 Monitoring Methods [326 IAC 3]

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, or other approved methods as specified in this permit.

C.14 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6] [326 IAC 2-2-4]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ. The CRP shall be prepared within ninety (90) days after the commencement of normal operation after the first phase of construction and shall be maintained on site, and is comprised of:

(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;

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

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

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test

(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 corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAQ within thirty (30) days of receipt of

the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAQ shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAQ within thirty (30) days of receipt of the notice of deficiency. IDEM, OAQ reserve the authority to use enforcement activities to resolve noncompliant stack tests.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.16 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

(a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ), or appointed representative upon request.

(b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

(c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

(d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.17 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

(a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.18 General Record Keeping Requirements [326 IAC 2-6.1-2]

(a) Records of all required monitoring data and support information 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 kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ representative. 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 written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this permit;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.19 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

(a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

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

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

(d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The reports require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:

(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or

(2) A malfunction as described in 326 IAC 1-6-2; or

(3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.

(4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

(f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.

(g) The first report shall cover the period commencing on the date start of normal operation after the first phase of construction and ending on the last day of the reporting period.

SECTION D.1 FACILITY CONDITIONS – Combined Cycle Operation

(a) Four (4) natural gas-fired combustion turbine generators, designated as units CT1, CT2, CT3, CT4, with a maximum heat input capacity of 1906.4 MMBtu/hr (per unit on a higher heating value), and exhausts to stacks designated as S1, S2, S3, S4, respectively.

(b) Four (4) heat recovery steam generators, designated as units HRSG1, HRSG2, HRSG3, HRSG4 with duct burners, and a maximum rate heat input capacity of 310 MMBtu/hr (per unit on a higher heating value), exhausting to stacks designated as S1, S2, S3, and S4, respectively.

(c) Four (4) selective catalytic reduction systems, designated as units SCR11, SCR12, SCR21, SCR22.

(d) Two (2) steam turbines, designated as units ST1 and ST2.

(e) Two (2) cooling towers, designated as units Cooling Tower 1 and Cooling Tower 2, exhausting to stacks designated S6 and S7, 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

D.1.1 Prevention of Significant Deterioration [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD), this new source is subject to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) for emissions of PM, PM_{10}, SO_2, CO, NO_X, and VOC because the potential to emit for these pollutants exceed the PSD major significant thresholds. Therefore, the PSD provisions require that this new source be reviewed to ensure compliance with the National Ambient Air Quality Standards (NAAQS), the applicable PSD air quality increments, and the requirements to apply the Best Available Control Technology (BACT) for the affected pollutants.

D.1.2 Particulate Matter (PM/PM_{10}) Emission Limitations for Combustion Turbines/Duct Burners

(a) Pursuant to 326 IAC 2-2 (PSD Requirements), the total PM, which is the sum of PM (filterable) and PM_{10} (filterable and condensible), emissions from each combustion turbine shall not exceed twenty one (21) pounds per hour for each combustion turbine, during normal operation normal operation (fifty (50) percent load or more).

(b) Pursuant to 326 IAC 2-2 (PSD Requirements), the total PM, which is the sum of PM (filterable) and PM_{10} (filterable and condensible), emissions from each combustion turbine when its associated duct burner is operating, shall not exceed 24.10 pounds per hour for each combustion turbine and duct burner.

D.1.3 Opacity Limitations

Pursuant to 326 IAC 2-2 (PSD Requirements) the opacity from each associated combustion turbine stack shall not exceed twenty (20) percent (6-minute average), except for one 6-minute period per hour of not more than 27 percent. The opacity standards apply at all times, except during periods of

startup, shutdown or malfunction. This satisfies the opacity limitations required by 326 IAC 5-1 (Opacity Limitations).

D.1.4 Particulate Matter Emissions (PM/PM_{10}) for Cooling Towers

Pursuant to 326 IAC 2-2 (PSD Requirements) each cooling tower shall comply with the following:

(1) PM, which is the sum of PM (filterable) and PM_{10} (filterable and condensible), emissions shall not exceed 0.876 pounds per hour, and

(2) Employ good design and operation practices to limit emissions from the cooling towers.

D.1.5 Startup and Shutdown Limitations for Combustion Turbines

Pursuant to 326 IAC 2-2 (PSD Requirements), a startup or shutdown is defined as less than fifty (50) percent load. Each combustion turbine generating unit shall comply with the following:

(a) A startup or shutdown period shall not exceed 3.5 hours. The facility shall not exceed a total of 2,240 turbine hours per year for startups and shutdowns.

(b) During periods of startup and shutdown good combustion practice shall be used to limit NO_X and CO emissions.

(c) The NO_X and CO emissions during startup and shutdown periods shall be monitored.

(d) The startup and shutdown data for the first thirty-six (36) months of operation shall be submitted to the OAQ Permits Branch in order to evaluate and establish a short-term limit (pounds per startup and pounds per shutdown) during periods of startup and shutdown. The short-term limit shall consider, but will not be limited to, performance degradation of the combustion turbine up to the first major overhaul. The startup and shutdown data shall be submitted within 90 days after the 36-month monitoring period.

D.1.6 Nitrogen Oxides (NO_X) Emission Limitations for Combustion Turbines/Duct Burners

(a) Pursuant to 326 IAC 2-2 (PSD Requirements) each combustion turbine/steam generating unit shall comply with the following, excluding periods of startup and shutdown:

(1) During normal combined cycle operation (fifty (50) percent load or more), the NO_X emissions from each combustion turbine stack shall not exceed 3.0 ppmvd corrected to fifteen (15) percent oxygen, based on a three (3) hour averaging period, which is equivalent to 21.0 pounds per hour for each combustion turbine.

(2) During normal combined cycle operation (fifty (50) percent load or more), the NO_X emissions from each combustion turbine stack, when its associated duct burner is operating, shall not exceed 3.0 ppmvd corrected to fifteen (15) percent oxygen, based on a three (3) hour averaging period, which is equivalent to 24.41 pounds per hour for each combustion turbine and duct burner.

(3) The duct burners shall not be operated until the associated combustion turbine reaches normal operation.

(4) Each combustion turbine shall be equipped with dry low-NO_X burners and operated using good combustion practices to control NO_X emissions.

(5) A selective catalytic reduction (SCR) system shall be installed and operated at all times, except during periods of startup and shutdown, to control NO_X emissions.

(6) Use natural gas as the only fuel.

(b) Pursuant to 326 IAC 2-2 (PSD Requirements), the annual NO_X emission from each of the four (4) combustion turbines and associated duct burners, excluding startup and shutdown periods, shall not exceed 78.1 tons per year.

D.1.7 Carbon Monoxide (CO) Emission Limitations for Combustion Turbines/Duct Burners

(a) Pursuant to 326 IAC 2-2 (PSD Requirements), each steam generating unit shall comply with the following, excluding startup and shutdown emissions:

(1) During normal combined cycle operation (fifty (50) percent load or more), the CO emissions from each combustion turbine shall not exceed 6 ppmvd corrected to 15% O_2 on a 24 hour averaging period, which is equivalent to 21.3 pounds per hour for each combustion turbine.

(2) During normal operation (fifty (50) percent load of more), the CO emissions from each combustion turbine stack, when its associated duct burner is operating, shall not exceed 9 ppmvd corrected to 15% O_2 on a 24 hour averaging period, which is equivalent to 40.5 pounds per hour for each combustion turbine and duct burner.

(3) The duct burners shall not be operated until normal operation begins.

(4) Good combustion practices shall be applied to minimize CO emissions.

(5) Use natural gas as the only fuel.

(b) Pursuant to 326 IAC 2-2 (PSD Requirements), the annual CO emission from each of the four (4) combustion turbines and associated duct burners, excluding startup and shutdown periods, shall not exceed 102.21 tons per year.

D.1.8 Sulfur Dioxide (SO_2) Emission Limitations for Combustion Turbines/Duct Burners

Pursuant to 326 IAC 2-2 (PSD Requirements), each combustion turbine and duct burner shall comply with the following, excluding startup and shutdown emissions:

(1) During normal combined cycle operation (fifty (50) percent load or more), the SO_2 emissions from each combustion turbine shall not exceed 11.0 pounds per hour for each combustion turbine.

(2) During normal combined cycle operation of each combustion turbine when its associated duct burner is operating, the SO_2 emissions from each turbine stack shall not exceed 12.71 pounds per hour.

(3) The use of low sulfur natural gas as the only fuel for the combustion turbines and duct burners. The sulfur content of the natural gas shall not exceed two (2) grains per 100 scf.

(4) Perform good combustion practice.

D.1.9 Volatile Organic Compound (VOC) Emission Limitations for Combustion Turbines/Duct Burners

Pursuant to 326 IAC 8-1-6 (VOC Requirements) and 326 2-2 (PSD Requirements), each combustion turbine and duct burner shall comply with the following, excluding startup and shutdown emissions:

(1) The VOC emissions from each combustion turbine shall not exceed 3.0 pounds VOC per hour for each combustion turbine.

(2) The VOC emissions from each combustion turbine stack, when its associated duct burner is operating shall not exceed 7.7 pounds VOC per hour.

(3) The use of natural gas as the only fuel.

(4) Good combustion practice shall be implemented to minimize VOC emissions.

D.1.10 40 CFR 60, Subpart GG (Stationary Gas Turbines)

The four (4) natural gas combustion turbines are subject to 40 CFR Part 60, Subpart GG (Stationary Gas Turbines) because the heat input at peak load is equal to or greater than 10.7 gigajoules per hour (10 MMBtu per hour), based on the lower heating value of the fuel fired.

Pursuant to 326 IAC 12-1 and 40 CFR 60, Subpart GG (Stationary Gas Turbines), the Permittee shall:

(1) Limit nitrogen oxides emissions from the natural gas turbines to 0.0113% by volume at 15% oxygen on a dry basis, as required by 40 CFR 60.332, to:

$$STD = 0.0075 \frac{(14.4)}{Y} + F ,$$

where STD = allowable NO_x emissions (percent by volume at 15 percent oxygen on a dry basis).

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt-hour.

F = NO_x emission allowance for fuel-bound nitrogen as defined in paragraph (a)(3) of 40 CFR 60.332.

(2) Limit sulfur dioxide emissions, as required by 40 CFR 60.333, to 0.015 percent by volume at 15 percent oxygen on a dry basis, or use natural gas fuel with a sulfur content less than or equal to 0.8 percent by weight;

D.1.11 40 CFR Part 60, Subpart Da (Electric Utility Steam Generating Units)

The four (4) heat recovery steam generator (HRSG) duct burners (DB) are subject to 40 CFR Part 60, Subpart Da because the heat input capacity is greater than 250 MMBtu/hr.

Pursuant to 40 CFR Part 60, Subpart Da, the Permittee shall:

(a) The opacity from each combustion turbine stack, when its associated duct burner is operating, shall not exceed twenty (20) percent (6-minute average), except for a 6-minute period per hour of not more than 27 percent. The opacity standards apply at all times, except during periods of startup, shutdown or malfunction. This satisfies the opacity limitations required by 326 IAC 5-1 (Opacity Limitations).

(b) The PM emissions from each duct burner shall not exceed 0.03 pounds per MMBtu heat input on a higher heating value basis.

(c) Each duct burner shall not exceed 1.6 lb/MW-hr NO_X on a thirty (30) day rolling average.

(d) Each duct burner shall not exceed 0.20 pounds SO_2 per MMBtu heat input, determined on a 30-day rolling average basis.

D.1.12 Formaldehyde Limitations

Pursuant to 326 IAC 2-1.1-5 (Air Quality Requirements), the formaldehyde emissions from each combustion turbine shall not exceed 0.00013 pound of formaldehyde per MMBtu.

D.1.13 Ammonia Limitations

Pursuant to 326 IAC 2-1.1-5 (Air Quality Requirements), the ammonia emissions from each combustion turbine stack shall not exceed ten (10) ppmvd corrected to 15% O_2 on a 3 hour block average.

D.1.14 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for each combustion turbine and its control device.

Compliance Determination Requirements

D.1.15 Performance Testing

(a) Pursuant to 326 IAC 3-5 the Permittee shall conduct a performance test, no later than one-hundred and eighty days (180) after the facility startup or monitor installation, on the combustion turbine exhaust stack (S1, S2, S3, S4) in order to certify the continuous emission monitoring systems for NO_X and CO.

(b) Within one-hundred and eighty (180) days after initial startup, the Permittee shall perform formaldehyde stack test for each combustion turbine stack (S1, S2, S3, S4) utilizing a method approved by the Commissioner when operating at 60%, 75%, and 100% load. These tests shall be performed in accordance with Section C – Performance Testing, in order to verify the formaldehyde emission factor specified in Condition D.1.12.

(c) Within one-hundred and eighty (180) days after initial startup, the Permittee shall perform NO_X and CO stack tests for each combustion turbine stack (S1, S2, S3, S4) during a startup/shutdown period, utilizing a certified continuous emission monitoring system and a flue flow meter. These tests shall be performed in accordance with Section C – Performance Testing, in order to document compliance with Condition D.1.5.

(d) Within sixty (60) days of achieving maximum production rate, but no later than one-hundred and eighty (180) days after initial startup, the Permittee shall conduct NO_X and SO_2 stack

tests for each combustion turbine stack (S1, S2, S3, S4) utilizing methods approved by the Commissioner. These tests shall be performed in accordance with 40 CFR 60.335 and Section C – Performance Testing, in order to document compliance with Condition D.1.10.

(e) Within one-hundred and eighty (180) days after initial startup, the Permittee shall perform PM, PM_{10} (filterable and condensible), VOC, and ammonia stack tests for each combustion turbine stack (S1, S2, S3, S4) utilizing methods approved by the Commissioner. These tests shall be performed in accordance with 40 CFR 60.335, 40 CFR 60.48(a), and Section C – Performance Testing, in order to document compliance with D.1.2, D.1.9, and D.1.13.

(f) IDEM, OAQ retain the authority under 326 IAC 2-1-4(f) to require the Permittee to perform additional and future compliance testing as necessary.

D.1.16 40 CFR Part 60, Subpart GG Compliance Requirements (Stationary Gas Turbines)

Pursuant to 40 CFR Part 60, Subpart GG (Stationary Gas Turbines), the Permittee shall monitor the nitrogen and sulfur content of the natural gas on a monthly basis as follows:

(a) Determine compliance with the nitrogen oxide and sulfur dioxide standards in 40 CFR 60.332 and 60.333(a), per requirements described in 40 CFR 60.335(c);

(b) Determine the sulfur content of the natural gas being fired in the turbine by ASTM Methods D 1072-80, D 3030-81, D 4084-82, or D 3246-81. The applicable ranges of some ASTM methods mentioned are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator; and

(c) Determine the nitrogen content of the natural gas being fired in the turbine by using analytical methods and procedures that are accurate to within 5 percent and are approved by the Administrator.

The analyses required above may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor or any other qualified agency.

Owners, operators or fuel vendors may develop custom fuel schedules for determination of the nitrogen and sulfur content based on the design and operation of the affected facility and the characteristics of the fuel supply. These schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with the above requirements.

D.1.17 Continuous Emission Monitoring (CEMs)

(a) The owner or operator of a new source with an emission limitation or permit requirement established under 326 IAC 2-5.1-3 and 326 IAC 2-2, shall be required to install a continuous emissions monitoring system or alternative monitoring plan as allowed under the Clean Air Act and 326 IAC 3-5-1(d).

(b) The Permittee shall install, calibrate, certify, operate and maintain a continuous emission monitoring system for NO_X and CO, for stacks designated as S1, S2, S3, S4 in accordance with 326 IAC 3-5-2 and 3-5-3.

(1) The continuous emission monitoring system (CEMS) shall measure NO_X and CO emissions rates in pounds per hour and parts per million (ppmvd) corrected to 15%

O_2. The use of CEMS to measure and record the NO_X and CO hourly limits, is sufficient to demonstrate compliance with the limitations established in the BACT analysis and set forth in the permit. To demonstrate compliance with the NO_X limit, the source shall take an average of the parts per million (ppmvd) corrected to 15% O_2 over a three (3) hour averaging period. To demonstrate compliance with the CO limit, the source shall take an average of the parts per million (ppmvd) corrected to 15% O_2 over a twenty four (24) hour block averaging period. The source shall maintain records of the parts per million and the pounds per hour.

(2) The Permittee shall determine compliance with Condition D.1.5 utilizing data from the NO_X, CO, and O_2 CEMS, the fuel flow meter, and Method 19 calculations.

(3) The Permittee shall submit to IDEM, OAQ, within ninety (90) days after monitor installation, a complete written continuous monitoring standard operating procedure (SOP), in accordance with the requirements of 326 IAC 3-5-4.

(4) The Permittee shall record the output of the system and shall perform the required record keeping, pursuant to 326 IAC 3-5-6, and reporting, pursuant to 326 IAC 3-5-7.

(c) Pursuant to 40 CFR 60.47(d), the Permittee shall install, calibrate, certify and operate continuous emissions monitors for carbon dioxide or oxygen at each location where nitrogen oxide emissions are monitored.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.18 Record Keeping Requirements

(a) To document compliance with Conditions D.1.2, D.1.6 through D.1.9, and D.1.12, the Permittee shall maintain records of the following:

(1) Amount of natural gas combusted (in MMSCF) per turbine during each month.

(2) Percent sulfur of the natural gas.

(3) Heat input on a higher heating value basis of each turbine on a 30-day rolling average.

(b) To document compliance with Condition D.1.5, the Permittee shall maintain records of the following:

(1) The type of operation (i.e. startup or shutdown) with supporting operational data.

(2) The total number of minutes for startup or shutdown per 24-hour averaging period per turbine.

(3) The CEMS data, fuel flow meter data, and Method 19 calculations corresponding to each startup and shutdown period.

(c) To document compliance with Conditions D.1.6 and D.1.7, the Permittee shall maintain records of the emission rates of NO_X and CO in pounds per hour and parts per million (ppmvd) at 15% oxygen.

(d) To document compliance with Condition D.1.17, the Permittee shall maintain records, including raw data of all monitoring data and supporting information, for a minimum of five (5) years from the date described in 326 IAC 3-5-7(a). The records shall include the information described in 326 IAC 3-5-7(b).

(e) To document compliance with D.1.10, the Permittee shall maintain records of the natural gas analyses, including the sulfur and nitrogen content of the gas, for a period of three (3) years.

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

D.1.19 Reporting Requirements

The Permittee shall submit the following information on a quarterly basis:

(a) Records of excess NO_X and CO emissions (defined in 326 IAC 3-5-7 and 40 CFR Part 60.7) from the continuous emissions monitoring system. These reports shall be submitted within thirty (30) calendar days following the end of each calendar quarter and in accordance with Section C – General Reporting Requirements of this permit.

(b) The Permittee shall report periods of excess emissions, as required by 40 CFR 60.334(c).

(c) A quarterly summary of the CEMs data to document compliance with D.1.6, and D.1.7 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.

(d) A quarterly summary of the total number of startup and shutdown hours of operation to document compliance with Condition D.1.5, shall be submitted to the address listed in Section C – General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported.

SECTION D.2 FACILITY CONDITIONS – Auxiliary Boiler

One (1) natural gas fired auxiliary boiler, designated Auxiliary Boiler, with a maximum heat input capacity of 124.6 MMBtu/hr (higher heating value), and exhausting to stack S5.

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

Emission Limitations and Standards

D.2.1 Prevention of Significant Deterioration [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD), this new source is subject to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) for emissions of PM, PM_{10}, SO_2, CO, NO_X, and VOC because the potential to emit for these pollutants exceed the PSD major significant thresholds. Therefore, the PSD provisions require that this new source be reviewed to ensure compliance with the National Ambient Air Quality Standards (NAAQS), the applicable PSD air quality increments, and the requirements to apply the Best Available Control Technology (BACT) for the affected pollutants.

D.2.2 Particulate Matter Emissions (PM/PM_{10}) for the Auxiliary Boiler

Pursuant to 326 IAC 2-2 (PSD Requirements) the auxiliary boiler shall comply with the following:

(a) PM and PM_{10} emissions from the auxiliary boiler shall not exceed 0.928 pounds per hour.

(b) Use natural gas as the only fuel for the auxiliary boiler.

(c) Perform good combustion practices.

D.2.3 Opacity Limitations

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

(c) 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.

(d) 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 non-overlapping integrated averages for a continuous opacity) monitor in a six (6) hour period.

D.2.4 Nitrogen Oxide (NO_X) Emission Limitations for the Auxiliary Boiler

Pursuant to 326 IAC 2-2 (PSD Requirements), the auxiliary boiler shall comply with the following:

(a) NO_X emissions from the auxiliary boiler shall not exceed 0.036 lb/MMBtu on a higher heating value basis, which is equivalent to 4.49 pounds per hour.

(b) Use natural gas as the only fuel for the auxiliary boiler.

(c) Operate auxiliary boiler using low-NOx burners.

D.2.5 Carbon Monoxide (CO) Emission Limitations for the Auxiliary Boiler

Pursuant to 325 IAC 2-2 (PSD Requirements) the auxiliary boiler shall comply with the following:

(a) CO emissions from the auxiliary boiler shall not exceed 0.082 lb/MMBtu on a higher heating value basis, which is equivalent to 10.28 pounds per hour.

(b) Use natural gas as the only fuel for the auxiliary boiler.

(c) Operate utilizing good combustion practices.

D.2.6 Sulfur Dioxide (SO_2) Emission Limitations for the Auxiliary Boiler

Pursuant to 326 IAC 2-2 (PSD Requirements) the auxiliary boiler shall comply with the following:

(a) SO_2 emissions from the auxiliary boiler shall not exceed 0.006 lb/MMBtu on a higher heating value basis, which is equivalent to 0. 70 pounds per hour.

(b) Use natural gas, with a sulfur content of less than or equal to 0.8 percent by weight, as the only fuel for the auxiliary boiler.

(c) Operate utilizing good combustion practices.

D.2.7 Volatile Organic Compound (VOC) Emission Limitations for the Auxiliary Boiler

Pursuant to 326 IAC 2-2 (PSD Requirements) and 326 IAC8-1-6 (General Reduction Requirements) the auxiliary boiler shall comply with the following:

(a) VOC emissions from the auxiliary boiler shall not exceed 0.0054 lb/MMBtu on a higher heating value basis, which is equivalent to 0.672 pounds per hour.

(b) Use natural gas as the only fuel for the auxiliary boiler.

(c) Operate using good combustion practices.

D.2.8 40 CFR Part 60, Subpart Db (Industrial Steam Generating Units)

The auxiliary boiler is subject to the requirements of 40 CFR Part 60, Subpart Db because the heat input capacity of the boiler is greater than 100 MMBtu/hr. Pursuant to 40 CFR Part 60, Subpart Db, the NO_X emission from the natural gas fired boiler shall not exceed 0.2 lb/MMBtu on a 30-day rolling average.

D.2.9 Natural Gas Limitations

Pursuant to 326 IAC 2-2 (PSD Requirements), the natural gas usage from the auxiliary boiler shall not exceed 122.2 MMscf per year per year, based on a twelve (12) consecutive month period.

D.2.10 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan must be prepared, in accordance with Section C - Preventive Maintenance Plan, of this permit.

Compliance Determination Requirements

D.2.11 Performance Testing

Pursuant to 326 IAC 2-2 (PSD Requirements) and 40 CFR 60.46b(e), the Permittee shall perform NO_X testing on the auxiliary boiler to determine compliance with Condition D.2.4 and D.2.8, within 60 days after achieving maximum capacity but not later than one hundred and eighty (180) days, using a continuous system for monitoring nitrogen oxides under 40 CFR 60.48b.

D.2.12 NO_X Emissions Monitoring [40 CFR 60.48b] [326 IAC 3-5]

Pursuant to 40 CFR 60.48b(g), the Permittee shall comply with Condition D.2.8 on an on-going basis using either of the following methods:

(a) Install, calibrate, maintain, and operate a continuous emission monitoring system to monitor NO_X emissions, pursuant to 40 CFR 60.48b(b), (c), (d), (e), and (f), and 326 IAC 3-5; or

(b) Monitor steam generating operating conditions and predict NO_X emission rates as specified in a plan submitted to and approved by IDEM, OAQ pursuant to 40 CFR 60.49b(c).

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.2.13 Record Keeping Requirements

(a) To document compliance with Conditions D.2.9, the Permittee shall maintain records of the amount of natural gas combusted for the auxiliary boiler during each month;

(b) To document compliance with condition D.2.8, the Permittee shall maintain records required under 40 CFR 60.49b(d), (g), (o), and (p), as applicable.

(c) All records shall be maintained in accordance with Section C – General Record Keeping Requirements.

D.2.14 Reporting Requirements

(a) The Permittee shall submit on a quarterly basis a summary of the information to document compliance with Condition D.2.8 to the addresses listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

(b) To document compliance with Condition D.2.8 either by monitoring of steam generating unit operating conditions or by operating a continuous emissions monitoring system for NO_X emissions, the Permittee shall also submit reports under 40 CFR 60.49b(a), (b), (h), and (q), in addition to one of the following:

(1) If the Permittee elects to determine compliance with Condition D.2.8 through monitoring steam generating unit operating conditions, pursuant to 40 CFR 60.49b(c), the Permittee shall submit to IDEM, OAQ, within 360 days of the initial startup, a plan that identifies the operating conditions to be monitored and records to be maintained.

(2) If the Permittee elects to document compliance with Condition D.2.8 by operation of a continuous emissions monitoring system for NO_X emissions, the Permittee shall submit reports as required under (b), 40 CFR 60.49b(i), 326 IAC 3-5-5(e) and 326 IAC 3-5-7.

SECTION D.3 FACILITY CONDITIONS – Backup Equipment

(a) One (1) diesel fire pump, with a rated capacity of 265 horsepower (hp), exhausting to stack S9.

(b) One (1) diesel backup electric generator, with a rated capacity of 1000 kilowatts (KW), exhausting to stack S8.

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

Emission Limitations and Standards

D.3.1 BACT Limitation for the Fire Pump

Pursuant to 326 IAC 2-2 (PSD Requirements) the diesel fire pump shall comply with the following:

(a) The total input of the fire pumps shall be limited to 7,554 gallons per twelve (12) consecutive month period, rolled on a monthly basis.

(b) The sulfur content of the diesel fuel used by the fire pump shall not exceed 0.05 percent by weight.

(c) Perform good combustion practice.

D.3.2 BACT Limitation for the Emergency Generator

Pursuant to 326 IAC 2-2 (PSD Requirements) the emergency generators shall comply with the following:

(a) The total input of the emergency generator shall be limited to 35,252 gallons per twelve (12) consecutive month period, rolled on a monthly basis.

(b) The sulfur content of the diesel fuel used by the fire pump shall not exceed 0.05 percent by weight.

(c) Perform good combustion practice.

Compliance Determination Requirements

D.3.3 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test these emission unites by this permit. However, IDEM, OAQ retain the authority under 326 IAC 2-1-4(f) to require the Permittee to perform additional and future compliance testing as necessary. If testing is required by the OAQ, compliance shall be determined by a performance test conducted in accordance with Section C – Performance Testing.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.3.4 Record Keeping Requirements

To document compliance with Conditions D.3.1 and D.3.2, the Permittee shall maintain records of the following:

(1) Amount of diesel fuel combusted each month in the fire pump.

(2) Amount of diesel fuel combusted each month in the emergency generator.

(3) The percent sulfur content of the diesel fuel.

D.3.5 Reporting Requirements

A quarterly summary of the information to document compliance with D.3.1 and D.3.2 shall be submitted to the address listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.4 FACILITY DESCRIPTION – Startup Gas Heater

Facility Description [326 IAC 2-5.1-3]
One (1) startup gas heater, designated as GH1 with a maximum heat input capacity of 2.4 MMBtu/hr (higher heating value basis), and exhausts to stack GH1.

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

Emission Limitations and Standards

D.4.1 Opacity Limitations
Pursuant to 326 IAC 2-2 (PSD Requirements) the opacity of the startup gas heater shall not exceed twenty (20) percent (6-minute average), except for one 6-minute period per hour of not more than 27 percent. The opacity standards apply at all times, except during periods of startup, shutdown or malfunction.

D.4.2 BACT Limitations for the Startup Gas Heater:
Pursuant to 326 IAC 2-2 (PSD Requirement), the source shall comply with the following:

(a) Use natural gas as the only fuel for the gas heater.
(b) Perform good combustion practices.
(c) The natural gas usage for the startup gas heater shall not exceed 5.3 million standard cubic feet (MMSCF) per twelve (12) consecutive month period rolled on a monthly basis.
(d) The NOx emissions from the startup gas heater shall be limited to 0.14 lb/ MMBtu.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.4.3 Record Keeping Requirements

(a) To document compliance with Conditions D.4.2, the Permittee shall maintain records of the amount of natural gas combusted by the Startup Gas Heater during each month.

(b) All records shall be maintained in accordance with Section C – General Record Keeping Requirements.

D.4.4 Reporting Requirements
The Permittee shall submit on a quarterly basis a summary of the information to document compliance with Condition D.4.2 to the addresses listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
FAX NUMBER - 317 233-5967

This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 LBS/HR PARTICULATE MATTER ?_____, 100 LBS/HR VOC ?_____, 100 LBS/HR SULFUR DIOXIDE ?_____ OR 2000 LBS/HR OF ANY OTHER POLLUTANT ?_____ EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY:_____PHONE NO. ( )_____
LOCATION: (CITY AND COUNTY)_____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP:_____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON:_____
_____

DATE/TIME MALFUNCTION STARTED: _____/_____/ 20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE_____/_____/ 20____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER:_____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____
_____

MEASURES TAKEN TO MINIMIZE EMISSIONS:_____
_____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES:_____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS:_____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT:_____
INTERIM CONTROL MEASURES: (IF APPLICABLE)_____
_____
_____

MALFUNCTION REPORTED BY:_____TITLE:_____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY:_____DATE:_____TIME:_____

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

_____
_____

Indiana Department of Environmental Management
Office of Air Quality
Compliance Data Section

Quarterly Report

Company Name: PSEG Lawrenceburg Energy Facility
Location: 582 West Eads Parkway, Lawrenceburg, IN 47025
Permit No.: CP-029-12517-00033
Source: Auxiliary Boiler
Limit: 122.2 MMSCF per twelve (12) consecutive month period

Year: _____

Month	Usage (MMCF/month)	Usage for previous month(s) (MMCF)	Usage for twelve month period (MMCF)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Quality
Compliance Data Section

Quarterly Report

Company Name: PSEG Lawrenceburg Energy Facility
Location: 582 West Eads Parkway, Lawrenceburg, IN 47025
Permit No.: CP-029-12517-00033
Source: Diesel Fire Pump
Limit: 7,554 gallons per twelve (12) consecutive month period

Year: _____

Month	Diesel Fuel Oil Usage (gallons/month)	Diesel Fuel Oil Usage for previous month(s) (gallons)	Diesel Fuel Oil Usage for twelve month period (gallons)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Quality
Compliance Data Section

Quarterly Report

Company Name: PSEG Lawrenceburg Energy Facility
Location: 582 West Eads Parkway, Lawrenceburg, IN 47025
Permit No.: CP-029-12517-00033
Source: Emergency Generator
Limit: 35,252 gallons per twelve (12) consecutive month period

Year: _____

Month	Diesel Fuel Oil Usage (gallons/month)	Diesel Fuel Oil Usage for previous month(s) (gallons)	Diesel Fuel Oil Usage for twelve month period (gallons)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Quality
Compliance Data Section

Quarterly Report

Company Name: PSEG Lawrenceburg Energy Facility
Location: 582 West Eads Parkway, Lawrenceburg, IN 47025
Permit No.: CP-029-12517-00033
Source: Four (4) natural gas combustion turbines operating in combined cycle
Limit: Shall not exceed 3.5 hours per startup and shutdown. The facility shall not exceed a total of 2,240 turbine hours per year of startup and shutdown periods

Month:_____ Year_____

Total hours from previous month(s) startup_____ shutdown_____

Total hours per year for startup and shutdown for 12 month period_____

	Startup				Shutdown					Startup				Shutdown			
Day/ Turbine	1	2	3	4	1	2	3	4	Day/ Turbine	1	2	3	4	1	2	3	4
1									17								
2									18								
3									19								
4									20								
5									21								
6									22								
7									23								
8									24								
9									25								
10									26								
11									27								
12									28								
13									29								
14									30								
15									31								
16									Total								

No deviation occurred in this month

Deviation/s occurred in this month.
Deviation has been reported on:

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

Compliance Data Section
Quarterly Report

Source Name: PSEG Lawrenceburg Energy Facility
Source Address: 582 West Eads Parkway, Lawrenceburg, IN 47025
Permit No.: CP-029-12517-00033
Source: Startup Gas Heater
Limit: 5.3 MMSCF per twelve (12) consecutive month period rolled on a monthly basis

YEAR: _____

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

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the
Technical Support Document (TSD) for a Significant Modification to a Construction and PSD Permit.

Source Background and Description

Source Name:	PSEG Lawrenceburg Energy Company, Inc.
Source Location:	582 West Eads Parkway, Lawrenceburg, IN 47025
County:	Dearborn
SIC Code:	4911
Operation Permit No.:	CP-029-12517-00033
Operation Permit Issuance Date:	June 07, 2001
Significant Modification No.:	029-16235-00033
Permit Reviewer:	Ghassan Shalabi

On September 17, 2002, the Office of Air Quality (OAQ) had a notice published in the Journal Press, Lawrenceburg, Indiana, stating that PSEG Lawrenceburg Energy Company Inc., had applied for a Significant Modification to PSD permit to add a startup gas heater with a maximum capacity of 2.4 MMBtu/hr (higher heating value basis) to the Lawrenceburg facility. The public notice also stated that the IDEM, OAQ proposed to issue the PSD permit for this operation and provided information on how the public could review the proposed approval 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.

Written comments were received from Mr. Stephen Loeschner of Fort Wayne, Indiana, on October 18, 2002. These comments and IDEM, OAQ responses, including changes to the permit (where language deleted is shown with strikeout and that added is shown in bold) are as follows:

Comment 1:
Fuel gas characteristics
Will or will not the total sulfur content of the heater fuel gas be representative (within 7%) of the majority of the fuel gas used at the PSEG site? Will or will not the heater fuel gas have the odor characteristic described in 49 CFR 192.625(a) (1 October 2001)? Will or will not the majority of the fuel gas used at the PSEG site have the odor characteristic described in 49 CFR 192.625(a) (1 October 2001)?

Response 1:
The natural gas that will be used in the gas heater is the same natural gas used in the rest of the plant. The sulfur content of the gas supply is what is naturally present in the gas. The natural gas supplied to PSEG Lawrenceburg will not be odorized. The gas supplied to PSEG is not odorized as required by 49 CFR 192.625(a) because the pipeline qualifies for exemptions allowed by 49 CFR 192.625(b)(1) and 192.625(b)(3). These exemptions to the gas odorization requirements are allowed because over 50% of the length of the pipeline: a) is in an area having a Class 1 or 2 low density population index, and b) delivers to a facility which qualifies as a distribution center. The definition of distribution center is not in the regulations. However, normal industry use refers to the point where gas enters piping primarily to deliver gas to customers who purchase it for resale. DOT Interpretation 82-3 indicates that pipelines delivering gas to “large volume customers” which

operating pressures and throughput are essentially the same as pipelines delivering to distributing centers in the area could be classified as transmission lines and, therefore, are exempt from the odorization requirements."

DOT interpretation of 40 CFR 192.626 15 (March 11, 1982):

"…If the line is still properly classified as a transmission line, the new class 3 portion of the line may qualify under §192.615(b)(3) for an exemption from the odorization requirement if the line is a lateral transmission line transporting gas to a "large volume customer" with at least 50 percent of the length of line in class 1 or 2 areas. By prior interpretation, a "large volume customer" is in effect a "distribution center" for purposes of classifying a pipeline as a "transmission line" under the definition of that term is §192.3, and the term "large volume customer" is used consistently here in applying §192.625(b)."

Therefore, no change to the permit is required in response to this comment.

Comment 2:
Sulfur dioxide Best Available Control Technology
On p. 3 of the 16235 Technical Support Document ("TSD" DEM correctly states that Best Available Control Technology ("BACT," a clever legal term wherein best does not mean best, see 42 USC 7479(3)) must be applied to the heater in re particulate matter ("PM"), PM having an aerodynamic diameter of not more than 10 microns ("PM10"), sulfur dioxide ("SO2"), and other pollutants. DEM alleges that it has properly selected BACT by the narrative of the 16235 TSD and the 16235 D.2.4 conditions.

DEM has an obligation to show in writing to the public that it was diligent in determining and requiring BACT. The table on p. 4 of the 16235 TSD and text indicating similarity on the preceding page, fail as there is no evidence whatsoever that DEM considered 42 USC 7479(3) clean fuels ("clean fuels") in determining PM10 and SO2 BACT.

There is no evidence whatsoever that DEM considered a readily available and affordable clean fuel that was codified as "40 CFR 72.2 pipeline natural gas" by 64 FR 28587 (26 May 1999) and subsequently recodified 16.6% more clean of sulfur at 67 FR 40421 (12 June 2002).
DEM has made clear error, and, absent good technical cause shown, must require "40 CFR 72.2 pipeline natural gas in accordance with 67 FR 40421 (12 June 2002)" (or better) for operation of the 16235 heater.

Obviously DEM's PM10 and SO2 12517 BACT is equally defective, however DEM and PSEG may argue that as there was no timely 12517 comment made, that matter is moot and cannot be lawfully be reopened. And to that end, if PSEG desires to operate 99+% of its 8.86 billion BTU / hour consumptive equipment with its 12517 Condition D.1.8 (3) 2 grain / 100 scf fuel gas, then it may lawfully do so. But if PSEG is going to combust any fuel in their 16235 heater, then PSD BACT law demands that the heater combustion effluent contain no more than approximately 1.42 pounds SO2 per billion BTU of fuel combusted in the heater as it would if the 0.5 grain total sulfur / 100 scf fuel gas of 67 FR 40421 (12 June 2002) was combusted therein.

67 FR 40421 (12 June 2002) was based on:
"The U.S. Environmental Protection Agency ('EPA') chose the value of 0.5 grains / 100 scf for pipeline natural gas so that typical supplies of pipeline natural gas that have an average [total] sulfur content of 0.2 to 0.3 grains / 100 scf will consistently yield samples below this cutoff of 0.5 grains / 100 scf." 66 FR 31980 13 June 2001.

There is evidence at 67 FR 40401 and 40404 (12 June 2002) that PSEG commented on the 13 June 2001 matter, but it appears that the specific 0.5 grain / 100 scf aspect quoted above drew the attention of neither PSEG nor DEM.

Further, the EPA AP-42 Emission Factors Section 1.4 Background Document (March 1998, http://www.epa.gov/ttn/chief/ap42/ch01/b01s04.pdf incorporated herein by reference) is based on 0.2 grain / 100 scf fuel gas (p. 3.8). DEM and PSEG have no reason having merit why 16235 SO2 BACT should not be "40 CFR 72.2 pipeline natural gas in accordance with 67 FR 40421 (12 June 2002)" (or better) for operation of the 16235 heater.

Response 2

1. The Natural Gas Heater is not a utility unit as defined in 40 CFR 72.2. Therefore it is not considered as an affected unit pursuant to 40 CFR 72.6(b)(8).

   Any "utility unit" is subject to the acid rain rules. The 40 CFR Part 72.2 definition of "utility unit" is below. A utility unit is a combustion source which serves a generator that produces greater than 25 MW for sale. (See "generator" definition below.) The gas heater does not serve the generators and is not subject to the acid deposition control program.

   40 CFR Part 72 Definitions:

   "Utility unit" means a unit owned or operated by a utility:
   (1) That serves a generator in any State that produces electricity for sale, or
   (2) That during 1985, served a generator in any State that produced electricity for sale.
   (3) Notwithstanding paragraphs (1) and (2) of this definition, a unit that was in operation during 1985, but did not serve a generator that produced electricity for sale during 1985, and did not commence commercial operation on or after November 15, 1990 is not a utility unit for purposes of the Acid Rain Program.
   (4) Notwithstanding paragraphs (1) and (2) of this definition, a unit that cogenerates steam and electricity is not a utility unit for purposes of the Acid Rain Program, unless the unit is constructed for the purpose of supplying, or commences construction after November 15, 1990 and supplies, more than one-third of its potential electrical output capacity and more than 25 MW output to any power distribution system for sale.

   "Generator" means a device that produces electricity and was or would have been required to be reported as a generating unit pursuant to the United States Department of Energy Form 860 (1990 edition).

2. The use of 0.6 gr/100 scf in the definition of pipeline natural gas is not intended to establish an emission limit. The term "pipeline natural gas" is used to identify whether a unit may utilize a default emission factor (0.0006 lb/MMBtu) to calculate emissions, if the unit is a low mass emission unit. *See* 40 CFR Part 75, Appendix D, Table D-5; 64 Fed. Reg. 28,579 (May 26, 1999); 40 CFR § 75.19(i); and 40 CFR § 75.19(i), Table LM-1. To demonstrate that a unit satisfies the definition of "pipeline natural gas," a source (or the supplier) normally must sample its fuel for at least twelve months to determine the concentration. *See* 40 CFR Part 75, Appendix D, Section 2.3.1.4. If the fuel satisfies this definition, the source may utilize the default emission factor without implementing as stringent a monitoring program as might otherwise be required. *See* 40 CFR Part 75, Appendix D, Section 2.3.2.1.2. If the fuel changes such that the sulfur concentration increases, no penalties or sanctions apply. Instead, if the fuel changes so that it no longer meets the definition of "natural gas" or "pipeline natural gas," the only requirement would be increased sampling frequencies or the installation of a continuous emissions monitoring system (CEMs).

   Therefore, no changes are made to any permit conditions in response to this comment.

Comment 3:
SO2 federal enforceability
In order that the SO2 emission be reasonably known but not measured, the fuel gas must be chemically analyzed for total sulfur content frequently. The fuel gas will contain hydrogen sulfide and other natural sulfur compounds as contaminants, and it may contain one or more sulfur compounds intentionally added for the purposes of complying with 49 CFR 192.625 (1 October 2001). Thus, due to natural supply variability, equipment failure, human error, sabotage, et al., total sulfur content may vary.

In order to have the ability to verify compliance on a more or less continuous basis in an attempt to provide 40 CFR 52.21(b)(17) federal enforceability (1 July 2002) that "40 CFR 72.2 pipeline natural gas in accordance with 67 FR 40421 (12 June 2002)" (or better) has been supplied: 1) the total sulfur content must be verified by chemically testing the fuel gas at PSEG or at point(s) by mechanical design that are scientifically chemically representative of the fuel gas delivered to PSEG, 2) the tests must be performed with a frequency such that there is no more than 35 calendar days between tests, 3) the test method must be sufficiently sensitive that 0.025 grain total sulfur / 100 scf (of methane) can be detected such that the result will have some foundation when reported as a 2-digit decimal number having tenths and hundredths digits, 4) the test results for a calendar quarter must be made a public record not more than 45 calendar days following the end of the quarter, and 5) individual test records must be made available to a DEM or an EPA inspector at PSEG in Dearborn County, Indiana not more than one business day following their being possessed by PSEG in any PSEG office in any place.

Response 3:
The requirement of "40 CFR 72.2 pipeline natural gas in accordance with 67 FR 40421 (12 June 2002)" was not added to the permit for the reasons given in the response to comment 2. Therefore, no changes are made to any permit conditions to add the requested testing requirement.

Comment 4:
PM10 BACT
DEM may contemplate a compromise, such as a 0.85 grain / 100 scf total sulfur fuel gas limit combined with a 12-month rolling 77 billion scf fuel gas limit, such that the entire PSEG facility would then be synthetic minor for SO2 at less than 42 USC 7479(1) 100 tpy. That approach must be rejected.

PSEG is subject to BACT for PM10, and given the 12517 Condition D.1.2 (b) limit of more than 400 tpy, there is every reason to believe that PSEG would be 42 USC 7479(1) major for PM10 even if the fuel gas was 0.1 grain / 100 scf total sulfur.

PSEG intends to control the emission of mixed nitrogen oxides by a method that has a limited potential to emit ("LPTE") several hundred tpy of ammonia ("NH3"). A smaller facility, similar to the PSEG facility and having an identical stack gas NH3 concentration limit, Cogentrix, in Lawrence County, Indiana, as described in issued PSD permit 093- 12432- 00021 within the ftp://ftp2.ai.org/pub/idem/oam/12432f.pdf package ("12432" incorporated herein by reference), has a 447 tpy NH3 limit as Condition D.1.13(b)— PSEG's identical permitted concentration and larger size leads to about a 600 tpy NH3 LPTE.

NH3 and SO2 form several prominent ammonium and ammonium hydrogen sulfite and sulfate compounds which are PM10. DEM knew or should have known that SO2 is a PM10 precursor prior to 23 May 2000.

The PM10 BACT requirement implicitly commands DEM to consider all that which contributes to PM10.

At 67 FR 39606 (10 June 2002) "D.," EPA clearly said SO2 was meant to be a precursor to PM2.5

as stated 23 May 2000 via 65 FR 33269 *et seq*. PM2.5 is PM having an aerodynamic diameter of no more than 2.5 microns, and it is all PM10. Did DEM or PSEG object to that becoming regulation? It appears from response to comment, 67 FR 39604 through 396607 (10 June 2002) that no commenter impeached the fact that PM10 which results from SO2 is a reality.
Thus it is clear error that DEM has not evaluated the harm of PSEG emitting SO2 as a PM10 precursor.

The additional atmospheric PM10 on or near PSEG, a pollutant subject to regulation under 42 USC Chapter 85, as a result of DEM permitting an excess of SO2 within, is an unrefutable BACT "environmental impact" within the law and regulation.

"The term 'best available control technology' means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by- case basis, taking into account energy, *environmental,* and economic *impacts* and other costs, determines is achievable for such facility...." (42 USC 7479(3) emphasis added)
The detailed U.S. Congressional law, which reasonably is superior to the 40 CFR 52.21(b)(12) administrative regulation, does not require that the "pollutant subject to regulation," the PM10, be emitted to be considered as an impact that must be analyzed and considered. The law, having the conjunction or, thus simply requires that *all* of the PM10 which results from a major emitting facility (PSEG) become BACT analysis and BACT limit obligations.

The knowledge date of SO2 being a PM10 precursor vastly predates 23 May 2000. The or which results from Congressional text date vastly predates 23 May 2000. The date of BACT applicability is the later of the two dates (knowledge and law). Thus, all of the dates in 67 FR 39602 *et seq.* (10 June 2002) that follow 23 May 2000 are not relevant to the BACT obligation that was created by the knowledge date more than two years previously. In this matter, there is no need to identify the date other than to reasonably show, as I have, that it preceded the date that DEM published 16235 (and 12517).

The fact that the or which results from phrase is not within 40 CFR 52.21(b)(12) is not relevant, as the Congressional definition is sufficiently detailed that no intent by Congress to grant to the EPA Administrator a privilege of superceding the Congressional definition can be inferred.
Thus DEM's failure to account for SO2 related PM10 and to require minimal emission of SO2 by clean fuel obligation is clear error.

In selecting PM10 BACT, DEM must consider all of the options listed in 42 USC 7479(3), one of which is "clean fuels." A readily available and affordable clean fuel was codified as "40 CFR 72.2 pipeline natural gas" by 64 FR 28587 (26 May 1999) and subsequently recodified with 16.6% less permitted sulfur at 67 FR 40421 (12 June 2002) which DEM must consider, and, absent good technical cause shown, must require for operation of the 16235 heater.

Response 4:
In its public notice, IDEM made it clear that any comments from the public should be related and limited to the addition of the natural gas heater. Therefore, comments regarding the rest of the source will not be addressed in this response.

The commentator failed to mention that 67 FR 39606 (10 June 2002) "D." also mentioned that the term "PM 2.5 precursor" was dropped and substituted by NH3. Reasons given were that the term "PM 2.5 precursor" is not precise, there is not an acceptable enforceable definition for this term, and the Consolidated Emissions Reporting Rule (CERR) specifically requires the reporting of SOX, VOC and NOX.

In contrast to the commentator's opinion, IDEM believes that the fact "or which results from" phrase is not within 40 CFR 52.21(b)(12) is in fact relevant. IDEM is a delegated authority by EPA and therefore, IDEM is obligated to follow 40 CFR 52.21 (b)(12).

Therefore, no changes are made to any permit conditions in response to this comment.

Comment 5:
DEM error v. contumacy in re BACT
1. On 27 June 2002 DEM published draft New Source Review ("NSR") PSD permit and foundation package 125- 12760- 00039 (ftp://ftp2.ai.org/pub/idem/oam/12760d.pdf incorporated herein by reference) for Tenaska in Pike County having PM10 and SO2 BACT determination obligations. DEM failed to mention "40 CFR 72.2 pipeline natural gas in accordance with 67 FR 40421 (12 June 2002)," or any other clean fuel of its sulfur- limited quality, in the permitting process.

2. On 16 May 2002 DEM issued PSD modification permit and foundation package 033- 12992- 00076 (ftp://ftp2.ai.org/pub/idem/oam/12992f.pdf incorporated herein by reference) for Steel Dynamics in DeKalb County which had PM10 and SO2 BACT determination obligations. DEM failed to mention "40 CFR 72.2 pipeline natural gas in accordance with 64 FR 28587 (26 May 1999)," or any other clean fuel of its sulfur- limited quality, in the permitting process.

3. On 5 October 2001 DEM issued NSR PSD permit and foundation package 12432 which had a PM10 BACT determination obligation. DEM failed to mention "40 CFR 72.2 pipeline natural gas in accordance with 64 FR 28587 (26 May 1999)," or any other clean fuel of its sulfur- limited quality, in the permitting process.

4. On 7 June 2001 DEM issued NSR PSD permit and foundation package 12517 which had PM10 and SO2 BACT determination obligations. DEM failed to mention "40 CFR 72.2 pipeline natural gas in accordance with 64 FR 28587 (26 May 1999)," or any other clean fuel of its sulfur- limited quality, in the permitting process.

5. On 20 July 2000 DEM issued NSR PSD and 42 USC 7501 *et seq.* permit and foundation package 089- 11194- 00049 (ftp://ftp2.ai.org/pub/idem/oam/11194f.pdf incorporated herein by reference) to Whiting Clean Energy in a Lake County 40 CFR 81.315 (1 July 2000) PM10 non-attainment area. Ditto in Lake County a 40 CFR 81.315 (1 July 2000) SO2 "does not meet primary standards" area permitting 22.4 x 8,768 / 2,000 = 98.2 tpy when it had advertized 11.4 tpy in its legal ad. DEM failed to mention "40 CFR 72.2 pipeline natural gas in accordance with 64 FR 28587 (26 May 1999)," or any other clean fuel of its sulfur- limited quality, in the permitting process.

Is there a pattern here?
DEM cannot understand the 64 FR 28587 (26 May 1999) and 67 FR 40421 (12 June 2002) 40 CFR 72.2 pipeline natural gas definitions as they apply to SO2 BACT and relative to sulfur oxides as precursors to PM10 in establishing PM10 BACT, and or DEM willfully acts contumaciously by its disregard of that clean fuel.

Regardless, for deficiencies shown, EPA should revoke all delegated and approved authority given to DEM to issue pollution permits.

Additional reason for revocation of authority from DEM is found in the fact that DEM's 12517 permit contains no carbon monoxide limit for three years.

Response 5:
As explained in response 2, the Natural Gas Heater is not a utility unit as defined in 40 CFR 72.2 and is not considered as an effected unit pursuant to 40 CFR 72.6(b)(8). A level of 0.6 gr/100 scf came from a definition and not used as an enforceable limit. Also, as explained in response 4, IDEM made it clear in the public notice that any comments from the public should be related and limited to the addition of the natural gas heater. Therefore, comments regarding other issued permits will not be addressed in this response.

Comment 6

The equal protection of the laws

I request that in all matters concerning PSEG that I have equal protection of the laws as if I was a subscriber to the Lawrenceburg, Indiana *Journal Press* and or other Dearborn County, Indiana newspapers.

The Constitution of the U.S. ("CoUS") reasonably is dominant and makes USC, CFR, and FR subordinate.

The CoUS generally grants considerable sovereignty to the States. This was set out tersely in the 10th Amendment of the CoUS.

However, after a time, it was found that the system was not functioning as intended, and the 14th Amendment of the CoUS ("14th A") was added in which the federal government asserted dominance over the states where the states were inclined to make law that treated citizens within their own state differently. No state shall "deny any person within its jurisdiction the equal protection of the laws" (14th A).

326 IAC 2-13-1(e) provides notice to a select few "persons" within Indiana's "jurisdiction" in re of a 326 IAC 2-13-1(e)(2) 14-day comment period.

Now while it may be true that anyone may subscribe to the Lawrenceburg, Indiana *Journal Press*, the fact is for the state of Indiana to demand that its citizens (indeed all citizens of the U.S.) so subscribe in order for them to receive equal notice of and therefore equal opportunity to comment in accordance with 326 IAC 2-13-1(e)(2), clearly, as a practical matter, fails to comply with the 14th A.

I request that DEM compile and service a mailing list of persons interested in 326 IAC 2-13-1(c) such that those on the list are afforded a comment time that is in no way less than that of any person who is not on that mailing list (such that those requesting to be on the list have actively requested their 14th A equal protection). I request that the items to be included in the mailed notice be not less than those described in 326 IAC 2-13-1(e). I request to be on that list.

Response 6

326 IAC 2-13 is the rule for Interim Approvals. Public notification required under the interim rules are done by the applicant seeking the modification, not by the OAQ. 326 IAC 2-13-1(e), as well as the public notifications done by the OAQ, only require publishing a notice in a minimum of one (1) newspaper of general circulation in the county where that project will occur.

The applicant is only required to notify the OAQ of the date the public notice was published and submit a copy of the proof of the publication prior to the end of the fourteen (14) day public comment period (326 IAC 2-13-1 (f)). Additionally, since the applicant may public notice the interim petition prior to submitting the petition to the OAQ, it will be difficult for the OAQ to preserve a fourteen (14) day comment period for those persons not located in the area where the modification will take place. It should be noted that interim approvals are only for construction not operation. The public still has the opportunity to comment on the approval of the regular significant source modification during its public comment period.

To date, PSEG has not made an interim petition request. OAQ, IDEM acknowledges the commentator's request and is putting procedures into place to accommodate it.

Comment 7

Other clean fuels

While I commented extensively in re "40 CFR 72.2 pipeline natural gas in accordance with 67 FR 40421 (12 June 2002)," it must in no way be viewed as the only clean fuel or as the best clean fuel. Various mixtures of hydrocarbons for fuel use are readily available. Many are known as

liquified petroleum gas or LP gas. Typically LP gas is mostly propane, however a mixture that is mostly butane is also prominent. All of these mixtures typically have far less than 0.71 pounds total sulfur per billion BTU.

Due to this availability and the fact that a month's supply of heater fuel LP gas may easily be stored on the PSEG site in perhaps a 5,000 gallon tank, if PSEG were to in some way claim that "40 CFR 72.2 pipeline natural gas in accordance with 67 FR 40421 (12 June 2002)" was unavailable for heater use, then PSEG would have to also prove that the various LP gases are also unavailable for heater use too.

PSEG may argue that having more than two fuels on site would be excessively burdensome. They might propose a very "sulfur-dirty" fuel that they already are permitted on site in the form of an oil having 20+ pounds total sulfur per billion BTU. DEM must rebuff any such proposal as PM10 and SO2 BACT is required, it is to be current, and there is no exception in the law and regulation for minor sources such as the heater.

Response 7
It needs to be clear that PSEG is not permitted by this permit to use any fuel other than natural gas for the operation of the natural gas heater. In regards to using LPG as fuel for the operation of the natural gas heater:

1. There is almost no difference in the cost of a gas heater that uses natural gas or one that uses LPG as fuel.

2. PSEG has a standard procedure for the storage of all fuels or materials used in the facility. These procedures determined that in order for the facility to run smoothly in case of emergencies such as an interruption in the material supply, it is important to keep at least three days worth of supply of these materials in storage.

3. In order for the storage of LPG to follow this storage standards a 10,000 gallons tank is needed.

4. The cost of the 10,000 gallon tank will be $168,000 in direct costs (propane storage tank, concrete foundation, electrical wiring, propane gas vaporizer, propane gas regulator, fire protection deluge system designed according to good engineering practices, etc.) in addition to $50,000 in indirect construction costs (engineering design, labor, construction management, and contingencies) according to estimates obtained by PSEG's construction contractor (Duke Fluor Daniel), which will bring the total cost of the installation of the storage tank to $218,000.

5. Assuming an emission factor of 0.71 per billion BTU as claimed by the commentator we have emissions equivalent to 0.002 tpy of SO2 as follows:
   (0.71 (lb / billion Btu)) X (2.4 MMBtu / hr) X (1 / 2000 (ton / year) X (2240 (hrs / year))

   The limited potential to emit for the heater is 0.02 tpy of SO2 as shown in Appendix A of the draft permit. Therefore the expected reduction in SO2 emissions as a result of the change in the used fuel will 0.02 – 0.002 = 0.018 tpy.

6. Assuming the cost of the installation of the LPG tanks is $218,000, the cost of the installation will $218,000 / 0.018 ton = 12.1 million dollars per ton of SO2. This amount is economically infeasible.

Therefore, no changes are made to any permit conditions in response to this comment.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Significant Modification to a Construction and PSD Permit.

Source Background and Description

Source Name:	PSEG Lawrenceburg Energy Company, Inc.
Source Location:	582 West Eads Parkway, Lawrenceburg, IN 47025
County:	Dearborn
SIC Code:	4911
Operation Permit No.:	CP-029-12517-00033
Operation Permit Issuance Date:	June 07, 2001
Significant Modification No.:	029-16235-00033
Permit Reviewer:	Ghassan Shalabi

The Office of Air Quality (OAQ) has reviewed a modification application from PSEG Lawrenceburg Energy Company, Inc. relating to the following:

The addition of a startup gas heater, identified as GH1 with a maximum capacity of 2.4 MMBtu/hr (higher heating value basis) and exhausting to stack GH1.

History

On July 19, 2002, PSEG Lawrenceburg Energy Company, Inc. submitted an application to the OAQ requesting to add a startup gas heater. On June 07, 2001 PSEG Lawrenceburg Energy Company, Inc. was issued a Prevention of Significant Deterioration Permit to construct and operate a natural gas merchant power plant.

Enforcement Issue

There are no enforcement actions pending to this proposed startup gas heater.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
GH1	GH1	19	1.3	1217.2	650

Recommendation

The staff recommends to the Commissioner that the Significant Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purpose of this review was received on July 19, 2002.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, 2 pages)

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	0.18
PM-10	0.18
SO_2	0.06
VOC	0.09
CO	0.87
NO_x	1.47

HAP's	Potential To Emit (tons/year)
Hexane	0.0186
Other	0.0008
TOTAL	0.0194

Justification for Modification

The Operating permit is being modified through 326 IAC 2-2 and IC 13-15-7-1 because a new unit is being added to the original PSD project. Therefore, this modification will be subject to public notice and will have 30 day public comment period.

County Attainment Status

The source is located in Dearborn County.

Pollutant	Status
PM-10	Attainment
SO_2	Unclassified
NO_2	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Dearborn County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Dearborn County has been classified as attainment or unclassifiable for PM, PM-10, SO_2 and CO. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories. The source was issued a PSD construction permit 029-12517-00033 on June 07, 2001.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this modification.

	Potential to Emit (tons/year)					
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X
One (1) Startup Gas Heater	0.05	0.05	0.02	0.02	0.22	0.38

These limited PTE are achieved by limiting the hours of operation to 2,240 hours per year.

This modification is being performed within one year of the issuance of the PSD permit CP 029-12517-00033. Therefore, the new startup gas heater is part of the original application and subject to the requirements of 326 IAC 2-2.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed heater.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed heater.

State Rule Applicability - Entire Source / Individual Facilities

326 IAC 2-6 (Emission Reporting)

This source is still subject to 326 IAC 2-6 (Emission Reporting), because the source emits more than 100 tons/yr of PM_{10}, NO_x, VOC and CO. Pursuant to this rule, the owner/operator of this source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

326 IAC 2-2-3 (Best Available Control Technology)

The Startup Gas Heater is subject to the requirements of Best Available Control Technology (BACT) Analysis for PM/PM10, NOx, CO, SO_2, and VOC at the PSEG Lawrenceburg Energy Facility in Lawrenceburg, Indiana. Therefore, Pursuant to 326 IAC 2-2 (PSD Requirement), the source shall comply with the following:

(a) Use natural gas as the only fuel for the gas heater.
(b) Perform good combustion practices.
(c) The natural gas usage for startup gas heater shall not exceed 5.3 million standard cubic feet (MMSCF) per twelve (12) consecutive month period rolled on a monthly basis.
(d) The NOx emissions from the startup gas heater shall be limited to 0.14 lb/ MMBtu.

These PSD BACT are similar to other proposed or permitted heaters.

Source	Type Heater	BACT
PSEG Lawrenceburg **Proposed**	2.4 MMBtu/hr startup gas heater (one (1) heater)	1) fuel input limited to 5.3 MMCF per 12 month period per heater 2) use natural gas with no more than 0.8% sulfur content 3) perform good combustion practices 4) NOx emissions shall be limited to 0.14 lb/ MMBtu
Mirant Sugar Creek #15295	5.0 MMBtu/hr natural gas conditioning heaters (five (5) heaters)	1) fuel input limited to 28.96 MMCF per 12 month period per heater 2) use natural gas with no more than 0.8% sulfur content 3) perform good combustion practices
Cogentrix #12432	5.0 MMBtu/hr natural gas fuel pre-heaters (three (3) heaters)	1) fuel input limited to 42.94 MMCF per 12 month period per heater 2) use very low sulfur natural gas 3) perform good combustion practices
Mt. Vernon Energy Proposed	5.0 MMBtu/hr natural gas fired water bath gas heater (one (1) heater)	1) 4.90 MMCF per 12 month period 2) natural gas as only fuel 3) perform good combustion practices

326 IAC 5-1 (Opacity Limitations)

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

(a) Opacity shall not exceed an average of twenty percent (20%) 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.

326 IAC 2-4.1-1 (HAPs Major Source: New Source Toxics Rule)

Even with the addition of the gas heater, HAPS are less than 10 tons per year for each single HAP and 25 tons per year for the total combined HAP, based on the source potential to emit with limitations. Therefore 326 IAC 2-1-3.4 is not applicable.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

The new gas heater is not subject to the requirements of 326 IAC 8-1-6 because its potential VOC emissions are less than 25 tons per year.

Air Quality Impacts – Modeling Study

PSEG submitted on July 19, 2002, an ambient air quality impact assessment regarding the proposed installation of a startup heater at their Lawrenceburg facility. This is a modification of a PSD permit. In the analysis, predicted ambient air concentrations were modeled from the proposed startup heater singly and also in combination with the other sources within the facility.

The Technical Support and Modeling Section of the Office of Air Quality has reviewed the air quality analysis submitted and found it acceptable. This heater is a small emitter and emissions from this proposed modification are below deminimus modeling thresholds. Additionally, the modeled emissions from the startup heater were below significant impact levels for all criteria pollutants. When combined with the other sources in the facility, predicted total air quality impact

levels were not increased beyond significance levels shown in the previous modeling.

Proposed Permit Changes

1. The startup gas heater will be indicated in Section A.2 as follows:

   (i) One (1) startup gas heater, designated as GH1 with a maximum heat input capacity of 2.4 MMBtu/hr (higher heating value basis), and exhausts to stacks GH1.

2. The startup gas heater will be indicated in Section D.4 and a new quarterly report will be added for the natural gas conditioning heater as follows:

SECTION D.4 FACILITY DESCRIPTION – Startup Gas Heater

Facility Description [326 IAC 2-5.1-3] One (1) startup gas heater, designated as GH1 with a maximum heat input capacity of 2.4 MMBtu/hr (higher heating value basis), and exhausts to stack GH1. (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.4.1 Opacity Limitations

Pursuant to 326 IAC 2-2 (PSD Requirements) the opacity of the startup gas heater shall not exceed twenty (20) percent (6-minute average), except for one 6-minute period per hour of not more than 27 percent. The opacity standards apply at all times, except during periods of startup, shutdown or malfunction.

D.4.2 BACT Limitations for the Startup Gas Heater:

Pursuant to 326 IAC 2-2 (PSD Requirement), the source shall comply with the following:

(a) Use natural gas as the only fuel for the gas heater.
(b) Perform good combustion practices.
(c) The natural gas usage for the startup gas heater shall not exceed 5.3 million standard cubic feet (MMSCF) per twelve (12) consecutive month period, rolled on a monthly basis.
(d) The NOx emissions from the startup gas heater shall be limited to 0.14 lb/ MMBtu.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.4.3 Record Keeping Requirements

(1) To document compliance with Conditions D.4.2, the Permittee shall maintain records of the amount of natural gas combusted by the Startup Gas Heater during each month.

(2) All records shall be maintained in accordance with Section C – General Record Keeping Requirements.

D.4.4 Reporting Requirements

The Permittee shall submit on a quarterly basis a summary of the information to document compliance with Condition D.4.2 to the addresses listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

Compliance Data Section
Quarterly Report

Source Name: PSEG Lawrenceburg Energy Facility
Source Address: 582 West Eads Parkway, Lawrenceburg, IN 47025
Permit No.: CP-029-12517-00033
Source: Startup Gas Heater
Limit: 5.3 MMSCF per twelve (12) consecutive month period rolled on a monthly basis

YEAR: _____

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

☐ No deviation occurred in this quarter.

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

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Significant Modification No. 029-16235-00033.

Appendix A: Limited Emissions Calculations

Company Name: PSEG Lawrenceburg Energy Facility
Address City IN Zip: 582 West Eads Parkway, Lawrenceburg, IN 47025
Permit Number 029-16235-00033

Air Pollutants	Design Heat Input (MMBtu/hr)	Design Fuel Heat Rating †1 (Btu/scf)	Expected Hours of Operation (hrs/yr)	Emission Factors †2 ($lb/10^6$ scf)	Emission Factors †3 (lb/MMBtu)	Potential Emissions †4 (lb/hr)	Potential Emissions †4 (ton/yr)
Criteria Pollutants:							
VOC	2.4	1020	2240	-	8.17E-03	0.02	0.02
PM	2.4	1020	2240	-	1.68E-02	0.040	0.05
PM10	2.4	1020	2240	-	1.68E-02	0.040	0.05
SO2	2.4	1020	2240	6.0	6.00E-03	0.014	0.02
CO	2.4	1020	2240	-	8.24E-02	0.20	0.22
NOx	2.4	1020	2240	-	1.40E-01	0.34	0.38
Hazardous Air Pollutants:							
2-Methylnaphthalene †5	2.4	1020	2240	2.40E-05	2.35E-08	5.65E-08	6.32E-08
3-Methylchloranthrene †5	2.4	1020	2240	1.80E-06	1.76E-09	4.24E-09	4.74E-09
7,12-Dimethylbenz(a)anthracene †5	2.4	1020	2240	1.60E-05	1.57E-08	3.76E-08	4.22E-08
Acenaphthene †5	2.4	1020	2240	1.80E-06	1.76E-09	4.24E-09	4.74E-09
Acenaphthylene †5	2.4	1020	2240	1.80E-06	1.76E-09	4.24E-09	4.74E-09
Anthracene †5	2.4	1020	2240	2.40E-06	2.35E-09	5.65E-09	6.32E-09
Benz(a)anthracene †5	2.4	1020	2240	1.80E-06	1.76E-09	4.24E-09	4.74E-09
Benzene †6	2.4	1020	2240	2.10E-03	2.06E-06	4.94E-06	5.53E-06
Benzo(a)pyrene †5	2.4	1020	2240	1.20E-06	1.18E-09	2.82E-09	3.16E-09
Benzo(b)fluoranthene †5	2.4	1020	2240	1.80E-06	1.76E-09	4.24E-09	4.74E-09
Benzo(g,h,i)perylene †5	2.4	1020	2240	1.20E-06	1.18E-09	2.82E-09	3.16E-09
Benzo(k)fluoranthene †5	2.4	1020	2240	1.80E-06	1.76E-09	4.24E-09	4.74E-09
Chrysene †5	2.4	1020	2240	1.80E-06	1.76E-09	4.24E-09	4.74E-09
Dibenzo(a,h)anthracene †5	2.4	1020	2240	1.20E-06	1.18E-09	2.82E-09	3.16E-09
Dichlorobenzene †6	2.4	1020	2240	1.20E-03	1.18E-06	2.82E-06	3.16E-06
Fluoranthene †5	2.4	1020	2240	3.00E-06	2.94E-09	7.06E-09	7.91E-09
Fluorene †5	2.4	1020	2240	2.80E-06	2.75E-09	6.59E-09	7.38E-09
Formaldehyde †6	2.4	1020	2240	7.50E-02	7.35E-05	1.76E-04	1.98E-04
Hexane †6	2.4	1020	2240	1.80E+00	1.76E-03	4.24E-03	4.74E-03
Indeno(1,2,3-cd)pyrene †5	2.4	1020	2240	1.80E-06	1.76E-09	4.24E-09	4.74E-09
Naphthalene †6	2.4	1020	2240	6.10E-04	5.98E-07	1.44E-06	1.61E-06
Phenanathrene †5	2.4	1020	2240	1.70E-05	1.67E-08	4.00E-08	4.48E-08
Pyrene †5	2.4	1020	2240	5.00E-06	4.90E-09	1.18E-08	1.32E-08
Toluene †6	2.4	1020	2240	3.40E-03	3.33E-06	8.00E-06	8.96E-06
Total POM						2.08E-07	
						Annual Total:	4.96E-03

†1 Based on an average heat rating for natural gas.

†2 Emission factors for Hazardous Air Pollutants are based on AP-42 Section 1.4 for Natural Gas Combustion (7/98 Edition). Emission factor for SO2 based on 2 grains/100 scf.

†3 Emission factors based on vendor supplied data for a similar unit at another PSEG facility. Units of emission factor were converted by dividing the listed emission factor by the heat rating of natural gas.

†4 Potential emissions are based on the following equations:
Hourly emissions (lb/hr) = Emission factor (lb/MMBtu) x Design Heat Input (MMBtu/hr)
Annual emissions (ton/yr) = Hourly emissions (lb/hr) x Maximum hours of operation (hrs/yr) / 2000 pounds/ton

†5 Hazardous Air Pollutant (HAP) because it is Polycyclic Organic Matter (POM). POM is a HAP as defined by Section 112(b) of the Clean Air Act.

†6 HAP as defined by Section 112(b) of the Clean Air Act.

Appendix A: PTE Calculations

Company Name: PSEG Lawrenceburg Energy Facility
Address City IN Zip: 582 West Eads Parkway, Lawrenceburg, IN 47025
Permit Number 029-16235-00033

Air Pollutants	Design Heat Input (MMBtu/hr)	Design Fuel Heat Rating †1 (Btu/scf)	Expected Hours of Operation (hrs/yr)	Emission Factors †2 (lb/10^6 scf)	Emission Factors †3 (lb/MMBtu)	Potential Emissions †4 (lb/hr)	Potential Emissions †4 (ton/yr)
Criteria Pollutants:							
VOC	2.4	1020	8760	-	8.17E-03	0.02	0.09
PM	2.4	1020	8760	-	1.68E-02	0.040	0.18
PM10	2.4	1020	8760	-	1.68E-02	0.040	0.18
SO2	2.4	1020	8760	6.0	6.00E-03	0.014	0.06
CO	2.4	1020	8760	-	8.24E-02	0.20	0.87
NOx	2.4	1020	8760	-	1.40E-01	0.34	1.47
Hazardous Air Pollutants:							
2-Methylnaphthalene †5	2.4	1020	8760	2.40E-05	2.35E-08	5.65E-08	2.47E-07
3-Methylchloranthrene †5	2.4	1020	8760	1.80E-06	1.76E-09	4.24E-09	1.86E-08
7,12-Dimethylbenz(a)anthracene †5	2.4	1020	8760	1.60E-05	1.57E-08	3.76E-08	1.65E-07
Acenaphthene †5	2.4	1020	8760	1.80E-06	1.76E-09	4.24E-09	1.86E-08
Acenaphthylene †5	2.4	1020	8760	1.80E-06	1.76E-09	4.24E-09	1.86E-08
Anthracene †5	2.4	1020	8760	2.40E-06	2.35E-09	5.65E-09	2.47E-08
Benz(a)anthracene †5	2.4	1020	8760	1.80E-06	1.76E-09	4.24E-09	1.86E-08
Benzene †6	2.4	1020	8760	2.10E-03	2.06E-06	4.94E-06	2.16E-05
Benzo(a)pyrene †5	2.4	1020	8760	1.20E-06	1.18E-09	2.82E-09	1.24E-08
Benzo(b)fluoranthene †5	2.4	1020	8760	1.80E-06	1.76E-09	4.24E-09	1.86E-08
Benzo(g,h,i)perylene †5	2.4	1020	8760	1.20E-06	1.18E-09	2.82E-09	1.24E-08
Benzo(k)fluoranthene †5	2.4	1020	8760	1.80E-06	1.76E-09	4.24E-09	1.86E-08
Chrysene †5	2.4	1020	8760	1.80E-06	1.76E-09	4.24E-09	1.86E-08
Dibenzo(a,h)anthracene †5	2.4	1020	8760	1.20E-06	1.18E-09	2.82E-09	1.24E-08
Dichlorobenzene †6	2.4	1020	8760	1.20E-03	1.18E-06	2.82E-06	1.24E-05
Fluoranthene †5	2.4	1020	8760	3.00E-06	2.94E-09	7.06E-09	3.09E-08
Fluorene †5	2.4	1020	8760	2.80E-06	2.75E-09	6.59E-09	2.89E-08
Formaldehyde †6	2.4	1020	8760	7.50E-02	7.35E-05	1.76E-04	7.73E-04
Hexane †6	2.4	1020	8760	1.80E+00	1.76E-03	4.24E-03	1.86E-02
Indeno(1,2,3-cd)pyrene †5	2.4	1020	8760	1.80E-06	1.76E-09	4.24E-09	1.86E-08
Naphthalene †6	2.4	1020	8760	6.10E-04	5.98E-07	1.44E-06	6.29E-06
Phenanathrene †5	2.4	1020	8760	1.70E-05	1.67E-08	4.00E-08	1.75E-07
Pyrene †5	2.4	1020	8760	5.00E-06	4.90E-09	1.18E-08	5.15E-08
Toluene †6	2.4	1020	8760	3.40E-03	3.33E-06	8.00E-06	3.50E-05
Total POM						2.08E-07	
						Annual Total:	1.94E-02

†1 Based on an average heat rating for natural gas.

†2 Emission factors for Hazardous Air Pollutants are based on AP-42 Section 1.4 for Natural Gas Combustion (7/98 Edition). Emission factor for SO2 based on 2 grains/100 scf.

†3 Emission factors based on vendor supplied data for a similar unit at another PSEG facility. Units of emission factor were converted by dividing the listed emission factor by the heat rating of natural gas.

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†6 HAP as defined by Section 112(b) of the Clean Air Act.