INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

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

July 1, 2004

TO: Interested Parties / Applicant

RE: Worthington Generation, LLC / 055-18572-00034

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

Notice of Decision: Approval - Effective Immediately

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

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER.dot 9/16/03

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July 1, 2004

Mr. Darrell Bayless
Worthington Generation, LLC
RR1, Box 37B
Switz City, Indiana 47465

Re: SSM 055-18572-00034
First Significant Source Modification to:
Part 70 permit No.: T055-14484-00034

Dear Mr. Reynolds:

Worthington Generation, LLC was issued a Part 70 permit T055-14484-00034 on May 28, 2003 for a merchant electric generating peaking station. An application to modify the source was received on February 24, 2004. Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for modification and construction at the source:

(a) Four (4) simple cycle natural gas-fired turbines, identified as Turbines 1 through 4, constructed in 2000 and modified in 2004, each with a maximum heat input capacity of 460 MMBtu/hr and a generating capacity of 45 MW, using No. 2 fuel oil as a back-up fuel, and water-injection to control NO_x emissions, and exhausting to four (4) stacks, designated as S-1 through S-4, respectively.

(b) One (1) diesel fired emergency generator, constructed in 2004, with a maximum power output rate of 3,000 horsepower.

*(c) One (1) fuel oil storage tank, constructed in 2004, with a maximum capacity of 950,000 gallons.

*Note: This is considered an insignificant unit as defined in 326 IAC 2-7-1(21).

The following construction conditions are applicable to the proposed project:

General Construction Conditions

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

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

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

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

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

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

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

Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Yu-Lien Chu of ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7871 to speak directly to Ms. Chu. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, dial extension 3-6878, or dial (317) 233-6878.

Sincerely,
Original signed by

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments

ERG/YC

cc: File - Greene County
U.S. EPA, Region V
Greene County Health Department
Air Compliance Section Inspector - Jim Thorpe
Compliance Data Section
Administrative and Development -Sara Cloe
Technical Support and Modeling - Michele Boner

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PART 70 OPERATING PERMIT
OFFICE OF AIR QUALITY

Worthington Generation, LLC
South of Intersection of Routes 67/237 and Route 57
Worthington, Indiana 47471

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

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

Operation Permit No.: T055-14484-00034	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: May 28, 2003 Expiration Date: May 28, 2008

First Significant Permit Modification No.: 055-17372-00034, issued on November 14, 2003

First Significant Source Modification No.: 055-18572-00034	
Issued by: Original signed by Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: July 1, 2004

SECTION A SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a 180 MW merchant electric generating peaking station.

Responsible Official:	Manager, Generation Technical Services
Source Address:	South of Intersection of Routes 67/237 and Route 57, Worthington, Indiana 47471
Mailing Address:	RR1, Box 37B, Switz City, Indiana 47465
Source Phone Number:	812-875-9707
SIC Code:	4911
County Location:	Greene
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD Minor Source, Section 112 of the Clean Air Act Not 1 of 28 source categories

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

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

(a) Four (4) simple cycle natural gas-fired turbines, identified as Turbines 1 through 4, constructed in 2000 and modified in 2004, with a maximum heat input capacity of 460 MMBtu/hr per turbine and a generating capacity of 45 MW per turbine, using No. 2 fuel oil as a back-up fuel, with water-injection for NO_x emissions control, and exhausting to four (4) stacks designated as S-1 through S-4, respectively.

(b) One (1) diesel fired emergency generator, constructed in 2004, with a maximum power output rate of 3,000 horsepower.

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

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

(a) Emergency diesel generators not exceeding 1600 horsepower: One (1) diesel-fired emergency generator, constructed in 2000, with a maximum capacity of 588 hp. [326 IAC 2-2]

(b) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day SO_2; 5 lb/hr or 25 lb/day NO_x; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

(1) One (1) natural gas-fired boiler, a maximum heat input capacity of 17.7 MMBtu/hr, with emissions uncontrolled, exhausting to stack S-5.

(2) One (1) No. 2 fuel oil storage tank, constructed in 2004, with a maximum capacity of 950,000 gallons. [40 CFR 60, Subpart Kb]

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

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

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

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

(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).

SECTION D.1 FACILITY OPERATION CONDITIONS

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

(a) Four (4) simple cycle natural gas-fired turbines, identified as Turbines 1 through 4, constructed in 2000 and modified in 2004, with a maximum heat input capacity of 460 MMBtu/hr per turbine and a generating capacity of 45 MW per turbine, using No. 2 fuel oil as a back-up fuel, with water-injection for NO_x emissions control, and exhausting to four (4) stacks designated as S-1 through S-4, respectively.

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

Emissions Limitation and Standards [326 IAC 2-7-5(1)]

D.1.1 Fuel Usage Limitations [326 IAC 2-2]

(a) Pursuant to CP 055-10724-00034, issued July 15, 1999, the total "weighted" natural gas usage for the turbines shall not exceed 4,930 million standard cubic feet (MMSCF) during any twelve (12) consecutive month period with compliance determined at the end of each month.

(b) Pursuant to CP 055-10724-00034, issued July 15, 1999, for every 1.0 million standard cubic feet (MMSCF) consumed by the boiler (Section D.2), the "weighted" natural gas limit shall be reduced by 1.08 million standard cubic feet (MMSCF).

(c) Pursuant to CP 055-10724-00034, issued July 15, 1999, the "weighted" natural gas usage is determined in the winter months (October through April) by multiplying the actual natural gas usage by 2.35. During the summer months (May through September) the actual natural gas usage is equivalent to the "weighted" natural gas usage.

(d) For every kilogallon (1,000 gallons) of No. 2 fuel oil consumed by the turbines, the "weighted" natural gas usage limit shall be reduced by 0.255 MMSCF.

Combined with the CO and NO_X emission limits in Condition D.1.4, this is equivalent to 245 tons/yr of CO emissions and 228 tons/yr of NO_X emissions. Combined with the CO and NO_X emissions from the boiler, the emergency generators, and the insignificant activities, the CO and NO_X emissions from the entire source are each limited to less than 250 tons/yr. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

D.1.2 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

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

D.1.3 40 CFR Part 60, Subpart GG Applicability (Stationary Gas Turbines)

The four (4) combustion turbines are subject to 40 CFR Part 60, Subpart GG because the heat input at peak load is equal to or greater than 10.7 gigajoules 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, 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 peck 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.

(3) Combust only pipeline natural gas, as defined by 40 CFR 72.2, in the turbines.

D.1.4 Emission Rate Limitations [326 IAC 2-2] [40 CFR 52.21] [326 IAC 8-1-6]

(a) Pursuant to CP 055-10724-00034, issued July 15, 1999, the CO emission rate from the turbines during the summer months (May through September) shall not exceed 99.5 pounds per million cubic feet of natural gas combusted. The CO emission rate from the turbines during the winter months (October through April) shall not exceed 233.8 pounds per million cubic feet of "weighted" natural gas combusted. Compliance with these limits and the limitations in Condition D.1.1(a) will ensure that the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, do not apply.

(b) The NO_X emissions from the turbines shall be limited to the following:

(1) The NO_X emissions shall not exceed 92.4 lbs/MMBtu during the summer months (May through September) and shall not exceed 217 lbs/MMBtu during the winter months (October through April) while combusting natural gas.

(2) The NO_X emissions shall not exceed 0.17 lbs/MMBtu while combusting No. 2 fuel oil with a maximum heat heating value of 139,000 Btu/gal.

Combined with Condition D.1.1, this is equivalent to 228 tons/yr of NO_X emissions. Combined with the NO_X emissions from the boiler, the emergency generators, and the insignificant activities, the NO_X emissions from the entire source are limited to less than 250 tons/yr. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

(c) The SO_2 emissions shall not exceed 0.152 lbs/MMBtu while combusting No. 2 fuel oil with a maximum heat heating value of 139,000 Btu/gal.

Combined with Condition D.1.1, this is equivalent to 204 tons/yr of SO_2 emissions. Combined with the SO_2 emissions from the boiler, the emergency generators, and the insignificant activities, the SO_2 emissions from the entire source are limited to less than 250 tons/yr. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

(d) Pursuant to CP 055-10724-00034, issued July 15, 1999, the VOC emission rate from the turbines during the summer months (May through September) shall not exceed 9.5 pounds per million cubic feet of natural gas combusted. The VOC emission rate from the turbines during the winter months (October through April) shall not exceed 22.3 pounds per million cubic feet of natural gas combusted. Compliance with these limitations along with Condition D.1.1 will ensure that 326 IAC 8-1-6 (BACT) does not apply.

D.1.5 Water-to-Fuel Ratio Monitoring [40 CFR Part 60, Subpart GG]

The Permittee shall install and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. This system shall be accurate to within ±5.0 percent and shall be approved by the IDEM, OAQ. [40 CFR 60.334(b)]

D.1.6 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1]

Pursuant 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations), sulfur dioxide (SO_2) emissions from each of the turbines shall be limited to 0.5 pounds per million Btu heat input, when burning No. 2 fuel oil.

D.1.7 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.1.8 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11] [40 CFR 75.12]

(a) Prior to October 14, 2005, and in order to demonstrate compliance with Conditions D.1.3 and D.1.4(b) the Permittee shall perform NO_x stack tests utilizing methods as approved by the Commissioner. These tests shall be performed in accordance with Section C - Performance Testing, and repeated the earlier of 3,000 unit operating hours or once every five (5) years from the date of this valid compliance demonstration.

(b) Prior to October 14, 2005, and in order to demonstrate compliance with Conditions D.1.3 and D.1.4(b), the Permittee shall perform NO_x stack tests utilizing methods as approved by the Commissioner. These tests shall be performed during the summer months (May through September), in accordance with Section C -Performance Testing, and repeated the earlier of 3,000 unit operating hours or once every five (5) years from valid compliance demonstration. If the NO_X stack tests required in (a) of this condition are performed during the summer months (May through September), the separate NO_x tests described here are not required.

(c) Prior to September 27, 2005, and in order to demonstrate compliance with Condition D.1.4(a), the Permittee shall perform CO stack tests utilizing methods as approved by the Commissioner. These tests shall be performed in accordance with Section C - Performance Testing, and repeated once every five (5) years from the date of this valid compliance demonstration.

(d) Prior to September 27, 2005, and in order to demonstrate compliance with Condition D.1.4(d), the Permittee shall perform VOC stack tests utilizing methods as approved by the Commissioner. Separate testing shall be performed during the summer months (May through September) and winter months (October through April). These tests shall be performed in accordance with Section C -Performance Testing, and repeated once every five (5) years from valid compliance demonstration.

D.1.9 Sulfur Dioxide Emissions and Sulfur Content

(a) In order to demonstrate compliance with Conditions D.1.4(c) and D.1.6, and pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate the sulfur dioxide emission limits by:

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

(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from one of the turbines, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

Compliance Monitoring Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.10 Visible Emissions Notations

(a) Visible emission notations of the turbine stack exhausts shall be performed once per shift during normal daylight operations when combusting fuel oil. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation Records and Reports shall be considered a deviation from this permit.

D.1.11 Nitrogen Oxides Monitoring Requirement [326 IAC 10-4-4(b)(1)] [326 IAC 10-4-12(b) and (c)] [40 CFR 75]

The Permittee shall meet the monitoring requirements of 326 IAC 10-4-12(b)(1) through (b)(3) that are applicable to their monitoring systems for the NO_x budget units on or before May 1, 2003. The Permittee shall record, report, and quality assure the data from the monitoring systems on and after May 1, 2003 in accordance with 326 IAC 10-4-12 and 40 CFR 75.

D.1.12 Sulfur Content and Nitrogen Content Monitoring [40 CFR Part 60, Subpart GG]

(a) Pursuant to 40 CFR Part 60, Subpart GG (Stationary Gas Turbines), and EPA approval issued December 7, 2000, the Permittee shall comply with the following custom monitoring schedule:

Determine the sulfur content of the fuel being fired in the turbines semiannually. This determination shall be conducted during the first and third quarters of each calendar year and will be made using methods approved by the Commissioner. If any sulfur analysis indicates noncompliance with Condition D.1.3, the Permittee shall notify IDEM of such excess emissions and this custom schedule shall be re-examined. Sulfur monitoring shall be conducted weekly while the custom schedule is re-examined. If there is a change in fuel supply (supplier), IDEM, OAQ shall be notified of the change and the fuel shall be sampled daily for a period of two seeks to re-establish that the fuel supply is low in sulfur content. If the fuel supply's low sulfur content is re-established, then the custom monitoring schedule can resume.

(b) 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.

The NO_x and SO_2 monitoring required by 40 CFR Part 75 and specified in Condition D.1.13 shall satisfy the monitoring requirements for the purposes of 40 CFR Part 60, Subpart GG.

D.1.13 SO_2 and NOx Monitoring Requirements [40 CFR Part 72.9] [40 CFR Part 75]

(a) Pursuant to 40 CFR 72.9 and 40 CFR 75.11, the Permittee has elected to monitor SO_2 emissions from the turbines pursuant to 40 CFR 75, Appendix D. Appendix D includes, but is not limited to, the following requirements:

(1) For each hour when the unit is combusting fuel, the Permittee shall measure and record the flow of fuel combusted by the unit with an in-line flowmeter and automatically record the data with a data acquisition and handling system. This shall be performed in accordance with the procedures specified in Section 2.1 of Appendix D.

(2) Pursuant to 40 CFR 75.11(d)(2), the Permittee shall measure and record SO_2 emissions using the applicable procedures specified in appendix D to 40 CFR 75 for estimating hourly SO_2 mass emissions.

(3) The Permittee shall provide information on the contractual sulfur content from the pipeline gas supplier in the monitoring plan for the unit, demonstrating that the gas has a hydrogen sulfide content of 1 grain/100 scf or less, and a total sulfur content of 20 grain/100 scf or less.

(b) Pursuant to 40 CFR 72.9, and 40 CFR 75.12, the Permittee has elected to monitor NO_x emissions from the turbines pursuant to 40 CFR 75, Appendix E, which is used for peaking units. Appendix E includes, but is not limited to, the following requirements:

(1) The Permittee shall perform initial performance tests for each turbine to measure NO_x emission rates at heat input rate levels corresponding to different load levels, measure the heat input rate, and plot the correlation between heat input rate and NO_X emission rate, in order to determine the emission rate of the units. This testing shall be performed in accordance with section 2.1 of Appendix E.

(2) The Permittee shall retest the NO_x emission rate of the turbines prior to the earlier of 3,000 unit operating hours or the 5 year anniversary and renewal of its operating permit under 40 CFR Part 72.

(3) The Permittee shall record the time (hr. and min.), load (MWge or steam load in 1000 lb/hr), fuel flow rate and heat input rate (using the procedures in section 2.1.3 of Appendix E) for each hour during which the unit combusts fuel. The Permittee shall calculate the total hourly heat input using equation E-1 of Appendix E and record the heat input rate for each fuel to the nearest 0.1 MMBtu/hr. During partial unit operating hours, heat input must be represented as an hourly rate in MMBtu/hr, as if the fuel were combusted for the entire hour at that rate in order to ensure proper correlation with the NO_x emission rate graph.

(4) The Permittee shall use the graph of the baseline correlation results to determine the NO_x emissions rate (lb/MMBtu) corresponding to the heat input rate (MMBtu/hr) and input this correlation into the data acquisition and handling system for the turbines. The data shall be linearly interpolated to 0.1 MMBtu/hr heat input rate and 0.01lb/MMBtu.

If either combustion turbine exceeds a capacity factor of 20 percent in any given year, or an average capacity factor of 10 percent for the previous 3 years, then the Permittee

shall install, certify, and operate a NO_X continuous emission monitoring (CEM) system by December 31 of the following calendar year. The NO_X CEM system shall meet the minimum requirements of 40 CFR Part 75 and 326 IAC 3-5.

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

D.1.14 Record Keeping Requirements

(a) To document compliance with Condition D.1.1, the Permittee shall maintain records of the monthly fuel usage.

(b) To document compliance with Conditions D.1.3, D.1.4(b), D.1.4(c), D.1.6, D.1.12, and D.1.13, the Permittee shall maintain records of the SO_2 and NO_x emissions in accordance with 40 CFR Part 75, Appendices D and E. In addition, the hours of operation of each turbine shall be recorded and maintained to ensure that the turbines are defined as peaking units.

(c) To document compliance with Conditions D.1.4(c) and D.1.6, the Permittee shall maintain records in accordance with (1) through (6) below.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;

(3) To certify compliance when burning natural gas only, the Permittee shall maintain records of fuel used.

If the fuel supplier certification is used to demonstrate compliance, when burning alternate fuels and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum, shall be maintained:

(4) Fuel supplier certifications;

(5) The name of the fuel supplier; and

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

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

(d) To document compliance with Condition D.1.5, the Permittee shall maintain records of fuel consumption and the ratio of water to fuel being fired in the turbines.

(e) To document compliance with Condition D.1.10, the Permittee shall maintain records of visible emission notations of the turbine stack exhausts when firing No. 2 fuel oil.

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

D.1.15 Nitrogen Oxides Budget Permit Application Submittal Requirement [326 IAC 10-4-4(a)(1)] [326 IAC 10-4-9(e)]

(a) For NO_x budget units that commenced operation prior to January 1, 2001, the NO_x authorized account representative shall submit a complete NO_x budget permit application in accordance with 326 IAC 10-4-7 at least two hundred seventy (270) days prior to May 31, 2004. This application shall be submitted by the NO_x authorized account representative to:

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

(b) For the NO_x budget units that commenced operation on or after May 1, 2000, the NO_x authorized account representative shall submit a request for NO_x allowances in accordance with 326 IAC 10-4-9(e) by September 1 of the calendar year that is one (1) year in advance of the first ozone control period for which the NO_x allowance allocation is requested. The NO_x authorized account representative shall submit a request each year that the units will require allowances from the new unit set aside until the units are allocated allowances from the existing source pool. These requests shall be submitted by the NO_x authorized account representative to:

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

D.1.16 Reporting Requirements

(a) A quarterly summary of the information used to document compliance with Condition D.1.1 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.

(b) The Permittee shall submit a quarterly excess emissions report indicating any period during which the NO_x emissions from the turbines were greater than the amount allowed by the equation in Condition D.1.3, or any period during which the fuel bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance determined from performance testing.

(c) The Permittee shall submit a quarterly excess emissions report indicating any daily period during which the SO_2 emissions from the turbines were greater than the amount allowed in Condition D.1.3.

(d) The Permittee shall submit reports of any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with Condition D.1.3 from performance testing.

(e) These reports shall be submitted within thirty (30) calendar days following the end of each calendar quarter and shall be in accordance with Section C - General Reporting Requirements of this permit. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION D.2 FACILITY OPERATION CONDITIONS

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

(b) One (1) diesel fired emergency generator, constructed in 2004, with a maximum power output rate of 3,000 horsepower.

Insignificant Activities:

(a) Emergency diesel generators not exceeding 1600 horsepower: One (1) diesel-fired emergency generator, constructed in 2000, with a maximum capacity of 588 hp. [326 IAC 2-2]

(b) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day SO_2; 5 lb/hr or 25 lb/day NO_x; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

(1) One (1) natural gas-fired boiler, a maximum heat input capacity of 17.7 MMBtu/hr, with emissions uncontrolled, exhausting to stack S-5.

(2) One (1) No. 2 fuel oil storage tank, constructed in 2004, with a maximum capacity of 950,000 gallons. [40 CFR 60, Subpart Kb]

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

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

D.2.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

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

D.2.2 NO_x and CO Limitations [326 IAC 2-2]

(a) The operating hours for the 588 hp emergency generator shall be limited to less than 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) The operating hours for the 3,000 hp emergency generator shall be limited to less than 300 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with this limit, along with the fuel usage limitation for the turbines and boiler (Condition D.1.1), is equivalent to NO_x and CO emissions of less than 250 tons per year and will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

D.2.3 Particulate Matter [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, the particulate matter emissions from the boiler shall not exceed 0.516 pounds per MMBtu energy input.

This limitation is based on the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

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

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. (Q = 17.7 MMBtu/hr).

D.2.4 Volatile Organic Compounds (VOCs) [326 IAC 12-1][40 CFR 60.116b, Subpart Kb]

Pursuant to 40 CFR 60.116b, Subpart Kb (New Source Performance Standards for Volatile Organic Liquid Storage Vessels), the No. 2 fuel oil storage tank is subject to 40 CFR 60.116b, paragraphs (a) and (b) which requires record keeping.

D.2.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the boiler.

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

D.2.6 Record Keeping Requirements

(a) To document compliance with Condition D.2.2, and 40 CFR Part 60 Subpart Dc, the Permittee shall maintain records of the:

(1) Number of the operating hours for each emergency generator each month; and

(2) Amount of natural gas (MMSCF) consumed by the boiler each day.

(b) To document compliance with Condition 2.4, the Permittee shall maintain records for the life of the source in accordance with (1) through (2) below:

(1) The dimension of the storage vessel; and

(2) An analysis showing the capacity of the storage vessel.

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

D.2.7 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION E ACID RAIN PROGRAM CONDITIONS

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

(a) Four (4) simple cycle natural gas-fired turbines, identified as Turbines 1 through 4, constructed in 2000 and modified in 2004, with a maximum heat input capacity of 460 MMBtu/hr per turbine and a generating capacity of 45 MW per turbine, using No. 2 fuel oil as a back-up fuel, with water-injection for NO_x emissions control, and exhausting to four (4) stacks designated as S-1 through S-4, respectively.

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

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

(a) The Acid Rain permit for this source, AR 055-11032-00034, issued May 1, 2000, are incorporated by reference into this Part 70 permit and is attached as Appendix A. Pursuant to 326 IAC 21 (Acid Deposition Control), the Permittee shall comply with all provisions of the Acid Rain permit and any other applicable requirements contained in 40 CFR 72 through 40 CFR 78.

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

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

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

(a) No revision of this permit shall be required for increases in emissions that are authorized by allowances acquired under the Title IV Acid Rain Program, provided that such increases do not require a permit revision under any other applicable requirement.

(b) No limit shall be placed on the number of allowances held by the Permittee. The Permittee may not use allowances as a defense of noncompliance with any other applicable requirement.

(c) Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Clean Air Act.

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

Quarterly Report

Source Name: Worthington Generation, LLC
Source Address: South of the intersection of Route 67/237 and Route 57, Worthington, IN 47471
Mailing Address: RR1, Box 37B, Switz City, IN 47465
Part 70 Permit No.: T055-14484-00034
Facility: Turbines and boiler
Parameter: Weighted natural gas usage
Limit: Less than 4,930 MMSCF per twelve (12) consecutive month period with compliance determined at the end of each month. For every 1.0 MMSCF consumed by the boiler, the “weighted” natural gas usage limit shall be reduced by 1.08 MMSCF. For every kilogallon of No. 2 fuel oil consumed, the "weighted" natural gas usage limit shall be reduced by 0.255 MMSCF.

Year: _____

Month	Natural Gas Used by Turbines This Month (MMSCF)	Weighting Factor	Natural Gas Used by Boiler This Month (MMSCF)	Total “Weighted” Natural Gas Usage This Month (MMSCF)*	Total “Weighted” Natural Gas Usage for Past 11 Months (MMSCF)	Total “Weighted” Natural Gas Usage for 12 Month Period (MMSCF)

* Weighted natural gas usage (October through April) = [Actual gas usage (turbines) x 2.35] + [Actual gas usage (boiler) x 1.08] [Actual No. 2 fuel oil usge (kgal) x 0.255]

* Weighted natural gas usage (May through September) = [Actual gas usage (turbines)] +[(Actual gas usage (boiler) x 1.08)] [Actual No. 2 fuel oil usage (kgal) x 0.255]

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

Quarterly Report

Source Name: Worthington Generation, LLC
Source Address: South of the intersection of Route 67/237 and Route 57, Worthington, IN 47471
Mailing Address: RR1, Box 37B, Switz City, IN 47465
Part 70 Permit No.: T055-14484-00034
Facility: 588 hp Emergency Generator
Parameter: Operating hours
Limit: Less than 500 operating hours per twelve (12) consecutive month period with compliance determined at the end o f each month

Year: _____

Month	Operating Hours This Month (hrs)	Total Operating Hours for Past 11 Months (hrs)	Total Operating Hours for Past 12 Month Period (hrs)

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

Quarterly Report

Source Name: Worthington Generation, LLC
Source Address: South of the intersection of Route 67/237 and Route 57, Worthington, IN 47471
Mailing Address: RR1, Box 37B, Switz City, IN 47465
Part 70 Permit No.: T055-14484-00034
Facility: 3,000 hp Emergency Generator
Parameter: Operating hours
Limit: Less than 300 operating hours per twelve (12) consecutive month period with compliance determined at the end of each month

Year: _____

Month	Operating Hours This Month (hrs)	Total Operating Hours for Past 11 Months (hrs)	Total Operating Hours for Past 12 Month Period (hrs)

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document for a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification

Source Background and Description

Source Name:	Worthington Generation, LLC
Source Location:	South of Intersection of Routes 67/237 and Route 57, near Worthington, Indiana 47471
Mailing Address:	RR1, Box 37B, Switz City, Indiana 47465
County:	Greene
SIC Code:	4911
Operation Permit No.:	T055-14484-00034
Operation Permit Issuance Date:	May 28, 2003
Significant Source Modification No.	055-18572-00034
Significant Permit Modification No:	055-18803-00034
Permit Reviewer:	ERG/YC

On May 5, 2004, the Office of Air Quality (OAQ) had a notice published in the Linton Daily Citizen, Linton, Indiana, stating that Worthington Generation, LLC had applied for a Significant Source Modification and Significant Permit Modification to use No. 2 fuel oil as a back-up fuel for existing turbines and to install a new emergency generator and a new No. 2 fuel oil storage tank. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On June 15, 2004, Worthington Generation, LLC submitted comments on the proposed Significant Source Modification permit and the Significant Permit Modification. The summary of the comments is as follows (bolded language has been added, the language with a line through it has been deleted):

Comment 1:

The source requested to change the responsible official of this source to Manager, Generation Technical Services.

Response to Comment 1:

Since the proposed person meets the "Responsible Official" definition in 326 IAC 2-7-1(34), Condition A.1 has been revised as follows as the result of this comment:

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a 180 MW merchant electric generating peaking station.

Responsible Official:	~~Vice President, Hoosier Energy REC~~ **Manager, Generation Technical Services**
Source Address:	South of Intersection of Routes 67/237 and Route 57, Worthington,

	Indiana 47471
Mailing Address:	RR1, Box 37B, Switz City, Indiana 47465
Source Phone Number:	812-875-9707
SIC Code:	4911
County Location:	Greene
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program
	Minor Source, under PSD
	Minor Source, Section 112 of the Clean Air Act
	Not 1 of 28 source categories

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification

Source Background and Description

Source Name:	Worthington Generation, LLC
Source Location:	South of Intersection of Routes 67/237 and Route 57, near Worthington, Indiana 47471
Mailing Address:	RR1, Box 37B, Switz City, Indiana 47465
County:	Greene
SIC Code:	4911
Operation Permit No.:	T055-14484-00034
Operation Permit Issuance Date:	May 28, 2003
Significant Source Modification No.	055-18572-00034
Significant Permit Modification No:	055-18803-00034
Permit Reviewer:	ERG/YC

The Office of Air Quality (OAQ) has reviewed a modification application from Worthington Generation, LLC relating to combust No. 2 fuel oil as a back-up fuel for the following emission units:

Four (4) simple cycle natural gas-fired turbines, identified as Turbines 1 through 4, constructed in 2000, each with a maximum heat input capacity of 460 MMBtu/hr and a generating capacity of 45 MW, using water-injection to control NO_x emissions, and exhausting to four (4) stacks, designated as S-1 through S-4, respectively.

The source also proposed to construct and operate the following new emission units:

(a) One (1) diesel fired emergency generator, constructed in 2004, with a maximum power output rate of 3,000 horsepower.

*(b) One (1) No. 2 fuel oil storage tank, constructed in 2004, with a maximum capacity of 950,000 gallons.

*Note: This is considered an insignificant unit as defined in 326 IAC 2-7-1(21).

History

Worthington Generation, LLC is an existing power plant with four (4) natural gas-fired turbines. A Part 70 permit (T055-14484-00034) was issued to this source on May 28, 2003. On February 24, 2004, the source submitted an application requesting to use No. 2 fuel oil as a back-up fuel for the four (4) existing natural gas-fired turbines and to construct and operate an additional diesel fired emergency generator and a No. 2 fuel oil storage tank.

Pursuant to T055-14484-00034, issued on May 28, 2003, the potential to emit CO and NO_x from the entire source is limited to less than 250 tons/yr by limiting the total natural gas use. Therefore, this existing power plant is a PSD minor source. The source proposed to maintain their PSD

minor source status by limiting the total fuel usage (including natural gas and No. 2 fuel oil), limiting NO_x, CO, and SO_2 emissions on a lb/MMBtu basis, and by limiting the operating hours for the emergency generators.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification and the Part 70 Significant Permit 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 purposes of this review was received on February 24, 2004. Additional information was received on March 18, 2004.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 through 3).

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	808
PM-10	808
SO_2	4,072
VOC	132
CO	456
NO_x	1,393

HAP's	*Potential To Emit (tons/year)
Propylene	22.5
Benzene	6.25
Toluene	2.26
Xylene	1.56
Naphthalene	1.05
TOTAL	33.6

*Note: Since the use of natural gas in the existing turbines has been permitted, the potential to emit listed here only includes the PTE of the turbines while using No. 2 fuel oil, the new emergency generator, and the new fuel oil storage tank.

Justification for Modification

This modification is being performed through a Part 70 Significant Source Modification pursuant to 326 IAC 2-7-10.5(f) as (1) the potential to emit PM, PM10, VOC, NO_x and SO_2 is each greater than 25 tons per year; (2) the potential to emit CO is greater than 100 tons per year; and (3) the potential to emit HAPs is greater than 10 tons/yr for a single HAP and greater than 25 tons/yr for total HAPs. The permit modification is being performed through a Significant Permit Modification pursuant to 326 IAC 2-7-12(d) because this is a modification under provisions of Title I of CAA.

County Attainment Status

The source is located in Greene County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
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. Greene County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).

(b) Greene County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).

(c) Fugitive Emissions
This type of operation is not in one of the 28 source categories under 326 IAC 2-2 (this source does not use steam as the working fluid and is not considered a steam electric plant). However, since there is an applicable New Source Performance Standard that was in effect on August 7, 1980 (40 CFR Part 60 Subpart GG), the fugitive emissions are counted toward determination of PSD applicability.

Source Status

Existing Source PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited).

Pollutant	Emissions (tons/year)
PM	27.2
PM-10	27.2
SO_2	1.75
VOC	23.9
CO	less than 250
NO_x	less than 250

(a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

(b) These emissions are based upon the potential to emit (PTE) of the entire source in the Technical Support Document (TSD) for the Significant Permit Modification #055-17372-00034, issued on November 14, 2003.

Potential to Emit of the 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 Part 70 Source Modification.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
*Modified Four (4) Turbines	Less than ~~17.5~~ **134**	Less than ~~17.5~~ **134**	Less than ~~1.60~~ **204**	Less than 23.4	Less than 245	Less than ~~245~~ **228**	Less than 5.01
**Existingnatural gas Boiler	0.59	0.59	0.05	0.43			Negligible
New Emergency Generator	Less than 0.99	Less than 0.99	Less than 0.92	Less than 1.11	Less than 3.01	Less than 14.0	Negligible
**Existing Emergency Generator	Negligible	Negligible	Less than 0.10	Less than 0.14	Less than 1.00	Less than 2.28	Negligible
New Storage Tank (Insignificant)	-	-	-	Less than 1.0	-	-	Negligible
**Existing Fugitive Emissions	9.06	9.06	-	-	-	-	-
Total PTE of Entire Source After this Modification	Less than 145	Less than 145	Less than 204	Less than 26.1	Less than 249	Less than 244	Less than 5.01
PSD Significant Thresholds	250	250	250	250	250	250	NA

Note: (*) The PTE for the turbines is the worst case scenario between using No. 2 fuel oil and natural gas.

(**) The PTE for the existing units is from the TSD for MSM# 055-17772-00034, issued on September 29, 2003.

This modification to an existing minor stationary source is not major because the existing source is a PSD minor source and the potential to emit of each criteria pollutant from the proposed modification is less than the PSD significant thresholds of 250 tons/yr. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. The source will maintain their PSD minor status after this modification.

Federal Rule Applicability

(a) The four existing natural gas-fired turbines were constructed after October 3, 1977 and each has a heat input at peak load greater than 10 MMBtu/hr, based on the lower heating value of the fuel fired. Therefore, these turbines are subject to the New Source Performance Standards for Stationary Gas Turbines (326 IAC 12, 40 CFR 60.330-335, Subpart GG). Pursuant to 40 CFR 60, Subpart GG, the Permittee shall comply with the following applicable requirements:

(1) Pursuant to 40 CFR 60.332(b), the Permittee shall comply with the emission limits in 40 CFR 60.332(a)(1) for each turbine with a maximum heat input rate grater than 100 MMBtu/hr. Pursuant to 40 CFR 60.332(a)(1), the NO_x emissions from each affected unit shall not exceed the following:

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

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 peck 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 40 CFR 60.332(a)(3).

(2) Pursuant to 40 CFR 60.333, the Permittee shall limit SO_2 emissions to less than 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.

(3) Pursuant to 40 CFR 60.334(a), the Permittee shall install a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbines.

(4) Pursuant to 40 CFR 60.334(b), the Permittee shall monitor the sulfur content and nitrogen content of the fuel being fired in the turbines.

(5) Pursuant to 40 CFR 60.334(c), the Permittee shall report periods of excess emissions.

(b) This source is subject to the requirements of 40 CFR Part 72 through 40 CFR Part 80 (Acid Rain Program). The requirements of this program are detailed in permit AR 055-11032-00034, issued May 18, 2000, and have been included as Appendix A to the source's Title V permit (T055-14484-00034, issued May 28, 2003).

(c) The proposed No. 2 fuel oil storage tank has a capacity greater than 75 cubic meters (19,813 gallons). Therefore, this storage tank is subject to the requirements of New Source Performance Standards for Volatile Organic Liquid Storage Vessels for which construction, reconstruction, or modification commenced after July 23, 1984 (326 IAC 12, 40 CFR 60.110b - 117b, Subpart Kb).

The proposed tank is a fixed roof tank and the vapor pressure of the liquid stored in this tank is less than 76.6 kPa (11 psi). Therefore, the requirements in 40 CFR 60.112b are not applicable to this tank. Pursuant to 40 CFR 60.116b, the Permitee shall keep readily accessible records of the following, for the life time of the source, for the proposed fuel oil storage tank:

(1) The dimension of the storage vessel; and

(2) An analysis showing the capacity of the storage vessel.

(d) The potential to emit HAPs from this source is limited to less than 10 tons/yr for a single HAP and less than 25 tons/yr for total HAPs. Therefore, the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ) are not applicable to the proposed emergency generator.

(e) This modification involves pollutant-specific emissions units (turbines) as defined in 40 CFR 64.1:

(1) With the potential to emit before controls equal to or greater than the major source threshold;

(2) That is subject to an emission limitation or standard; and

(3) Uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard.

However, since these turbines are subject to Acid Rain Program, they are exempt from the requirements of 40 CFR 64 (Compliance Assurance Monitoring), pursuant to 40 CFR 64.2(b)(1).

State Rule Applicability - Four (4) Turbines Using No. 2 Fuel Oil

326 IAC 2-2 (PSD)

This source was constructed in 2000 and modified in 2003 and 2004 (this modification). Pursuant to SPM #055-17059-00034, issued on November 14, 2003, the existing turbines have the following requirements:

(a) The total "weighted" natural gas usage for the existing turbine and the boiler shall be limited to less than 4,930 MMSCF/yr.

(b) For every 1.0 MMSCF consumed by the existing boiler, the "weighted" natural gas limit shall be reduced by 1.08 MMSCF.

(c) The "weighted" natural gas usage is determined in the winter months (October through April) by multiplying the actual natural gas usage by 2.35. During the summer months (May through September) the actual natural gas usage is equivalent to the "weighted" natural gas usage.

(d) The CO emissions shall not exceed 99.5 lbs/MMBtu during the summer months (May through September) and shall not exceed 233.8 lbs/MMBtu during the winter months (October through April).

(e) The NO_x emissions shall not exceed 99.5 lbs/MMBtu during the summer months (May through September) and shall not exceed 233.8 lbs/MMBtu during the winter months (October through April).

This is equivalent to 245 tons/yr of CO and NO_x emissions. Combined with the emissions from other existing units, the CO and NO_x emissions from the entire source are each limited to less than 250 tons/yr. Therefore the existing source is a PSD minor source.

The source proposed to use No. 2 fuel oil as a back-up fuel in the existing turbines. The potential to emit NO_x, SO_2, CO, PM and PM10 of this modification is each greater than 250 tons/yr. In order to maintain a PSD minor status, the source shall comply with the following additional requirements for the existing turbines:

(a) When using natural gas as fuel, the NO_x emissions shall not exceed 92.4 lbs/MMBtu during the summer months (May through September) and shall not exceed 217 lbs/MMBtu during the winter months (October through April).

Combined with the "weighted" natural gas usage limit of 4,930 MMSCF/yr, this is equivalent to 228 tons/yr of NO_x emissions.

(b) The NO_X emissions shall not exceed 0.17 lbs/MMBtu while using No. 2 fuel oil with a maximum heat heating value of 139,000 Btu/gal.

When using No. 2 fuel oil only, the maximum No. 2 fuel oil usage limit is 19,300 kgal/yr.

[228 tons/yr x 2000 lbs/ton / (0.17 lbs/MMBtu) / (139 MMBtu/kgal) = 19,300 kgal/yr]

(c) The SO_2 emissions shall not exceed 0.152 lbs/MMBtu while using No. 2 fuel oil with a maximum heat heating value of 139,000 Btu/gal.

Assuming all the fuel used is No. 2 fuel oil and combined with the maximum fuel oil usage limit of 19,300 kgal/yr, this is equivalent to 204 tons/yr of SO_2 emissions.

[19,300 kgal/yr x 139 MMBtu/kgal x 0.152 lbs/MMBtu x 1 ton/2000 lbs = 204 tons/yr]

While using natural gas, the potential to emit SO_2 from the turbines is less than 1.6 tons/yr (see the TSD for T055-14484-00034, issued on May 28, 2003), which is less than the PTE of SO_2 for this modification. Therefore, the PTE of SO_2 for the turbines becomes 204 tons/yr after this modification.

(d) Every kilogallon (1,000 gallons) of No. 2 fuel oil consumed by the turbines is equivalent to 0.255 MMSCF of “weighted” natural gas usage.

[(4,930 MMCF/yr while using natural gas) / (19,300 kgal/yr while using No. 2 fuel oil) = 0.255 MMCF/kgal]

(e) The CO emission factor is 0.056 lbs/MMBtu while using No. 2 fuel oil (this is provided by the vendor and will be verified by stack tests). Combined with the fuel usage limit of 19,300 kgal/yr, this is equivalent to 75.1 tons/yr of CO emissions.

[19,300 kgal/yr x 139 MMBtu/kgal x 0.056 lbs/MMBtu x 1 ton/2000 lbs = 75.1 tons/yr]

While using natural gas, the PTE of CO for the turbines is limited to less than 245 tons/yr (see the TSD for T#055-14484-00034, issued on May 28, 2003), which is greater than the PTE of CO for this modification. Therefore, the PTE of CO for the turbines remains 245 tons/yr after this modification.

(e) The PM/PM10 emission factor is 0.10 lbs/MMBtu while using No. 2 fuel oil according to AP-42, Table 3.4-1. Combined with the fuel usage limit of 19,300 kgal/yr, this is equivalent to 134 tons/yr of PM/PM10 emissions.

[19,300 kgal/yr x 139 MMBtu/kgal x 0.1 lbs/MMBtu x 1 ton/2000 lbs = 134 tons/yr]

While using natural gas, the PTE of PM/PM10 for the turbines is limited to less than 17.5 tons/yr (see the TSD for T#055-14484-00034, issued on May 28, 2003), which is less than the PTE of PM/PM10 for this modification. Therefore, the PTE of PM/PM10 for the turbines becomes 134 tons/yr after this modification.

Combined with the emissions from the existing boiler, the emergency generators, and the insignificant activities, the NO_x, SO_2, CO, PM and PM10 emissions from the entire source are each limited to less than 250 tons/yr. Therefore, this source is minor under 326 IAC 2-2 (PSD).

326 IAC 2-4.1-1 (New Source Toxics Control)

This source was constructed in 2000 and modified in 2003 and 2004 (this modification). With the fuel usage limit, the potential to emit HAPs from this modification is limited to less than 10 tons/yr for a single HAP and less than 25 tons/yr for total HAPs. Therefore, the requirements of 326 IAC 2-4.1 (MACT) are not applicable to this modification.

326 IAC 6-2 (Particulate Matter Emissions from Sources of Indirect Heating)

The gas turbines at this source are not utilized as a source of indirect heating. Therefore, the requirements of 326 IAC 6-2 are not applicable.

326 IAC 7-1.1-2 (SO_2 Emission Limitations)

The potential to emit SO_2 for each turbine is greater than 25 tons per year. Therefore, these turbines are subject to the requirements of 326 IAC 7-1.1. Pursuant to 326 IAC 7-1.1-2, sulfur dioxide emissions from each of the turbines shall be limited to 0.5 pounds per million Btu heat input, when burning No. 2 fuel oil.

326 IAC 8-1-6 (New facilities; general reduction requirements):

With the fuel usage limit, the potential to emit VOC from each turbine is less than 25 tons/yr. Therefore, the requirements of 326 IAC 8-1-6 (BACT) are not applicable to these turbines.

326 IAC 9-1 (CO Emission Requirements)

This source is not among the listed source categories in 326 IAC 9-1-2. Therefore, the requirements of 326 IAC 9-1 are not applicable.

326 IAC 10-1-3 (Nitrogen Oxide Emission Requirements)

This source is not located in Clark or Floyd County. Therefore, the requirements of 326 IAC 10-1-3 are not applicable.

326 IAC 10-4 (NO_x Budget Trading Program)

Pursuant to 326 IAC 10-4-2(16), the turbines at this source are considered “electricity generating units (EGU)” because they commenced operation after January 1, 1999 and serves a generator at any time that has a nameplate capacity greater than twenty-five (25) megawatts that produces electricity for sale under a firm contract to the electric grid. Pursuant to 326 IAC 10-4-1(a)(1), an “EGU” is a NO_x budget unit. Because this source meets the criteria of having one (1) or more NO_x budget units, it is a NO_x budget source. The Permittee shall be subject to the requirements of this rule.

Since the turbines at this source commenced operation after May 1, 2000, these units were not allocated NO_x allowances for the 2004, 2005, and 2006 ozone seasons from the existing EGU budget under 326 IAC 10-4-9(b)(1)(A). Therefore, if the NO_x authorized account representative requires NO_x allowances to be allocated, the NO_x authorized account representative shall submit a written request to the IDEM, OAQ for NO_x allowances in accordance with 326 IAC 10-4-9(e)(2) and (3).

Pursuant to 326 IAC 10-4-12(c), the Permittee shall install the appropriate monitoring systems and complete all certification tests as required by 326 IAC 10-4-12(b)(1) through (3) on or before May 1, 2003. The Permittee shall record, report, and quality assure the data from the monitoring systems on and after May 1, 2003.

326 IAC 3-5 (Continuous Monitoring of Emissions)

If continuous emissions monitors are used to meet the requirements of 40 CFR Part 60, Subpart GG or 40 CFR Part 75, the Permittee shall install, calibrate, certify, operate and maintain a continuous emission monitoring system (CEMS) for measuring NO_x and SO_2 emissions rates from stacks S-1 through S-4 in accordance with 326 IAC 3-5-2 and 326 IAC 3-5-3. However, this source currently is not required to install CEMs.

State Rule Applicability - Diesel Fueled Emergency Generator

326 IAC 2-2 (PSD)

In order to maintain a PSD minor status, the operating hours for the new emergency generator shall be limited to less than 300 hours per twelve (12) consecutive month period with compliance

determined at the end of each month. This is equivalent to 14.0 tons/yr of NO_x emissions and 3.01 tons/yr of CO emissions. Combined with the NO_x and CO emissions from the existing turbines, the existing boiler, and the insignificant activities, the NO_x and CO emissions from the entire source are each limited to less than 250 tons/yr. Therefore, this source is minor under 326 IAC 2-2 (PSD).

326 IAC 7-1.1-2 (SO_2 Emission Limitations)
The potential to emit SO_2 for the proposed diesel fueled emergency generator is less than 25 tons per year. Therefore, the requirements of 326 IAC 7-1.1 are not applicable to this generator.

326 IAC 9-1 (CO Emission Requirements)
This source is not among the listed source categories in 326 IAC 9-1-2. Therefore, the requirements of 326 IAC 9-1 are not applicable to this generator.

326 IAC 10-1-3 (Nitrogen Oxide Emission Requirements)
This source is not located in Clark or Floyd County. Therefore, the requirements of 326 IAC 10-1-3 are not applicable to this generator.

State Rule Applicability - Fuel Oil Storage Tank (Insignificant Activity)

326 8-4-3 (Petroleum Liquid Storage Facilities)
This new tank will be used to store No. 2 fuel oil, which has a vapor pressure less than 10.5 kPa. Therefore, the requirements of 326 IAC 8-4-3 are not applicable to this tank.

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)
This source is not located in Clark, Floyd, Lake, or Porter County. Therefore, the requirements of 326 IAC 8-9-1 are not applicable to this new tank.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

1. The four (4) existing turbines have applicable compliance monitoring conditions as specified below:

   (a) Visible emissions notations of the turbine stacks (stacks #1 through 4) shall be performed once per shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings

shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

(b) The Permittee shall meet the monitoring requirements of 326 IAC 10-4-12(b)(1) through (b)(3) that are applicable to their monitoring systems for the NO_x budget units on or before May 1, 2003. The Permittee shall record, report, and quality assure the data from the monitoring systems on and after May 1, 2003 in accordance with 326 IAC 10-4-12 and 40 CFR 75.

(c) Pursuant to 40 CFR Part 60.334(a), the Permittee shall install and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. This system shall be accurate to within ±5.0 percent and shall be approved by the IDEM, OAQ.

(d) Pursuant to 40 CFR Part 60.334 and EPA approval issued December 7, 2000, the Permittee shall comply with the following custom monitoring schedule:

Determine the sulfur content of the fuel being fired in the turbines semiannually. This determination shall be conducted during the first and third quarters of each calendar year and will be made using methods approved by the Commissioner. If any sulfur analysis indicates noncompliance with limit specified in 40 CFR 60, Subpart GG, the Permittee shall notify IDEM of such excess emissions and this custom schedule shall be re-examined. Sulfur monitoring shall be conducted weekly while the custom schedule is re-examined. If there is a change in fuel supply (supplier), IDEM, OAQ shall be notified of the change and the fuel shall be sampled daily for a period of two seeks to re-establish that the fuel supply is low in sulfur content. If the fuel supply's low sulfur content is re-established, then the custom monitoring schedule can resume.

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. The NO_x and SO_2 monitoring required by 40 CFR Part 75 shall satisfy the monitoring requirements for the purposes of 40 CFR Part 60, Subpart GG.

(e) Pursuant to CP #055-10724-00034, issued July 15, 1999, and 40 CFR 72.9 and 40 CFR 75.11, the Permittee has elected to monitor SO_2 emissions from the turbines pursuant to 40 CFR 75, Appendix D. Appendix D includes, but is not limited to, the following requirements:

(1) For each hour when the unit is combusting fuel, the Permittee shall measure and record the flow of fuel combusted by the unit with an in-line flowmeter and automatically record the data with a data acquisition and handling system. This shall be performed in accordance with the procedures specified in Section 2.1 of Appendix D.

(2) Pursuant to 40 CFR 75.11(d)(2), the Permittee shall measure and record SO_2 emissions using the applicable procedures specified in appendix D to 40 CFR 75 for estimating hourly SO_2 mass emissions.

(3) The Permittee shall provide information on the contractual sulfur content from the pipeline gas supplier in the monitoring plan for the unit,

demonstrating that the gas has a hydrogen sulfide content of 1 grain/100 scf or less, and a total sulfur content of 20 grain/100 scf or less.

(f) Pursuant to CP #055-10724-00034, issued July 15, 1999, 40 CFR 72.9, and 40 CFR 75.12, the Permittee has elected to monitor NO_x emissions from the turbines pursuant to 40 CFR 75, Appendix E, which is used for peaking units. Appendix E includes, but is not limited to, the following requirements:

(1) The Permittee shall perform initial performance tests for each turbine to measure NO_x emission rates at heat input rate levels corresponding to different load levels, measure the heat input rate, and plot the correlation between heat input rate and NO_X emission rate, in order to determine the emission rate of the units. This testing shall be performed in accordance with section 2.1 of Appendix E.

(2) The Permittee shall retest the NO_x emission rate of the turbines prior to the earlier of 3,000 unit operating hours or the 5 year anniversary and renewal of its operating permit under 40 CFR Part 72.

(3) The Permittee shall record the time (hr. and min.), load (MWge or steam load in 1000 lb/hr), fuel flow rate and heat input rate (using the procedures in section 2.1.3 of Appendix E) for each hour during which the unit combusts fuel. The Permittee shall calculate the total hourly heat input using equation E-1 of Appendix E and record the heat input rate for each fuel to the nearest 0.1 MMBtu/hr. During partial unit operating hours, heat input must be represented as an hourly rate in MMBtu/hr, as if the fuel were combusted for the entire hour at that rate in order to ensure proper correlation with the NO_x emission rate graph.

(4) The Permittee shall use the graph of the baseline correlation results to determine the NO_x emissions rate (lb/MMBtu) corresponding to the heat input rate (MMBtu/hr) and input this correlation into the data acquisition and handling system for the turbines. The data shall be linearly interpolated to 0.1 MMBtu/hr heat input rate and 0.01 lb/MMBtu.

If either combustion turbine exceeds a capacity factor of 20 percent in any given year, or an average capacity factor of 10 percent for the previous 3 years, then the Permittee shall install, certify, and operate a NO_X continuous emission monitoring (CEM) system by December 31 of the following calendar year. The NO_X CEM system shall meet the minimum requirements of 40 CFR Part 75 and 326 IAC 3-5.

These monitoring conditions are necessary to ensure compliance with 326 IAC 2-2 (PSD), 326 IAC 10-4 (NO_x Budget Trading Program), 40 CFR 60, Subpart GG, 40 CFR 72.9, and 40 CFR 75.12.

Proposed Changes

Language with a line through it has been deleted, and new language is in bold.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a 180 MW merchant electric generating peaking station.

Responsible Official:	Vice President, Hoosier Energy REC
Source Address:	South of Intersection of Routes 67/237 and Route 57, ~~near~~ Worthington, Indiana 47471

Mailing Address:	RR1, Box 37B, Switz City, Indiana 47465
Source Phone Number:	812-875-9707
SIC Code:	4911
County Location:	Greene
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD Minor Source, Section 112 of the Clean Air Act Not 1 of 28 source categories

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

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

(a) Four (4) simple cycle natural gas-fired turbines, identified as Turbines 1 through 4, constructed in 2000 **and modified in 2004**, with a maximum heat input capacity of 460 MMBtu/hr per turbine and a generating capacity of 45 MW per turbine, **using No. 2 fuel oil as a back-up fuel,** with water-injection for NO_x emissions control**,** and exhausting to four (4) stacks designated as S-1 through S-4, respectively.

(b) One (1) diesel fired emergency generator, constructed in 2004, with a maximum power output rate of 3,000 horsepower.

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

(b) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day SO_2; 5 lb/hr or 25 lb/day NO_x; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

. . .

(2) One (1) No. 2 fuel oil storage tank, constructed in 2004, with a maximum capacity of 950,000 gallons. [40 CFR 60, Subpart Kb]

SECTION D.1 FACILITY OPERATION CONDITIONS

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

(a) Four (4) simple cycle natural gas-fired turbines, identified as Turbines 1 through 4, constructed in 2000 **and modified in 2004**, with a maximum heat input capacity of 460 MMBtu/hr per turbine and a generating capacity of 45 MW per turbine, **using No. 2 fuel oil as a back-up fuel,** with water-injection for NO_x emissions control**,** and exhausting to four (4) stacks designated as S-1 through S-4, respectively.

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

Emissions Limitation and Standards [326 IAC 2-7-5(1)]

D.1.1 Fuel Usage Limitations [326 IAC 2-2]

~~Pursuant to CP 055-10724-00034, issued July 15, 1999:~~

(a) **Pursuant to CP 055-10724-00034, issued July 15, 1999,** ~~T~~the total "weighted" natural gas usage for the turbines shall not exceed 4,930 million standard cubic feet (MMSCF) during any twelve (12) consecutive month period with compliance determined at the end of each month.

(b) **Pursuant to CP 055-10724-00034, issued July 15, 1999,** ~~F~~for every 1.0 million standard cubic feet (MMSCF) consumed by the boiler (Section D.2), the "weighted" natural gas limit shall be reduced by 1.08 million standard cubic feet (MMSCF).

(c) **Pursuant to CP 055-10724-00034, issued July 15, 1999,** ~~T~~the "weighted" natural gas usage is determined in the winter months (October through April) by multiplying the actual natural gas usage by 2.35. During the summer months (May through September) the actual natural gas usage is equivalent to the "weighted" natural gas usage.

~~Based on a higher heating value for natural gas of 1,020 Btu per cubic foot, compliance with these limitations, in addition to the operating hour limitation on the emergency generator (Section D.2), is equivalent to NO_x and CO emissions of less than 250 tons, per pollutant, during any twelve (12) consecutive month period and will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.~~

(d) For every kilogallon (1,000 gallons) of No. 2 fuel oil consumed by the turbines, the "weighted" natural gas usage limit shall be reduced by 0.255 MMSCF.

Combined with the CO and NO_x emission limits in Condition D.1.4, this is equivalent to 245 tons/yr of CO emissions and 228 tons/yr of NO_x emissions. Combined with the CO and NO_x emissions from the boiler, the emergency generators, and the insignificant activities, the CO and NO_x emissions from the entire source are each limited to less than 250 tons/yr. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

D.1.4 Emission Rate Limitations [326 IAC 2-2] [40 CFR 52.21] [326 IAC 8-1-6]
~~Pursuant to CP 055-10724-00034, issued July 15, 1999,~~

(a) **Pursuant to CP 055-10724-00034, issued July 15, 1999,** ~~T~~the CO ~~and NO_x~~ emission rate~~s~~ from the turbines during the summer months (May through September) shall not exceed 99.5 pounds per million cubic feet of natural gas combusted. The CO ~~and NO_x~~ emission rate~~s~~ from the turbines during the winter months (October through April) shall not exceed 233.8 pounds per million cubic feet of "weighted" natural gas combusted. Compliance with these limits and the limitations in Condition D.1.1(a) will ensure that the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, do not apply.

(b) The NO_x emissions from the turbines shall be limited to the following:

(1) The NO_x emissions shall not exceed 92.4 lbs/MMBtu during the summer months (May through September) and shall not exceed 217 lbs/MMBtu during the winter months (October through April) while combusting natural gas.

(2) The NO_x emissions shall not exceed 0.17 lbs/MMBtu while combusting No. 2 fuel oil with a maximum heat heating value of 139,000 Btu/gal.

Combined with Condition D.1.1, this is equivalent to 228 tons/yr of NO_x emissions. Combined with the NO_x emissions from the boiler, the emergency generators, and the insignificant activities, the NO_x emissions from the entire source are limited to less than 250 tons/yr. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

(c) The SO_2 emissions shall not exceed 0.152 lbs/MMBtu while combusting No. 2 fuel oil with a maximum heat heating value of 139,000 Btu/gal.

Combined with Condition D.1.1, this is equivalent to 204 tons/yr of SO_2 emissions. Combined with the SO_2 emissions from the boiler, the emergency generators, and the insignificant activities, the SO_2 emissions from the entire source are limited to less than 250 tons/yr. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

(~~b~~**d**) **Pursuant to CP 055-10724-00034, issued July 15, 1999,** ~~T~~the VOC emission rate from the turbines during the summer months (May through September) shall not exceed 9.5 pounds per million cubic feet of natural gas combusted. The VOC emission rate from the turbines during the winter months (October through April) shall not exceed 22.3 pounds per million cubic feet of natural gas combusted. Compliance with these limitations along with Condition D.1.1~~(b)~~ will ensure that 326 IAC 8-1-6 (BACT) does not apply.

D.1.6 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1]

Pursuant 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations), sulfur dioxide (SO_2) emissions from each of the turbines shall be limited to 0.5 pounds per million Btu heat input, when burning No. 2 fuel oil.

D.1.~~6~~**7** Preventive Maintenance Plan [326 IAC 1-6-3]

D.1.~~7~~**8** Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11] [40 CFR 75.12]

(a) Prior to October 14, 2005, and in order to demonstrate compliance with Conditions ~~D.1.1,~~ D.1.3 and D.1.4(~~a~~**b**) the Permittee shall perform NO_x stack tests utilizing methods as approved by the Commissioner. These tests shall be performed in accordance with Section C -Performance Testing, and repeated the earlier of 3,000 unit operating hours or once every five (5) years from the date of this valid compliance demonstration.

(b) Prior to October 14, 2005, and in order to demonstrate compliance with Conditions ~~D.1.1,~~ D.1.3 and D.1.4(~~a~~**b**), the Permittee shall perform NO_x stack tests utilizing methods as approved by the Commissioner. These tests shall be performed during the summer months (May through September), in accordance with Section C -Performance Testing, and repeated the earlier of 3,000 unit operating hours or once every five (5) years from valid compliance demonstration. If the NO_X stack tests required in (a) of this condition are performed during the summer months (May through September), the separate NO_x tests described here are not required.

(c) Prior to September 27, 2005, and in order to demonstrate compliance with Condition~~s~~ ~~D.1.1, and~~ D.1.4(a) the Permittee shall perform CO stack tests utilizing methods as approved by the Commissioner. These tests shall be performed in accordance with Section C -Performance Testing, and repeated once every five (5) years from the date of this valid compliance demonstration.

(d) Prior to September 27, 2005, and in order to demonstrate compliance with Condition D.1.4(~~b~~**d**), the Permittee shall perform VOC stack tests utilizing methods as approved by the Commissioner. Separate testing shall be performed during the summer months (May through September) and winter months (October through April). These tests shall be performed in accordance with Section C -Performance Testing, and repeated once every five (5) years from valid compliance demonstration.

D.1.9 Sulfur Dioxide Emissions and Sulfur Content

(a) In order to demonstrate compliance with Conditions D.1.4(c) and D.1.6, and pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate the sulfur dioxide emission limits by:

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

(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from one of the turbines, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

Compliance Monitoring Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.10 Visible Emissions Notations

(a) Visible emission notations of the turbine stack exhausts shall be performed once per shift during normal daylight operations when combusting fuel oil. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation Records and Reports shall be considered a deviation from this permit.

D.1.~~8~~**11** Nitrogen Oxides Monitoring Requirement [326 IAC 10-4-4(b)(1)] [326 IAC 10-4-12(b) and (c)] [40 CFR 75]

D.1.~~9~~**12** Sulfur Content and Nitrogen Content Monitoring [40 CFR Part 60, Subpart GG]

. . . .

(b) 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.

The NO_x and SO_2 monitoring required by 40 CFR Part 75 and specified in Condition D.1.~~10~~**13** shall satisfy the monitoring requirements for the purposes of 40 CFR Part 60, Subpart GG.

D.1.~~10~~**13** SO_2 and NO_x Monitoring Requirements [40 CFR Part 72.9] [40 CFR Part 75]

(a) Pursuant to ~~CP 055-10724-00034, issued July 15, 1999, and~~ 40 CFR 72.9 and 40 CFR 75.11, the Permittee has elected to monitor SO_2 emissions from the ~~natural gas-fired combustion~~ turbines pursuant to 40 CFR 75, Appendix D. Appendix D includes, but is not limited to, the following requirements:

. . .

~~(2) The Permittee shall use the default SO_2 emission rate of 0.0006 lb/MMBtu and the hourly input from pipeline natural gas in MMBtu/hr, as determined using the procedures in section 5.5 of Appendix F to 40 CFR Part 75. The Permittee shall calculate SO_2 emissions using equation D-5 of Appendix D.~~

(2) Pursuant to 40 CFR 75.11(d)(2), the Permittee shall measure and record SO_2 emissions using the applicable procedures specified in appendix D to 40 CFR 75 for estimating hourly SO_2 mass emissions.

...

(b) Pursuant to ~~CP 055-10724-00034, issued July 15, 1999,~~ 40 CFR 72.9, and 40 CFR 75.12, the Permittee has elected to monitor NO_x emissions from the ~~natural gas-fired combustion~~ turbines pursuant to 40 CFR 75, Appendix E, which is used for peaking units. Appendix E includes, but is not limited to, the following requirements:

D.1.~~11~~**14** Record Keeping Requirements

(a) To document compliance with Condition D.1.1, the Permittee shall maintain records of the monthly fuel usage.

(b) To document compliance with Conditions ~~D.1.1,~~ D.1.3, D.1.4**(b), D.1.4(c), D.1.6,** ~~D.1.9,~~ **D.1.12,** and ~~D.1.10~~ **D.1.13,** the Permittee shall maintain records of the SO_2 and NO_x emissions in accordance with 40 CFR Part 75, Appendices D and E. In addition, the hours of operation of each turbine shall be recorded and maintained to ensure that the turbines are defined as peaking units.

(c) To document compliance with Conditions D.1.4(c) and D.1.6, the Permittee shall maintain records in accordance with (1) through (6) below.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;

(3) To certify compliance when burning natural gas only, the Permittee shall maintain records of fuel used.

If the fuel supplier certification is used to demonstrate compliance, when burning alternate fuels and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum, shall be maintained:

(4) Fuel supplier certifications;

(5) The name of the fuel supplier; and

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

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

(~~c~~**d**) To document compliance with Condition D.1.5, the Permittee shall maintain records of fuel consumption and the ratio of water to fuel being fired in the turbines.

(e) To document compliance with Condition D.1.10, the Permittee shall maintain records of visible emission notations of the turbine stack exhausts when firing No. 2 fuel oil.

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

D.1.~~12~~**15** Nitrogen Oxides Budget Permit Application Submittal Requirement [326 IAC 10-4-4(a)(1)] [326 IAC 10-4-9(e)]

D.1.~~13~~**16** Reporting Requirements

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: ~~**Specifically Regulated**~~

(b) One (1) diesel fired emergency generator, constructed in 2004, with a maximum power output rate of 3,000 horsepower.

Insignificant Activities:

(a) Emergency diesel generators not exceeding 1600 horsepower: One (1) diesel-fired emergency generator, constructed in 2000, with a maximum capacity of 588 hp. [326 IAC 2-2]

(b) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day SO_2; 5 lb/hr or 25 lb/day NO_x; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

(1) One (1) natural gas-fired boiler, a maximum heat input capacity of 17.7 MMBtu/hr, with emissions uncontrolled, exhausting to stack S-5.

(2) One (1) No. 2 fuel oil storage tank, constructed in 2004, with a maximum capacity of 950,000 gallons. [40 CFR 60, Subpart Kb]

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

D.2.2 NO_x and CO Limitations [326 IAC 2-2]

(a) The **operating hours for the 588 hp** emergency generator **shall be** ~~is~~ limited to **less than** 500 hours ~~of operation~~ per twelve **(12)** ~~month~~ consecutive **month** period with compliance determined at the end of each month.

(b) The operating hours for the 3,000 hp emergency generator shall be limited to less than 300 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with this limit, along with the ~~natural gas~~ **fuel** usage limitation for the turbines and boiler (Condition D.1.1), is equivalent to NO_x and CO emissions of less than 250 tons per year and will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

D.2.4 Volatile Organic Compounds (VOCs) [326 IAC 12-1][40 CFR 60.116b, Subpart Kb]

Pursuant to 40 CFR 60.116b, Subpart Kb (New Source Performance Standards for Volatile Organic Liquid Storage Vessels), the No. 2 fuel oil storage tank is subject to 40 CFR 60.116b, paragraphs (a) and (b) which requires record keeping.

D.2.~~4~~**5** Preventive Maintenance Plan [326 IAC 2-7-5(13)]

D.2.~~5~~**6** Record Keeping Requirements

(a) To document compliance with Condition D.2.2, and 40 CFR Part 60 Subpart Dc, the Permittee shall maintain records of the:

(1) Number of **the operating** hours ~~in which the~~ **for each** emergency **generator** ~~generated operated~~ each month; and

. . .

(b) To document compliance with Condition 2.4, the Permittee shall maintain records for the life of the source in accordance with (1) through (2) below:

(1) The dimension of the storage vessel; and

(2) An analysis showing the capacity of the storage vessel.

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

D.2.~~6~~**7** Reporting Requirements

SECTION E ACID RAIN PROGRAM CONDITIONS

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

(a) Four (4) simple cycle natural gas-fired turbines, identified as Turbines 1 through 4, constructed in 2000 **and modified in 2004**, with a maximum heat input capacity of 460 MMBtu/hr per turbine and a generating capacity of 45 MW per turbine, **using No. 2 fuel oil as a back-up fuel,** with water-injection for NO_x emissions control**,** and exhausting to four (4) stacks designated as S-1 through S-4, respectively.

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

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

Quarterly Report

Source Name: Worthington Generation, LLC
Source Address: South of the intersection of Route 67/237 and Route 57**,** ~~near~~ Worthington, IN 47471
Mailing Address: RR1, Box 37B, Switz City, IN 47465
Part 70 Permit No.: T055-14484-00034
Facility: Turbines and boiler
~~Pollutant:~~ **Parameter:** ~~NO_x, CO~~ **Weighted natural gas usage**
~~Parameter:~~ **Limit:** Less than 4,930 MMSCF per twelve (12) consecutive month period with compliance determined at the end of each month. For every 1.0 MMSCF consumed by the boiler, the "weighted" natural gas usage limit shall be reduced by 1.08 MMSCF. **For every kilogallon of No. 2 fuel oil consumed, the "weighted" natural gas usage limit shall be reduced by 0.255 MMSCF.**

Year: _____

Month	Natural Gas Used by Turbines This Month (MMSCF)	Weighting Factor	Natural Gas Used by Boiler This Month (MMSCF)	Total "Weighted" Natural Gas Usage This Month (MMSCF)*	Total "Weighted" Natural Gas Usage for Past 11 Months (MMSCF)	Total "Weighted" Natural Gas Usage for 12 Month Period (MMSCF)

* Weighted natural gas usage (October through April) = [Actual gas usage (turbines) x 2.35] + [Actual gas usage (boiler) x 1.08] **[Actual No. 2 fuel oil usge (kgal) x 0.255]**

* Weighted natural gas usage (May through September) = **[**Actual gas usage (turbines)**]** +**[** (Actual gas usage (boiler) x 1.08)**]** **[Actual No. 2 fuel oil usage (kgal) x 0.255]**

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

Quarterly Report

Source Name:	Worthington Generation, LLC
Source Address:	South of the intersection of Route 67/237 and Route 57**,** ~~near~~ Worthington, IN 47471
Mailing Address:	RR1, Box 37B, Switz City, IN 47465
Part 70 Permit No.:	T055-14484-00034
Facility:	**588 hp** Emergency Generator
~~Pollutant:~~ **Parameter:**	~~NO_x, CO~~ **Operating hours**
~~Parameter:~~ **Limit:**	Less than 500 operating hours per twelve (12) consecutive month period with compliance determined at the end o f each month

Year: _____

Month	Operating Hours This Month (hrs)	Total Operating Hours for Past 11 Months (hrs)	Total Operating Hours for Past 12 Month Period (hrs)

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

Quarterly Report

Source Name: **Worthington Generation, LLC**
Source Address: **South of the intersection of Route 67/237 and Route 57, Worthington, IN 47471**
Mailing Address: **RR1, Box 37B, Switz City, IN 47465**
Part 70 Permit No.: **T055-14484-00034**
Facility: **3,000 hp Emergency Generator**
Parameter: **Operating hours**
Limit: **Less than 300 operating hours per twelve (12) consecutive month period with compliance determined at the end o f each month**

Year: _____

Month	Operating Hours This Month (hrs)	Total Operating Hours for Past 11 Months (hrs)	Total Operating Hours for Past 12 Month Period (hrs)

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Conclusion

This proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 055-18572-00034 and Significant Permit Modification No. 055-18803-00034.

Appendix A: Emission Calculations
Utiltiy Boilers (> 100 MMBtu/hr)
No. 2 Fuel Oil Combustion
From Four (4) 460 MMBtu/hr Turbines

Company Name: Worthington Generation, LLC
Address: South of Intersection of Routes 67/237 and Route 57, Worthington, IN 47471
SSM: 055-18572-00034
Reviewer: ERG/YC
Date: April 22, 2004

1. Unrestricted Potential to Emit While Using No.2 Fuel Oil:

Heat Input Capacity
MMBtu/hr

1,840 (4 units total)

S = Weight % Sulfur
0.5

	Pollutant					
	*PM	*PM10	*SO_2	**NO_x	**VOC	**CO
Emission Factor	0.10 (lbs/MMBtu)	0.10 (lbs/MMBtu)	0.505 (1.01 S lbs/MMBtu)	0.17 (lbs/MMBtu)	0.016 (lbs/MMBtu)	0.056 (lbs/MMBtu)
Potential to Emit in tons/yr	**806**	**806**	**4,070**	**1,370**	**129**	**451**

* Emission factors for PM/PM10 and SO_2 are for large stationary diesel fuel engines in AP-42, Tables 3.4-1 (AP-42, 10/96).
** Emission factors for NOx, VOC and CO are from the vendor's information. Assume all hydrocarbon emitted are VOC emissions.These emissions factors are less than the ones in AP-42, Table 3.4-1 (AP-42, 10/96). However, the source will perform stack testing to evaluate these emission factors.

Methodology

PTE of (tons/yr) = Max. Heat Input (MMBtu/hr) x Emission Factor (lbs/MMBtu) x 8760 hrs/yr x 1 ton/2000 lbs

2. Limited Potential to Emit While Using No.2 Fuel Oil:

Fuel Usage Limit
kgals/year

19,300 (4 units total)

Sulfur Content Limit (S)
0.15 %

	Pollutant					
	*PM	*PM10	*SO_2	**NO_x	**VOC	**CO
Emission Factor	0.10 (lbs/MMBtu)	0.10 (lbs/MMBtu)	0.152 (1.01 S lbs/MMBtu)	0.17 (lbs/MMBtu)	0.016 (lbs/MMBtu)	0.056 (lbs/MMBtu)
Potential to Emit in tons/yr	**134**	**134**	**203**	**228**	**21.5**	**75.1**

* Emission factors for PM/PM10 and SO_2 are for large stationary diesel fuel engines in AP-42, Tables 3.4-1 (AP-42, 10/96).
** Emission factors for NOx, VOC and CO are from the vendor's information. Assume all hydrocarbon emitted are VOC emissions.These emissions factors are less than the ones in AP-42, Table 3.4-1 (AP-42, 10/96). However, the source will perform stack testing to evaluate these emission factors.

1 kilo gallon of No. 2 Fuel Oil has a heating value of 139 MMBtu.

Methodology

PTE (tons/yr) = Fuel Usage Limit (kgal/yr) x 139 MMBtu/kgal x Emission Factor (lbs/MMBtu) x 1 ton/2000 lbs

Appendix A: Emission Calculations
Utiltiy Boilers (> 100 MMBtu/hr)
No. 2 Fuel Oil Combustion
From Four (4) 460 MMBtu/hr Turbines

Company Name: Worthington Generation, LLC
Address: South of Intersection of Routes 67/237 and Route 57
Worthington, IN 47471
SSM: 055-18572-00034
Reviewer: ERG/YC
Date: April 22, 2004

1. Unrestricted Potential to Emit While Using No.2 Fuel Oil:

Heat Input Capacity
MMBtu/hr

1,840 (4 units total)

	Pollutants				
Emission Factor in lbs/MMBtu	Propylene 2.79E-03	Benzene 7.76E-04	Toluene 2.81E-04	Xylene 1.93E-04	Naphthalene 1.30E-04
Potential to Emit in tons/yr	**22.5**	**6.25**	**2.26**	**1.56**	**1.05**

Emission Factors are from AP-42, Table 3.4-3 (AP-42, 10/96).

Total Potential to Emit HAPs = 33.6 tons/yr

Methodology

PTE (tons/yr) = Max. Heat Input (MMBtu/hr) x Emission Factor (lbs/MMBtu) x 8760 hrs/yr x 1 ton/2000 lbs

2. Limited Potential to Emit While Using No.2 Fuel Oil:

Fuel Usage Limit
kgals/year

18,400 (4 units total)

	Pollutants				
Emission Factor in lbs/MMBtu	Propylene 2.79E-03	Benzene 7.76E-04	Toluene 2.81E-04	Xylene 1.93E-04	Naphthalene 1.30E-04
Potential to Emit in tons/yr	**3.57**	**0.99**	**0.36**	**0.25**	**0.17**

Emission Factors are from AP-42, Table 3.4-3 (AP-42, 10/96).
1 kilo gallon of No. 2 Fuel Oil has a heating value of 139 MMBtu.

Total Limited Potential to Emit HAPs = 5.33 tons/yr

Methodology

PTE of (tons/yr) = Fuel Usage Limit (kgal/yr) x 139 MMBtu/kgal x Emission Factor (lbs/MMBtu) x 1 ton/2000 lbs

Appendix A: Emission Calculations
Internal Combustion Engines

From the One (1) Diesel Emergency Generator

Company Name: Worthington Generation, LLC
Address: South of Intersection of Routes 67/237 and Route 57, Worthington, IN 47471
SSM: 055-18572-00034
Reviewer: ERG/YC
Date: April 22, 2004

1. Potential to Emit

Power Output Horse Power (HP)	Operation Limit for Emergency Generators hr/yr
3,000	500

	Pollutant					
	PM*	PM10*	SO_2	NO_x	**VOC	CO
Emission Factor in lb/HP-hr	2.20E-03	2.20E-03	2.05E-03	3.10E-02	2.47E-03	6.68E-03
Potential to Emit Emit in tons/yr	**1.65**	**1.65**	**1.54**	**23.3**	**1.85**	**5.01**

*Assume PM10 emissions are equal to PM emissions.
** Assume TOC (total organic compounds) emissions are equal to VOC emissions.
Emission factors are from AP-42, Chapter 3.3, Table 3.3-1, SCC #2-02-001-02 and 2-03-001-01 (AP-42 Supplement B, 10/96).

Note: As defined in the September 6, 1995 memorandum from John S. Seitz of US EPA on the subject of "Calculating Potential to Emit for Emergency Generators", an emergency generator's sole function is to provide back-up power when power from the local utility is interrupted. The only circumstances under which an emergency generator would operate when utility power is available are during operator training or brief maintenance checks. The generator's potential to emit is based on an operating time of 500 hours per year as set forth in the EPA memo.

Methodology

PTE (tons/yr) = Power Output (HP) x Emission Factor (lb/HP-hr) x Operation Limit (hr/yr) x 1 ton/2000 lbs

2. Restricted Potential to Emit

Power Output Horse Power (HP)	Proposed Operation Limit hr/yr
3,000	300

	Pollutant					
	PM*	PM10*	SO_2	NO_x	**VOC	CO
Emission Factor in lb/HP-hr	2.20E-03	2.20E-03	2.05E-03	3.10E-02	2.47E-03	6.68E-03
Potential to Emit Emit in tons/yr	**0.99**	**0.99**	**0.92**	**14.0**	**1.11**	**3.01**

*Assume PM10 emissions are equal to PM emissions.
** Assume TOC (total organic compounds) emissions are equal to VOC emissions.
Emission factors are from AP-42, Chapter 3.3, Table 3.3-1, SCC #2-02-001-02 and 2-03-001-01 (AP-42 Supplement B, 10/96).

Methodology

PTE (tons/yr) = Power Output (HP) x Emission Factor (lb/HP-hr) x Operation Limit (hr/yr) x 1 ton/2000 lbs