

217/782-2113

CONSTRUCTION PERMIT - NSPS

PERMITTEE

Indeck-Rockford II, L.L.C.  
Attention: James S. Schneider, Sen. Env. Engineer  
600 N. Buffalo Grove Road  
Buffalo Grove, Illinois 60089

Application No: 00100077 I.D. No.: 201030BCO  
Applicants Designation: IND-ROCKII Date Received: October 30, 2000  
Subject: Gas Turbine in Simple and Combined Cycle  
Date Issued: July 25, 2001  
Location: Rock River Industrial Park, Harrison Road, Rockford, Winnebago  
County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a natural gas fired electric power generation facility with one gas turbine with dry low-NO<sub>x</sub> burners, Heat Recovery Steam Generator (HRSG) with duct burner\*, Selective Catalytic Reduction (SCR) system\*, cooling tower\*, and other associated ancillary equipment as described in the above referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

\* These items would be added to the facility in a second phase of construction to convert it from a simple cycle turbine configuration (Phase 1) to a combined cycle configuration (Phase 2). This conversion would increase the nominal capacity of the facility from 166 to 254 MWe.

- 1a. The turbine is subject to the New Source Performance Standard (NSPS) for Stationary Gas Turbines, 40 CFR 60, Subpart A and GG. The Illinois EPA is administrating NSPS in Illinois on behalf of the United States EPA under a delegation agreement.
  - b. The Permittee shall not emit into the atmosphere from the turbine any gases which contain nitrogen oxides (NO<sub>x</sub>) in excess of the applicable standards pursuant to 40 CFR 60.332(a)(1).
  - c. The Permittee shall not emit into the atmosphere from the turbine any gases which contain sulfur dioxide (SO<sub>2</sub>) in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis, or shall not burn any fuel which contains sulfur in excess of 0.8 percent by weight, pursuant to 40 CFR 60.333(a) and (b).
  - d. At all times, the Permittee shall maintain and operate the turbine in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to the NSPS, 40 CFR 60.11(d).
2. The duct burner in the heat recovery steam generator (HRSG) are subject to the New Source Performance Standard (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart A

and Dc. The Illinois EPA is administrating NSPS in Illinois on behalf of the United States EPA under a delegation agreement.

- 3a. This facility is an affected unit under the Acid Rain Deposition Control Program pursuant to Title IV of the Clean Air Act and are subject to certain permit requirements and emissions monitoring requirements pursuant to 40 CFR Parts 72, 73 and 75. As affected unit under the Acid Rain Program, the Permittee must also obtain an Acid Rain Permit for operation of the plant in accordance with 40 CFR 72.30(b)(2)(ii) and 72.32(a).
- b. The turbine would qualify as Electrical Generating Unit (EGU) for purposes of Part 217, Subpart W. As EGU, when this program becomes effective, the Permittee would have to hold NO<sub>x</sub> allowances for the NO<sub>x</sub> emissions of the turbine during each seasonal control period.

Condition 4 - Phase 1 (Simple Cycle Configuration):

- 4a. The turbine shall be equipped, operated, and maintained with dry low NO<sub>x</sub> combustors to minimize NO<sub>x</sub> emissions.
- b. i. The only fuel fired in the turbine shall be natural gas.
- ii. The turbine shall not operate more than 2,000 hours or fire more than 3,240 million standard cubic feet of natural gas per year. Compliance with these limits shall be determined from a running total of 12 months of data.
- c. i. Hourly emissions from the turbine shall not exceed the limits specified in Table 1 of the attachment A, except during startup as addressed by Condition 4(c)(iii)(B). These limits are based on the information provided in the permit application. Compliance with these limits shall be determined from emission testing in accordance with Condition 12 (3-run average) or emission monitoring in accordance with Condition 11 (24-hour average).
- ii. The annual emissions from the turbine shall not exceed the limits specified in Table 2 of the attachment A. Compliance with these limitations shall be determined from a running total of 12 months of data.
- iii. For purpose of determining compliance with the above limitations:
- A. Unless emission monitoring is performed for a pollutant, emissions during periods other than startup shall be determined from emission factors developed from testing in accordance with Condition 12 (NO<sub>x</sub>, CO, VOM and PM/PM<sub>10</sub>) and analysis of fuel sulfur content or standard factors (SO<sub>2</sub>).
- B. Unless an alternative factor is established for the pollutant or emissions monitoring is performed for the pollutant, in simple cycle turbine configuration, emissions of NO<sub>x</sub> and CO during an hour that includes a startup shall be presumed to be 110 and 350 percent respectively of the above limits in Condition 4(c)(i), i.e. NO<sub>x</sub> and CO emissions during an hour with a startup, when ambient temperature is 49°F or above, shall be presumed to be 105.6 lb/hr and 66.15 lb/hr,

respectively. NO<sub>x</sub> and CO emissions during an hour with a startup, when ambient temperature is less than 49°F, shall be presumed to be 119.9 lb/hr and 75.25 lb/hr, respectively. These presumptions are based on data in the application describing maximum emissions during startup of a turbine. Any alternative factor for emissions during startup of a turbine shall be based on representative emission testing conducted with USEPA Reference Test Methods. (Refer to Condition 12.)

- C. The establishment of the above procedures for determining compliance with the annual emission limits shall not shield the Permittee from responsibility to account for all emissions from the source, including emissions during startup or upset conditions, as other credible information may demonstrate that the above procedures do not adequately account for the actual emissions of the source.

Condition 4 - Phase 2 (Combined Cycle Configuration):

- 4a. The turbine and duct burner shall be equipped, operated, and maintained with selective catalytic reduction (SCR) to control NO<sub>x</sub> emissions.
- b.
  - i. The only fuel fired in the turbine and duct burner shall be natural gas.
  - ii. The turbine and the duct burner combined shall not fire more than 15,035 million standard cubic feet of natural gas per year. Compliance with this limit shall be determined from a running total of 12 months of data.
  - iii. The duct burner shall not operate more than 4,000 hours or fire more than 384.6 million standard cubic feet of natural gas per year. Compliance with this limit shall be determined from a running total of 12 months of data.
- c.
  - i. Hourly emissions from the turbine and duct burner shall not exceed the limits specified in Table 1 of the attachment B, including emissions during startup periods. These limits are based on the information provided in the permit application. Compliance with these limits shall be determined from emission testing in accordance with Condition 12 (3-run average) or emission monitoring in accordance with Condition 11 (24-hour average).
  - ii. The annual emissions from the turbine and duct burner combined shall not exceed the limits specified in Table 2 of the attachment B. Compliance with these limitations shall be determined from a running total of 12 months of data.
  - iii. For purpose of determining compliance with the above limitations:
    - A. Unless emission monitoring is performed for a pollutant, emissions including startup periods shall be determined from emission factors developed from testing in accordance with Condition 12 (NO<sub>x</sub>, CO, VOM and PM/PM<sub>10</sub>) and analysis of fuel sulfur content or standard factors (SO<sub>2</sub>).

- B. The establishment of the above procedures for determining compliance with the annual emission limits shall not shield the Permittee from responsibility to account for all emissions from the source, including emissions during startup or upset conditions, as other credible information may demonstrate that the above procedures do not adequately account for the actual emissions of the source.
- d. Emissions of PM from the cooling tower shall not exceed 25 lb/day and 4.6 ton/yr. These limits are based on engineering calculations using mass balance as provided in the application.
- 5. Annual emissions of hazardous air pollutants from the facility shall be less than 10 tons of any hazardous pollutant and less than 25 tons in aggregate for any combination of hazardous air pollutants. Compliance with these limits is indirectly addressed by limits on emissions of criteria pollutants from the emission units at the source.

The above limits in Condition 4 and 5 are established to address applicability of 40 CFR 52.21, the federal rules for Prevention of Significant Deterioration of Air Quality (PSD) and 40 CFR 63, Subpart B, for Hazardous Air Pollutants for major sources. These limitations ensure that the construction and operation of the facility, when considered by itself, does not constitute a new major source for purposes of these rules. For this purpose, the construction of this facility is considered to be a separate project from development of the generating facility already at the source, which began operation in the summer of 2000. In this regard, the Permittee has demonstrated that this facility was not contemplated when the first facility was developed.

- 6a. The emission of smoke or other particulate matter from the turbine and duct burner shall not have opacity greater than 30 percent, pursuant to 35 IAC 212.123(a).
- b. i. The facility shall be operated in a manner consistent with good air pollution control practice to minimize emissions and opacity during startup and shutdown including the following.
  - A. The Permittee shall manage the operation of the facility to minimize multiple startups of the turbine in a single day, unless the turbine is tripped off during startup, and to provide adequate time for normal startup of the turbine and duct burner, except for "quick starts" that are due to requests for immediate delivery of power, as would result from unexpected loss of a transmission line or other generating capacity.
  - B. Except during startup or shutdown of the turbine or for the purpose of emission testing, the Permittee shall not operate the turbine below the load range at which emission testing conducted in accordance with Condition 12(b) has demonstrated compliance with the applicable hourly emission limits in Conditions 4(c)(i) (see Condition 12(b)(iii)).

- C. The Permittee shall operate the facility in accordance with written operating procedures that shall include at a minimum the following measures:
    - I. Review of operating parameters of the turbine during startup, or shutdown as necessary to make adjustments to reduce emissions; and
    - II. Implementation of inspection and repair procedures for the facility prior to attempting startup of the turbine following repeated trips of such unit.
  - D. The Permittee shall maintain the facility in accordance with written procedures that shall include at a minimum the following measures:
    - I. Periodic inspection of components of the turbine and the duct burner that affect emissions; and
    - II. Timely replacement of components of the turbine and the duct burner that affect emissions that must be routinely replaced.
- ii. The above procedures may incorporate the manufacturer's written instructions for operation and maintenance of the turbine and the duct burner. The Permittee shall review these procedures at least annually and shall enhance them as necessary to be consistent with good air pollution control practice based on actual operating experience and performance of the turbine and the duct burner.
- 7a. Under this permit, the turbine and duct burner each may be operated for a period of up to 180 days from initial startup to allow for equipment shakedown and emissions testing as required. The Illinois EPA, upon request of the Permittee, may extend this period if additional time is needed to complete shakedown or perform emission testing.
- b. Upon successful completion of the emission testing required by Condition 12(a) demonstrating compliance with applicable short-term limitations, the Permittee may continue to operate the facility as allowed by Section 39.5 (5) of the Environmental Protection Act. The Permittee shall submit supplement to its CAAPP application or submit a complete new CAAPP application to address this new facility within 12 months after commencing operation of the turbine. The Permittee shall submit a complete supplement to its CAAPP application to address the duct burner within 12 months after commencing operation of the duct burner.
- c. This condition supersedes standard Condition 6.
- 8a. The Permittee shall furnish the Illinois EPA with written notification as follows with respect to commencement of construction and operation of the turbine:
- i. The date construction of the turbine commenced postmarked no later than 30 days after such date, pursuant to 40 CFR 60.7(a)(1);
  - ii. The actual date of initial startup of the turbine, postmarked within 15 days after such date, pursuant to 40 CFR 60.7(a)(3); and

- iii. The actual date that each turbine begins gainful operation, with electricity produced by the turbine available for sale at more than the minimum or avoided cost of the purchaser, postmarked within 15 days after such date.
- b. The Permittee shall furnish the Illinois EPA with notification of the date of commencement of construction, anticipated startup, and actual startup of the duct burner, pursuant to 40 CFR 60.48c(a), which shall include:
  - i. The design heat input capacity and identification of fuels to be combusted, pursuant to 40 CFR 60.48c(a)(1); and
  - ii. The annual capacity factor at which the Permittee anticipates operating the duct burner based on the fuel fired, pursuant to 40 CFR 60.48c(a)(3).
- c. If the initiation of Phase 2 (operation in combined cycle configuration) begins prior to initial startup of the duct burner, the Permittee shall notify the Illinois EPA within 15 days of the initiation of Phase 2. (Otherwise, the transition from Phase 1 to Phase 2 begins upon initial startup of the duct burner.) This notification shall confirm that the SCR system is operational. Upon such transition, the Permittee shall no longer be subject to the operational restriction applicable to Phase 1, and shall become subject to the emission limitations applicable to Phase 2.
- 9a. The turbine shall be equipped, operated, and maintained with a continuous monitoring system to monitor and record the fuel consumption, pursuant to 40 CFR 60.334(a).
- b. The duct burner shall be monitored to record the fuel consumption and the operating hours, to verify compliance with limits of Condition 4(b)(iii) of the combined cycle configuration.
- 10a. The Permittee shall sample and analyze for the sulfur content of the fuel for the turbine in accordance with the Federal Acid Rain Program 40 CFR 75.11(d) [refer to Part 75, Appendix D, Section 2.3 for pipeline natural gas combustion] unless it elects to install and operate CEMS for emission of SO<sub>2</sub> from the turbine.
- b. Unless USEPA approves a custom schedule for the turbine, the Permittee shall also sample and analyze for sulfur and nitrogen content of the natural gas being fired in the turbine in accordance with 40 CFR 60.334(b).
- 11. The Permittee shall install, operate, and maintain a Continuous Emissions Monitoring (CEM) system on the turbine to measure emissions of NO<sub>x</sub>. The applicable procedures under 40 CFR 75.12 and 40 CFR 75, subpart H shall be followed for the installation, evaluation, and operation of this NO<sub>x</sub> CEM system. This monitoring system shall be operational through startup and shutdown of the turbine/HRSG.
- 12a. The nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), volatile organic material (VOM), and particulate matter (PM) emission; oxygen (O<sub>2</sub>) concentrations and opacity in the exhaust of the turbine shall be

measured by an independent testing service approved by the Illinois EPA as follows to determine compliance with the emissions limits in Condition 1 and 4:

- i. Within 60 days after operating the turbine at the greatest load at which it will normally be operated but not later than 180 days after its initial startup;
  - ii. Within 60 days after operating the duct burner at the greatest load at which it will normally be operated but not later than 180 days after its initial startup;
  - iii. Within 90 days after a written request from the Illinois EPA, for such pollutants listed above as specified by the request; and
  - iv. Any extension to these time periods that may be provided at its discretion by the Illinois EPA shall not alter the Permittee's obligation to perform emission testing for purpose of the NSPS in a timely manner as specified by 40 CFR 60.8.
- b. The following methods and procedures shall be used for testing of emissions:
- i. USEPA Reference Test Methods shall be used for emission testing, including the following methods:

Opacity	USEPA Method 9
Carbon Monoxide	USEPA Method 10
Volatile Organic Material	USEPA Method 18 or 25A
Nitrogen Oxides	USEPA Method 20
Particulate Matter	USEPA Method 5
Particulate Matter <sub>10</sub>	USEPA Method 201 or 201A (40 CFR 51, Appendix M)
  - ii. Measurements for NO<sub>x</sub> shall be conducted in accordance with 40 CFR 60.335, as specified below, unless alternative testing procedures are approved by USEPA pursuant to 40 CFR 60.8(b):
    - A. The NO<sub>x</sub> emissions shall be computed for each run using the equation in 40 CFR 60.335(c)(1).
    - B. The span values for Method 20 shall be 300 ppm of NO<sub>x</sub> and 21 percent O<sub>2</sub>, pursuant to 40 CFR 60.335(c)(3).
    - C. The NO<sub>x</sub> emissions shall be determined at four points in the normal operating range of the gas turbine/HRSG, including the minimum point in the range and peak load, pursuant to 40 CFR 60.335(c)(2).
    - D. All loads shall be corrected to ISO conditions using the appropriate equations supplied by the manufacturer, pursuant to 40 CFR 60.335(c)(2).
  - iii. Measurements for other pollutants shall be conducted as follows:
    - A. CO, PM and VOM emissions shall be measured at peak, intermediate and minimum gas turbine load.

- B. PM emissions measured by USEPA Method 5, including back half condensable particulate, may be provided as an alternative to measurement of PM<sub>10</sub> emissions using USEPA Method 201 or 201A.
  - C. Measurements for organic hazardous air pollutants in the VOM (e.g., formaldehyde, toluene, acetaldehyde, and acrolein) shall be provided if VOM emissions are measured by Method 18. (See also Condition 12(c)(iii).)
  - D. Unless continuous emissions monitoring is conducted for the particular pollutant, measurements shall also be performed for emissions of NO<sub>x</sub> and CO during startup of the turbine in simple cycle configuration (Phase 1), in accordance with a plan approved by the Illinois EPA. For purposes of these measurements, as approved by the Illinois EPA, the Permittee may adapt USEPA Reference Test Methods as necessary to address the short duration and transient conditions of startups.
- c. At least 60 days prior to the actual date of testing, a written test plan shall be submitted to the Illinois EPA for review. This plan shall describe the specific procedures for testing and shall include as a minimum:
- i. The person(s) who will be performing sampling and analysis and their experience with similar tests;
  - ii. The specific conditions under which testing shall be performed including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for a turbine will be tracked and recorded;
  - iii. The specific determinations of emissions that are intended to be made, including sampling and monitoring locations; the test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods; and identification of any organic hazardous air pollutants that will be measured. As part of this plan, The Permittee shall propose a plan for testing across the normal operating range of the turbines; and
  - iv. The proposed plans for testing emissions during startup of the turbine as required by Condition 12(b)(iii)(D), including the number of startups for which measurements will be performed; the procedures that will be followed for startup of the turbine; the approach that will be generally followed to assure that measurements can be conducted for and will be representative of the startup period; any proposed adaptations to reference test methods; and any other significant considerations for testing of emissions during startup.
- d. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification of the expected date

of testing shall be submitted a minimum of thirty days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of five working days prior to the actual date of the test. The Illinois EPA may, at its discretion, accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe the testing.

- e. Three copies of the final reports for emission tests shall be forwarded to the Compliance Section in Springfield within 30 days after the test results are compiled and finalized. The final report from testing shall contain a minimum:

- i. A summary of results;
- ii. General information;
- iii. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule;
- iv. Detailed description of test conditions, including:
  - A. Fuel consumption (standard ft<sup>3</sup>);
  - B. Firing rate (million Btu/hr);
  - C. Turbine/Generator output rate (MW); and
  - D. Duct burner firing rate (million Btu/hr) (in combined cycle configuration).
- v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.

- 13a. The Permittee shall maintain a file of the following items:

- i. Manufacturers specification of rated turbine and duct burner load;
- ii. The composition of fuel as determined in accordance with Condition 10;
- iii. Heat content of the natural gas (Btu/ft<sup>3</sup>) being fired, with supporting documentation, on a quarterly basis;
- iv. A copy of the Final Report(s) for emission testing conducted pursuant to Condition 12; and
- v. Copies of opacity determinations taken for the source by qualified observer(s) using USEPA method 9.

- b. The Permittee shall keep records of the following items pertaining to SCR system (Phase 2):

- i. Type of reagent in use;

- ii. Flow setting of the reagent; and
  - iii. Reagent consumption (gallons or pounds per month).
- c. The Permittee shall maintain the following daily operating records:
- i. The quantity of fuel consumed for the turbine (standard cubic feet);
  - ii. The quantity of fuel consumed for the duct burner (standard cubic feet);
  - iii. Operating hours for the turbine in both simple cycle and combined cycle configuration (total hours, hours for startup);
  - iv. Each period when duct burner was fired;
  - v. Water consumption and operating hours for the cooling tower; and
  - vi. Ambient temperature, and turbine load (MWe), on a daily basis for each hour turbine is operated.
- d. The Permittee shall maintain the following records related to each startup of the turbine:
- i. Date and time of startup;
  - ii. Whether operating personnel for the turbine or air environmental staff are on site during startup; and
  - iii. A description of the startup, if written operating procedures are not followed during the startup or significant problems occur during the startup, including detailed explanation.
- e. The Permittee shall keep inspection, maintenance and repair logs with dates and the nature of such activities for the turbine, duct burner, SCR system, and the SCR reagent storage system.
- f. The Permittee shall maintain the following records related to emissions:
- i. Other data, not addressed above, used or relied upon by the Permittee to determine emissions;
  - ii. Fuel consumption, operating hours and number of startups for the turbine and duct burner, compiled on at least a monthly basis;
  - iii. The annual emissions of NO<sub>x</sub>, SO<sub>2</sub>, PM, VOM and CO for each month since the previous record with supporting calculations. NO<sub>x</sub> emissions shall be based on data from the CEMS. SO<sub>2</sub> emissions shall be based on the data collected for the federal Acid Rain program. All other emissions shall be calculated based on fuel consumption data and site-specific emission factors developed from emission test data or other methods approved by the Illinois EPA; and
  - iv. NO<sub>x</sub> emissions, from the turbine recorded hourly (in lb/mmBtu and lb or ton) by combining the pollutant concentration (in ppm) and

diluent's concentration (in percent O<sub>2</sub> or CO<sub>2</sub>) measurements according to the procedures in 40 CFR 75 Appendix F.

- g. The Permittee shall maintain records that identify:
  - i. Any periods during which a continuous monitoring system was not operational, with explanation;
  - ii. Any periods during which the SCR control system was not operational, if applicable, with explanation and
  - iii. Any day in which emissions or operation exceeded an applicable standard or limitation.
- h. The Permittee shall maintain records documenting annual review of its operating procedures (see Condition 6).
- 14. All records required by this permit shall be retained on site for a period of at least 3 years and shall be readily available for inspection and copying by the Illinois EPA upon request.
- 15a. The Permittee shall notify the Illinois EPA within 10 days if the total NO<sub>x</sub> or CO emissions from the plant go above 60 tons/year, as calculated following condition 13(f)(iii). This notification shall explain whether this appears to be due to unusually high demand for power or represents levels of demand that may be expected to continue in the future.
- b. If there is any exceedance of the requirements of Conditions 1, 4 and 5 of this permit, as determined by the records required by this permit or by other means, the Permittee shall submit a report within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
- c. In conjunction with the Annual Emission Report required by 35 IAC Part 254, the Permittee shall provide:

The operating hours of the turbine; the total number of startups; the total number of "quick starts", if any; the total number of operating hours with duct firing, if applicable; and the total fuel consumption during the preceding calendar year.
- d. The Permittee shall comply with applicable reporting requirements under the Acid Rain Program, with a single copy of such report sent to Illinois EPA. This copy shall be sent to the Division of Air Pollution Control, Compliance Unit.
- e. If the emission testing required by Condition 12(a)(i) and (ii) is not performed within 60 days of beginning gainful operation of the turbine, the Permittee shall submit a report summarizing NO<sub>x</sub>, and CO emissions of the turbine as determined by diagnostic measurements, e.g., combustion gas analyzers, during shakedown of the turbine.

16. Two copies of required reports and notifications concerning equipment operation or repairs, performance testing, or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

Telephone: 217/782-5811      Fax: 217/782-6348

and one copy shall be sent to the Illinois EPA's regional office at the following address, unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control - Regional Office  
5415 N. University  
Peoria, Illinois 61614

Telephone: 309/693-5461      Fax: 309/693-5467

- 17a. This Permit for the above referenced project does not relieve the Permittee from the responsibility to comply with all Local, State and Federal Regulations which are part of the applicable Illinois State Implementation Plan, as well as all other applicable Federal, State, and Local requirements.
- b. In particular, this Permit does not relieve the Permittee from the responsibility to carry out practices during the construction and operation of the plant, such as application of water or dust suppressant sprays to unpaved traffic areas, to minimize fugitive dust and prevent an air pollution nuisance from fugitive dust, as prohibited by 35 IAC 201.141.
18. Unless this permit has been extended or it has been voided by a newly issued permit, the permit to construct Phase 2 will expire one year from the date of completing construction of Phase 1, unless a continuous program of construction or development of the Phase 2 project has started by such time. Completion of Phase 1 shall be presumed to occur 180 days after initial startup of the turbine.

If you have any questions concerning this permit, please contact Manish Patel at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

DES:MNP

Attachments

CC: Region 2

Attachment A

Table 1

Hourly emission limits for the turbine when ambient temperature 49°F or above

$\text{NO}_x^2$ (lb/hr) <u>(lb/mmBtu)<sup>1</sup></u>	$\text{CO}^2$ (lb/hr) <u>(lb/mmBtu)<sup>1</sup></u>	VOM (lb/hr)	PM/PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)
96.0 (0.057)	18.9 (0.01)	8.0	6.0	0.92

1 - Based on Higher Heating Value (HHV) of the fuel.

2 - The NO<sub>x</sub> and CO limit when ambient temperature is less than 49°F is 109 lb/hr (0.057 lb/mmBtu (HHV)) and 21.5 lb/hr (0.01 lb/mmBtu (HHV)), respectively.

Table 2

Annual emission limits for the turbine

<u>Pollutant</u>	<u>Emissions (tons/year)</u>
NO <sub>x</sub>	97.0
CO	22.7
VOM	8.0
PM/PM <sub>10</sub>	6.0
SO <sub>2</sub>	0.9

Attachment B

Table 1

Hourly emission limits for the turbine and duct burner when ambient temperature 49°F or above

	NO <sub>x</sub> <sup>2</sup> (lb/hr) (lb/mmBtu) <sup>1</sup>	CO <sup>3</sup> (lb/hr) (lb/mmBtu) <sup>1</sup>	VOM (lb/hr)	PM/PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)
Without duct burner	21.8 (0.0129)	18.9 (0.011)	8.0	6.0	0.92
With duct burner	23.1 (0.0129)	26.9 (0.015)	10.0	7.0	0.97

1 - Based on Higher Heating Value (HHV) of the fuel.

2 - The NO<sub>x</sub> limit when ambient temperature is less than 49°F is 24.7 lb/hr (0.0129 lb/mmBtu (HHV)) and 26.0 lb/hr (0.0129 lb/mmBtu (HHV)), without duct burner and with duct burner, respectively.

3 - The CO limit when ambient temperature is less than 49°F is 21.5 lb/hr (0.011 lb/mmBtu (HHV)) and 29.5 lb/hr (0.015 lb/mmBtu (HHV)), without duct burner and with duct burner, respectively.

Table 2

Combined annual emission limits for the turbine and duct burner

<u>Pollutant</u>	<u>Emissions (tons/year)</u>
NO <sub>x</sub>	98.1
CO	98.7
VOM	39.0
PM/PM <sub>10</sub>	28.3
SO <sub>2</sub>	4.1