

217/782-2113

CONSTRUCTION PERMIT - PSD APPROVAL - NSPS SOURCE

PERMITTEE

Kendall New Century Development, L.L.C.
Attn.: Jeffrey Keenan, Technical Manager
1400 Smith Street
Houston, Texas 77002

Application No: 99020032I.D. No.: 093801AANApplicants Designation: ELECTRIGENDate Received: June 28, 2001Subject: Electric Generation FacilityDate Issued:

Location: Corneils Road, between Eldamain Road and Beecher Road, Plano
(between Plano and Yorkville), Kendall County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of eight simple cycle gas fired combustion turbines (83 MW each), two natural gas fired fuel heaters, and one emergency fire-water pump diesel fired engine as described in the above referenced application and summarized in Attachment A. This Permit is granted based upon and subject to the findings and special conditions which follow:

In conjunction with this permit, approval is given with respect to the Prevention of Significant Deterioration of Air Quality Regulations (PSD) to construct the above referenced project, in that the Illinois Environmental Protection Agency (Illinois EPA) finds that the application fulfills all applicable requirements of 40 CFR 52.21. This approval is issued pursuant to the Clean Air Act, as amended, 42 U.S.C. 7401 et. seq., the Federal regulations promulgated thereunder at 40 CFR 52.21 for Prevention of Significant Deterioration of Air Quality (PSD), and a Delegation of Authority agreement between the United States Environmental Protection Agency and the Illinois EPA for the administration of the PSD Program. This approval becomes effective in accordance with the provisions of 40 CFR 124.15 and may be appealed in accordance with the provisions of 40 CFR 124.19. This approval is also based upon and subject to the following findings and conditions which follow:

Findings

1. Kendall New Century Development, L.L.C. (KNCD) has requested a permit for a electric generation facility that would include eight "simple cycle" gas turbines. The gas turbines would be fired on natural gas and have the ability to generate up to about 664 MW (nominal) of electricity.
2. The project would be constructed on a parcel of land located in Bristol Township approximately two miles northwest of Yorkville and 6 miles east of Plano, in Kendall County. The area is currently designated attainment for all criteria pollutants.

3. a. The proposed project has the potential to emit major amounts of Nitrogen Oxides (NO_x) and Carbon Monoxide (CO). Although not a major source for Sulfur Dioxide (SO₂) or Particulate Matter (PM), potential emissions of these two pollutants are above significant levels as shown in Attachment B. The project is therefore subject to PSD review for NO_x, CO, SO₂ and PM.
- b. The proposed project has annual emissions of hazardous air pollutants that will be less than 10 tons of any hazardous pollutant and less than 25 tons in aggregate for any combination of hazardous air pollutants, as indirectly addressed by limits on emissions of criteria pollutants. Therefore, the project is not subject to review under Section 112(g) of the Clean Air Act.
4. After reviewing the materials submitted by KNCD, the Illinois EPA has determined that the project will (i) comply with applicable Board emission standards (ii) comply with applicable federal emission standards and (iii) utilize Best Available Control Technology (BACT) on emissions of NO_x, CO, SO₂ and PM.
- 5a. The turbines are affected units 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 units under the Acid Rain Program, the Permittee must also obtain an Acid Rain Permit for operation of the turbines in accordance with 40 CFR 72.30(b)(2)(ii) and 72.32(a).
- b. The turbines would qualify as Electrical Generating Units (EGU) for purposes of Part 217, Subpart W. As EGU, when this program becomes effective, the Permittee would have to hold NO_x allowances for the NO_x emissions of the turbines during each seasonal control period.
6. The air quality analysis submitted by KNCD and reviewed by the Illinois EPA shows that the proposed project will not cause violations of the ambient air quality standard for NO_x, CO, SO₂ and PM. The analysis shows that project will have an insignificant impact on the ambient air quality standards.
7. The Illinois EPA has determined that the proposed project complies with all applicable Illinois Air Pollution Board Regulations and the federal Prevention of Significant Deterioration of Air Quality Regulations (PSD), 40 CFR 52.21.
8. A copy of the application and the Illinois EPA's formal review of the application and a draft of this permit were placed in a location in the vicinity of the project, and the public was given notice and an opportunity to examine this material and to submit comments and to request a public hearing on this matter.

The Illinois EPA is issuing approval to construct the proposed project subject to the following special conditions and consistent with the specifications and data included in the application. Any departure from the conditions of this

approval or terms expressed in the application would need to receive prior written authorization by Illinois EPA.

Conditions

1. Standard conditions for issuance of construction permits, attached hereto and incorporated herein by reference, shall apply to this project, unless superseded by the following special conditions.
- 2a. The turbines shall each be equipped, operated, and maintained with low NO_x combustors.
- b.
 - i. Operation of the turbine units (8 units) shall not exceed a combined total of 26,400 hours per year. Operation of each individual turbine unit shall not exceed 4,400 hours in any single year and 3,300 hours averaged over any three consecutive years.
 - ii. If at any time, the operation of an individual turbine exceeds 3,300 hours in a year, the Permittee shall demonstrate that operation of such turbine was consistent with its use as a peaking turbine, by making a detailed submittal of information to the Illinois EPA within 2 months that includes the following:
 - A. The total hours that the turbine actually operated during such year and a summary of actual operating hours of the turbine for prior years;
 - B. A description of the circumstances that contributed to actual operation for more than 3,300 hours in a year, with supporting documentation, including:
 - I. The circumstances with respect to the public demand for power, e.g., unusually cold or hot weather;
 - II. The circumstances with respect to unavailability of other turbines at the facility, e.g., unanticipated or extended outage of turbines;
 - III. The circumstances with respect to electric utility need for power, e.g., unexpected outages of major generating units or damage to power transmission systems;
 - IV. Other circumstances that the Permittee believes contributed to the operation of the turbine for more than 3,300 hours in a year; and
 - C. Further information to demonstrate that the above circumstances are uncommon or unlikely to reoccur so as to result in actual operation of the turbine for more than 3,300 hours in a year.
 - iii. Prior to operation of an individual turbine for more than 3,300 hours in a year in a manner that is inconsistent with its use as a peaking turbine, the Permittee shall obtain a revised permit allowing such operation pursuant to PSD, 40 CFR 52.21, which permit may establish

additional requirements for turbine as are appropriate as Best Available Control Technology.

- iv. For the purposes of this permit, peaking operation means operation when base load generating capacity is insufficient to meet electrical demand and operating reserve requirements, due to high demand, outage of base load generating units, restrictions or interruptions in the power grid, etc. It also includes operation of a unit for purposes of verifying unit availability for the above purposes. Compliance with this requirement shall be presumed for an individual turbine if it operates for no more than 3,300 hours per year.
 - c.
 - i. The emissions of NO_x from each turbine shall not exceed 9 ppmvd @ 15% O₂ (which corresponds to 0.037 lb/mmBtu (LHV)) on an hourly average based on a 3-hour block average.
 - ii. The emissions of CO from each turbine shall not exceed 25 ppmvd @ 15% O₂ on an hourly average based on a 3-hour block average.
 - iii. These emission limits do not apply during periods of startup and shutdown as addressed by Condition 4 and only become effective after the initial shakedown period provided for by Condition 9(a).
 - d. The turbines shall be maintained and operated with good combustion practice to control emissions of CO and PM.
- 3a. The fuel heaters shall be equipped with low-NO_x burners designed to emit no more than 0.1 lb NO_x/million Btu heat input on an hourly average.
- b. The fuel heaters shall be maintained and operated with good combustion practice to control emissions of CO and PM.
- 4a.
 - i. Each turbine shall be operated in a manner consistent with good air pollution control practice to control emissions and opacity during startup/low load operation and shutdown including the following.
 - A. The Permittee shall manage the operation of the turbines to minimize multiple startups of a turbine in a single day, unless the turbine is tripped off during startup, and to provide adequate time for normal startup of the turbines, 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 a turbine or for the purpose of emission testing, the Permittee shall not operate turbines below the minimum load at which emission testing conducted in accordance with Condition 10(b) has demonstrated compliance with the applicable hourly emission limits in Conditions 8(a).
 - C. The Permittee shall operate the turbines in accordance with written operating procedures that shall include at a minimum the following measures:

- I. Review of operating parameters of the unit during startup, or shutdown as necessary to make adjustments to reduce emissions; and
 - II. Implementation of inspection and repair procedures for a turbine prior to attempting startup following repeated trips.
- D. The Permittee shall maintain the turbines in accordance with written procedures that shall include at a minimum the following measures:
- I. Periodic inspection of components of the turbines that affect emissions; and
 - II. Timely replacement of components of the turbine 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 turbines. 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 turbines.
- b. For the purpose of these conditions, startup/low load operation means turbines operating below 70% load with the burners in diffusion mode (rather than lean pre-mix operation).
- Conditions 2, 3, and 4 represent the application of the Best Available Control Technology as required by Section 165 of the Clean Air Act.
- 5a. The gas turbines are 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 NO_x emissions from each gas turbine shall not exceed the limit established by the NSPS, pursuant to 40 CFR 60.332 (a)(1).
- c. The emission from each gas turbine shall not contain SO₂ in excess of 0.015 percent by volume at 15 % O₂ and on a dry basis or the gas turbine 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 gas turbines in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to the NSPS, 40 CFR 60.11(d).
6. The emission of smoke or other particulate matter from a gas turbine or fuel heater shall not have an opacity greater than 30 percent, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 201.149, 212.123(b) or 212.124.

7. The only fuels fired in the turbines shall be natural gas, as defined in 40 CFR 60.41c.
- 8a. Emissions from the turbines shall not exceed the limits in Table 1 and Table 2 of the attachment B.
 - b. Emissions of NO_x from the fuel heaters, in total, shall not exceed 2.5 lb/hr and 4.0 tons/yr.
 - c. Emissions of NO_x from the firewater pump engine shall not exceed 6.6 lb/hr and 1.7 tons/yr.
- 9a. Under this permit, each gas turbine may be operated for a period of up to 180 days from initial startup to allow for equipment shakedown and emissions testing as required. This period may be extended by the Illinois EPA upon request of the Permittee if additional time is needed to complete shakedown or perform emission testing, provided however that an hourly NO_x emission limit representing 15 ppmvd NO_x @ 15% O₂ (equivalent to 0.060 lb/mmBtu (LHV)) shall apply during such extended shakedown.
 - b. Upon successful completion of emission testing demonstrating compliance with applicable short-term limitations, the Permittee may continue to operate the turbines as allowed by Section 39.5 (5) of the Environmental Protection Act. The Permittee shall submit a complete CAAPP application within 12 months after commencing operation.
 - c. This condition supersedes Standard Condition 6.
- 10a. The nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic material (VOM), and particulate matter (PM) emissions oxygen (O₂) concentrations and opacity in the exhaust of the turbines shall be measured by an independent testing service approved by the Illinois EPA as follows to determine compliance with the emissions limits in Condition 2, 5, 6 and 8(a):
 - i. Within 60 days after operating a turbine at the greatest load at which it will normally be operated but not later than 180 days after its initial startup;
 - ii. Within 90 days after a written request from the Illinois EPA, for such pollutants listed above as specified by the request; and
 - iii. 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. The following USEPA test methods shall be used:

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3 or 3A
Moisture	USEPA Method 4
Opacity	USEPA Method 9
Carbon Monoxide	USEPA Method 10
Volatile Organic Material	USEPA Method 18
Nitrogen Oxides	USEPA Method 20
Particulate Matter	USEPA Method 5
Particulate Matter ₁₀	USEPA Method 201 or 201A (40 CFR 51, Appendix M)

- ii. Measurements for NO_x 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_x 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_x and 21 percent O₂, pursuant to 40 CFR 60.335(c)(3).
 - C. The NO_x emissions shall be determined at four points in the normal operating range of the turbine, 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 emission shall be measured at peak, intermediate and minimum turbine load.
 - B. PM emissions measured by USEPA Method 5, including back half condensable particulate, may be provided as an alternative to measurement of PM₁₀ 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 10(c)(iii))
- 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.

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- 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 the gas turbine will be tracked and recorded.
 - iii. The specific determinations of emissions those 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 may set forth a strategy for approval by the Illinois EPA for performing emission testing of selected turbines provided that all turbines are fitted for testing; the identity of the turbines to be tested is determined immediately before testing, by the Illinois EPA or otherwise randomly; and continuous emission monitoring of NO_x is present on all turbines. The Permittee may also propose a plan for testing across the normal operating range of the turbines.
- 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 30 days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of 5 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 testing.
- e. Three copies of the Final Reports for these tests shall be forwarded to the Illinois EPA within 30 days after the test results are compiled and finalized. The Final Report from testing shall contain a minimum:
- i. General information, i.e., test date, personnel, etc.;
 - ii. A summary of results;
 - iii. Description of test method(s), including a description of sampling points, sampling train, analysis equipment, and test schedule;
 - iv. Detailed description of test conditions, including:
 - A. Fuel consumption (standard ft³);
 - B. Firing rate (million Btu/hr) based on lower heating value (LHV);
 - C. Combustion turbine/generator output rate (MW); and
 - v. Data and calculations, including copies of all raw data sheets and records of laboratory analysis, sample calculations, and data on equipment calibration.
11. The Permittee shall install, operate, and maintain a Continuous Emissions Monitoring (CEM) system on turbines to measure emissions of NO_x. 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_x CEM system.

- 12a. The Permittee shall sample and analyze for the sulfur content of the fuel for the turbines 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 SO₂ from the turbines.
 - b. Monitoring of fuel nitrogen content is not required while pipeline quality natural gas, as defined in 40 CFR 72.2, is being fired in the turbines.
 - c. The above provisions establish a custom schedule for determination of sulfur content and nitrogen content of fuel, subject to case-specific approval by USEPA pursuant to 40 CFR 60.13(i), in which approval USEPA may establish additional requirements upon the Permittee for sampling and analysis of fuel. If USEPA does not approve a custom schedule for the turbines, the Permittee shall also sample and analyze for sulfur and nitrogen content of the natural gas being fired in the turbines in accordance with 40 CFR 60.334(b).
13. Each turbine shall each be equipped, operated, and maintained with a continuous monitoring system to monitor and record the fuel consumption, pursuant to 40 CFR 60.334(a).
- 14a. The Permittee shall maintain a file of the following items:
 - i. Manufacturers specification of rated turbine load;
 - ii. The composition of fuel as determined in accordance with Condition 12;
 - iii. Heat content (LHV) of the natural gas (Btu/ standard ft³) being fired, with supporting documentation, on a quarterly basis;
 - iv. A copy of the Final Report(s) for emission testing conducted pursuant to Condition 10; and
 - v. Copies of opacity determinations taken for the source by qualified observer(s) using USEPA method 9.
- b. The Permittee shall maintain the following records for the turbines:
 - i. Quantity of fuel consumed by each turbine (standard ft³), as measured in accordance with Condition 13;
 - ii. Operating hours for each turbine (hours/day and hours/month); and
 - iii. Identification of each hour when a turbine is operated at less than 70% load, other than start up or shutdown. .
- c.
 - i. The Permittee shall keep inspection, maintenance, and repair logs with dates and nature of such activities for the following as may be related to emissions and emission control:

- A. Each turbine, including the burner system;
 - B. Each fuel heater; and
 - C. Fire water pump engine;
- ii. The logs for each turbine shall include data on burner settings and any detailed information on inspection of the burner system including values of parameters related to burner performance measured during such inspections.
- d. The Permittee shall maintain the following records related to startup and shutdown of each turbine:
- i. The following information for each startup of the turbine:
 - A. Date and time of startup;
 - B. A description of the startup, if written operating procedures are not followed during the startup or operating problems occur during the startup, including detailed explanation.
 - ii. The following information for each shutdown of the turbines:
 - A. Date and time of shutdown;
 - B. A description of the shutdown, if written operating procedures are not followed during the shutdown or operating problems occur during the shutdown, including detailed explanation.
 - iii. The following information for a turbine when opacity is observed that is above normal startup or routine operation opacity:
 - A. Date, time and duration of observed above normal opacity;
 - B. A description of the observed opacity, the operating conditions of the turbine, and possible causes for above normal opacity, e.g., excess natural gas pressure or low natural gas temperature;
 - C. A description of any corrective actions taken to reduce opacity; and
 - D. Whether exceedance of Condition 6 [30 percent opacity] may have occurred, including any Method 9 readings taken by a qualified observer.
- e. The Permittee shall keep the following records with regards to emissions:
- i. NO_x emissions from each gas turbine recorded hourly, monthly, and annual (in lb/mmBtu (LHV) and lb or ton) by combining the NO_x concentration (in ppm) and diluent concentration (in percent O₂ or

CO₂) measurements according to the procedures in 40 CFR 75 Appendix F;

- ii. Monthly emissions of NO_x, VOM, CO, SO₂ and PM from the turbines (tons/month). NO_x emissions shall be based on data from the CEM. Emissions of SO₂ shall be determined in accordance with 40 CFR Part 75, by analysis of fuel sulfur content, standard factor, or continuous emission monitoring. Emissions of CO, VOM and PM shall be calculated from fuel consumption data and emission factors developed from emission testing or other methods approved by the Illinois EPA;
 - iii. Monthly emissions of NO_x, CO, SO₂, VOM, and PM from the fuel heater and firewater pump engine (ton/month). Emissions shall be calculated based on fuel consumption data and/or applicable emission factors; and
 - iv. Total annual emissions of NO_x, VOM, CO, SO₂, and PM from the turbines based on monthly emission totals.
- h. The Permittee shall maintain records that identify:
- i. Any periods during which a continuous monitoring system was not operational, with explanation; and
 - ii. Any day in which emission exceeded an applicable standard or limit.
15. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be available for inspection and copying by the Illinois EPA upon request. Any record retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
- 16a. For each gas turbine, the Permittee shall fulfill applicable notification requirements of the NSPS, 40 CFR 60.7(a), including notifications for date of commencement of construction, and actual date of initial startup. With the notification for commencement of construction, the Permittee shall provide a copy of the manufacturer's guarantee for emissions.
- b. The Permittee shall promptly notify the Illinois EPA if construction of a particular gas turbine, once commenced, is discontinued or interrupted for a period of 18 months.
- 17a. If there is an exceedance of the requirements of Condition 2 through 8 of this permit, the Permittee shall submit a report to the Illinois EPA within 30 days after the exceedance. The report shall include a description of the exceedance, a copy of relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

- b. In conjunction with the Annual Emission Report required by 35 IAC Part 254, the Permittee shall provide:
 - i. Operating hours for each turbine; and
 - ii. A review of the use of each turbine and the facility as a whole to confirm that they were used for peaking operation.
 - c. 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.
- 18a. Any required reports and notifications concerning equipment operation, emissions testing, or a monitoring system shall be sent to the Illinois EPA at the following address unless otherwise indicated:

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

- b. A copy of all reports and notifications, as required above, except the Annual Emission Report required by 35 Ill. Adm. Code 254, shall also be sent to the Illinois EPA at the following address:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016
Telephone: 847/294-4000 Fax: 847/294-4018

- 19a. Pursuant to 40 CFR 52.21(r)(2), this permit shall become invalid if construction is not commenced within 18 months after this permit becomes effective, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable period of time. The 18 month period may be extended by the Illinois EPA upon a satisfactory showing that an extension is justified. This condition supersedes Standard Condition 1.
 - b. This permit shall become invalid as applied to a particular turbine unit if construction of such unit does not commence within 18 months after this permit becomes effective, if construction is discontinued for a period of 18 months or more, or if construction of the combustion turbine is not completed within a reasonable period of time. The 18 month period may be extended by the Illinois EPA upon a satisfactory showing from the Permittee that an extension is justified.
 - c. For purposes of the above provisions, the definitions of "construction" and "commence" at 40 CFR 52.21 (b)(8) and (9) shall apply, which require that a source must enter into a binding agreement for on-site construction or begin actual on-site construction. (Also see the definition of "begin actual construction," 40 CFR 52.21 (b)(11))
20. This Permit for the above referenced project does not relieve the Permittee of 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.

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

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

DES:MNP

Attachment

CC: Region 1
USEPA

Attachment AEmission Units

<u>Unit ID</u>	<u>Description</u>	<u>Number</u>	<u>Rated Heat Input¹ (mmBtu/hr)</u>	<u>Rated Electrical Output¹ (MWe)</u>	<u>Control</u>
SCCT 1 - 8	Simple cycle gas turbine	8	1000.5	83	Low NO _x combustors
	Fuel Heaters	2	12.0	--	Low NO _x burners
	Backup diesel fire-Pump engine	1	--	--	None

1. Nominal ratings are based on lower heating value and are per unit.

Project Emissions (ton/yr)

<u>Unit</u>	<u>NO_x</u>	<u>CO</u>	<u>PM/PM₁₀</u>	<u>VOM</u>	<u>SO₂</u>
Turbines	488.4	793.3	184.8	27.7	81.8
Fuel heaters	4.0	3.6	0.4	1.5	0.2
Backup diesel fire-pump engine	1.7	0.5	0.3	0.1	0.3
Total:	494.1	797.4	185.5	29.3	82.3

Attachment BTable 1Emission Limits¹ for Each Turbine

<u>Pollutant</u>	<u>lb/mmBtu(LHV)</u>	<u>lb/hr</u>
NO _x	0.037	37.0
CO ²	0.060	60.1
PM/PM ₁₀ ²	0.014	14.0
VOM	0.002	2.1
SO ₂	0.006	6.2

1. These limits are per unit and reflect vendor/manufacture data for base load turbine operation at 0°F ambient temperature, as provided in the permit application. These limits do not apply during startup/low load operation or shutdown as addressed by condition 4. Notwithstanding the above limits, if the turbines operate at or less than 70% load condition, CO and VOM emission shall not exceed 89.2 lb/hr (0.089 lb/mmBtu (LHV)) and 5.5 lb/hr (0.00549 lb/mmBtu (LHV)), respectively.
2. If the applicable limits of CO and PM are not met by a turbine, it shall be presumed to constitute failure to use good combustion practice as required by Condition 2(d), as well as an exceedance of Condition 8(a).

Table 2Annual Emissions³ (ton/yr) from all turbines combined

<u>Pollutant</u>	<u>Potential Emissions</u>
NO _x	488.4
CO	793.3
PM/PM ₁₀	184.8
VOM	27.7
SO ₂	81.8

3. Annual limits apply to the total of all turbines. The annual limits reflect 26,400 total turbine operating hours considering 3,300 hours of operation for each turbine.