217/782-2113

CONSTRUCTION PERMIT - PSD – NSPS

PERMITTEE

3426 E 89th Street, LLC
Attn: Sherwin Geitner
5550 West Touhy Avenue, Suite 301
Skokie, IL 60077

Application No.: 02120052 I.D. No.: 031600GNK
Applicant's Designation: Date Received: December 20, 2002
Subject: Electric Generation Facility
Date Issued: October 31, 2003
Location: 3426 E 89th Street, Chicago, Cook County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of an electric generation facility with two combustion turbines/associated heat recovery steam generators with duct burners (CT/HRSG), and ancillary operations, 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. 3426 E 89th Street, LLC has requested a permit for an electric generation facility that would include two "combined cycle" combustion turbines (CT) equipped with supplementary-fired heat recovery steam generators (HRSG). The facility would have a nominal capacity of approximately 550 MW of electricity. The generating units would be fired on natural gas.

2. The project would be located at the former USX site on a parcel of property adjacent to Lake Michigan in Chicago. The area is currently designated as nonattainment for ozone and PM_{10} and attainment for all other criteria pollutants.

3a. The proposed project has the potential to emit major amounts of nitrogen oxides (NO_X) and carbon monoxide (CO) as shown in Table 1 of Attachment B. The project is therefore subject to PSD review for NO_X and CO.

b. The potential emissions of volatile organic material (VOM) and particulate matter (PM) from the project, as limited by this permit, are less than 25 tons and 100 tons per year, respectively. Therefore this project is not subject to Illinois's rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203, which apply to major projects in ozone and PM_{10} nonattainment areas. Accordingly, as the project is located in an area that is designated nonattainment for ozone and PM_{10}, conditions of this permit as they relate to emissions of VOM and PM/PM_{10} are not considered part of the PSD approval.

c. The proposed project would have potential emissions of hazardous air pollutants that are to be less than 10 tons of any individual 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 3426 E 89th Street, LLC, 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 and CO.

5. Each CT/HRSG is affected unit under the Acid Rain Deposition Control Program pursuant to Title IV of the Clean Air Act and is subject to certain control requirements and emissions monitoring requirements pursuant to 40 CFR Parts 72, 73 and 75. As affected units under the Acid Rain Program, 3426 E 89th Street, LLC must obtain an Acid Rain Permit before commencing operation and must hold calendar year allowances for each ton of SO_2 that is emitted.

6. The air quality analysis submitted by 3426 E 89th Street, LLC 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, PM_{10}, and SO_2 emissions. The air quality analysis shows compliance with the allowable increment levels established under the PSD regulations.

7. The Illinois EPA has determined that the proposed project complies with all applicable State Air Pollution Control Regulations, and the federal Prevention of Significant Deterioration of Air Quality Regulations (PSD), 40 CFR 52.21.

8. A copy of the application, the project summary 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 participate in 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.

2. Each combustion turbine (CT) and HRSG is subject to the following requirements:

   a. Each CT shall be equipped, operated, and maintained with dry low NO_X combustors and a selective catalytic reduction (SCR) system in the HRSG to reduce emissions of NO_X.

   b. Except during startup, malfunction or shutdown as addressed by Condition 3, the emissions of NO_X from each CT/HRSG, including any emissions due to the duct burner, shall not exceed 3.5 ppmvd @ 15% O_2 on an hourly average and 2.5 ppmvd @ 15% O_2 on a twenty four hour average.

   c. The CT and the duct burners shall be fired with natural gas only.

   d. Each CT shall be equipped, operated and maintained with an oxidation catalyst system in the HRSG to reduce emissions of CO.

   e. Except during startup, malfunction, or shutdown as addressed by Condition 3, the emissions of CO from each CT/HRSG, including any emissions due to the duct burner, shall not exceed 3.0 ppmvd at 15% O_2 on a twenty four hour average.

      These emission limits become effective following completion of the shakedown period allowed by Condition 12(a).

3a. Each CT and HRSG shall be operated in a manner consistent with good air pollution control practice to minimize emissions during startup, malfunction, and shutdown including:

   i. Operation in accordance with the manufacturer's written instructions or other written procedures developed and maintained by the Permittee, which shall include at a minimum the following measures:

      A. Review of operating parameters of the unit during startup, malfunction, or shutdown as necessary to make adjustments to reduce or eliminate excess emissions;

      B. Operation of the SCR system and catalytic oxidation system as soon as and as long as the unit operating conditions are amenable to its effective use.

      C. Implementation of inspection and repair procedures for a CT prior to attempting startup following repeated trips during previous attempts to start the CT.

   ii. Maintenance of the emission control systems in accordance with written procedures developed and maintained by the Permittee.

iii. These procedures shall be reviewed by the Permittee at least annually and enhanced consistent with good air pollution control practices based on actual operating experience and equipment performance.

b. i. Upon malfunction of the SCR system that will result in NO_X emissions in excess of the applicable limit in Condition 2, the Permittee shall as soon as practicable repair the affected system or remove the CT/HRSG system from service so that excess emissions cease.

ii. Consistent with the above, if the Permittee has maintained and operated a CT/HRSG/SCR so that malfunctions are infrequent, sudden, not caused by poor maintenance or careless operation, and in general are not reasonably preventable, the Permittee shall begin shutdown of the CT/HRSG system within 90 minutes, unless the malfunction is expected to be repaired in 120 minutes or such shutdown could threaten the stability of the regional electrical power system. In such case, shutdown of the CT/HRSG system shall be undertaken when it is apparent that repair will not be accomplished within 120 minutes or shutdown would not endanger the regional power system. In no case shall shutdown of a CT/HRSG be delayed solely for the economic benefit of the Permittee.

iii. Notwithstanding the above, if the Permittee determines that the continuous emission monitoring system (CEMS) is inaccurately reporting excess NO_X emissions, the Permittee may continue operation provided the Permittee records the information it is relying upon to conclude that the CT/HRSG/SCR is functioning properly and the CEMS is reporting inaccurate data and the Permittee takes prompt action to resolve the accuracy of the CEMS.

4a. i. Each auxiliary boiler shall be equipped with low-NO_X burners designed to emit no more than 0.032 lb NO_X/million Btu heat input (HHV) on an hourly average.

ii. Each auxiliary boiler shall be maintained and operated with good combustion practice to minimize emissions of CO.

b. The backup diesel engine generator shall only be used as an emergency unit, to meet the internal electricity or power needs of the plant.

Conditions 2, 3, and 4 represent the application of the Best Available Control Technology as required by Section 165 of the Clean Air Act.

5. The cooling towers shall each be equipped, operated, and maintained with drift eliminators designed to limit the loss of water droplets from the cooling tower to not more than 0.0005% of the circulating water flow.

6a. The combustion turbines (CT) are subject to the New Source Performance Standard (NSPS) for Stationary Gas Turbines, 40 CFR 60, Subpart GG and related provisions in Subpart A. The Illinois EPA is administrating NSPS in Illinois on behalf of the United States EPA under a delegation agreement.

i. The NO_X emissions from each CT shall not exceed the limit established by the NSPS, pursuant to 40 CFR 60.332 (a)(1).

ii. The emission from each CT shall not contain SO_2 in excess of 0.015 percent by volume at 15 % O_2 and on a dry basis or the CT 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).

b. The duct burners in the HRSG are subject to the New Source Performance Standard (NSPS) for Electric Utility Steam Generating Units, 40 CFR 60, Db and related provisions in Subpart A.

i. The NO_X emissions from each HRSG's duct burner shall not exceed the limit set by the NSPS, pursuant to 40 CFR 60.44b(a).

Note: This permit is issued based on the duct burners in the HRSG not being subject to 40 CFR 60, Subpart Da because the rated heat input of the duct burners in each HRSG is less than 250 mmBtu/hour. These provisions are not intended to prevent the Illinois EPA from developing streamlined approaches for compliance with Subpart GG and Db of the NSPS for the CT and duct burners.

c. i. The auxiliary boilers are subject to a New Source Performance Standard (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc, and related provisions in Subpart A.

ii. This permit is issued based on the auxiliary boilers not being subject to an emission standard under the NSPS because the boilers only burn natural gas.

d. At all times, the Permittee shall maintain and operate emission units subject to NSPS in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to the NSPS, 40 CFR 60.11(d).

7. The emission of smoke or other particulate matter from the CT/HRSG systems, and other emission units at the facility, each shall not have an opacity greater than 30 percent, based on a 6-minute average pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 201.149, 212.123(b) or 212.124.

8a. Each CT/HRSG is an affected unit under the Acid Rain Deposition Control Program pursuant to Title IV of the Clean Air Act and is subject to certain control requirements and emissions monitoring requirements pursuant to 40 CFR Parts 72, 73, and 75.

b. i. The CT/HRSG would qualify as Electrical Generating Units (EGU) for purposes of 35 IAC Part 217, Subpart W, the NO_x Trading Program for Electrical Generating Units.

ii. This source and the budget EGU at this source shall comply with all applicable requirements of Illinois' NOx Trading Program, i.e., 35 IAC Part 217, Subpart W, and 40 CFR Part 96 (excluding 40 CFR 96.4(b) and 96.55(c), and excluding 40 CFR 96, Subparts C, E and I), pursuant to 35 IAC 217.756(a) and 217.756(f)(2).

iii. By November 30 of each year, the allowance transfer deadline, the account representative of each budget EGU at this source shall hold allowances available for compliance deduction under 40 CFR 96.54 in the budget EGU's compliance account or the source's overdraft account in an amount that shall not be less than the budget EGU's total tons of NOx emissions for the preceding control period, rounded to the nearest whole ton, as determined in accordance with 40 CFR 96, Subpart H, plus any number necessary to account for actual utilization (e.g., for testing, startup, malfunction, and shutdown under 40 CFR 96.42(e) for the control period, pursuant to 35 IAC 217.756(d)(1).

c. i. This permit is issued based on the source not being a participating source or new participating source under the Emission Reduction Market System (ERMS), 35 IAC Part 205, because its VOM emissions during each seasonal allotment period are less than 10 tons. This reflects an expectation that actual VOM emissions from the CT/HRSG will be much less than allowed by Condition 10.

ii. The Permittee shall become subject to the ERMS as a new participating source if the VOM emissions from the source are 10 tons or greater in any seasonal allotment period. In such case, the Permittee shall hold Allotment Trading Units (ATU) for its seasonal emissions in accordance with 35 IAC 205.150(c)(1) and 205.720, beginning with the following seasonal allotment period or the first seasonal allotment period for which the Illinois EPA has issued ATUs, whichever occurs later. For this purpose, the source's VOM emissions shall be determined by the methods and procedures specified in this permit or the Clean Air Act Permit Program (CAAPP) permit for the source.

9a. i. The only fuels fired in the CT shall be natural gas, as defined in 40 CFR 60.41c.

ii. Duct burners and the auxiliary boilers shall only be fired with natural gas, as defined in 40 CFR 60.41c.

iii. The fuel used in the backup engine generator shall contain no more than 0.05 percent by weight sulfur, so as to qualify as very low sulfur fuel as addressed by the federal Acid Rain program.

b. i. A. The two CT/HRSG systems shall not operate more than 12,500 hours per year, total.

Note: If the testing required by Condition 13 shows that the CT would comply with lower PM limits, this permit may be revised to increase the permitted hours of operation, up to 13,000 hours per year, if the PM limits are appropriately lowered.

B. The duct burners in the CT/HRSG systems shall not operate more than 6,500 hours per year, total. For this purpose, the duct burner in a CT/HRSG shall be considered to be operating if fuel is being fired in the duct burner.

C. For the purpose of determining compliance with the above limits, if both systems are operating during an hour or the duct burners in both systems are operating during an hour, it shall be counted as two hours of operation.

ii. The backup engine generator shall not operate more than 500 hours per year.

c. Following completion of shakedown and testing, other than during startup and shutdown, each CT/HRSG shall not routinely operate below 65% load or such lower load* at which compliance with PM and VOM limits has been demonstrated.

* Expressed as a percentage of the design load of the CT/HRSG without the duct burners operating.

10a. Emissions from CT/HRSG shall not exceed the applicable limits in Table 2A, 2B, 2C, and 2D.

b. Emissions of NO_X, CO, VOM, and PM/PM_{10} from each auxiliary boiler shall not exceed 0.78 lb/hr, 2.06 lb/hr, 0.14 lb/hr, and 0.19 lb/hr, respectively. Annual emissions (ton/yr) from the auxiliary boilers, in total, shall not exceed the limits in Table 3.

c. Emissions of PM/PM_{10} from the cooling towers, in total, shall not exceed 1.2 tons/yr.

d. i. Emissions of PM/PM_{10} from the facility shall not exceed 99.0 tons/year, total, including startups/shutdowns and low-load operation.

ii. Emissions of VOM from the facility shall not exceed 24.0 tons/year, total, including startups/shutdowns and low-load operation.

iii. Compliance with these limits and the limits in Condition 9(b) shall be determined from a running total of 12 months of data.

11. The Permittee shall maintain the catalyst in the SCR and Oxidation Catalyst systems in accordance with written Catalyst Management Plans that at a minimum include the following elements. These plans shall be reviewed at least annually based on actual operating experience and updated as necessary:

a. Manufacture/vendor or site developed operating and maintenance procedures.

b. Catalyst layer inspection procedures and schedules.

c. Criteria or schedules for catalyst layer replacement.

d. Inspection, maintenance and repair logs (See Condition 16(c)).

12a. Under this permit, each CT/HRSG 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 at its discretion upon request of the Permittee, for

example, if additional time is needed to complete shakedown or perform emission testing due to unanticipated delays in these activities.

b. Upon successful completion of emission testing demonstrating compliance with applicable short-term emission limitations, the Permittee may continue to operate the facility as allowed by Section 39.5 (5) of the Environmental Protection Act.

c. This Condition supersedes Standard Condition 6.

13a. Emissions shall be measured at the Permittee's expense by an independent testing service approved by the Illinois EPA as follows to verify compliance with the limits and conditions set in this permit:

i. Within 60 days after operating a CT/HRSG at the greatest load at which it will normally be operated but not later than 180 days after its initial startup, at the loads and for the pollutants listed in the table below.

CT Load	Duct Burner Load	Pollutant					Opacity
		NOX[1]	CO	VOM	PM[4]	Formaldehyde	
Full	Full	X	X	X	X	X	X
Full	Off	X	X	X	X	X	X
Partial 1[2]	Off	X	X	X		X	
Partial 2[2]	Off	X					
Minimum[3]	Off	X	X	X	X	X	
Startup /Shutdown	Off	X	X	X			X

[1] See also Condition 13 (b)(ii)

[2] See also Condition 13 (c)(iii)

[3] Minimum load in the normal operating range of the CT

[4] Test of only one CT/HRSG

ii. Within 120 days after a written request from the Illinois EPA, for such pollutants listed above and at such load conditions as specified by the request.

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 purposes of the NSPS in a timely manner as specified by 40 CFR 60.8.

iv. The NOx emissions from one auxiliary boiler shall be measured within 60 days after operating at the greatest load at which it will normally be operated but not later than 180 days after its initial startup. USEPA Method 20, 7 or 7E shall be used for the NOx emission testing. The auxiliary boiler to be tested shall be selected by the Illinois EPA at the time of testing or otherwise randomly selected.

b. The following methods and procedures shall be used for testing of emissions:

i. The following test methods shall be used unless alternative test procedures are approved by USEPA:

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity[1]	USEPA Method 2
Flue Gas Weight	USEPA Method 3 or 3A
Moisture	USEPA Method 4
Opacity	USEPA Method 9
Carbon Monoxide	USEPA Method 10 / CEMS
Volatile Organic Material	USEPA Method 25A
Nitrogen Oxides[2]	USEPA Method 20, 7 or 7E / CEMS
Particulate Matter[3]	USEPA Method 5
Particulate Matter$_{10}$	USEPA Method 201 or 201A (40 CFR 51, Appendix M)
Formaldehyde[4]	Celanese Method

[1] The Permittee has applied to USEPA to use fuel flow meters in lieu of volumetric flow meters as required by Subpart D_b to determine mass flow and mass emission rate.

[2] With approval of USEPA, testing for nitrogen oxides can be conducted in conjunction with certification of the continuous emission monitors for nitrogen oxides required by Condition 14(a).

[3] PM emissions measured by USEPA Method 5, including back half condensable particulate, may be provided as an alternative to measurement of PM_{10} emissions using USEPA Method 201 or 201A.

[4] "Formaldehyde in Stack Gas Test procedure" adapted from the Celanese Method (CL 8-4)

ii. Notwithstanding Condition 13(a)(i) and 13(b)(i), measurements for NO_x shall be conducted in accordance with 40 CFR 60.335, as specified below, unless alternative procedures for emission testing are approved by USEPA:

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 O_2, 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 CT, 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).

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 the CT/HSRG will be tracked and recorded.

iii. The specific determinations of emissions that are intended to be made, including sampling and monitoring locations. The Permittee may also propose a plan for testing across the normal operating range of the CT/HRSG.

iv. The test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods.

d. The Illinois EPA shall be notified prior to these tests to enable it to observe these tests. Notification for 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, Compliance Section within 30 days after the test results are compiled and finalized and no later than 60 days after the final day of emission testing. The Final Report from testing shall contain the following as a minimum:

i. A summary of results.

ii. General information.

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 for the CT/HRSG systems:

A. Fuel consumption (standard ft^3/hr).

B. Firing rate(s) (million Btu/hr).

C. Generator output(s) (MW and percent load).

D. SCR reagent injection rate.

E. CT/HRSG burner settings, e.g. burner excess air and pressure settings.

v. Data and calculations, including copies of all raw data sheets and records of laboratory analysis, sample calculations, and data on equipment calibration.

14a. The Permittee shall install, operate, and maintain a Continuous Emissions Monitoring (CEM) system in accordance with the provisions of the Acid Rain Program and the NSPS to measure emissions of NO_X from each CT/HRSG to demonstrate compliance with the limitations of this permit.

i. The procedures under 40 CFR 60.13, 60.48b, and 75.12 shall be followed for the installation, evaluation, and operation of these CEM systems.

ii. At least 30 days prior to initial startup of a CT, a detailed monitoring plan shall be submitted to the Illinois EPA for review and comments describing the configuration and operation of the NO_X CEM system(s). The plan shall also state whether the Permittee is installing a SO_2 CEM system (40 CFR 75.11) rather than sulfur analysis and flow monitoring equipment in accordance with 40 CFR 75.11(e).

iii. These CEMS shall be operational and collecting data in accordance with the provisions of the Acid Rain Program.

b. i. The Permittee shall install, operate, and maintain CEMS on each CT/HRSG to measure emissions of CO and demonstrate compliance with the CO limits of this permit. These CEMS shall comply with 40 CFR Part 60 Appendix B Performance Specification 4 or 4a and shall be operated and maintained in accordance with 40 CFR 60.13 (d) and (e) at all times that the associated CT/HRSG are in operation.

ii. In conjunction with the operation of these CO CEMS, the Permittee shall install, operate and maintain a system to monitor when the duct burners in the HRSG are being fired. The data measured by this system shall be compiled with the data recorded by the CO CEMS.

iii. Notwithstanding the above, in the Clean Air Act Permit Program (CAAPP) permit of the source, the Illinois EPA may relax or remove requirements for CO CEMS if the Permittee demonstrates, through the monitoring that has been performed that the CT readily comply with applicable emission limits for CO across the normal load and temperature range at which the CT/HRSG will operate.

15a. i. The Permittee shall also sample and analyze for the sulfur content of the fuel for the CT/HRSG in accordance with the Federal Acid Rain Program 40 CFR 75, Appendix D, Section 2.3.2 for pipeline natural gas combustion, unless it elects to install and operate CEMS for emission of SO_2 from the CT/HRSG.

ii. The Permittee shall sample and analyze for sulfur content of the natural gas being fired in the CTs in accordance with 40 CFR 60.334(b) unless the Permittee has a custom schedule approved by the Illinois EPA, for the determination of these values based on the design and operation of the source and the characteristics of the fuel supply, this sampling and analysis shall occur on a

monthly basis for natural gas.

b. The Permittee shall install, operate, and maintain monitors on each CT/HRSG to measure and record fuel consumption.

16a. The Permittee shall maintain files of the following items for the CT/HRSG:

i. Design or rated load of the turbine (MWe) as a function of ambient temperature with supporting documentation.

ii. The written Operating Procedures and Catalyst Management Plan maintained in accordance with Conditions 3(a) and 11.

iii. The heat content of the fuel fired in the CT/HRSG (Btu/standard cubic foot).

iv. The sulfur content of fuel fired in the CT/HRSG, as determined in accordance with Condition 15.

b. The Permittee shall maintain the following daily records:

i. The quantity of fuel consumed for each CT (standard cubic foot), as monitored in accordance with Condition 15(b).

ii. The quantity of fuel consumed for each duct burner (standard cubic foot).

iii. Operating hours for each CT/HRSG.

iv. Operating hours for the duct burners in each CT/HRSG.

v. Ambient temperature (°F) and turbine load (MWe and percent of design load) for each hour each CT/HRSG is operated.

vi. SCR reagent usage.

c. The Permittee shall keep operating logs and inspection, maintenance, and repair logs with dates and nature of such activities for the following:

i. Each CT/HRSG, including CT combustors and duct burners.

ii. Each SCR system.

iii. The SCR reagent storage system.

iv. Each Oxidation Catalyst system.

d. The Permittee shall maintain the following cumulative monthly and annual records for operation for each CT/HRSG.

i. Operating hours.

ii. Operating hours during May through September.

iii. Duct burner operating hours.

iv. Operating hours during which the turbine operated at "low load", i.e., load less than 65% or such lower load at which compliance with hourly limit is shown (See Condition 9(c)).

e. The Permittee shall maintain following records related to startup, malfunction or breakdown, and shutdown of each CT/HRSG:

i. The time and date of startup, malfunction or breakdown, or shutdown of a CT/HRSG, and confirmation that standard practices were followed.

ii. Each incident when operation of a CT/HRSG continued during malfunction or breakdown with excess emissions, including the following information:

A. Date and duration of malfunction or breakdown.

B. A description of the malfunction or breakdown, including likely cause(s).

C. The reason continued operation was necessary, including supporting documentation.

D. The corrective actions used to reduce the quantity of emissions and the duration of the incident and to prevent similar occurrences in the future.

E. An estimate of the excess emissions, with supporting data and calculations.

f. The Permittee shall keep the following records with regards to emissions:

i. NO_X emissions from each CT/HSRG in ppmvd recorded hourly and recorded hourly, quarterly, and annual (in lb/mmBtu) by combining the NO_X concentration (in ppm) and diluent concentration (in percent O_2 or CO_2) measurements according to the procedures in 40 CFR 75 Appendix F.

ii. Monthly emissions of NO_x, CO, SO_2, VOM, and PM from each CT/HSRG (ton/month), with supporting data and any calculations. NO_X and CO emissions shall be based on data from the CEMS. SO_2 emissions shall be determined in accordance with 40 CFR Part 75, i.e., by analysis of fuel sulfur content or standard emission factor, otherwise. Emissions of VOM and PM shall be calculated based on fuel consumption, number of startups and other operating data and site-specific emission factors developed from emission test data (or manufacturer's data for low-load operation, if appropriate testing has not been conducted).

iii. Annual facility emissions of NO_X, CO, SO_2, VOM, and PM, based on monthly emission totals, as required above and pursuant to Condition 17(c).

iv. Seasonal emissions of VOM (May through September) from the facility.

g. The Permittee shall maintain records that describe:

i. Any periods during which a required continuous monitoring system was not operational, with explanation.

ii. Any day in which emissions or operation exceeded an applicable standard or limitation, with a description of the exceedance and explanation.

iii. If CT/HRSG were operated below 65% load (see Condition 9(c)) for more than 1.0 percent of the operating hours in a month, a description of the circumstances that contributed to such low load operation, with supporting documentation.

h. The Permittee shall maintain records documenting annual review of its operating procedures (see Condition 3(a)).

17. The Permittee shall maintain the following records for ancillary operations:

a. Operating logs and inspection, maintenance, and repair logs with dates and nature of such activities for the following:

i. Auxiliary boilers.

ii. Cooling towers and associated drift eliminators.

iii. Backup diesel engine generator.

b. i. Sulfur content of the fuel oil fired in the backup diesel engine generator.

ii. Total dissolved solids (TDS) in ppm of water used in cooling towers.

c. Monthly emissions of NO_x, CO, SO_2, VOM and PM from auxiliary boilers, backup diesel generator and cooling towers, with supporting data and calculations.

18. 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.

19a. For each CT/HRSG, and auxiliary boiler, 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 for the CT/HRSG, the Permittee shall identify the

manufacturers and model of the turbine, oxidation catalyst system, and SCR that it has selected and provide a copy of the manufacturer's guarantee for emissions.

b. In the event of continued operation of a CT/HRSG with excess NO_X emissions during a malfunction of the SCR system, is expected to occur for more than 90 minutes, as addressed by Condition 3(b), the Permittee shall immediately notify the Illinois EPA's Regional Office of the malfunction and the reason for continued operation.

20a. If there is an exceedance of the requirements of Condition 2 through 10 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, efforts to reduce emissions and future occurrences, and an estimate of the excess emissions.

b. In conjunction with the Annual Emission Report required by 35 IAC Part 254, the Permittee shall provide:

The hours of operation of each CT/HRSG; the hours of operation of the duct burners in each CT/HRSG; the total number of startup/shutdowns of CT/HRSG; seasonal emissions of VOM (May through September) from the plant; and a summary of operation of the turbines at low load, with detailed explanation for each month in which CT/HRSG were operated at low load for more than 1.0 percent of the operating hours in a month (see Condition 16(g)(iii)); a summary of any continued operation of CT/HRSG during malfunction as addressed by Condition 3(b).

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, Division of Air Pollution Control, Compliance Section.

21a. 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

22a. 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 than an extension is justified. This condition supersedes Standard Condition 1.

b. 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)).

23a. 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.

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.

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:

cc: Region 1
USEPA

I.D. No.: 031600GNK

Attachment A

Emission Units

Unit I.D.	Description	Number	Rated Heat Input[1] (HHV) (mmBtu/Hr)	Rated Electrical Output[1] (MWe)	Control
CT/HRSG 1-2	Combustion Turbine (CT)/Heat Recovery Steam Generator (HRSG)	2	1,948	274	Low NO_X Combustors, Selective Catalytic Reduction and Oxidation Catalyst
DB 1-2	Duct Burner[2]	2	175	---	See above
Aux Boiler 1-2	Auxiliary Boilers	2	25	---	Low NO_X Burner
	Backup Diesel Generator (3353 HP Maximum)[3]	1	---	---	None
	Cooling Towers		---	---	Drift Eliminators

[1] Nominal ratings per unit. Ratings are based on natural gas higher heating value for unit with duct firing at 59 ^{0}F.

[2] The duct burners located in the HRSG. When the duct burners are fired, they increase the production of the steam for the steam turbine generator, maintaining electrical output, especially during warm weather when the output of the CT is reduced.

[3] Unit operated on a limited basis for emergency purposes.

Attachment B

Table 1

Project Emissions (Ton/Yr)

Pollutant	Potential Emissions
CO	164.0
NO_X	134.0
PM/PM_{10}	99.0
VOM	24.0
SO_2	30.0

Table 2A

Emission Limits for Each CT/HRSG (Without Duct Burner operating)

Pollutant	Natural Gas (Lb/mmBtu)	(Lb/Hr)
NO_X	0.0085	16.46[2,3]
CO	0.00617[4]	12.02[2,3,4]
VOM	--	1.06[2,5]
SO_2	--	4.49[2]

Table 2B

Emission Limits for Each CT/HRSG (With Duct Burner operating)

Pollutant	(Lb/mmBtu)	(Lb/Hr^2)
NO_X	0.0085	16.46[2,3]
CO	0.00617	12.02[2,3]
VOM	--	1.06[2]
SO_2	--	4.59[2]

Table 2C

PM/PM10 Emission Limits for Each CT/HRSG

Ambient Temperature (^0F)	Without Duct Burner operating (Lb/Hr)	With Duct Burner operating (Lb/Hr)
Greater than 69 ^0F	14.1[1]	15.16[1]
49 ^0F – 69 ^0F	14.8[1]	15.86[1]
Less than 49 ^0F	16.0[1]	16.0[1]

[1] Limit based on vendor/manufacture data and information provided in the permit application.

[2] Limit based on modeling data and information provided in the permit application.

[3] This limit applies at all times except during startup, malfunction and shutdown as addressed by Condition 3(a) and 3(b).

[4] Notwithstanding these limits, emissions of CO shall not exceed 59.60 lb/hr and 0.0457 lb/mmBtu during low-load operation of CT/HRSG.

[5] Notwithstanding this limit, emissions of VOM shall not exceed 3.45 lb/hr during low-load operation of CT/HRSG.

Table 2D

Annual Emissions (Ton/Yr) for Both CT/HRSGs

Pollutant	Limit (Total)[1]
NO_X	107.0
CO	140.9[2]
PM/PM_{10}	96.0
VOM	22.2[3]
SO_2	29.5

[1] Limits address to all emissions, including emissions during startup, shutdown, and malfunction.

[2] Limit includes an allowance of 62.8 tons CO for startup, shutdown and low-load operation of CT/HRSG.

[3] Limit includes an allowance of 14.7 tons VOM for startup, shutdown and low-load operation of the CT/HRSG.

Table 3

Emissions from Other Units (Ton/Yr)

Unit	NO_X	CO	PM	VOM	SO_2
Auxiliary Boiler[1]	6.9	18.0	1.6	1.2	0.1
Diesel Generator	20.1	4.6	0.4	0.6	0.3
Cooling towers	---	---	1.2	---	---
Totals:	27.0	22.6	3.2	1.8	0.4

DES:MNP: