

These limits are based on emission factors from USEPA's Compilation of Air Pollutant Emission Factors (AP-42) and information provided in the permit application.

- d. i. The ACT 3 and 4 (LM 25) turbines shall each be equipped, operated, and maintained with water injection technology in the combustors to control emissions of NO_x when firing gas.
- ii. Hourly emissions from each ACT 3 and 4 turbine shall not exceed the following limits. When ice fog is deemed a traffic hazard by the Permittee, the turbines may exceed the NO_x lb/hr limit and are exempt from Condition 2(c).

<u>Fuel Type</u>	<u>NO_x (Lb/Hr)</u>	<u>CO (Lb/Hr)</u>	<u>VOM (Lb/Hr)</u>	<u>SO₂ (Lb/Hr)</u>	<u>PM/PM₁₀ (Lb/Hr)</u>
Gas	80.0	50.0	4.8	0.5	4.4
Oil	139.3	9.5	3.4	100.0	7.6

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- e. Hourly emissions from ACT 5 turbine shall not exceed the following limits:

<u>Fuel Type</u>	<u>NO_x (Lb/Hr)</u>	<u>CO (Lb/Hr)</u>	<u>VOM (Lb/Hr)</u>	<u>SO₂ (Lb/Hr)</u>	<u>PM/PM₁₀ (Lb/Hr)</u>
Gas	134.7	33.7	7.4	0.2	5.9
Oil	210.1	14.5	5.1	15.2	11.4

These limits are based on emission factors from USEPA's Compilation of Air Pollutant Emission Factors (AP-42) and information provided in the permit application.

- f. The annual emissions from the facility shall not exceed the following limitations. Compliance with the annual limitations shall be determined from a running total of 12 months of data.

<u>Pollutant</u>	<u>Emissions (Tons/Year)</u>
NO _x	249
CO	58
VOM	13
SO ₂	9
PM/PM ₁₀	11

The above limits are established to address applicability of 40 CFR 52.21, the federal rules for Prevention of Significant Deterioration of Air Quality (PSD). These limits ensure that the construction and operation of the turbines do not constitute a new major source pursuant to PSD.

3. The emission of smoke or other particulate matter from a turbine 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.
- 4a. Under this permit, the turbines (ACT 1 through 5) may be operated until June 30, 2001 to allow for equipment shakedown and emissions testing following repair of the turbines, provided however that the Permittee shall apply for a CAAPP permit with a complete CAAPP application submitted prior to resuming operation of the turbines following repairs. This period of operation may be extended by the Illinois EPA upon request of the Permittee if additional time is needed to complete shakedown or perform emission testing.
 - b. Upon successful completion of emission testing, the Permittee may continue to operate the turbines until May 31, 2003 under this permit, provided that the testing demonstrates compliance with applicable short-term emission limits.
5. The turbines shall be equipped, operated, and maintained with a system to measure and record their fuel consumption.
6. The Permittee shall sample and analyze for sulfur and nitrogen content of the fuels being fired in each CT in accordance with 40 CFR 60.334(b) unless the Permittee has a custom schedule approved by the USEPA, for the determination of these values based on the design and operation of the source and the characteristics of the fuel supply.
7. The sulfur and nitrogen content of the fuel oil shall be determined on each occasion that the fuel is transferred to the storage tank. The sulfur and nitrogen contents of the fuel shall be based on the weighted average of material in the storage tank, or the sulfur and nitrogen contents of the supply shall be assumed to be the highest content in any shipment transferred to the tank.
- 8a. By June 30, 2001, the nitrogen oxides (NO_x), carbon monoxide (CO), and oxygen (O₂) concentrations in the exhaust of the turbines shall be measured by an approved independent testing service to determine compliance with the emission limits in Condition 2 while firing both natural gas and oil at maximum load.
 - b. The following USEPA methods and procedures shall be used for testing of emissions, unless another USEPA method is approved or specified by the Illinois EPA.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3 and 3A
Moisture	USEPA Method 4
Carbon Monoxide	USEPA Method 10
Nitrogen Oxides	USEPA Method 20
- c. The Permittee shall submit a test plan to the Illinois EPA at least 60 days prior to testing. As part of this plan, the Permittee may propose

for approval by the Illinois EPA a strategy for performing emission testing of selected similar turbines provided that all turbines are fitted for testing; the identity of the engines to be tested is determined immediately before testing, by the Illinois EPA or otherwise randomly. The Permittee may also propose a strategy for testing across the normal load range of the turbines and for testing for oil firing. The Permittee shall include the analytical methods and procedures used to determine the nitrogen content of the fuel oil being fired.

- 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 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. The Final Report for these tests shall be submitted to the Illinois EPA within 60 days after the date of the tests. The Final Report shall include as 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 ft³ or gallons);
 - B. Firing rate (million Btu/hr); and
 - C. Turbine/Generator output rate (MW).
 - v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
 - f. With the Final Report, the Permittee shall also submit any request for revising the limits in Condition 2. This request shall be based on the results of emission testing.
- 9a. The Permittee shall maintain records of the following items:
- i. The sulfur and nitrogen contents of the fuel used; and
 - ii. Operating hours and fuel consumption for each turbine including fuel type, on a daily basis.

- b. The Permittee shall keep a maintenance/repair log for each turbine, including a log for the water injection system on ACT 3 and 4.
 - c. The Permittee shall maintain the following records:
 - i. Heat content of the natural gas (Btu/ft³) and fuel oil (Btu/gal) being fired, with supporting documentation;
 - ii. Fuel consumption for each turbine for each month since the previous record;
 - iii. Annual heat input of all turbines (mmBtu) based on monthly totals of fuel consumption and fuel heat content; and
 - iv. The annual emissions of NO_x, SO₂, PM, VOM and CO for each month since the previous record with supporting calculations.
 - d. All records required by this permit shall be retained for three years and shall be available for inspection and copying by the Illinois EPA.
10. 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

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
5415 North University
Peoria, Illinois 61614

It should be noted that this permit has been revised to allow required emission testing to be performed by June 30, 2001 due to delay in the repairs to the turbines.

If you have any questions on this, please call Ricardo Ng at 217/782-2113.

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

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