

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

City of McLeansboro  
Attn: Mrs. Sharon S. Morrison  
c/o City Hall  
McLeansboro, Illinois 62859

<u>Application No.:</u> 77070049	<u>I.D. No.:</u> 065020AAW
<u>Applicants's Designation:</u> POWER PLNT	<u>Date Received:</u> September 24, 1999
<u>Subject:</u> Power Generating Plant	
<u>Date Issued:</u> March 3, 2000	<u>Expiration Date:</u> March 3, 2005
<u>Location:</u> West Market Street, McLeansoboro	

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of an electric power plant with five diesel engines as described in the above-referenced application. This permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This Federally Enforceable State Operating Permit (FESOP) is issued to limit the emissions of nitrogen oxide, carbon monoxide, sulfur dioxide, particulate matter, and volatile organic material from all internal combustion engines combined to less than 100 tons per year, as further described in Attachment A. As a result, this facility is excluded from the requirements to obtain a Clean Air Act Permit.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- 2a. The only fuel fired in the diesel engines shall be diesel fuel (distillate oil).
- b. Fuel consumption for all diesel engines combined shall not exceed 84,500 gallons per year.
- c. Compliance with this limit shall be determined from a running total of twelve months of data.
- 3a. i. The Permittee shall not allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any of these five diesel engine units, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and during startup, malfunction and breakdown as addressed below.

- ii. The Permittee is authorized to operate each of these five engine units in excess of 30 percent opacity, during startup as the applicant has affirmatively demonstrated that all reasonable efforts will be made to minimize excess emissions during startup, and during malfunction or breakdown, as necessary to prevent injury to persons or severe damage to equipment, or provide essential services, provided, however, that continued operation solely for the economic benefit of the permittee is not authorized. This authorization is subject to the following requirements:
  - A. This authorization for excess opacity during startup only extends for a period of up to two hours for a unit, following initial firing of fuel in the engine during each startup event.
  - B. This authorization for excess opacity during malfunction or breakdown only extends for the period of time until the engine may be safely removed from service.
  - C. The Permittee shall fulfill the applicable recordkeeping requirements of Condition 5(b), (c), (d) and (e).
- b. At all times, the Permittee shall to the extent practicable, maintain and operate the above referenced emission sources, in a manner consistent with good air pollution control practice for minimizing emissions.
- 4a. The sulfur content of the diesel fuel shall not exceed 0.05 weight percent.
- b. Organic liquid by-products or waste materials shall not be used in any diesel engine without written approval from the Illinois EPA.
- c. The Illinois EPA shall be allowed to sample all fuels stored at the above location.
- 5a. The Permittee shall maintain monthly records of the following items:
  - i. Hours of operation for each unit including startup and shutdown when fuel is being fired in the unit;
  - ii. Fuel usage for all engines combined (gallons per month); and
  - iii. Fuel analysis sheets indicating sulfur content for each shipment or purchase of fuel.
- b. The Permittee shall keep a maintenance and repair log for each engine, listing significant activities performed with date.

- c. The Permittee shall maintain records for each startup of an affected engine, which at minimum shall include the following information:
  - i. Date and time of startup;
  - ii. Whether startup is "remote", i.e., initiated by off-site personnel or automated procedures;
  - iii. Whether operating personnel for the engines or air environmental staff are on site during startup, even if startup is remote; and
  - iv. A description of startup, if operating problems are identified during the startup.
  
- d. The Permittee shall maintain records that include as a minimum for each malfunction or breakdown of an engine during which operation continued and opacity may have exceeded 30 percent as allowed by 35 IAC 212.123.
  - i. Date, time and duration of malfunction or breakdown;
  - ii. Description of malfunction or breakdown; and
  - iii. Whether operating personnel for the engines or air environmental staff are on site during malfunction or breakdown.
  
- e. Records for each occurrence when excess opacity was observed during startup or malfunction or breakdown of a unit, including:
  - i. Date and duration of excess opacity, including start time and end time excess opacity occurred during startup;
  - ii. If normal operation was not achieved within one hour of initiating startup, an explanation why normal operation could not be achieved in one hour;
  - iii. If excess opacity occurred during malfunction or breakdown, an explanation why the unit could not be immediately shutdown; and
  - iv. An explanation of the cause of the excess opacity and documentation that established procedures for minimizing emissions were followed.
  
- f. These records shall be retained on site at a readily accessible location for a period of at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA and the USEPA upon request.

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6. The Permittee shall submit an Annual Emissions Statement to the Illinois EPA by May 1st of each year. With this statement, the Permittee shall report as a minimum, fuel oil consumption. If there has been no exceedance during the prior calendar year, the Annual Emissions Statement shall include a statement to that effect.

If you have any questions on this permit, please contact Youra Benofamil at 217/782-2113.

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

DES:YB:psj

cc: Region 3  
Illinois EPA, FOS - CMU  
USEPA

I.D.: 065020AAW  
P.N.: 77070049  
Facility: City of McLeansboro

Attachment A - Emissions Summary

Emissions from all emission units combined:

<u>NO<sub>x</sub></u> <u>(Ton/Yr)</u>	<u>CO</u> <u>(Ton/Yr)</u>	<u>SO<sub>2</sub></u> <u>(Ton/Yr)</u>	<u>PM</u> <u>(Ton/Yr)</u>	<u>VOM</u> <u>(Ton/Yr)</u>
18.58	4.93	0.30	0.58	0.52

This table describes the potential emissions from all emission units at the facility, based on the maximum usage of diesel fuel as stated in Condition 2. Emissions are calculated based on standard emission factors for diesel engines and information provided in the permit application.

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## PROJECT SUMMARY

### I. INTRODUCTION

The City of McLeansboro has submitted an application for renewal of their federally enforceable state operating permit covering an electric power plant with five electric generators. This permit prevents the site from being classified as a major source of emissions under the Clean Air Act. Therefore, the City will not have to obtain a federal permit under the Clean Air Act Permit Program. The renewal permit would contain limitations and accompanying recordkeeping and reporting requirements to assure that the site is operated as a non-major source.

### II. SOURCE DESCRIPTION

These five generators are used by the City of McLeansboro to generate electrical power for the community during peak demand periods which usually occur during the summer months. Each generator consists of a reciprocating engine which drives an electric generator by means of a rotating shaft. The reciprocating engines are driven by the combustion of diesel fuel.

### III. EMISSIONS

Air pollutants are generated when the reciprocating engines are in operation. These emissions occur from the combustion of diesel fuel and are exhausted through a pipe to a vent located on the roof.

The primary air pollutants from the reciprocating engines are nitrogen oxide ( $\text{NO}_x$ ), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide ( $\text{SO}_2$ ), and particulate matter (PM).

$\text{NO}_x$  is formed thermally by the combination of oxygen and nitrogen in the air at the temperature at which the fuel is burned. CO, VOM, and PM are formed from incomplete combustion of the fuel. Emissions of  $\text{SO}_2$  are found in varying amounts from the combustion of diesel fuel, depending on the sulfur content of the oil.

The proposed permit includes limitations that restrict the potential annual emissions of  $\text{NO}_x$ , CO, VOM, and  $\text{SO}_2$  to levels below major source thresholds.

### IV. APPLICABLE EMISSION STANDARDS

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois.

The Board has standards for sources of particulate matter, volatile organic material, and sulfur dioxide for reciprocating engines. This site readily complies with those Board standards.

V. PROPOSED PERMIT

The conditions of the proposed permit contain limitations and requirements to assure that this site will be operated as a non-major source. The permit establishes limitations on the amount of fuel which may be burned. The City of McLeansboro is committing to burn very low sulfur oil. This would allow an increase in the amount of fuel which may be burned, without any increase in the allowed emissions.

The permit conditions also establish appropriate compliance procedures, including record keeping requirements and reporting requirements. The city must carry out these procedures on a continual basis to demonstrate that the generators are operating within the limitations established by the permit.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that these generators meet all applicable state and federal air pollution control requirements, subject to the conditions of the draft permit.

The Illinois EPA is therefore proposing to issue a permit with federally enforceable limits for the above referenced equipment to the City of Fairfield.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. Comments, questions, and information requests should be directed to Youra Benofamil at the Illinois Environmental Protection Agency, 1021 North Grand Avenue, East, P.O. Box 19506, Springfield, Illinois, 62794-9506: Phone 217/782-2113. If there is significant public interest in this matter, the Illinois EPA may hold a public hearing in accordance with 35 Ill. Adm. Code Part 164.

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