

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - NEW EMISSION UNITS

PERMITTEE

Village of Freeburg  
Attn: Ron Dintelmann, Public Works Director  
14 Southgate Center  
Freeburg, Illinois 62243

Application No.: 97040108                      I.D. No.: 163060AAF  
Applicant's Designation: UNIT 8 & 9      Date Received: April 22, 1998  
Subject: Diesel Engine Units  
Date Issued: December 3, 2001              Expiration Date: See Condition 12(b)  
Location: 412 West High Street, Freeburg, St. Clair County

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of two distillate fuel oil fired internal combustion engines (Unit 8 and 9) 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 supersedes the state operating permit issued on June 24, 1998 and limits the emissions of air pollutants from new units at the source to levels such that they are not subject to Major Stationary Source Construction and Modification (MSSCAM) and Prevention of Significant Deteriorations (PSD), 40 CFR 52.24. In particular, Condition 5 establishes limitations on the operation of the source accompanied by associated recordkeeping requirements in Condition 6, with which the Permittee must comply if the new engines are not to be subject to MSSCAM and PSD.
- b. Prior to issuance, a draft of this permit underwent a public notice and comment period and was reviewed by USEPA.
2. The Permittee shall not cause or allow the emission of fugitive particulate matter from the source, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 25 miles per hour, pursuant to 35 IAC 212.301 and 212.314.
- 3a. The emission of smoke or other particulate matter from Unit 8 and 9 each shall not exceed an opacity greater than 30 percent, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and

212.124 or as specified below.

- b. The Permittee is authorized to operate Unit 8 and 9 in excess of 30 percent opacity during startup pursuant to 35 IAC 201.262, provided that the Permittee makes all reasonable efforts to minimize startup

emissions, duration of individual starts, and frequency of startups. This authorization is subject to the following:

- i. This authorization 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.
  - ii. The Permittee shall take the following measures to minimize startup emissions, the duration of startups, and minimize the frequency of startups:
    - A. Implementation of established startup procedures, including preheating an engine prior to startup when sufficient time is available.
    - B. Operating the engines as peaking units.
  - iii. The Permittee shall fulfill the applicable recordkeeping requirements of Condition 6(a)(v).
- 4a. On an annual average basis, fuel with a sulfur content greater than 0.05 weight percent shall not be fired in either Unit 8 and 9, pursuant to the Permittee's representation that the Units are exempt from the Acid Rain Program by meeting the new units exemption requirement of 40 CFR 72.7(a). The Units are subject to the Acid Rain Program provisions of 40 CFR 72.2 through 72.7 and 72.10 through 72.13.
- b. The Permittee shall use the following equation to address compliance with the above sulfur limit pursuant to 40 CFR 72.7(d)(3):

$$\%S_{\text{annual}} = \frac{\sum_{n=1}^{\text{last}} \%S_n M_n d_n}{\sum_{n=1}^{\text{last}} M_n d_n}$$

Where:

- $\%S_{\text{annual}}$  = Annual average sulfur content of the fuel burned during the year by the unit, as a percentage by weight;
- $\%S_n$  = Sulfur content of the nth sample of the fuel delivered during the year to the unit, as a percentage by weight;
- $M_n$  = Mass of the nongaseous fuel in a delivery during the year to the unit of which the nth sample is taken, in lb; or for

fuel delivered during the year to the unit continuously by pipeline, mass of the nongaseous fuel delivered starting from when the nth sample of such fuel is taken until the next sample of such fuel is taken, in lb;

$d_n$  = Density of the nth sample of the fuel delivered during the year to the unit, in lb per gallon; and

$n$  = Each sample taken of the fuel delivered during the year to the unit, taken at least once for each delivery; or, for fuel that is delivered during the year to the unit continuously by pipeline, at least once each quarter during which the fuel is delivered.

c. The Illinois EPA shall be allowed to sample all fuels stored at the source.

5a. Emissions of nitrogen oxides ( $\text{NO}_x$ ), carbon monoxide (CO), sulfur dioxide ( $\text{SO}_2$ ) and other regulated pollutants from all emission units at the source, shall each not exceed 100 tons/year. These limits are based on the information provided in the permit application. The  $\text{NO}_x$  limit of 100 ton/year reflects the Village of Freeburg's agreement with USEPA to resolve alleged violations of PSD and MSSCAM.

b. Emissions of nitrogen oxides ( $\text{NO}_x$ ) from unit 8 and 9, by themselves, shall not exceed 39 tons/year total. This limit is based on the information provided in the application to demonstrate that new unit 8 and 9 are not a major modification subject to Major Stationary Source Construction and Modification (MSSCAM), 35 IAC Part 203. Accordingly, this limit shall no longer apply if:

i. 35 IAC Part 203 ceases to be applicable in St. Clair County for  $\text{NO}_x$  from engines because a " $\text{NO}_x$  waiver" has been put in place by USEPA pursuant to Section 182(f) of the Clean Air Act, and

ii. The presence of such  $\text{NO}_x$  waiver is confirmed by correspondence from the Illinois EPA to the Permittee.

c. i. Compliance with these limits shall be determined from a running total of 12 months of data, if total annual emissions of  $\text{NO}_x$  is less than 80 tons/year. If total annual emissions of  $\text{NO}_x$  are equal to or greater than 80 tons/year, compliance shall be determined from a running total of daily data.

ii. Emissions shall be calculated using emission factors from the manufacturer (as included in the application) or approved on-site emission testing for unit 8 and 9 and emission factors from USEPA's compilation of Emission Factors (AP-42), the

manufacturer, or approved on-site emission testing for other units. If NO<sub>x</sub> emissions exceed 80 tons/year calculated using AP-42 emission factors, the Permittee shall calculate NO<sub>x</sub> emissions using emissions factors from the manufacturer data or on-site emission testing as approved or specified by the Illinois EPA.

- 6a. The Permittee shall maintain the following records for the source:
- i. Records for each shipment of fuel oil received, the amount received, maximum sulfur content, and supplier;
  - ii. Records of the sulfur content of the fuel oil supply to Units 8 and 9, with supporting calculations using the equation in Condition 4(b);
  - iii. Records of operation of Unit 8 or 9 with oil that has sulfur content greater than 0.05 Weight Percent with date, duration, sulfur content of oil, and explanation;
  - iv. Records of the following items so as to address compliance with the limits in Condition 5:
    - A. Total usage of fuel oil for the engines, i.e., gal/month or gal/day (see Condition 5(c));
    - B. Fuel usage of individual engines and other operating data, e.g., hours of operation or megawatt generated for each engine, to allow total fuel usage, as recorded above, to be apportioned among the individual engines as necessary to calculate emissions;
    - C. Emissions of NO<sub>x</sub> and CO in tons/month or day and tons/year from the source, with supporting calculations; and
    - D. Emissions of NO<sub>x</sub> in tons/month or tons/day from unit 8 and 9 with supporting calculations.
  - v. Records for each occurrence of excess opacity during startup of a unit, including:
    - A. Date and duration of excess opacity, including start time and time normal operation achieved;
    - B. If normal operation was not achieved within one hour, an explanation why normal operation could not be achieved in one hour; and
    - C. An explanation of the cause of the excess opacity and

documentation that established procedures for minimizing emissions were followed.

- vi. A maintenance and repair log for unit 8 and 9, listing each activity performed with date.
- b.
  - i. All records required by this permit shall be retained at the source for at least three years except as specified below and shall be readily available for inspections and copying by the Illinois EPA upon request.
  - ii. The records required by Condition 6(a)(i),(ii), and (iii) shall be retained at the source for at least five years.
- 7a. This permit is issued based upon this project not constituting a new major source or major modification in accordance with 40 CFR 52.21, Prevention of Significant Deterioration of Air Quality (PSD). Emissions from all emission units at the source, including the two new units, as limited by this Permit in Condition 5(a) are less than major i.e., less than 250 tons per year of individual pollutants.
- b. This permit is issued based upon this project not constituting a major modification in accordance with 35 IAC Part 203, Major Stationary Source Construction and Modification (MSSCAM). Emissions from the two new units as limited by this permit in Condition 5(b) are less than a major modification.
- 8. 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 made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records 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 or USEPA request for records during the course of a source inspection.
- 9. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
- 10. The Permittee shall provide an annual report, submitted with the Annual Emission Report, to the Illinois EPA, Compliance Section and Regional Field Office, pursuant to Section 39.5(7)(b) of the Act, concerning startup of unit 8 and 9. At a minimum, this report shall include the total number of startups and the total number of

startups that may have resulted in opacity in excess of Condition 3(a) as determined by the records required by Condition 6(a)(v).

11. Two (2) copies of all reports, notifications, etc., required by this permit 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 (1) copy shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
2009 Mall Street  
Collinsville, Illinois 62234

- 12a. This permit supersedes the previous Operating Permit issued for the new engines 8 and 9.

- b. This permit shall expire on June 30, 2005 or such earlier date that a revised CAAPP permit is effective for the source which permit addresses the operation of units 8 and 9 and includes limit and other requirements as needed to ensure that units 8 and 9 are not a major modification subject to either PSD or MSSCAM.

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:jar

cc: Illinois EPA, Region 3  
Illinois EPA, Compliance Section  
USEPA

ID #: 163060AAF

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the internal combustion engines (Unit 8 and 9) in compliance with the requirements of this federally enforceable permit. Actual emissions from this source will be less than predicted in this summary to the extent that the engines are operated on an as needed basis during the high electricity demand.

1. Emissions from the two distillate fuel oil fired internal combustion engines (Unit 8 and 9):

| <u>Pollutant</u> | <u>Emissions<br/>(Ton/Yr)</u> |
|------------------|-------------------------------|
| NO <sub>x</sub>  | 39                            |

2. Emissions from all emission units at the source:

| <u>Pollutant</u> | <u>Emissions<br/>(Ton/Yr)</u> |
|------------------|-------------------------------|
| NO <sub>x</sub>  | 100                           |
| CO               | 100                           |
| SO <sub>2</sub>  | 100                           |

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