

217/782-2113

CONSTRUCTION PERMIT

PERMITTEE

City of Casey
Attn: Shelby Biggs
108 East Main Street
Casey, Illinois 62420

Application No.: 01010079

I.D. No.: 023405AAB

Applicant's Designation: ENGINES

Date Received: January 31, 2001

Subject: Power Generating Plant

Date Issued: to be determined

Location: City of Casey, Clark County (See Attachment A)

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of an electric power plant with six reciprocating internal combustion engines (1,825 KW each) and ancillary equipment as described in the above referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. The emission of smoke or other particulate matter from each of these engines 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 these engines 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 requirements. These requirements may be revised and enhanced by the Illinois EPA in future operating permits for the source.
 - i. This authorization only extends for a period of up to two hours for an engine, 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;

C. Following good air pollution practices for the inspection, maintenance and repair of the engines to minimize emissions.

2a. Fuels with a sulfur content greater than 0.05 weight percent shall not be fired in these engines, 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.

3a. i. The only fuels fired in the engines shall be distillate fuel oil.

- ii. The total usage of fuel oil in the engines shall not exceed 506,000 gallons per year. Compliance with this limit shall be determined from a running total of 12 months of data.
- b. i. Emissions of nitrogen oxides (NO_x) from each engine shall not exceed 2.71 lb/mmBtu.
- ii. Hourly emissions from each engine shall not exceed the following limits:

<u>NO_x</u> <u>(Lb/Hr)</u>	<u>CO</u> <u>(Lb/Hr)</u>	<u>VOM</u> <u>(Lb/Hr)</u>	<u>SO₂</u> <u>(Lb/Hr)</u>	<u>PM/PM₁₀</u> <u>(Lb/Hr)</u>
47.7	3.7	1.1	0.89	0.72

These limits are based on manufacturer's data as provided in the permit application. (These limits may be revised by the Illinois EPA at the written request of the Permittee if the request demonstrates that such limits would comply with applicable requirements.)

- c. The total annual emissions from the six engines shall not exceed the following limitations. Compliance with these limitations shall be determined from a running total of 12 months of data.

<u>Pollutant</u>	<u>Emissions</u> <u>(Tons/Year)</u>
NO _x	95.00
CO	7.31
PM	1.43
SO ₂	1.77
VOM	2.11

The above limits are established pursuant to 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 this facility project do not constitute a new major source pursuant to PSD. For this purpose, the six engines (three of which will be installed at 201 South Central Avenue and three which will be installed at 1005 South Central Avenue, approximately 1 mile away) are considered to be one source.

- 4a. The Permittee shall maintain the following records for the engines to address compliance with Condition 2.
 - 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 these engines, with supporting calculations using the equation in Condition 2(b); and
 - iii. Records of operation of an engine with an oil in excess the applicable sulfur content (Condition 2(a)), with date, duration, sulfur content of oil, and explanation.
- b. The Permittee shall maintain records of the following items to address compliance with the limits in Condition 3.
- i. Total usage of fuel for the engines, i.e., gal/month and gal/year.
 - ii. Emissions of NO_x, in tons/month and tons/year from the source (facility total), with supporting calculations.
- c. The Permittee shall maintain the following records for each occurrence of excess opacity during startup of an engine, including:
- i. Date and duration of excess opacity, including start time and time normal operation achieved;
 - ii. If normal operation was not achieved within two hours, an explanation why normal operation could not be achieved in two hours; and
 - iii. An explanation of the cause of the excess opacity and documentation that established procedures for minimizing emissions were followed.
- d. The Permittee shall maintain an inspection, maintenance and repair log for each engine, listing each activity performed with date.
- 5a. 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.
- b. The records required by Condition 4(a) shall be retained at the source for at least five years.
- 6a. The Permittee shall provide information concerning startup of the engines with the Annual Emission Report submitted to the Illinois EPA, pursuant to 35 IAC Part 254. At a minimum, this information shall include the total number of startups and the total number of startups that may have resulted in opacity in excess of Condition 2(a) as determined by the records required by Condition 4(c).
- b. The Permittee shall promptly notify the Illinois EPA of any failure to meet applicable requirements of this permit. This notification shall include a description of the incident, the level of emissions or

activity, a description of corrective measures and efforts made to prevent future reoccurrences.

7. Two copies of all required reports and notifications shall be sent to:

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: 217/524-4710

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
2009 Mall Street
Collinsville, Illinois 62234
Telephone: 618/346-5120 Fax: 618/346-5155

8. This permit is issued based upon this project not constituting a new major source under 40 CFR 52.21, the federal rules for Prevention of Significant Deterioration of Air Quality (PSD). Emissions from all emission units at the source, as limited by this Permit in Condition 3(c) are less than major.

If you have any questions concerning this permit, please contact Mohamed Anane at 217/782-2113.

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

DES:MA:jar

cc: Region 3
CASM

ATTACHMENT A

Site locations for new engines

<u>Units</u>	<u>Location</u>
Engine #1, #2 and #3	201 South Central Avenue
Engine #4, #4 and #6	1005 South Central Avenue

MA:psj