

Illinois Environmental Protection Agency
Bureau of Air, Permit Section
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Project Summary
Revised Federally Enforceable State Operating Permit (FESOP)
City of Geneseo - Geneseo Municipal Utilities

Site Identification No.: 073050AAA
Application No.: 73090137

Schedule

Public Comment Period Begins: December 2, 2011
Public Comment Period Closes: January 1, 2012

Illinois EPA Contacts

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PROJECT SUMMARY

I. INTRODUCTION

City of Geneseo - Geneseo Municipal Utilities (Geneseo) has submitted an application for renewal of their federally enforceable state operating permit covering an electric power plant consisting of eight engine generators and one natural gas fired boiler. This permit prevents the site from being classified as a major source of emissions under the Clean Air Act. Therefore, Geneseo 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 eight generators and boiler are used by the City of Geneseo - Geneseo Municipal Utilities to generate electrical power for residents of Geneseo and other municipalities when normal supplies of power are unavailable or inadequate. 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 distillate diesel fuel oil and natural gas.

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

The primary air pollutants from the reciprocating engines are nitrogen oxide (NO_x), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO₂), and particulate matter (PM).

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 SO₂ 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 NO_x, CO, VOM, and SO₂ to levels below major source thresholds.

III. GENERAL DISCUSSION

Federally Enforceable State Operating Permits (FESOPs) are federally enforceable, that is, the terms and conditions of the permits can be enforced by USEPA under federal law, as well as by Illinois government and the public under state law. These permits can establish federally enforceable limitations on the

operation and emissions of a source that restrict the potential emissions of the source.

The source has been operating this plant under a FESOP because the actual emissions of the plant are below the levels at which the plant would be considered a major source under Title V of the federal Clean Air Act. However, in the absence of federally enforceable limitations, the plant's potential emissions would be such that the plant would be considered a major source. The permit acts to restrict the plant potential emissions so that it need not be considered a major source. As a result, the source does not need not obtain a Clean Air Act Permit Program (CAAPP) permit for the plant, as would otherwise be required.

The FESOP limits the operation and annual emissions of the plant to below the major-source-thresholds of i.e., 100 tons per year for Carbon Monoxide (CO), Nitrogen Oxides (NO_x), Particulate Matter less than 10 microns (PM₁₀), and Sulfur Dioxide (SO₂) and 100,000 tons of Carbon Dioxide equivalent (CO_{2e}) per year for Green House Gases (GHG)).

IV. APPLICABLE EMISSION STANDARDS

All emission units in Illinois must comply with state emission standards adopted by the Illinois Pollution Control Board. These emission standards represent the basic requirements for sources in Illinois. The board has standards for sources of Carbon Monoxide (CO), Nitrogen Oxides (NO_x), Particulate Matter less than 10 microns (PM₁₀), Sulfur Dioxide (SO₂) and Carbon Dioxide equivalent (CO_{2e}) per year for Green House Gases (GHG)). The application shows that the plant is in compliance with applicable state and federal emission standards.

The principal air contaminants of concern are carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter less than 10 microns (PM₁₀), sulfur dioxide (SO₂) and carbon dioxide equivalent (CO_{2e}) per year for green house Gases (GHG)) which is created by the electric power plant. The facility has limited their throughput that will keep the VOM emissions below the major source threshold level of 100 tons per year for VOM.

V. CONTENTS OF THE PERMIT

The renewed permit that the Illinois EPA is proposing to issue would continue to identify the specific emission standards that apply to the emission units at the plant.

The permit would also contain limitations and requirements to assure that this plant is operated as a non-major source. The permit would limit the operation and annual emissions of the plant to below the major-source-thresholds of 100 tons per year for Carbon Monoxide (CO), Nitrogen Oxides (NO_x), Particulate Matter less than 10 microns (PM₁₀), and Sulfur Dioxide (SO₂) and 100,000 tons

of Carbon Dioxide equivalent (CO₂e) per year for Green House Gases (GHG)). (Annual emissions of other pollutants from the plant are well below the 100 ton major source threshold.)

The permit would also set limitations on requirements to assure that this facility will be operated as a non-major source. The permit sets limitations on electric power plant emissions. These limitations are consistent with the historical operation and capacity of the facility.

The permit conditions would also continue to require appropriate compliance procedures, including inspection practices as well as recordkeeping and reporting requirements. The source must carry out these procedures on an on-going basis to demonstrate that the plant is being operated within the limitations set by the permit and the plant's emissions are being properly controlled.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that the source has met the requirements for renewal of its permit. The Illinois EPA is therefore proposing to renew the permit.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 IAC Part 166.