217/785-1705

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -- REVISED

PERMITTEE

Geneseo Municipal Utilities
Attn: Lewis Opsal, Electrical Superintendent
433 East North Street
Geneseo, Illinois 61254

Application No.: 73090137 I.D. No.: 073050AAA
Applicant's Designation: ELEC DEPT Date Received: June 21, 2011
Subject: Electric Generating Plant
Date Issued: Expiration Date: April 6, 2016
Location: 433 East North Street, Geneseo, Henry County

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of:

Seven (7) natural gas/diesel fuel-fired engine/generators (Engine 1 – 5,600 kW capacity, Engine 2 – 3,500 kW capacity, Engine 3 – 3,500 kW capacity, Engine 4 – 2,000 kW capacity, Engine 5A – 4,400 kW capacity, Engine 6A – 3,000 kW capacity, Engine 7 – 3,000 kW capacity);
One (1) diesel fuel-fired engine/generator (Engine 8 – 4,840 kW capacity) with Selective Catalytic Reduction (SCR) control; and
One (1) natural gas-fired boiler (3.35 mmBtu/hour)

pursuant to 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 air pollutants from the source to less than major source thresholds, (i.e., 100 tons per year for Carbon Monoxide (CO), Nitrogen Oxides (NO_x), Particulate Matter less than 10 microns (PM_{10}), and Sulfur Dioxide (SO_2) and 100,000 tons of Carbon Dioxide equivalent (CO_2e) per year for Green House Gases (GHG)). As a result, the source is excluded from requirements to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit are described in Attachment A.

b. This permit is effective only upon the withdrawal of Permit Appeal PCB 2011-081.

c. Prior to issuance, a draft of this permit has undergone a public notice and comment period.

d. This permit supersedes all operating permit(s) for this location.

2a. Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission

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unit other than those emission units subject to the requirements of 35 Ill. Adm. Code 212.122.

b. Pursuant to 35 Ill. Adm. Code 212.123(b), the emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 meter (1000 foot) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.

c. Pursuant to 35 Ill. Adm. Code 212.124(a), 35 Ill. Adm. Code 212.122 and 212.123 shall apply during times of startup, malfunction and breakdown except as provided in the operating permit granted in accordance with 35 Ill. Adm. Code 201.

d. Pursuant to 35 Ill. Adm. Code 212.124(b), 35 Ill. Adm. Code 212.122 and 212.123 shall not apply to emissions of water or water vapor from an emission unit.

3. Pursuant to 35 Ill. Adm. Code 214.301, no person shall cause or allow the emissions of sulfur dioxide into the atmosphere from any process emission source to exceed 2,000 ppmv.

4a. This permit is issued based on Engine/Generators 1, 2, 3, 4, 5A, and 7 not being subject to the Acid Rain Program, 40 CFR Part 72. Pursuant to 40 CFR 72.6(b)(2), any unit that commenced commercial operation before November 15, 1990 and that did not, as of November 15, 1990, and does not currently, serve a generator with a nameplate capacity of greater than 25 MWe are not affected units subject to the requirements of the Acid Rain Program.

b. This permit is issued based on Engine/Generators 6A and 8 not being subject to the Acid Rain Program, 40 CFR Part 72. Pursuant to 40 CFR 72.7(a)(3), any new utility unit that has not previously lost an exemption under 40 CFR 72.7(f)(4) and that, in each year starting with the first year for which the unit is to be exempt burns gaseous fuel with an annual average sulfur content of 0.05 percent or less by weight (as determined under 40 CFR 72.7(d)) and nongaseous fuel with an annual average sulfur content of 0.05 percent or less by weight (as determined under 40 CFR 72.7(d)).

c. Pursuant to 40 CFR 72.7(b)(1), any new utility unit that meets the requirements of 40 CFR 72.7(a) and that is not allocated any allowances under subpart B of 40 CFR part 73 shall be exempt from the Acid Rain Program, except for the provisions of 40 CFR 72.7, 40 CFR 72.2 through 72.6, and 40 CFR 72.10 through 72.13.

d. Pursuant to 40 CFR 72.7(d), compliance with the requirement that fuel burned during the year have an annual average sulfur content of 0.05

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percent by weight or less shall be determined as follows using a method of determining sulfur content that provides information with reasonable precision, reliability, accessibility, and timeliness:

i. For gaseous fuel burned during the year where other gas in addition to or besides natural gas is burned, the requirement is met if the annual average sulfur content is equal to or less than 0.05 percent by weight. The annual average sulfur content, as a percentage by weight, for the gaseous fuel burned shall be calculated as follows:

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

Where:

$\%\ S_{annual}$ = 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 n^{th} sample of the fuel delivered during the year to the unit, as a percentage by weight;

V_n = Volume of the fuel in a delivery during the year to the unit of which the nth sample is taken, in standard cubic feet; or, for fuel delivered during the year to the unit continuously by pipeline, volume of the fuel delivered starting from when the nth sample of such fuel is taken until the next sample of such fuel is taken, in standard cubic feet;

d_n = Density of the nth sample of the fuel delivered during the year to the unit, in lb per standard cubic foot; 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.

ii. For nongaseous fuel burned during the year, the requirement is met if the annual average sulfur content is equal to or less than 0.05 percent by weight. The annual average sulfur content, as a percentage by weight, shall be calculated using the equation in 40 CFR 72.7(d)(2). In lieu of the factor, volume times density ($V_n\ d_n$), in the equation, the factor, mass (M_n), may be used, where M_n is: mass of the nongaseous fuel in a delivery during the year

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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.

5a. Distillate fuel oil (Grades No. 1 and No. 2) and natural gas shall be the only fuels fired in the engine/generators 1-7. The use of any other fuel requires a construction permit for the modification of these units.

b. Distillate fuel oil (Grades No. 1 and No. 2) shall be the only fuel used in engine/generator 8. The use of any other fuel requires a construction permit for the modification of this unit.

c. The Permittee shall follow good operating practices for the SCR associated with Engine 8, including periodic inspection, routine maintenance and prompt repair of defects.

d. The Permittee is authorized to operate each of the eight engine/generators in violation of the applicable limit of 35 Ill. Adm. Code 212.123 (i.e., 30 percent opacity), during startup pursuant to 35 Ill. Adm. Code 201.262, as the Permittee has affirmatively demonstrated that all reasonable efforts will be made to minimize startup emissions, duration of individual startups, and frequency of startups. This authorization is subject to the following:

i. 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/generator 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 slower start-up to allow each unit to reach operating temperature; and

B. Longer duration of start-up and minimizing emergency start-up durations.

iii. The Permittee shall fulfill the applicable recordkeeping requirements of Condition 12(a)(i).

iv. As provided by 35 Ill. Adm. Code 201.265, an authorization in a permit for excess emissions during startup does not shield a Permittee from enforcement for any violation of applicable emission standard(s) that occurs during startup and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

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e. The Permittee is authorized to continue operation each of the eight engine/generators in violation of the applicable requirements of 35 Ill. Adm. Code 212.123 (i.e., 30 percent opacity) in the event of a malfunction or breakdown of an engine/generator. This authorization is provided pursuant to 35 Ill. Adm. Code 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally explaining why such continued operation would be required to provide essential service or to prevent injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns.

i. This authorization only allows such continued operation as necessary to provide essential service or to prevent injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.

ii. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practicable reduce load of the engine/generator, repair the engine/generator, remove the engine/generator from service or undertake other action so that excess emissions cease.

iii. The Permittee shall fulfill applicable recordkeeping and reporting requirements of Condition 12(a)(ii). For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such circumstances, the incident shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the engine/generator out of service.

iv. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 Ill. Adm. Code 201.263.

v. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 Ill. Adm. Code 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

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6a. Emissions and operation of the engine/generators shall not exceed the following:

i. Total combined natural gas and diesel fuel consumption for all engine/generators shall not exceed 9,896 mmBtu/month and 59,375 mmBtu/year heat content of fuel fired.

ii. Combined emissions from all engine/generators shall not exceed the following limits:

Pollutant	Emission Factors (lbs/mmBtu)	Emissions (Tons/mo)	(Tons/Year)
CO_2e	163.602	809.50	4,856.93
CO	1.16	5.74	34.44
NO_x	3.2	15.83	95.00
PM	0.1470	0.73	4.36
SO_2	0.0505	0.25	1.50
VOM	0.80	3.96	23.75

These limits are based upon emission factors derived from 40 CFR Part 98 Subpart C Table C-1 and C-2 for the CO_2e, and AP-42 Table 3.4-1, (5^{th} edition, Supplement B, October 1996)) for CO, NOx, PM, SO_2 and VOM, and the maximum heat input of all fuel used in the engine/generators.

b. Emissions from the natural gas fired boiler shall not exceed the following limits:

i. Natural gas consumption for the boiler shall not exceed 4.89 mmBtu/month and 29.35 mmBtu/year heat content of fuel fired.

Pollutant	Emission Factor (lbs/mmscf)	Emissions (Ton/Month)	(Tons/Year)
CO_2e	120,280.11	294.08	1765.11
CO	84.00	0.21	1.23
NO_x	100.00	0.24	1.47
PM	7.60	0.02	0.11
SO_2	0.60	0.01	0.01
VOM	5.50	0.01	0.08

These limits are based upon emission factors derived from 40 CFR Part 98 Subpart C Table C-2 for the CO_2e, and AP-42 Section 1.4-1, (5^{th} edition, Supplement D, July 1998) for CO, NOx, PM, SO_2 and VOM, and the maximum heat input of the fuel used in the boiler.

c. The above limitations contain revisions to previously issued Permit 01090032. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the FESOP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the Clean Air Act, specifically 40 CFR 52.21,

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Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the FESOP application contains the most current and accurate information for the source. Specifically, the permitted emissions limits have been increased for CO (from 12.4 to 35.67 tons/year), PM (from 2.2 to 4.47 tons/year), and VOM (from 2.50 to 23.83 tons/year) and the permitted emission limits have been reduced for NO_x (from 96.6 to 96.47 tons/year) and SO_2 (from 3.7 to 1.51 tons/year).

d. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7. This permit is issued based on the Potential to Emit (PTE) for Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act being less than 10 tons per year of any single HAP and 25 tons per year of any combination of such HAPs. As a result, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program (CAAPP) permit from the Illinois EPA.

8a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:

i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.

ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including

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scaffolding, but excluding instruments and sensing devices, as may be necessary.

b. Testing required by Condition 9 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.

9. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.

10a. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.

b. Pursuant to 40 CFR 72.7(f)(3), for a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 72.7 shall retain at the source that includes the unit records demonstrating that the requirements of 40 CFR 72.7(a) are met. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the USEPA or Illinois EPA or the permitting authority.

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i. Such records shall include, for each delivery of fuel to the unit or for fuel delivered to the unit continuously by pipeline, the type of fuel, the sulfur content, and the sulfur content of each sample taken.

ii. The owners and operators bear the burden of proof that the requirements of 40 CFR 72.7(a) are met.

11. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.

12a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:

i. Date and duration of startup of the engines, (i.e., start time and time normal operation achieved, and stable operation at load);

ii. Date and duration of malfunction or breakdown of the engines, a description of the incident, a description of the corrective actions taken to reduce emissions during the malfunction or breakdown, and a description of preventative actions taken.

iii. Records addressing use of good operating practices for the SCR system:

A. A file containing manufacturer/vendor or source developed operating and maintenance procedures, including the catalyst management plan;

B. An operating log that at a minimum identifies when the engine is operated with SCR system with corresponding engine load setting and rate of injection of SCR reagent, e.g., gallon or pound per hour;

C. Maintenance and repair log, including the date and nature of maintenance and repair activities performed, e.g., addition or replacement of a catalyst layer; and

D. Usage of SCR reagent on a monthly basis.

iv. Records for each shipment of fuel oil received, the amount received, maximum sulfur content, and supplier. The permittee may utilize data provided by the fuel supplier for the sulfur content of each shipment;

v. Total combined diesel fuel usage for Engines 1, 2, 3, 4, 5A, 6A, 7, and 8 (gallons/month and gallons/year);

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vi. Total combined natural gas usage for Engines 1, 2, 3, 4, 5A, 6A, and 7 (scf/month and scf/year);

vii. Natural gas usage for the boiler (scf/month and scf/year);

viii. Fuel analysis sheets indicating sulfur content for each shipment or purchase of diesel fuel; and

ix. Monthly and annual emissions of CO, NO_x, PM, SO_2, and VOM (tons/month and tons/year) from the source (facility total), with supporting calculations.

b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) 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 storage device) 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.

13. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.

14a. If there is an exceedance of or a deviation from 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 or deviation. 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 deviation and efforts to reduce emissions and future occurrences.

b. Two copies of 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

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
5407 North University
Peoria, Illinois 61614

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This permit has been revised to reflect the addition of annual fuel usage limits and monthly emission limits, as requested by the Permittee.

If you have any questions concerning this permit, please call Jocelyn Stakely at 217/785-1705.

Edwin C. Bakowski, P.E. Date Signed: _____
Manager, Permit Section
Division of Air Pollution Control

ECB:JRS

cc: Illinois EPA, FOS Region 2
Lotus Notes

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Attachment A - Emissions Summary

This attachment provides a summary of the maximum emission from the power generating plant, operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Agency used the annual operating scenario, which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels, (e.g., 100 tons/year for CO, NO_x, PM_{10}, and SO_2, and 100,000 tons CO_2e/year for GHG) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled, less coating is used, and control measures are more effective than required in this permit.

	E M I S S I O N S (Tons/Year)					
Emission Unit	CO_2e	CO	NO_x	PM	SO_2	VOM
Engine/Generators	4,856.93	34.44	95.00	4.36	1.50	23.75
Natural Gas-Fired Boiler	1,765.11	1.23	1.47	0.11	0.01	0.08
Totals	6,622.04	35.67	96.47	4.47	1.51	23.83

JRS:

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