

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N662335951

FACILITY: Great Lakes Water Authority - North Service Center		SRN / ID: N6623
LOCATION: 1850 South Boulevard, TROY		DISTRICT: Southeast Michigan
CITY: TROY		COUNTY: OAKLAND
CONTACT: Kaydo Little, Master of Record		ACTIVITY DATE: 07/15/2016
STAFF: Samuel Liveson	COMPLIANCE STATUS: Compliance	SOURCE CLASS: Minor
SUBJECT: Scheduled inspection of minor source.		
RESOLVED COMPLAINTS:		

On July 15, 2016, I conducted a scheduled, level 2 inspection of Great Lakes Water Authority – North Service Center (GLWA-NSC), located at 1850 South Boulevard in Troy, Michigan. The purpose of this inspection was to determine the facility's compliance with the federal Clean Air Act, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and the conditions of Permit to Install (PTI) No. 229-99B.

I arrived on site around 1:00 PM. I met with Mr. Kaydo Little, Electrician - Master of Record. Mr. Little provided records and a walkthrough of the facility. I provided Mr. Little with my contact information and a copy of the pamphlet "DEQ Environmental Inspections: Rights and Responsibilities."

Opening Meeting

GLWA-NSC is a pump station that pumps water from the Lake Huron Water Plant in Imlay, Michigan out to Troy area suburbs. Generally, electric engines on site operate the pump station. Daily maintenance occurs on site from millwrights, plumbers, electricians, etc. The pump station operates 24 hours a day, 7 days a week.

The facility received PTI No. 229-99 in December of 2008 for four diesel-fueled emergency engines on site. PTI No. 229-99B was issued as a modification to limit emissions through fuel use rather than hours of operation. In addition to emergency operation, these engines are operated once a month for testing unless there is a reason testing cannot occur.

Facility Walk-Through

Emergency Engines

I observed EUENGINE1 and EUENGINE2. On EUENGINE2, the nameplate provides a capacity of 1,825 kilowatts (KW), and a model of 3516N, which matches the emission unit description in PTI No. 229-99B. Two 8,000 gallon diesel fuel storage tanks on site were installed in September of 1999, which correlates with the engine installation timeframe.

Engines appear to be maintained properly. Mr. Little provided Generator Exercise Forms showing engine operating parameters and maintenance performed on engines.

Engine fuel use for FGENGINES is measured based on the starting and finishing gallons in fuel tanks. An electronic fuel reader shows the gallons of fuel in the two 8,000 gallon fuel tanks. The electronic fuel reader is based on the height of a float within the tanks, and the electronic reading can be verified using a fuel stick. Between the large diesel tanks and the four engines is a 150 gallon day tank that is always between 70 percent and 90 percent full. To determine fuel use for each individual engine, fuel use can be divided by four. This appears to meet PTI No. 229-99B Special Condition (S.C.) IV.1.

According to Mr. Little, GLWA-NSC has the ability to peak shave, but hasn't done it yet. GLWA-NSC may peak shave if there is a proper load on the engines. For GLWA-NSC to peak shave, load has to be greater than 0.6 megawatts (MW). During the facility inspection, load was 0.08 MW.

Recordkeeping

Mr. Little provided fuel usage for July of 2015 through June of 2016 as recorded in Generator Exercise Forms, which are filled out when the generators are used, per S.C. VI.3. Engines were operated in July of 2015, October of 2015, December of 2015, March of 2016, and June of 2016. Other months staff weren't available to exercise the engines, or a situation at the plant prevented their operation.

The fuel used in engines is the net difference between fuel start and fuel end gallons in both fuel tanks, because day tank fuel can be returned to a different fuel tank than it was received from. The maximum monthly fuel used during the monthly generator exercise was 26 gallons in July of 2015, which results in 6.3 pounds (lbs) of nitrogen oxide (NOx) emissions.

Fuel use for March and June of 2016 is not provided on facility records. Because the engine load and the hours of the engine operation are available, and because of the low quantity of fuel used at the facility, AQD used discretion to avoid issuing a violation for this recordkeeping issue. Engines were operated for less than an hour at no load. I spoke with Mr. Little about ensuring that fuel use is recorded per VI.1 and VI.3.

For March and June engine operations where fuel use was not recorded, AQD estimated emissions of a full load for a half hour. 1,875 KW engines converted to BTU/HR assuming a diesel heating value of 138,700 BTU/gallon provides a maximum fuel usage of 90 gallons for all four engines for a half hour of operation. Using these numbers, 223 gallons of diesel fuel was used per 12-month rolling time period, below the facility limit of 328,333 gallons per S.C. II.2. The 12 month-rolling total of NOx emissions is 54 pounds, below the facility limit of 39.05 tons per year (tpy) per S.C. I.1.

Sulfur content of fuel was provided per S.C. VI.2. Fuel sulfur content is 15 ppm, which converts to 0.0015 percent sulfur content. This appears to be below the permit limit of 0.05% percent sulfur content per S.C. II.2.

40 CFR Part 63 Subpart ZZZZ

Because the engines were installed in 1999, they appear to be subject to 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines. AQD does not have delegated authority for this NESHAP.

Compliance

Based on the AQD inspection and records review, it appears that GLWA-NSC is in compliance with the federal Clean Air Act, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and the conditions of PTI No. 229-99B.

NAME *Jan R*

DATE 8/15/16

SUPERVISOR CJE