

N8268

MANILA

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

N826840740

FACILITY: DETROIT WATER & SEWERAGE DEPT-SCHOOLCRAFT PUMP STA		SRN / ID: N8268
LOCATION: 30365 SCHOOLCRAFT RD, LIVONIA		DISTRICT: Detroit
CITY: LIVONIA		COUNTY: WAYNE
CONTACT:		ACTIVITY DATE: 07/14/2017
STAFF: Stephen Weis	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: Synthetic Minor
SUBJECT: Compliance inspection of the Great Lakes Water Authority Schoolcraft Pump Station in Livonia. The Schoolcraft Pump Station is scheduled for inspection in FY 2017.		
RESOLVED COMPLAINTS:		

Location:

Great Lakes Water Authority (formerly Detroit Water and Sewerage Department)
Schoolcraft Pump Station (SRN N8268)
30365 Schoolcraft Road
Livonia

Date of Activity:

Friday, July 14, 2017

Personnel Present:

Steve Weis, DEQ-AQD Detroit Office
Nabil Kamash, GLWA

Purpose of Activity

A self-initiated inspection of the Great Lakes Water Authority (GLWA) Schoolcraft Pump Station (hereinafter "Schoolcraft Pump Station" or "Schoolcraft facility") was conducted on Friday, July 14, 2017. The Schoolcraft Pump Station is on my list of sources targeted for an inspection during FY 2017. The purpose of this inspection was to determine compliance of operations at the Schoolcraft facility with applicable rules, regulations and standards as promulgated by Public Act 451 of 1994 (NREPA, Part 55 Air Pollution Control), applicable Federal standards, and any applicable permits and orders.

Facility Description

The Schoolcraft Pump Station is located on the south side of eastbound Schoolcraft Road, which is also the I-96 service drive, about 1/10th of a mile west of Middlebelt Road near Warner Court. The area around the Schoolcraft facility on the south side of Schoolcraft Road is a mix of commercial and light industrial properties. The property directly to the south of the Schoolcraft facility is occupied by the United Parcel Service operation. The area to the north of Schoolcraft Road/I-96 is residential. The nearest residence is located approximately 150 yards from the Schoolcraft facility.

The Schoolcraft Pump Station operates as part of the Great Lakes Water Authority's drinking water distribution system. The system was formerly owned and operated by the Detroit Water and Sewerage Department (DWSD), but GLWA began a 40 year lease with the City of Detroit that provided for GLWA's operation of the regional water and sewerage system on January 1, 2016. GLWA operates five water treatment facilities that treat freshwater that is drawn from Lake Huron, Lake St. Clair and the Detroit River, and deliver the treated water to the drinking water customers of GLWA. There are currently nearly 4 million customers in 126 southeast Michigan communities that receive drinking water from GLWA. The drinking water is transported from the treatment facilities via a distribution system that consists of a network of water mains (larger transmission mains operated by GLWA, and distribution and water mains maintained by the various municipalities), fire hydrants, pressure reducing valves (on the distribution mains) and reservoirs and booster stations operated by GLWA that ensure that proper water flow and pressure are maintained in the water mains. The Schoolcraft Pump Station is one of the booster facilities in the drinking water distribution system.

The Schoolcraft facility consists of a drinking water storage reservoir with a storage capacity of 10 million

gallons; a pump building that contains four pumps; two diesel-fired emergency engines; and two 4,000 gallon capacity above ground storage tanks that store diesel fuel for use in the emergency engines. Some of the pumps in the pump building serve to pump water that is piped to the Schoolcraft facility via transmission lines from the Springwells Water Treatment Plant in Dearborn (SRN M4838) for storage in the on-site reservoirs (reservoir, or "R" pumps), while the other pumps (line, or "L" pumps) serve to supply the transmission lines with water from the reservoirs to maintain the flow and pressure of drinking water in the water mains.

The two diesel-fired engines at the Schoolcraft Pump Station were installed on July 21, 2009 to provide emergency back-up power to the pumps in case of a power outage. This allows the Schoolcraft facility to operate when needed to maintain the water pressure in the water mains. The two engines are both Caterpillar Model 3516CD generators rated at 1,825 kW electrical output.

Facility Operating Schedule

The Schoolcraft Pump Station is available for use on a 24 hour per day basis every day of the year. The facility is not regularly staffed. GLWA staff visit and check the site regularly, and perform maintenance/readiness checks of the engines once per month.

Inspection Narrative

I arrived at the facility at 12:15pm. Nabil explained the layout of the facility, pointing out the drinking water reservoir at the south end of the facility, and providing the storage capacity of the reservoir. We then looked at the generators. As I have done at other, similar GLWA facilities, I looked at the nameplate information affixed to the generators, which indicated that the engines are Caterpillar model AA28194000. The nameplate also provided that the generators were installed on July 21, 2009. We also took a look at the two 4,000 gallon diesel tanks that provide fuel for the generators.

Nabil and I went into the facility's main building find the operating log for the generators. The log indicated that the generators were last operated on June 23, 2017, and the hours meter readings taken and recorded on that day were 63 hours on Generator #1, and 60 hours on Generator #2. The fuel usage and hours of operations information that is kept on site at the facility does not directly match the format required in the PTI for the engines, and there is no running 12 month total of the hours and fuel usage. I was told that this information is provided to a contact at GLWA where it is compiled and maintained in the required format. I was told that the point of contact for this information is Steve Kuplicki of GLWA.

Nabil and I then took a look at the pumps, which are located below grade, adjacent to and accessible via the main building. Nabil told me that one of the pumps is used in the cold weather months to circulate water to protect against freezing. We left the facility at 12:45pm.

Permits/Regulations/Orders/

Permits

The Schoolcraft facility currently has one active permit for the generators. PTI No. 94-09 is a General Permit for Diesel Fuel-Fired Engine Generators with Maximum Capacity of five Megawatts. This permit was approved by DEQ-AQD on April 30, 2009.

The compliance status of the Schoolcraft Pump Station with the requirements of PTI No. 94-09 is summarized, as follows:

Emission Limits

Special Condition (SC) 1.1 limits NOx emissions to 515 lbs/1,000 gallons of diesel fired. There is no specific requirement to perform a compliance test to demonstrate compliance with this emission limit (testing may be required per SC 1.7). Rather, the testing/monitoring method involves recording to amount of diesel fuel used in the generator on a monthly and 12 month rolling time period basis.

Material Usage Limits

SC 1.2 – Compliance. GLWA only burns diesel fuel in the generators.

SC 1.3 – This requirement does not apply as any electricity produced by the generators is not sold to the utility power distribution system

SC 1.4 – As of the finalizing of this report, GLWA has not produced any records to demonstrate that diesel fuel usage is no more than 136,000 gallons per 12 month rolling period. In the permit application for the General Permit, it was provided that the maximum annual fuel use for each of these engine generators would be 4,000 gallons. Also, given the number of hours that the engines are being used, the diesel fuel usage should be well below 136,000 gallons per 12 month rolling time period. It is assumed that the facility is complying with the requirement.

Process/Operational Limits

SC 1.5 – Compliance. GLWA states that the generators are operated in accordance with manufacturer's recommendations.

SC 1.6 – Compliance. The total capacity from each unit is less than 2 MW.

Testing

SC 1.7 – DEQ-AQD has not requested that a compliance emissions test be performed on the generators.

Monitoring

SC 1.8 – There is no device associated with the engines to monitor the fuel usage. Rather, the fuel usage is monitored based on the flow of fuel to each engines' day tank. Compliance.

Recordkeeping/Reporting/Notification

SC 1.9 – Compliance. GLWA tracks records of malfunctions and maintenance performed on the engines.

SC 1.10 - This requirement does not apply as any electricity produced by the generators is not sold to the utility power distribution system.

SC 1.11 – As of the finalizing of this report, GLWA has not demonstrated that the monthly and 12 month rolling time period records of diesel fuel usage is being maintained. Non-compliance.

Stack/Vent Restrictions

SC 1.12 – Compliance. Emissions from the generators are vented to the ambient air, unobstructed and vertically.

Miscellaneous/Allowed Modification

These conditions do not apply. The General Permit for Diesel Generators is no longer being issued by DEQ-AQD. Any future replacements or modifications to this generator would need to go through permit review by DEQ-AQD.

Federal regulations

The generator was installed in 2009. Based on this installation date, the generator appears to meet the applicability criteria associated with 40 CFR Part 60, Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines), as put forth in 60.4200(a). This paragraph states that Subpart IIII applies to owners and operators of engines that commence construction after July 11, 2005.

The requirements of 40 CFR Part 63, Subpart ZZZZ (National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines) apply to owners and/or operators of stationary reciprocating internal combustion engines (RICE) at both major and area (or minor) sources of hazardous air pollutant (HAP) emissions, except if the RICE is being tested at a test cell/stand. The Schoolcraft facility is a minor, or area source of HAP emissions, as the potential to emit HAPs is less than 10 tons of any single HAP, and less than 25 tons for combined HAP emissions. The generator at the Schoolcraft facility is classified as a new stationary RICE, as defined in Subpart ZZZZ. Paragraph 63.6590(c) states that new stationary RICE located at an area source meets the requirement of Subpart ZZZZ by meeting the requirements of 40 CFR Part

60 Subpart IIII, and that no further requirements of Subpart ZZZZ apply to the RICE.

Compliance Determination

Based upon the results of the July 14, 2017 site visit and subsequent records review, the Schoolcraft Road Pump Station facility is not in compliance with all of the applicable requirements of Permit to Install 94-09.

Attachments to this report: a diagram that shows the sequence of the drinking water supply system.

NAME Steve Wiles DATE 9/28/17 SUPERVISOR JK