DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

N272671599

FACILITY: Sebewaing Light and Water Dept.		**SRN / ID:** N2726
LOCATION: 350 Pine Street, SEBEWAING		**DISTRICT:** Bay City
CITY: SEBEWAING		**COUNTY:** HURON
CONTACT: Charlene Hudson , Superintendent		**ACTIVITY DATE:** 04/16/2024
STAFF: Dillon King	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled inspection		
RESOLVED COMPLAINTS:		

Air Quality Division (AQD) staff Dillon King (DK) and Adam Shaffer (AS) arrived at the Sebewaing Light and Water (SLW) facility, SRN: N2726 at approximately 2:30 pm on April 16, 2024 to complete a scheduled inspection.

DK and AS met with Ms. Charlene Hudson, Superintendent, Mr. Pete Smith, Operations and Nicholas Hansen, Consultant at the SLW facility located on Main Street to conduct the pre-inspection meeting. Pete Smith and Nicholas Hansen escorted AQD staff through the Main street facility prior to the Pine street facility and provided information regarding site operations, and Ms. Charlene Hudson provided records.

Facility Description

SLW is an electrical generating station consisting of two natural gas-fired engines. The engines are lean-burn four-cycle spark-ignited engines. The engines are placed into service seasonally in parallel to the main electric supply to support the neighboring Michigan Sugar facility in the event of an outage on the main electric supply. The facility operates under opt-out Permit-to-Install (PTI) No. 146-17A. The permit contains flexible group FG-GEN7&8 with associated emission units EUGEN7 and EUGEN 8. The opt-out limit prevents the potential to emit from exceeding Title V thresholds. Both engines are also subject to NSPS subpart JJJJ. SLW indicated that no major maintenance events have occurred since the engines were installed.

Compliance Evaluation

EUGEN7

This emission unit is a GE Jenbacher model JMS-624 GS-H02 installed in 2020. The engine is rated at 6,023 horsepower (HP) and has a net output rating of 4,376 kilowatts (kW). Emissions from the engine are controlled via an oxidation catalyst. The unit is also equipped with a heat recovery system; however it is not typically in service during routine operation. All requirements and limits/restrictions for the engine are included in the special conditions of FG-GEN7&8.

EUGEN8

This emission unit is a GE Jenbacher model JMS-620 GS-J02 installed in 2020. The engine is rated at 4,601 HP and has a net output rating of 3,334 kW. Emissions from the engine are controlled via an oxidation catalyst. The unit is also equipped with a heat recovery system; however it is not typically in service during routine operation. All requirements and limits/restrictions for the engine are included in the special conditions of FG-GEN7&8.

FG-GEN7&8

The FG-GEN7&8 flexible group conditions apply to both engines at the facility. There are emission limits for nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOCs) and formaldehyde (HCHO). The most recent testing was conducted in 2023 results in comparison to emission limits are presented below:

Parameter	Unit	Average Result	Limit
Nitrogen Oxides	ppmvd @ 15% O_2	39.2	82
	g/HP-hr	0.43	0.50
Carbon Monoxide	ppmvd @ 15% O_2	45.4	270
	g/HP-hr	0.30	0.90
VOCs (as propane)	ppmvd @ 15% O_2	6.4	60
	g/HP-hr	0.06	0.70

Additionally, there are emission limits for both engines combined for CO of 86.2 tons per year (tpy) and HCHO of 7.8 tpy that are based on a 12-month rolling time period as determined at the end of each calendar month. Based on records provided from the facility going back to January 2022, the highest tpy emissions based on a 12-month rolling time period was 18.6 tpy of CO and 3.97 tpy of HCHO from July of 2022.

For material limits, Special condition (SC) II. 1. limits the facility to only burn pipeline quality gas in each engine. The facility provided documentation from the supplier (Consumers Energy) which specifies the minimum quality gas the facility will receive. The facility also is prohibited from operating either engine unless the facility submitted a satisfactory malfunction abatement plan (MAP) for the oxidation catalysts, and it has been implemented and maintained. The MAP was previously submitted and approved, with the latest revision dated September of 2020. The MAP appears to meet the requirements in the permit and R 336.1911 (Rule 911). The MAP provides the operating range for the oxidation catalyst (450°F to 1350°F). Upon review of the records provided, the oxidation catalysts operated within the appropriate range except during periods of startup and shutdown.

During the walkthrough of the facility, AQD staff observed that all engines had a non-resettable hour meter installed. For EUGEN7, the meter had indicated a total operating time of 18,976 hours, for EUGEN8, 18,877 hours. Total standard cubic foot (scf) burned in each engine was also recorded and noted to be approximately 571 million scf for EUGEN7 and approximately 463 million for EUGEN8. AQD staff also observed the catalyst, heat recovery system and the stack. The equipment appeared well maintained and though not directly measured, the stack appeared to meet the requirements in PTI No. 146-17A.

Conclusion

Based on the review of the records provided and the observations made at the time of the inspection, SLW appears to be in compliance with PTI No. 146-17A and any other applicable air quality rules and regulations.

NAME Dirk A. King DATE 5/15/24 SUPERVISOR