

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

B195065595

FACILITY: Clinton River WRRF		SRN / ID: B1950
LOCATION: 155 N OPDYKE ROAD, PONTIAC		DISTRICT: Warren
CITY: PONTIAC		COUNTY: OAKLAND
CONTACT: Mike Daniels , Chief WRC Water Resources Recovery		ACTIVITY DATE: 11/30/2022
STAFF: Sebastian Kallumkal	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Inspection to verify compliance with PTI No. 195-15B		
RESOLVED COMPLAINTS:		

On Wednesday, November 30th, 2022, I, Michigan Department of Environment, Great Lakes and Energy-Air Quality Division (EGLE-AQD) staff Sebastian Kallumkal conducted a scheduled inspection at the Clinton River Water Resource Recovery Facility (WRRF) -Pontiac Wastewater Treatment Plant (B1950) located at 155 North Opdyke Road, Pontiac, Michigan. The purpose of the inspection was to evaluate facility's compliance with applicable requirements of the Federal Clean Air Act; Article II, Air Pollution Control, Part 55 of Act 451 of 1994, and the requirements of the Opt-out Permit to Install (PTI) No. 195-15B.

PTI 195-15B is an opt-out permit to limit facility's Oxides of Nitrogen (NOx) emissions to 89 tons per year (TPY). This PTI includes three new boilers (FGBOILER6). The facility has a few natural gas-fired reciprocating internal combustion engines (RICE) used as back up emergency power generators, couple of WAUKESHA RICEs providing auxiliary power to air blowers fueled by either digester gas (methane) or natural gas, boilers fueled by either natural gas or digester gas (process gas), and a flare to burn off excess digester gas.

EUBOILER1 and EUBOILER2 were decommissioned and dismantled in 12/6/2018 and EUBOILER3 was decommissioned and dismantled in 5/24/2019, as part of the "Biosolids Handling and Septage Receiving Facility Project". Installed three new boilers identified as FGBOILER6 (same heat input rate = 2.67 MMBTU/hr) fueled by digester gas and/or natural gas on Nov. 3, 2019. These boilers have a common meter to monitor natural gas usage and another meter to monitor the digester gas usage. These boilers are not currently running on digester gas because of some mechanical issues. The Waukesha engines (EUWAUKENG1 and EUWAUKENG2) hadn't run on digester gas since the beginning of 2020 because digester gas was not available and currently not being operated due to some mechanical issues.

I arrived at the facility at about 10:00 AM and met Mike Daniels, Chief, WRC Water Resource Recovery, Greg Knauf, Asst. Chief, and Kenneth Burch, Industrial Pretreatment Supervisor. I identified myself, provided credentials and stated the purpose of my inspection.

Ken provided me the 2021 and 2022 (till November) records for Engines & Boilers hours of operation (monthly & 12-month rolling), NOx emissions (monthly & 12-month rolling) for each process and facility-wide and fuel usage.

During the pre-inspection meeting we discussed the plant operations and changes at the plant. He told me that the "Biosolids Handling and Septage Receiving Facility Project" had been completed. The sludge from the treatment processes undergoes thermal hydrolysis (apply high temperature and pressure using steam) to destroy pathogens and digester process to convert sludge to Class A biosolids.

Three new boilers 2.67 MMBTU/hr each, natural gas and/or digester gas fueled) were installed. These boilers are used for generating steam for the thermal hydrolysis process and to heat the building. Currently these boilers are run only on natural gas. The digester gas is flared. Michael indicated that they may run on digester gas starting December 12, 2022. The Waukesha engines (one in Auburn Plant and other one in East Blvd Plant)

provides auxiliary power to air blowers could be run on natural gas or digester gas. The air blower compressors are mainly run by electric motors.

As part of the State Revolving Funds (SRF) project, they plan to install a co-gen plant which is going to provide the needed electricity and steam for the plant. The details of the design are not finalized yet but could have a general idea by May 2023. From our previous discussions, Michael is aware of the requirements of the permit to install, if necessary. He had communicated this to the consultant. He will keep AQD informed as the project progresses.

Clinton River WRRF-Pontiac Wastewater Treatment Plant is a non-industrial; publicly owned treatment works (POTW). It receives wastewater from Pontiac and Sylvan Lake communities. It has two plants: Auburn Plant located at 155 N. Opdyke Road and the East Blvd. Plant located at 274 Martin Luther King, Jr. Blvd. Part of the influent (2-9 MGD) goes to the East Blvd. Plant while the 15-17 MGD goes to the Auburn Plant. The facility also has a retention basin to absorb increase in sewage flow. The wastewater undergoes various treatment processes. The sludge from the wastewater treatment is converted to Class A biosolids in the digester process and is trucked out for farmland applications (3-4 times a year). Any runoff from the sludge area is collected in the WWTP's grit tank via storm drains.

This facility has an inoperable sewage sludge incinerator which has been decommissioned (disconnected gas supply line and incinerator feed line) since May 2015. He told me that the incinerator has not been removed from the facility yet because of the cost of dismantling and relocating.

After the pre-inspection meeting, Mike and Greg accompanied me for an inspection of the facility. We inspected facility's two cold cleaners (Part Washer); one located in the garage/maintenance room and other in the Biosolids Room. The covers of both parts washers were kept closed during the inspection and procedure pursuant to R611/R707 were posted. Mike provided me the SDS for the solvent which showed that the solvent is 100% petroleum distillate. I observed that the flare was operating with yellow flame. I did not observe any visible emission (smoke) from the flare. I did not inspect any emergency RICE during this visit.

During the post-inspection meeting, we further discussed the SRF project. He indicated currently the new NSPS Subpart JJJJ subject RICEs (EUENGINEGEN5 and EUENGINEGEN6) are not operating due to mechanical issues. They have contacted someone to fix those. After the co-gen project is completed, all the emergency engines at the Auburn Plant will be moved. If either EUENGINEGEN5 or EUENGINEGEN6 operates properly and meets the emission standards, that RICE would be installed at the East Blvd. Plant and the other one will be sold/dismantled.

The emergency generators at these plants are subject to RICE MACT for area sources (40 CFR 63, Subpart ZZZZ-National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines) and New Source Performance Standards (40 CFR 60, Subpart JJJJ-Standards of Performance for Stationary Spark Ignition Internal Combustion Engines).

EGLE/AQD does not have delegated authority to verify compliance with the area source RICE MACT requirements. Therefore, the facility should direct any questions or reports related to the area source RICE MACT to EPA Region 5 office in Chicago, Illinois. In its website, EGLE/AQD has provided information regarding area source RICE MACT. Please refer to this information to verify facility's RICE MACT applicability and compliance.

The information is located at:

https://www.michigan.gov/egle/0,9429,7-135-3310_70317-254013--,00.html

<http://www.michigan.gov/EGLE>, click on "AIR", click on "Compliance" on the left side of the page, click on "Engine Guidance" located under "Compliance Resources by Topic".

PTI No. 195-15B

FGENGINES

Any existing stationary emergency RICE located at an area source should comply with 40 CFR 63, Subpart ZZZZ and new or reconstructed stationary emergency RICE located at an area source should comply with 40 CFR 60, Subpart JJJJ.

The facility is keeping records of the hours of operation for each engine that is recorded through the non-resettable hour meter. The fuel usages for these engines are also maintained.

Compliance with Area Source RICE MACT (40 CFR 63, Subpart ZZZZ) was not verified as EGLE-AQD does not have delegated authority for this area source MACT.

The new emergency RICEs (EUENGINE5 and EUENGINE6) were tested on September 27, 2018, to verify comply with the NSPS (40 CFR 60, Subpart JJJJ) requirements. For continued compliance, I advised him to review information in 40 CFR, Subpart JJJJ. Subsequent compliance tests were scheduled but was cancelled because the RICEs were under repair. These RICEs are not currently operational. These engines are currently not operating due to mechanical issues; therefore, the performance testing for continuous compliance required pursuant to NSPS JJJJ has not been completed yet.

The facility previously submitted information to show that the two Waukesha engines, which runs the compressors for the aeration units at the East Blvd. plant and at the Auburn Plant, were not reconstructed or modified, as defined in 40 CFR 60, Subpart A.

In 2021, EUENG#1 operated 749 hours in November 2021 which is more than 720 hours that can be run in a month with 30 days). When mentioned this to him, Michael indicated that the hours may be taken for more than 30 days.

EUENG#1 was run following hours for each month:

10/21 – 240 hours

11/21 – 749 hours

12/21 – 355 hours

1/22 - 664 hrs

5/22 - 636 hrs

6/22 - 491.0 hrs

7/22 - 495.0 hrs

8/22 - 232.0 hrs

EUENG #2

10/22 - 120.3 hrs

Michael stated in email on December 15, 2022, that the EUENG #1 & 2 (in the 2021 and 2022 reports) are the Waukesha engines (one at East Blvd. and the other at Auburn). The one at

East Blvd. (EUWAUKENG2) has been running due to problems with the electric motor driven blowers, requiring additional maintenance. The one at Auburn (EUWAUKENG1) has run because it saves money when we can operate it off of Methane. These are not emergency engines. In the PTI No. 195-15B, these engines are designated as EUWAUKENG1 and EUWAUKENG2.

Michael further explained that the East Blvd Waukesha (EUWAUKENG2 – installed 1996) runs only on Natural Gas and operates only when needed such as having problems with the motor driven blowers. So, this was run 294.5 hours in 2022 Jan-Nov.

The Waukesha at Auburn (EUWAUKENG1 – installed 1996) runs on both Natural Gas and Biogas.

NESHAP ZZZZ (40 CFR 63.6590)(a)(1)(iii) defines these engines as existing stationary RICE because these were installed prior to June 12, 2006. These RICEs are about 125 HP (1.824 MMBtu/hr) each.

40 CFR 6603(a) states that an existing stationary RICE located at an area source of HAP emissions must comply with the applicable requirements in Table 2d and the operating limitations in Table 2b of NESHAP ZZZZ.

40 CFR 63, Subpart ZZZZ, Table 2d

For each . . .	Permittee must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ¹	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

For each . . .	Permittee must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ¹	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

FGFACILITY

This flexible group includes 5 boilers (EUBOILER 4-8), FGENGINES (EUENGINE1-9, EUWAUKENG1, EUWAUKENG2) and the flare. Gas-fired boilers which burn gaseous fuel not combined with any solid fuels and only burn liquid fuel during periods of gas curtailment, gas supply interruption and periodic testing up to 48 hours per year, are not covered under 40 CFR 63, Subpart JJJJJJ (6J)- Area Source Boiler NESHAP. So, these boilers are not subject to 40 CFR 63, Subpart JJJJJJ requirements. They also installed three new boilers identified as FGBOILER6 (heat input = 2.67 MMBtu/hr each) in November 2019. These new gas-fired boilers are also not subject to area MACT Subpart JJJJJJ requirements.

The NOx emissions from FGFACILITY are limited to 89 tons per year based on a 12-month rolling time period as determined at the end of each calendar month. The facility submitted records of hours operated, natural gas usage, and NOx emission calculations. The facility-wide total NOx emissions for January to December 2021 were 15.07 Tons and Jan-November 2022 were 16.09 tons. As of August 2022, NOx emissions were 19.83 Tons.

Conclusion:

Clinton River WRRF-Pontiac WWTP appears to in compliance with all applicable air quality regulations and the requirements of the PTI 95-15B. The facility needs to verify compliance with the requirements of 40 CFR 63, Subpart ZZZZ for the RICEs.

NAME Sebastianykallemkal

DATE 01/24/2023

SUPERVISOR Joyce