

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

B195029520

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| FACILITY: PONTIAC WASTEWATER TREATMENT PLANT | | SRN / ID: B1950 |
| LOCATION: 155 N OPDYKE ROAD, PONTIAC | | DISTRICT: Southeast Michigan |
| CITY: PONTIAC | | COUNTY: OAKLAND |
| CONTACT: Mike Daniels , Operations Manager | | ACTIVITY DATE: 05/15/2015 |
| STAFF: Sebastian Kallumkal | COMPLIANCE STATUS: Compliance | SOURCE CLASS: SM OPT OUT |
| SUBJECT: Onsite Inspection | | |
| RESOLVED COMPLAINTS: | | |

On Friday, May 15, 2015, I conducted an annual targeted inspection at the Pontiac Waste Treatment Plant located at 155 North Opdyke Road, Pontiac, Michigan. The purpose of the inspection was to verify facility's compliance with requirements of Article II, Air Pollution Control, Part 55 of Act 451 of 1994, and the requirements of the Opt-out Permit To Install (PTI) No. 294-04.

This facility has a sewage sludge incinerator which has not been in operation for many years. Recently USEPA finalized 40 CFR 60, Subpart M—Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units. In light of the new regulations MDEQ-AQD requested the facility via a letter on February 10, 2015 for its plan to comply with the emission guidelines. AQD received facility's response on March 16, 2015, that it intends to make the incinerator inoperable by disconnecting the fuel line and feed line by May 1, 2015. On May 4, 2015, facility informed AQD that the incinerator has been decommissioned and included pictures of the disconnected gas supply line and incinerator feed line.

I arrived at the facility at about 11:00 AM. At the facility I met Ms. Jeanette Best, Project Manager Pontiac, Mr. Gary Brewer, Maintenance Supervisor, and Mr. Mike Daniels, Operations Manager. They are employed by United Water which is a contractor that operates waste water treatment operations at this facility. Oakland County Water Resources Commission owns this treatment plant. During the pre-inspection meeting we discussed the plant operations, decommissioning of the incinerator, changes at the plant, etc. The waste water treatment plant is undergoing various renovations and modifications.

We also discussed the facility's usage of methane gas produced from the anaerobic sludge digester. The methane is used as supplemental fuel for two (2) boilers which heat the sludge and for direct drive Waukesha engine which runs air compressor for the aeration units. Waste heat from the engine is used for building heating via heat exchanger. The facility currently does not know how much fuel is generated and used. They told me that by the end of September 2015, they will install separate fuel meters for the boilers and the engine. The facility has many emergency generators. I advised them about the requirements of RICE MACT for area sources (40 CFR 63, Subpart ZZZZ) and New Source Performance Standards (40 CFR 60, Subpart JJJJ) for new engines.

Pontiac Wastewater Treatment Plant is a non-industrial; publicly owned treatment works (POTW). It receives waste water 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.

At the Auburn plant, the influent undergoes various treatment processes. Initially the incoming water to both plants separately undergoes mechanical separations. Large solid particles and more coarse particles are separated using grit chambers and aeration. The effluent then undergo primary treatment in the primary settling tanks (using anionic polymer during regular season and cationic polymer in the high flow season) in the Auburn Plant and using waste pickling solution (Ferric Chloride) in East Blvd. Plant) to reduce suspended organic solids. The effluent then undergoes primary clarification.

The effluents from these clarification tanks go to aeration tanks to contact with biologically active sludge

under air agitation (secondary treatment) followed by final clarification. The discharge from the East Blvd. Plant joins the discharge from the Auburn Plant after the final clarification. Then sodium hypochlorite is added to chlorinate the discharge followed by tertiary treatment using activated charcoal filtration. The effluent is then de-chlorinated using sodium bisulphate. The final effluent is discharged into the Clinton River.

The waste collected from the mechanical separation and the grit chamber is land applied. The primary sludge from each primary clarifier is sent to anaerobic digesters to reduce volume by decomposition. The facility utilizes methane created during the decomposition process to run boilers to warm the sludge and to run an engine for the air compressor. The secondary sludge from the final clarifier is returned to the aerators. The sludge from the anaerobic digesters is dewatered using filter press.

The dewatered sludge from the belt press is conveyed to dump truck which transfers the sludge to the above ground drying area. From there the sludge (Class B Biosolids) is trucked out and farmland applied 3-4 times a year. Any run off from the sludge area is collected in the WWTP's grit tank via storm drains.

Next Mr. Daniels and Mr. Brewer accompanied me for an inspection of the facility. Initially we inspected the incinerator. I observed that the fuel line and the two sludge feed lines are cut off and welded. I advised them that the PTI can be voided and they don't need to submit the annual emissions report to AQD.

The facility has one cold cleaner part washer. I provided them a copy of the operating procedures developed by MDEQ and required pursuant to Michigan Administrative Rule R336.1707(4).

Next we inspected the two small boilers which provide heat to the sludge and the Waukesha engine that runs the air compressor. These units are fueled mainly by methane from the digester and supplemented by natural gas. We also inspected few of the emergency generators. Two of the emergency generators were manufactured on 2/20/2012. I informed them that these generators would be subject to NSPS 40 CFR 60, Subpart JJJJ and they need to verify compliance with the requirements.

They agreed to provide a list of the emergency generators onsite. I advised them about the applicability of the area source RICE MACT {40 CFR 63, Subpart ZZZZ-National Emission Standards for Hazardous Air Pollutant [NESHAP] for Reciprocating Internal Combustion Engines [RICE]}. The facility shall verify compliance with this area source RICE MACT (40 CFR Part 63) and/or New Source Performance Standards (NSPS) for RICE (40 CFR 60, Subpart JJJJ). Please see discussion below for details.

MDEQ/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 MDEQ/AQD has provided guidelines regarding the applicability of area source RICE MACT to various facilities. Please refer to these guidelines to verify facility's RICE MACT applicability.

<http://www.michigan.gov/deq>, click on "Clean Air Assistance", click on "Reciprocating Internal Combustion Engines (RICE)" under "Federal Regulations" tab.

Discussion:

The methane fueled boilers could be exempt from permit to install requirements pursuant to Michigan Administrative Rule R336.1282(b) if the sulfur content of the fuel is less than 0.4% by weight and is rated at heat input capacity of less than 20,000,000 BTU/hr.

The methane fueled Waukesha engine could be exempt from permit to install requirements pursuant to Michigan Administrative Rule R336.1285(g) if the input heat capacity of 10 MMBTU/hr.

A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year.

An area source of HAP emissions is a source that is not a major source.

Stationary RICE (Reciprocating Internal Combustion Engine) located at an area source of HAP emissions is "new" if the construction of the stationary RICE is commenced on or after June 12, 2006.

Stationary RICE located at an area source of HAP emissions is "existing" if the construction of the stationary RICE is commenced construction or reconstruction of the stationary RICE before June 12, 2006.

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.

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 JJJJJ (6J)- Area Source Boiler NESHAP.

Facility must keep records of the hours of operation for each engine that is recorded through the non-resettable hour meter. The facility must document how many hours are spent for emergency operation including what classified the operation as emergency and how many hours are spent for non-emergency operation. Facility must install a non-resettable hour meter for each emergency generator and WAUKESHA engine if one is not already installed.

On July 2, 2015, I met with Mr. Kurian Joychan, Operations Supervisor and Mr. Gary Brewer, Maintenance Supervisor regarding the emergency generators at the facility. Mr. Brewer provided me a list of all emergency generators at the East Boulevard plant and at the Auburn Plant. The list did not include the two engines (one at each plant) which burn digester gas and supplemental natural gas. Mr. Brewer agreed to update the list and send another copy. I explained to them that with the two new natural gas fired emergency generators (each 600 KW/10.7 MMBTU/hr) the potential to emit for NOx may exceed the major source threshold of 100 TPY based on 500 hours of operation per year for emergency engine and potential 8760 hours of operation for the digester gas engines. I suggested that they apply for an opt-out permit to limit the NOx emissions. They agreed to apply for the permit.

Based on the information provided the total fuel consumption (heat input) for all emergency engines is 18435 MMBTU/yr (based on 500 hours) and for the two WAUKESHA engines (1.68 MMBTU heat input per engine, information provided on July 24-Gary Brewer) the fuel consumption is 29,434 MMBTU/yr for both engines based on 8760 hours. Using the emission factor for NOx is 4.08 E+00 lb/MMBTU (AP 42; Chapter 3.2.1, Table 3.2-2), the potential to emit for NOx is 96.57 Tons per year. On July 24, 2015, I sent an email to Navid H. Mehram, P.E., Operations Engineer, Water Resources Commissioner's Office, regarding submitting permit application for the engines.

I also requested them to provide the EPA Tier 2 Exhaust Emission Compliance Statement and the Exhaust Emission Date Sheet from the manufacturer and Certifications (Certificates of Conformity) from EPA for these new two emergency engines. They agreed to send these certifications to AQD.

I mentioned to them that AQD recently received a few sewage odor complaints from the neighbors. They explained that the sludge was used to digest in the primary digester before being filter pressed and incinerated. In this process most of the organic compounds in the sludge which causes foul odor is removed by microbes. Currently the digester is being renovated, so raw sludge is being filter pressed and processed. They told me that the primary digester renovation would be done in a month.

Conclusion: PTI No. 294-04 was issued for the operation of the incinerator. The facility has not operated the incinerator since June 2011 and is currently inoperable. Based on the information gathered this PTI was voided on June 16, 2015.

Facility needs to verify it compliance with federal standards (40 CFR 63, Subpart ZZZZ, 40 CFR 60, Subpart JJJJ) for the emergency generators and the Waukesha engines and apply for an opt out permit to limit facility's potential to emit for NOx. Facility needs send to AQD the EPA Tier 2 Exhaust Emission Compliance Statement, Exhaust Emission Date Sheet from the manufacturer and Certificates of Conformity from EPA for these new two emergency engines.

NAME S. KallumkalDATE 7/24/15SUPERVISOR CJE