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

P14/5/4561		
FACILITY: Granger Electric of Grand Blanc, LLC		SRN / ID: P1475
LOCATION: 2361 West Grand Blanc Road, GRAND BLANC		DISTRICT: Lansing
CITY: GRAND BLANC		COUNTY: GENESEE
CONTACT:		ACTIVITY DATE: 10/29/2024
STAFF: Michelle Rogers	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS:
SUBJECT: On-Site Inspection at EDL's Granger Electric of Grand Blanc, LLC. Stack test was supposed to occur on this day but was		
delayed due to issues with the engines.		
RESOLVED COMPLAINTS:		

Staff Activity Report

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On October 29, 2024, Michelle Rogers of the Air Quality Division (AQD) conducted an inspection of Energy Developments Grand Blanc, LLC (SRN P1475) (EDL), located at 2361 West Grand Blanc Road, Grand Blanc, Michigan. The purpose of the inspection was to determine compliance with Section 2 of the ROP, MI-ROP-N5991-2016.

Facility Description:

This site receives landfill gas from Citizens' Disposal Landfill. They treat the gas and burn it in 7 engines to produce power for the grid. The facility was recently issued its own SRN (P1475), but it is considered a single stationary source together with Citizens' Disposal Landfill (N5991).

Regulatory Overview:

Federal Engine Regulations:

- EUENGINECITB(16), EUENGINE6, and EUENGINE7 are subject to the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines(40 CFR 63 Subpart ZZZZ, "RICE MACT").
- EUENGINE6 and EUENGINE7 are subject to Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (40 CFR 60 Subpart JJJJ)

Inspection:

I arrived and signed into the front gate at 9:11am. I then drove through to EDL's Plant 1 building and signed in at 9:20am. Met with Rob Steward, Regional Manager. EDL's site consists of Plant 1 which houses the gas treatment system (EUTREATMENTSYS) and 5 older CAT3516 engines (EUENGINE1, 2, 3, & 4, and EUENGINECITB(16)); and Plant 2 which houses 2 larger, newer engines (EUENGINE6 and EUENGINE7).

There was a scheduled test on this date for EUENGINE6 and EUENGINE7. I walked to the testing trailer to check on the status of the test. On the way to the trailer, I took note of a slightly sulfurous smell in the air, that was not constant, but came in whiffs. The testing trailer was parked on the north side of the Plant 2 building near the engine stacks and the radiator exhaust, and there was a slightly detectable hot exhaust odor. None of the odors I noticed while on site were particularly strong or distinct.

I met with Max and Andrew from the testing company, Impact Compliance and Testing (Impact C & T). They were ready to test, but the plant had noticed an issue with the engines and had shut down EUENGINE6 & 7 overnight. They were doing preventative maintenance on EUENGINE6 while I was there. EUENGINE7 was back up and running by approximately 10am, and the testers were recalibrating to get ready to test for NOx, VOC, and CO. They ended up postponing the testing for both engines until a later date.

We walked back to Plant 1 and Darrel gave me a safety overview. The site keeps their SDS in a binder just inside the door in Plant 1.

Rob Steward showed me the treatment system, which consists of 2 large knockout drums designed to allow any garbage debris to fall out of the gas stream. There is a particulate filter, and then the landfill gas goes through compressors, and then chillers to remove moisture.

EUENGINE1, 2, 3, & 4, and EUENGINECITB(16) are housed in Plant 1. These engines are smaller and older (installation between 1994-2010), and don't have as many permit requirements or federal requirements. These engines don't have the ability to automatically record operating conditions in the same manner as EUENGINE6 & 7, although there are some displayed variables on each engine such as the temperature of each piston. The inlet gas stream variables including pressure, flowrate, methane and O2 content, etc are monitored and constantly displayed. There are 2 displays for this information: one in each plant.

EUENGINE6 & 7 are housed in Plant 2. These engines are newer (2012) and larger than the Plant 1 engines. The facility monitors many variables for EUENGINE6 & 7 automatically and continuously, including all the variables they are required to monitor for testing: generator output (kW), Engine fuel use (scfm or lb/hr), CH4 content (%), air to fuel ratio, and inlet pressure (psi).

EUENGINE6 nameplate data:

- Manufacturer: Caterpillar Inc.
- Model #: G3520C
- PIN: *CATG3520HGZJ00551*

EUENGINE7 nameplate data:

- Manufacturer: Caterpillar Inc.
- Model #: BLANK ON NAMEPLATE I asked about this in the records request and they stated that it is the same model as EUENGINE6.
- PIN: *CAT00000PGZJ00197*

There is also a small flare on EDL's site ("Solar Flare"). This flare is located on the northeast corner of the Plant 2 building. The flare is about 15 ft tall. Rob Steward noted that it has a maximum flowrate of less than 200 cfm. The company's Response to VN on 1/29/2024 notes that the max capacity is 140 cfm. It has a solar panel that charges a battery, which powers the ignitor. This flare is only used if the plant has to shut down and there is off spec gas in the plant's pipes that needs to be destroyed. The plant has asserted that the flare is exempt per Rule 336.1285(2) (aa) (Landfills and associated flares and leachate collection and handling equipment.) EDL submitted a Rule 278 demonstration in their Response to VN on 1/29/2024 showing that potential emissions from the solar flare are less than significant.

I also met with Tony SaintMarie. We discussed how the facility operates – they generally keep the gas treatment system and engines running 24/7 but there are several reasons that they have to shut down periodically:

- If heavy equipment at the landfill runs over, cuts through, or otherwise damages the pipelines of the gas collection system, this introduces ambient air and garbage debris into the system. The ambient air causes out of spec gas, and then EDL's entire facility must shut down.
- Likewise, if the landfill gas if off-spec for any reason, EDL's entire facility must shut down.
- Individual engines may need to be shut down for preventative maintenance (PM).
- An individual engine or engines may need to be shut down if electric demand is unusually low (such as when the Flint GM assembly plant is shut down over Christmas), or if there is an issue with line voltage (such as an accident involving a power line causing a power outage).

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Records Review:

I emailed Meghan Stackhouse, EDL's Regulatory Compliance and Sustainability Director requesting records to be sent after the onsite inspection. The company provided the following records that I requested:

EUTREATMENTSYS and all engines: records of all preventative maintenance performed in accordance with the PM/MAP. Records showed regular maintenance on all engines including weekly inspections, 200 and 1000 hour service, visual inspections, and parts replacement that occurred over the last year.

replacement engine was installed: replacement engine was installed:

- ENENGINE1 3/2/2054
- ENENGINES 10/18/2022
- EDENGINEt 0/58/5018
 EDENGINE3 5010
- FGENGINES (EUENGINE6 & EUENGINE7): SC II.1 kilowatt-hour output for each engine, on a 12month rolling time period basis. I asked them to include at least 24 months of records, which they supplied (October 2022 through September 2024, with complete 12-month rolling time periods ending 9/2023 through 9/2024). The annual kW output was very consistent for both engines, between 12.4-12.7 million kW over all of the 12-month rolling time periods. The permit limit is 14 million kW for each engine per 12-month rolling time periods.

EUENGINE7 only: I asked about the nameplate missing a model number. The company confirmed that EUENGINE7 is the same model as EUENGINE6? (G3520C).

FGRICEMACT (EUENGINECITB(16), EUENGINE6 & EUENGINE7): SC IV.1: records of daily fuel usage and volumetric flow rate of fuel (at least 6 months): EDL noted that EUENGINECITB(16) was removed March 30, 2017. EDL supplied records showing daily average kwh for EUENGINE6 & EUENGINE7, and daily average scfm, daily total MMBtu, and daily total mscf for both engines together, from 5/1/2024 through 11/1/2024.

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All of the equipment appeared to be in good condition and the site had no visible emissions or odors. However, the site has ongoing compliance issues with the SOx limit (SC I.2 under address this issue. (Citizens Disposal SRN N5991: APP-2023-0063 for installation of 2 utility flares, and Granger Electric Grand Blanc, LLC SRN P1475: APP-2023-0012 for installation of a flares, and Granger Electric Grand Blanc, LLC SRN P1475: APP-2023-0012 for installation of a flares, and Granger Electric Grand Blanc, LLC SRN P1475: APP-2023-0012 for installation of a flares, and Granger Electric Grand Blanc, LLC SRN P1475: APP-2023-0012 for installation of a large subjective determined application of a subjective determined approximation of a subjective determined approximation of the statement system)

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DATE 11/21/2024