

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

B283874845

FACILITY: Vicinity Energy Grand Rapids, LLC		SRN / ID: B2838
LOCATION: 156 W Fulton Ave, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Leon Wardell , Plant Manager		ACTIVITY DATE: 11/12/2024
STAFF: Laura Martin	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled, Unannounced on-site inspection		
RESOLVED COMPLAINTS:		

On Tuesday, November 12, 2024, Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) staff Laura Martin (LM) conducted an unannounced, scheduled inspection of Vicinity Energy Grand Rapids, LLC located at 156 W. Fulton Ave, Grand Rapids, Michigan. The purpose of the inspection was to determine compliance with Renewable Operating Permit MI-ROP-B2838-2020 and other applicable air quality rules and regulations.

LM arrived at the facility shortly after at 10:00 am and met with Leon Wardell (LW), Plant Manager. Prior to entrance into the facility, LM observed the perimeter for excess odors and emissions. None were noted.

Facility Description

Vicinity Energy Grand Rapids, LLC (Vicinity) is a district heating and cooling facility that provides steam to meet the heating and cooling demands of a defined portion of downtown Grand Rapids, Michigan. The service area is expanding, but includes GVSU's downtown campus, MSU's Campus, and St. Mary's Hospital. Vicinity has four (4) boilers that burn natural gas to produce the steam. Veolia took stringent fuel oil permit restrictions on the boilers, therefore defining them as natural gas only boilers and are not subject to the area source National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers, 40 CFR Part 63 Subpart JJJJJ.

Regulatory Analysis

Vicinity is a major source, subject to the Title V program, and currently holds MI-ROP-B2838-2020. Vicinity is a major source of carbon monoxide (CO) and nitrogen oxides (NOx). Vicinity is not currently subject to the Prevention of Significant Deterioration (PSD) regulations of Part 18 since the process equipment was constructed prior to June 19, 1978. However, if there are modifications of the process equipment, the source may be subject to the PSD requirements.

Vicinity also previously held Permit to Install (PTI) No. 189-20 for a temporary boiler due to outages in their boilers requiring extensive maintenance, and the pending winter months of 2021 which required steam generation to areas of Downtown Grand Rapids, including hospitals. This PTI has since been voided following the completion of repairs in 2021.

Compliance Evaluation

FG-UNITS-01-04

This flexible group is comprised of four (4) natural gas/fuel oil-fired boilers. Units 1, 2, and 3, are 120 mmBTU/hr boilers capable of producing 100,000 pounds of steam per hour. Unit 4 is a 180 mmBTU/hr boiler capable of producing 150,000 pounds of steam per hour. All units were operating on a basis of maintenance tune-ups during the inspection.

According to LW, and the associated records, no fuel oil has been used in the boilers in the past year. LW stated that since the fuel oil tank had been removed from the facility, most of the components necessary to burn fuel oil had also been removed from the boilers making it impossible, even as an option, to burn fuel oil. Since no fuel oil has been used, no sulfur content records, or associated fuel oil records will be evaluated.

Prior to going to the boilers, the process water used gets treated to remove any impurities. The treatment process includes going through a reverse osmosis (RO) system, and pH adjustment. The treatment of the process water is exempt from Rule 201 permitting under Rule 285(2)(m).

Vicinity properly tracks the monthly and 12-month rolling natural gas usage for each boiler, and records indicate that the 12-month rolling usage for all boilers combined was 739,427,000 ft³, as of October 2024. Vicinity also tracks the corresponding natural gas BTU content from each bill received from the supplier. In conjunction with tracking the natural gas usage, Vicinity tracks emissions data for natural gas, steam production, and the daily heat input. All records are kept on a daily basis. The emissions reported are consistent with what has been reported for the 2023 Emission Inventory reporting cycle. This data will be evaluated against the 2024 Emission Inventory data, once submitted.

The boilers are tuned annually to achieve maximum operating capacity and efficiency. Tune-ups for all four (4) boilers were being performed on the day of the inspection.

EU-UNIT-05

This emission unit is an EPA Certified Kohler Power Systems natural gas fired emergency generator that is used in the event of a power failure. This unit was not in operation at the time of the inspection.

The 184-kW emergency generator is exempt from Rule 201 permitting under Rule 285 (2)(g). This unit is, however, subject to the provision of 40 CFR Part 60 Subpart JJJJ, the Standards of Performance for Reciprocating Internal Combustion Engines (RICE). Additionally, this engine is subject to the NESHAP for reciprocating internal combustion engines 40 CFR Part 63 Subpart ZZZZ. Compliance with the provisions of Subpart JJJJ demonstrates compliance with the provisions of Subpart ZZZZ.

The EPA Certificate of Conformity for the engine ensures compliance with the emission limits of 2 g/hp-hr for NO_x, 4 g/hp-hr for CO, and 1 g/hp-hr for VOC (excluding HCHO). A non-resettable hour meter is installed in the unit, and per the records, the unit runs very minimally having only ran for 14.5 hours in 2023 and 10.5 hours so far in 2024, which is compliant with the operational restriction of no more than 100 hours per calendar year, 50 of which for non-emergency purposes.

Stack dimensions, while not explicitly measured, appeared to be consistent with the permit and no changes have been made since the previous inspection.

EU-PARTSCLEANER

This emission unit has been incorporated into the ROP to allow for flexibility if the facility were to choose to install one of these units. However, presently there are not any emission units at the facility subject to these provisions.

Compliance Determination

Based on the observations made during the inspection and a subsequent review of the records, it appears Vicinity Energy Grand Rapids, LLC is in compliance with MI-ROP-B2838-2020 and other applicable air quality regulations.

NAME Laura Martin

DATE 12/5/2024

SUPERVISOR HH