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

P121771634						
FACILITY: Avancez Highland Park	SRN / ID: P1217					
LOCATION: 1430 E 10 Mile Road, HAZ	DISTRICT: Warren					
CITY: HAZEL PARK	COUNTY: OAKLAND					
CONTACT: Tyler Bankey , EHS REP	ACTIVITY DATE: 04/18/2024					
STAFF: Shamim Ahammod	SOURCE CLASS: SM OPT OUT					
SUBJECT: Conduct a scheduled inspection of Avancez Highland Park (SRN: P1217)						
RESOLVED COMPLAINTS:						

On April 18, 2024, Michigan Department of Environment, Great Lakes and Energy (EGLE), Air Quality Division (AQD) staff, I (Shamim Ahammod) conducted a scheduled inspection of Avancez Highland Park (SRN: P1217) located at 1430 East 10 Mile Road, Hazel Park, Michigan 48030. The purpose of the inspection was to determine the company's compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the Air Pollution Control Rules; and the conditions of the Permit to Install (PTI) No. 67-21.

SOURCE DESCRIPTION

Avancez Highland Park conducts sub-assembly of customer parts and then ships them to their assembly plant. The Hazel Park facility is located in Oakland County, which is currently designated by the US EPA as attainment for all criteria pollutants. Avancez has recently installed a Kohler 2000REOZMD, a 2923 hp (2180 kW) diesel-fueled emergency engine at the facility. The company plans to run the engine weekly for fifteen minutes during essential maintenance checks and readiness testing, as well as during any utility outages as required.

RULES AND REGULATIONS

Applicable State Rules

Rule 205 – Enforceable Emission Limits

In compliance with Rule 205, Avancez is classified as a synthetic minor source due to its NOx emissions exceeding the major threshold of 100 tons per year (tpy) when operating for a total of 8,760 hours annually. The limitation on the engine's operation to 500 hours per year is established based on the Environmental Protection Agency (EPA) guidance memo concerning emergency engines.

Rule 702 – New sources of VOCs

VOC emissions shall not exceed the lowest maximum allowable emission rate specified by the following:

- (a) BACT, or a rate specified by the department
- (b) specified by an NSPS
- (c) specified as a condition in a permit
- (d) specified in part 6 rules

VOC emissions based on 500 hours of operation are 0.52 tpy. It would be economically infeasible to add control to the engine, so VOC BACT for the engine would be no control.

Rule 224 – T-BACT

EUENGINE1 is an emergency engine limited to 500 hours of operation per year, and the VOC TACs (Toxic Air Contaminants) meet Rule 702(a) and are exempt from Rule 224. The non-VOC emissions are less than 1 tpy.

Applicable Federal Regulations

40 CFR 52.21 (c) & (d) – NAAQS and PSD Increment

• Oakland County is in non-attainment for ozone, but the facility is not a major source under NNSR.

40 CFR 60 Subpart IIII - NSPS for Stationary Compression Ignition Internal Combustion Engines

• EUENGINE1 is a stationary compression ignition internal combustion engine (CLICE) and was manufactured after April 1, 2006, so it is subject to NSPS Subpart IIII.

40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines

• Per 40 CFR 63.6590(c)(1), the facility (New stationary RICE located at an area source) must meet the requirements of this subpart ZZZZ by meeting the requirements of 40 CFR part 60 Subpart IIII. No further requirements apply for Stationary RICE HAPs area sources under subpart ZZZZ.

ONSITE INSPECTION

On April 17, 2023, at 2:30 PM, I arrived at the facility and was greeted by Tylor Bankey. I presented my photo credentials to him and explained the purpose of the inspection. In a short meeting with Tylor Bankey prior to the tour of the facility, I discussed the PTI (permit to Install) requirements and outlined what I intended to observe during the field visit. I requested the necessary records for review.

REGULATORY ANALYSIS

EUENGINE1

EMISSION UNIT SPECIAL CONDITIONS

The facility operates a 2923 HP (2180 kW) diesel-fueled emergency engine to provide electrical power to the station and support equipment in the event power outage. The emergency engine is subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and IIII. EUNEMGEN construction started on June 29, 2021, and operation started on October 18, 2021.

Emission Limit (EUENGINE1)

The engine is certified. The permittee provided an EPA certification that includes: Certificate number: MMVXL65.4BBA-018 Effective date: 07/13/2020, expire Date: 12/31/2021. Model Year: 2021 Manufacturer Type: Original engine Manufacturer Emission Power Category: 560<kW<=2237 Fuel Type: Diesel

Emission limit

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method
1. NMHC + NOx	6.4 g/kW- hr	Hourly ^A	EUENGINE1	SC V.1 SC VI.2
2. CO	3.5 g/kW- hr	Hourly ^A	EUENGINE1	SC V.1 SC VI.2
3. PM	0.20 g/kW-hr	Hourly ^A	EUENGINE1	SC V.1 SC VI.2

During my last inspection on February 16, 2023, the permittee provided EPA certification (MMVXL65.4BBA-018) that includes the exhaust emission data for HC, NOx, CO, and PM. Compliance is evaluated in SC VI.2.a.

Testing/Sampling in SC V.1 isn't applicable because the engine is certified. Compliance is evaluated in SC VI.2.a.

Monitoring/recordkeeping

SC VI.2, For a certified engine: The permittee shall keep records of the manufacturer certification documentation.

AQD received a notification on February 16, 2023, that the permittee purchased a certified engine and will operate it certified manner.

SC VI.3, For a certified engine: The permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.4. The permittee keeps records of the manufacturer's emission-related written instructions and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.4.

Material Limits

Per SC II.1, the permittee shall burn only diesel fuel in EUENGINE1 with a maximum sulfur content of 15 ppm (0.0015 percent) by weight and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent.

Per SC VI.5, The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in EUENGINE1, demonstrating that the fuel meets the requirement of 40 CFR 1090.305. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and the cetane index or aromatic content of the fuel oil. According to Samuel Steerman's fuel supplier record, the permittee only burns diesel fuel in EUENGINE1 with a maximum sulfur content of 15 ppm. During the inspection on February 16, 2023, the permittee failed to provide documentation regarding the minimum cetane index or maximum aromatic content of the diesel fuel. Consequently, a violation notice (VN) was issued to the facility for violating SC II.1 and VI.5 of PTI No. 67-21. In

response to this violation, the facility had the cetane number of the diesel fuel oil used in EUENGINE1 tested by a third party, Diesel Fuel Doctor, on April 4, 2023. The AQD received the test results report on April 18, 2023, which indicated that the cetane index of the diesel fuel was measured at 47.30. The cetane index test report is included as an attachment to this inspection report. Therefore, the VN for violating SC II.1 and VI.5 of PTI No. 67-21 has been resolved.

Process/Operational restrictions

Per SC III.1, The permittee shall not operate EUENGINE1 for more than 500 hours per year based on a 12-month rolling time as determined at the end of each calendar month. The 500 hours include the hours for necessary maintenance checks and readiness testing as described in SC VI.4.

Per SC VI.4, Tyler Bankey provided me with a record of the 12-month rolling hours of operation. The record indicates that the highest operation time of the emergency generator was 26.5 hours for the 12-month rolling period ending in September, October, and November 2022.

The monthly and 12-month rolling records of operations for the engine are as follows:

	Meter Reading hrs	Monthly hours total (calculated)	12- month rolling	Monthly hours emergency	Monthly hours non- emergency	Total calendar year hours
Aug 2021	8	8	8	6	2	
Sept 2021	9.3	1.3	9.3	0	1.3	
Oct 2021	10.6	1.3	10.6	0	1.3	
Nov 2021	11.9	1.3	11.9	0	1.3	
Dec 2021	13.2	1.3	13.2	0	1.3	
Jan 2022	14.5	1.3	14.5	0	1.3	
Feb 2022	15.8	1.3	15.8	0	1.3	
Mar 2022	17.1	1.3	17.1	0	1.3	
Apr. 2022	18.4	1.3	18.4	0	1.3	
May 2022	23.7	5.3	23.7	4	1.3	

Jun 2022	25	1.3	25	0	1.3	
July 2022	26.3	1.3	26.3	0	1.3	
Aug 2022	27.6	1.3	19.6	0	1.3	
Sep 2022	34.1	6.5	24.8	5.2	1.3	
Oct 2022	35.4	1.3	24.8	0	1.3	
Nov 2022	36.7	1.3	24.8	0	1.3	
Dec 2022	38	1.3	24.8	0	1.3	Non- emergency hours for 2022 = 15.6 hours
Jan 2023	39.3	1.3	24.8	0	1.3	
Feb 2023	40.6	1.3	24.8	0	1.3	
Mar 2023	42	1.4	24.9	0	1.4	
Apr. 2023	44.1	2.1	25.7	1.7	0.4	
May 2023	45.6	1.3	21.7	0	1.5	
Jun 2023	46.1	0.5	20.9	0	0.5	
July 2023	46.7	0.6	20.2	0	0.6	
Aug 2023	49.1	2.4	21.3	0	2.4	
Sep 2023	51.3	2.2	17	0	2.2	
Oct 2023	52.6	0.7	16.4	0	1.3	
Nov 2023	54.1	1.5	16.6	0	1.5	
Dec 2023	55.5	1.4	16.7	0	1.4	Non- emergency hours for

						2023 = 15.8 hours
Jan. 2024	56.5	1	16.4	0	1	
Feb. 2024	58.4	1.9	17	0.6	1.3	
March 2024	60.2	1.9	17.5	0	1.9	

Process/Operational restrictions

Per SC III.2, The permittee may operate EUENGINE1 for no more than 100 hours per

calendar year for necessary maintenance checks and readiness testing.

Per SC III.3, The permittee may operate EUENGINE1 up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing as provided in 40 CFR 60.4211(f)(2). Based on records from January through December 2022, the operational hour for non-emergency use of EUENGINE1was 15.6 hours, which was below the limit of 100 hours per calendar year. Based on records from January through December 2023, the operational hours for non-emergency use of emergency generators was 15.8 hours in 2023, which was below the limit of 100 hours per calendar year.

Per SC III.4, If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60, Subpart IIII, for the same model year, the permittee shall meet the following requirements for EUENGINE1:

a. Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions,

b. Change only those emission-related settings that are permitted by the manufacturer, and

c. Meet the requirements as specified in 40 CFR 89, 94 and/or 1068, as they apply to the engine.

If the permittee does not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine.

 AQD received a notification on February 16, 2023, that the permittee purchased a certified engine and operated it certified manner. The permittee provided the engine's EPA certification (Certificate Number: MMVXL65.4BBA). Per SC III.4.a, the "Unified Power" company inspected the engine on September 14, 2023. The inspection report is attached to this report. I reviewed the engine inspection report. Based on the inspection report, the facility needs to replace one of the two block heaters immediately. Besides that, there were no more issues reported in the inspection report.

Per SC III.5 applies to non-certified engines or certified engines operating in a non-certified manner.

This condition is not applicable. The permittee purchased a certified engine and operates it in a certified manner.

Design/Equipment Parameters

Per EUNEMGEN, SC IV.1: The permittee is required to install and maintain a non-resettable hour's meter on EUNEMGEN1 to monitor its operating hours. During the inspection, the non-resettable hour's meter showed a reading of 60.2 hours.

Per SC IV.2, the nameplate capacity of EUNEMGEN1 should not exceed 2180 ekW for the engine, as certified by the equipment manufacturer. During the inspection, I observed that the generator's nameplate details included: Model: 2000REOZMD, fuel type: Diesel, RPM: 1800, MGF date: 05/18/2021, and Engine power: 2000 KW.

Reporting

Per SC VII.1, Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than the commencement of the trial operation of EUENGINE1.

- The emergency engine (EUENGINE1) was installed on June 29, 2021, and commenced operation on October 18, 2021. The AQD district supervisor was informed about the commencement of operation on February 16, 2023. AQD issued a violation notice to the facility for violating SC VII.1 (reporting) of PTI No. 67-21 due to the delay in submitting the commencement notice to the AQD.
- The facility responded to the violation notice on May 3, 2023, via email. They explained that the delay in notification was due to a significant workforce shortage leading to a turnaround oversight. The facility acknowledged the mistake and assured that such delays would not occur in the future. Considering the facility's response, the VN for violating SC VII.1 (reporting) of PTI No. 67-21 has been resolved.

As specified in SC VII.2, "the permittee shall submit a notification specifying whether EUENGINE11 will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of EUENGINE1 and within 30 days of switching the manner of operation.

- The emergency engine (EUENGINE1) was installed on June 29, 2021, and started operation on October 18, 2021. AQD district office received the notification that EUENGINE1 will be operated as a certified emergency generator via email on February 16, 2023.
- AQD issued a violation notice to the facility for violating SC VII.2 (reporting) of PTI No. 67-21 due to the delay in submitting the certification of operation mode notice to the AQD. The facility responded to the violation notice on May 3, 2023, via email. They explained that the delay in notification was due to a significant workforce shortage leading to a turnaround oversight. The facility acknowledged the mistake and assured that such delays would not occur in the future. Considering the facility's response, the VN for violating SC VII.2 (reporting) of PTI No. 67-21 has been resolved.

Stack/Vent Restrictions

Per VIII.1, the exhaust gases from the stacks shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted. There is a note that the stack is equipped with a rain cap. At the time of inspection, the exhaust stacks (SVENGINE1) appeared vertical and obstructed (equipped with a rain cap). I used a range finder to measure the stack height and determined that the SVENGINE1's height is 20 feet above the ground level. This measurement complies with the permit requirement, which requires a minimum stack height of at least 17.5 feet.

Other requirements

Per SC IX.1, the permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subparts A and IIII, as they apply to EUENGINE1. (40 CFR Part 60, Subparts A & IIII, 40 CFR 63.6590(c))

- EUENGINE1 is a stationary compression ignition internal combustion engine (CI ICE) and was manufactured after April 1, 2006, so it is subject to NSPS Subpart IIII.
- Explained in Process and Operational restrictions section (SC III.4), Design/Equipment Parameters section (SC IV.1 and SC IV.2), and Reporting section (SC VII.2).

Per SC IX.2, The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and ZZZZ, as they apply to EUENGINE1.

 Per 40 CFR 63.6590(c)(1), the facility (New stationary RICE located at an area source) must meet the requirements of this subpart ZZZZ by meeting the requirements of 40 CFR part 60 Subpart IIII. No further requirements apply for Stationary RICE HAPs area sources under subpart ZZZZ.

Conclusion

Based on the on-site inspection and review of the records, it appears Avancez Highland Park complies with the requirements of PTI No. 67-21.

NAME Shamim Ahammod

DATE 05/28/2024

SUPERVISOR <u>K. Kelly</u>