

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

N746070307

FACILITY: FEV North America, INC.		SRN / ID: N7460
LOCATION: 4554 GLENMEADE LANE, AUBURN HILLS		DISTRICT: Warren
CITY: AUBURN HILLS		COUNTY: OAKLAND
CONTACT: Tom Jackson , Manager, Facility & Operations Environmental Co		ACTIVITY DATE: 12/13/2023
STAFF: Owen Pierce	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY 2024 Inspection Report		
RESOLVED COMPLAINTS:		

On December 13, 2023, I (Owen Pierce EGLE - Air Quality Division) performed a scheduled targeted inspection of FEV North America, Inc located at 4554 Glenmeade Lane Auburn Hills, Michigan. The purpose of the inspection was to determine the facility's compliance with the Federal Clean Air Act; and Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451 and the conditions of Permit to Install (PTI) No. 92-05D. Upon arrival, I met with Tom Jackson, Senior Manager, Operations and Facilities, Nino Nuculovic, General Manager, Paul Tippen, Facilities Supervisor, and Chris James, Advanced Matrix, Inc, and conducted a pre-inspection meeting where I introduced myself, presented my credentials, and stated the purpose of the inspection.

During the pre-inspection meeting, Tom explained the facility's processes and equipment. FEV North America, Inc (FEV) is an internal combustion engine test facility. The main type of test conducted at the site is for fuel and combustion efficiency. Other types of tests include emissions control systems test (dynamic catalyst aging), and component functional and durability testing, including noise, vibration, and harshness (NVH) testing of internal combustion engines. Most tests are done with a catalytic converter installed on the engine. Clients include a mix of global customers including the US EPA, automotive companies, and the military.

The facility has approximately 450 on-site employees and operates 24 hours a day, 7 days a week. According to Tom, there have been no recent process or equipment changes, and there are no cold cleaners, boilers, or emergency generators at the facility. Following the pre-inspection meeting, Tom lead me on a tour of the facility.

According to the Michigan Air Compliance and Enforcement System (MACES) database, EGLE-AQD recieved a notification of installation, on May 17, 2022, of an exempt paint booth, considered exempt according to Rule 287(c). According to MACES, the facility stated in the notification letter that it will maintain records that demonstrate ongoing compliance with Rule 287(c). During my inspection, I did not observe a paint booth at the facility, and according to Tom, there is no paint booth at 4554 Glenmeade Lane nor has there ever been a paint booth at this address. In addition, there was no such letter found in the office files for this facility. Based on observations during the inspection, response from the facility, and office files for this facility, the notification may have been logged under the wrong facility.

Facility Walkthrough Observations

The facility operates a total of fourteen dynamometer test cells that are each similar in size and function. Each cell can house up to 2 engines. According to Tom, the fuels used are diesel blend and gasoline/ethanol blend fuels, and all combustion cells are equipped with catalytic converter control. During the inspection, Tom took me inside of one of the test cells where I observed an engine equipped with a catalytic converter. The catalytic converters are operated in a satisfactory manner and meets USEPA's Tier II vehicle emissions, as required by FG-TESTCELLS IV.1 and 2. The time each test takes can vary from a few hours to a full day, depending on the need of the customers.

In addition to the test cells, the facility also has thirteen fuel storage tanks (11 above ground storage tanks and 2 underground storage tanks), included in PTI 92-05D, with varying capacities ranging from 500 gallons to 15,000 gallons and one barrel line in place to be used for small batch tests, yet according to Tom it has not been used in the last 10 years. All thirteen tanks plus the one barrel line are located outside of the facility in a covered tank farm.

During the inspection, I also observed the stacks to ensure they meet the permit required dimensions. FG-TESTCELLS S.C. VIII requires all test cell exhausts have a maximum diameter of 20 inches and a minimum height of 43 feet. Based on my observations, FEV appears to be in compliance with the required stack dimensions.

PTI No. 92-05D Compliance Evaluation

The facility was issued PTI No. 92-05D for 22 test cells, controlled by catalytic converters or equivalent. Recordkeeping requirements were submitted to AQD staff via email. FEV is required to maintain records of daily Carbon Monoxide (CO) emission rate from the test cells, facility-wide CO emissions, as well as fuel usage records for both the test cells and the entire facility.

FG-TESTCELLS

Special condition (SC) I.1 sets the CO emission limit at 45,600 lb/day as determined at the end of each calendar day. In order to demonstrate compliance with this emission limit, SC VI.3 states that the permittee shall calculate the daily CO emission rate based upon calendar day records and use the fuel specific emission factors listed in SC I.1 to calculate the CO emissions. The Monthly Fuel Use Summary records provide the daily fuel use total, broken down by fuel type. I spot-checked calculations of daily CO emissions using these records and the emission factors from the permit and found that FEV is below the permitted daily CO emission limits. The highest daily CO emission rates calculated from January 2020 - November 2023 was approximately 337 pounds/day on October 14, 2022. The highest monthly emission from January 2020 - November 2023 occurred in August 2023 and equaled 2,584.77 pounds, which is itself below the daily CO limit.

SC II.1 limits combined uncontrolled ethanol, methanol/gasoline blend, and ethanol/gasoline blend fuel usage to 568 gallons per calendar day, and combined controlled ethanol, methanol/gasoline blend, and ethanol/gasoline blend fuel usage to 2,842 gallons per calendar day. FEV is not currently burning any uncontrolled fuels in the test cells, which is confirmed by the records provided during inspection. Fuel usage records for controlled ethanol/methanol/gasoline blends indicate that FEV is below the permitted material use limits. The highest ethanol blend fuel used in a single calendar day from January 2020 - November 2023 was 1,188 gallons on December 23, 2020.

SC II.2 limits the combined uncontrolled diesel, biodiesel, synthetic diesel, and kerosene usage to 1,920 gallons per calendar day, and the combined controlled diesel, biodiesel, synthetic diesel, and kerosene usage to 6,817 gallons per calendar day. As previously mentioned, there is not currently any uncontrolled fuel being used in the test cells. Fuel usage records demonstrate that FEV is below the permitted material use limits. The highest quantity of combined controlled diesel, biodiesel, synthetic diesel, and kerosene burned in a single calendar day from January 2020 - November 2023 was 2,806 gallons on October 14, 2022.

FG-FACILITY

In addition to the daily limit, there is a facility-wide CO limit of 89.9 tons per year (tpy), calculated over a 12-month rolling period. The facility-wide CO emissions are calculated using fuel-specific emission factors and fuel usage records, same as the FG-TESTCELLS daily emission rates. The highest 12-month rolling average emissions from January 2020 - November 2023 was 8.57 tpy in November 2023. Based on these emission records, the facility is in compliance with the facility-wide emission limit.

S.C. II 1 limits combined controlled and uncontrolled diesel, biodiesel, kerosene, and synthetic diesel usage to 516,000 gallons per 12-month rolling period. Of that 516,000 gallons, the facility is limited to using 140,000 gallons of uncontrolled diesel, biodiesel, kerosene, and synthetic diesel fuel in any given calendar month. As previously noted, there was not any uncontrolled fuel burned, so fuel totals are entirely made up of controlled fuels. The total highest 12-month rolling diesel, kerosene, biodiesel, and synthetic diesel fuel usage from January 2020 - November 2023 was 141,429 gallons in November 2023.

S.C. II 2 limits uncontrolled ethanol, gasoline/methanol blends, gasoline/ethanol blends, CNG, and LPG usage to 10,000 gallons per 12-month rolling period. The facility did not burn any uncontrolled fuel and is therefore in compliance with this condition.

Conclusion

Based on my inspection of the facility and review of fuel use and emission records, FEV North America, Inc is in compliance with the conditions of PTI No. 92-05D and the associated air quality rules and regulations.

NAME Owen Pierce

DATE 1/17/2024

SUPERVISOR K. Kelly