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

B403273086

FACILITY: General Motors LLC - Pontiac North Campus		**SRN / ID:** B4032
LOCATION: 850 Glenwood, PONTIAC		**DISTRICT:** Warren
CITY: PONTIAC		**COUNTY:** OAKLAND
CONTACT: Amy Back ,		**ACTIVITY DATE:** 07/10/2024
STAFF: Adam Bognar	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On Wednesday, July 10, 2024, Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) staff Adam Bognar conducted a scheduled inspection of General Motors LLC – Pontiac Engineering Campus (the "facility") located at 850 Glenwood, Pontiac, MI 48340. The purpose of this inspection was to determine the facility's compliance status with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environment, Great Lakes, and Energy, Air Quality Division (EGLE-AQD) rules; 40 CFR Part 63, Subpart ZZZZ – National Emission Standards for Stationary Reciprocating Internal Combustion Engines; 40 CFR Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines; 40 CFR Part 60, Subpart Dc – Standard of Performance for Small Industrial-Commercial-Institutional Steam Generating Units; and ROP No. MI-ROP-B4032-2020a.

The facility has a potential to emit Carbon Monoxide (CO) and Nitrogen Oxides (NOx) greater than 100 tons per year making the facility subject to the Clean Air Act of 1990, Title V, Renewable Operating Permit (ROP) program. In addition, the facility is a synthetic minor (area) source for Hazardous Air Pollutants (HAPs).

In regard to the National Ambient Air Quality Standards (NAAQS), this facility is located in Oakland county which is currently designated as attainment for ozone, CO, lead, NOx, and PM. The facility is adjacent to both commercial businesses and residential properties.

Contact: Amy Kasa, Environmental Engineer
Phone: (313-727-6950)
Email: amy.kasa@gm.com

Contact: Jessica Alderton, Staff Environmental Engineer
Phone: (586-863-8490)
Email: jessica.alderton@gm.com

I arrived at the facility around 12 pm. I identified myself and stated the purpose of the inspection. We held a pre-inspection meeting where we discussed current facility operations, planned our inspection, and looked at thermal oxidizer temperature/pressure records. Myself, Amy Kasa, and Jessica Alderton were present.

During this inspection, I reviewed records from January 2023 through May 2024. I did not evaluate compliance during other time periods unless otherwise stated in this report.

This facility consists of two office buildings and an engine/transmission research and development facility. Air emissions arise due to the operation of 113 engine dynamometer test cells, solvent based degreasers, maintenance paint booths, natural gas fired boilers, emergency generators, and other ancillary equipment. The engine test cells are controlled by four communal regenerative thermal oxidizers

MI-ROP-B4032-2020a

Source-Wide Conditions

These conditions apply to all emission units at the stationary source. This includes any emission unit covered by this or any other general permit or any permit to install issued pursuant to Rule 201, and any emission unit exempt from the requirement to obtain a permit to install.

Special Condition (SC) I.1 & I.2: Limits individual HAP emissions to 0.8 tons per month and 10 tons per year, and aggregate HAPs to 2.1 tons per month and 25 tons per year. These emission limits have not been exceeded based on the records I reviewed. Aggregate HAP emissions were reported highest during the 12-month period ending in February 2024 at 1.75 tons. Ethylene glycol is the HAP emitted in the highest amounts. Monthly ethylene glycol emissions were reported highest in April 2024 at 0.1581 tons.

SC V.1: States that the permittee shall determine the HAP content of materials using manufacturer's formulation data or SDS's. Manufacturers formulation data is used to determine HAP content of materials.

SC VI.1,2,3: Specifies recordkeeping requirements for source-wide conditions. I verified that records of source wide HAP emissions are kept on a monthly and 12-month rolling basis for both individual and aggregate HAP emissions.

EU-BLDGC-GENERATOR-COMPUTERRM

This emission unit is a diesel fired emergency generator (compression ignition, 2680 HP) subject to 40 CFR 60 Subpart IIII. I did not evaluate the conditions of this emission unit because it has been decommissioned. A past AQD inspector noted that the engine was decommissioned in April 2021. A Rule 215 change notification was sent.

EU-WING3-ERGGEN

Description: an up to 1000 hp Diesel fired emergency generator (compression ignition) subject to 40 CFR 60 Subpart IIII.

SC I.1, 2, 3: Specifies NMHC + NOX, CO, and PM emission limits for this engine. Compliance with these emission limits is demonstrated through stack testing or purchasing an engine certified for compliance with NSPS IIII. This engine is certified for compliance with NSPS IIII (US EPA Certificate No. ECEXL015.AAJ-018 issued 5/20/2013).

SC II.1: States that the permittee shall not burn diesel fuel with a sulfur content greater than 0.0015% (15 ppm) by weight. The facility provided a document showing that the maximum sulfur content of the diesel used is 15 ppm.

SC III.1: Limits the number of hours this generator can run to 100 hours per year for the purpose of necessary maintenance checks and readiness testing. The permittee can also run the engine for up

to 50 hours in certain non-emergency situations (this counts towards the 100 hours for maintenance). The records I reviewed show that the facility is following this limit. Operating hours were reported highest during the 12-month period ending in June 2023 at 39.4 hours.

SC III.2, 3, 4, & 5: States that if the permittee purchased a certified engine under NSPS IIII, then the permittee shall operate the engine according to the manufacturer's instructions, make only changes permitted by the manufacturer, and meet the requirements in 40 CFR 89, 94, and/or 1068. Based on the maintenance information I reviewed and my observations during this inspection, the engine is operated as an emergency engine in accordance with NSPS IIII.

SC IV.1: States that the permittee must install a non-resettable hour meter prior to starting the engine. This engine is equipped with a non-resettable hour meter. Amy sent me a picture of the non-resettable hour meter after the inspection on August 5, 2024. Total hours were 302.9 hours.

SC V.1: Requires initial performance testing if engine is not certified for compliance with NSPS IIII. No initial performance testing was required because this engine is certified for compliance with NSPS IIII.

SC VI.1,2, &3: Specify recordkeeping requirements for EU-WING3-ERGGEN. I verified that maintenance records are kept showing that the facility maintains compliance with NSPS IIII. The facility provided records of fuel oil sulfur content.

SC IX.1 & 2: Requires the facility to operate EU-WING3-ERGGEN in compliance with NESHAP ZZZZ and NSPS IIII. Based on my inspection and record review, the engine is operating in compliance with these standards.

EU-PLT49FIREPUMP#3

Description: 300 horsepower emergency diesel fired fire pump with an installation date of August 1, 2008. This fire pump is classified as "New" for RICE MACT and NSPS applicability. The internal engine that is exempt from Rule 201 pursuant to Rule 285(g) and subject to the RICE NSPS 40 CFR Part 60, Subpart A and IIII, and the RICE NESHAP 40 CFR Part 63, Subpart A and Subpart ZZZZ.

SC I.1, 2, 3: Specifies NMHC + NOX, CO, and PM emission limits for this engine. Compliance with these emission limits is demonstrated through stack testing or purchasing an engine certified for compliance with NSPS IIII. This engine is certified for compliance with NSPS IIII.

SC II.1: States that the permittee shall not burn diesel fuel with a sulfur content greater than 0.0015% (15 ppm) by weight. The facility provided a document showing that the maximum sulfur content of the diesel used is 15 ppm.

SC III.1: Limits the number of hours this engine can run to 100 hours per year for the purpose of necessary maintenance checks and readiness testing. The permittee can also run the engine for up to 50 hours in certain non-emergency situations (this counts towards the 100 hours for maintenance). The records I reviewed show that the facility is following this limit. Operating hours were reported highest during the 12-month period ending in January 2023 at 31.7 hours.

SC III.2, 3, & 4: States that if the permittee purchased a certified engine under NSPS IIII, then the permittee shall operate the engine according to the manufacturer's instructions, make only changes permitted by the manufacturer, and meet the requirements in 40 CFR 89, 94, and/or 1068.

Based on the maintenance information I reviewed and my observations during this inspection, the engine is operated as an emergency engine in accordance with NSPS IIII.

SC IV.1: States that the permittee must install a non-resettable hour meter prior to starting the engine. This engine is equipped with a non-resettable hour meter.

SC IX.1 & 2: Requires the facility to operate EU-WING3-ERGGEN in compliance with NESHAP ZZZZ and NSPS IIII. Based on my inspection and record review, the engine is operating in compliance with these standards.

EU-FUELCELLS
Description: Testing of hydrogen fuel cells and not internal combustion engines. No fuel reformer may be used for the hydrogen fuel cells.

SC IV.1: States that the permittee shall not operate any hydrogen fuel cell in EU-FUELCELLS if the fuel cell has a designed internal operating temperature of more than 1000 degrees Celsius. The facility provided documentation from the fuel cell engineers describing the operating temperature of these cells. According to this document, the maximum temperature any of these fuel cells is operated at is 115 degrees Celsius. The majority of the cells operate between 60 to 100 degrees Celsius. This document states that these fuel cells will never be operated at temperatures approaching 1000 degrees Celsius.

SC VI.1: States that the permittee shall maintain a record of the designed operating temperature of all fuel cells tested in EU-FUELCELLS. I verified that this information is kept.

FG-COLDCLEANERS
Description: Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, Rule 278a and Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.

SC II.1: States that the permittee shall not use cleaning solvents containing more than 5% of certain halogenated compounds. I reviewed the safety datasheet for the only solvent-based cleaner used in these cold cleaners. Safety Kleen Premium Gold does not contain any halogenated solvents. This material is comprised of 100% petroleum distillates, hydrotreated light.

SC III.1 & 2: States that the permittee shall perform maintenance as required by the manufacturer, and cleaned parts shall be drained for no less than 15 seconds or until dripping ceases. All cold cleaners I observed appeared to be in good working order. The cleaning tanks are equipped with a rack for draining parts. I did not observe any of the tanks in use during my inspection.

SC IV.1: States that the cold cleaners must either have an air/vapor interface less than ten square feet, or be used for metal parts only with emissions released into general in-plant environment. I verified that the air/vapor interfaces are less than 10 square feet in all cold cleaners I observed. All cold cleaners I observed were also vented to the general in-plant environment.

SC IV.2: States that each cold cleaner shall be equipped with a device for draining cleaned parts. Each cold cleaner I observed was equipped with a device for draining cleaned parts.
SC IV.3, 4, &5: States that each cold cleaner shall be equipped with a closed lid whenever not in use, and the lid must be mechanically assisted if the Reid vapor pressure is greater than 0.6 psia or

if the tank is heated above 120 Fahrenheit. The lids were closed on all cold cleaners I observed and proper operating instructions were posted clearly on the device. Amy stated that none of the cold cleaners are heated. Only the aqueous based cleaners are heated. The records provided show that the Reid vapor pressure of the solvent used is 0.012 psia at 100 Fahrenheit.

SC VI.1, 2, 3, &4: Specifies recordkeeping requirements for FG-COLDCLEANERS. The facility provided records of the model number, installation date, air/vapor interface, Rule 201 exemption, and Reid vapor pressure for all cold cleaners. The option to comply with Rule 707 is not applicable since the Reid vapor pressure is below 0.6 and the cleaners are not heated. I observed that written operating procedures were posted in a conspicuous location near each cold cleaner. I observed that waste solvent is stored in a closed container within the unit. Safety Kleen periodically comes to change the solvent for each cold cleaner. The frequency of solvent changes varies depending on how much a cold cleaner is used.

FG-TESTCELLS

Description: Ninety-one engine dynamometer test cells combined in Wings 1 and 2 with a total heat input capacity of 303.33 MMBtu/hr; using diesel, gasoline, ethanol, methanol, natural gas, propane, liquefied petroleum gas, and hydrogen fuels. Nineteen engine dynamometer test cells in Wing 3 used for development and testing of internal combustion engines. The engine sizes in Wing 3 will vary, up to 750 horsepower, and will be fueled by diesel, and the following spark-ignited fuels: unleaded gasoline, unleaded gasoline blends, ethanol, natural gas, methanol, and propane. Hydrogen will be used as a fuel for fuel cell testing. All internal combustion engines tested in the engine dynamometer test cells in Wings 1, 2, and 3 are controlled by four regenerative thermal oxidizers (RTOs) fired by natural gas.

SC I.1: Limits NOx emissions to 24.5 pounds per hours for all dynamometers in Wing 3. Based on the results of the May 2022 stack test, NOx emissions from a single dynamometer are 0.18 lb/hour. If it is assumed that all dynamometers were operating simultaneously, total NOX emissions would be 3.42 lb/hour. Based on my conversations with facility staff, it is not typical to operate all cells simultaneously.

SC I.2: Limits NOx emissions from Wings 1 and 2 combined to 425.6 tons per year. Compliance is demonstrated through keeping records of material use and multiplying material use by the emission factors stated in the ROP. I verified that correct emission factors are used. NOx emissions were reported highest during the 12-month period ending in January 2023 at 56.1 tons.

SC I.3: Limits NOx emissions from Wing 3 to 23.5 tons per year. Compliance is demonstrated through keeping records of material use and multiplying material use by the emission factors stated in the ROP. I verified that correct emission factors are used. NOx emissions were reported highest during the 12-month period ending in May 2024 at 0.2 tons.

SC I.4: Limits NOx emissions Prior to the RTOs of Wings 1,2, and 3 to 1.38 lb/MMBTU. Based on the results of the May 2015 stack test, NOx emissions are reported at 0.20 lb/MMBTU for gasoline and 0.13 lb/MMBTU for diesel. On March 25, 2020, AQD received a letter from GM requesting that the May 2015 stack test remain valid and representative. This request was approved by AQD on April 6, 2020.

SC I.5: Limits NOx emissions from natural gas combustion. No natural gas was used during the period I evaluated. Facility staff were not aware of any plans to utilize natural gas in test cells.

SC I.6: Limits CO emissions from Wings 1 and 2 to 299.3 pounds per hour. Based on the records of daily average gasoline & diesel usage in these wings and 2015 stack test data, daily average CO emissions were highest in January 2023 at 43.9 lbs. On an hourly average basis, CO emissions would be 1.82 pounds per hour.

SC I.7: Limits CO emissions from Wings 1 & 2 to 285.1 tons per year. Compliance is demonstrated through keeping records of material use and multiplying material use by the emission factors stated in the ROP. I verified that correct emission factors are used. CO emissions from Wings 1 & 2 were reported highest during the 12-month period ending in January 2023 at 33.2 tons.

SC I.8: Limits CO emissions from Wings 1 & 2 to 0.96 lb/MMBTU. Based on the results of the 2015 stack test, CO emissions are 0.27 lb/MMBTU.

SC I.9: Limits CO emissions from Wing 3 to 14.4 tons per year. Compliance is demonstrated through keeping records of material use and multiplying material use by the emission factors stated in the ROP. I verified that correct emission factors are used. CO emissions were reported highest during the 12-month period ending in May 2024 at 0.053 tons.

SC I.10: Limits PM10 emissions from Wings 1 & 2 to 29.5 tons per year. Compliance is demonstrated through keeping records of material use and multiplying material use by the emission factors stated in the ROP. I verified that correct emission factors are used. PM10 emissions from Wings 1 & 2 were reported highest during the 12-month period ending in January 2023 at 4.3 tons.

SC I.11: Limits Lead emissions from Wings 1 & 2 to 0.597 tons per year. Compliance is demonstrated through keeping records of material use and multiplying material use by the emission factors stated in the ROP. I verified that correct emission factors are used. Lead emissions were reported highest during the 12-month period ending in January 2023 at 0.021 tons.

SC II.1: Limits total fuel usage from Wings 1 & 2 to 7,280 MMBTU/day. This fuel usage limit has not been exceeded based on the records I reviewed. Total fuel usage from Wings 1 & 2 was reported highest during the month of January 2023 at 5,318 MMBTU total in that month.

SC II.2: Limits total fuel usage from Wings 1 & 2 to 520,000 MMBTU/year. This fuel usage limit has not been exceeded based on the records I reviewed. Total fuel usage from Wings 1 & 2 was reported highest during the 12-month period ending in January 2023 at 69,131 MMBTU.

SC II.2a: Limits diesel fuel usage from Wings 1 & 2 to 114,400 MMBTU/year. This diesel fuel usage limit has not been exceeded based on the records I reviewed. Total diesel usage from Wings 1 & 2 was reported highest during the 12-month period ending in January 2023 at 20,411 MMBTU.

SC II.2b: Limits leaded gasoline usage from Wings 1 & 2 to 13,260 MMBTU/year. Based on the records I reviewed, no leaded fuel has been used at the facility during the period I evaluated (January 2023 through May 2024).

SC II.3: Limits diesel fuel usage from Wing 3 to 6,732 MMBTU/year. Based on the records I reviewed, no diesel fuel has been used in Wing 3 during the period I evaluated (January 2023 through May 2024).

SC II.4: Limits spark-ignited fuel usage in Wing 3 to 23,312 MMBTU/year. This fuel usage limit has not been exceeded based on the records I reviewed. Total spark-ignited fuel usage from Wing 3 was reported highest during the 12-month period ending in May 2024 at 262 MMBTU.

SC II.5 &6: States that the permittee shall only burn diesel, gasoline, leaded gasoline, ethanol, natural gas, methanol, and propane in Wings 1, 2, & 3. Hydrogen may be used for fuel cell testing. These are the only fuels used based on my conversations with facility staff. The records I reviewed do not show that any other fuels are used.

SC III.1 & 2: States that the permittee shall submit an O&M plan for the thermal oxidizers which control the dynos in Wings 1, 2, & 3. The plan must be updated as necessary. I verified that this plan is maintained and up to date with the latest stack test information. This plan is being followed based on my inspection and record review.

SC IV.1: States that the permittee shall not operate any engine in a test cell unless it is connected to a properly operated thermal oxidizer. I observed that test cells were connected to a thermal oxidizer. There is an ventilation system in each test cell that connects to the exhaust of the test engine. I observed that the regenerative thermal oxidizers (RTOs) were operating during my inspection. According to the facility's operation and maintenance plan, the RTO temperatures determined during stack testing are between 1570°F and 1572°F. I recorded the temperatures during my inspection:
RTO1: 1595°F
RTO2: 1599°F
RTO3: 963°F (not operating)
RTO4: 1591°F

I verified that these temperatures meet the temperature requirements in the facility's CAM plan.

SC IV.2: States that the permittee shall install, calibrate, maintain, and operate a temperature monitoring device in the combustion chamber of each thermal oxidizer. This device must record temperature on a continuous basis. I verified that a thermocouple is present in each thermal oxidizer. I verified that continuous temperature data is kept. The temperature monitoring device is calibrated bi-annually based on the records I reviewed. The records I reviewed show the last thermocouple calibration was completed in February 2024.

SC IV.3: States that the permittee shall install, calibrate, maintain, and operate a differential pressure monitoring device on the central engine exhaust system and record the pressure on a continuous basis. I reviewed this differential pressure data during my on-site inspection and verified that this information is kept.

SC IV.4 & 5: States that, before burning natural gas, the permittee shall install a natural gas meter to monitor usage. The meter must also be calibrated within 3 months of burning natural gas. Natural gas was not used at the facility during the period I evaluated. Staff stated that certain cells may be equipped with a natural gas meter, but this fuel is not commonly used.

SC V.1: Requires the permittee to verify CO, NOx, and PM10 emissions from FG-TESTCELLS every 5 years and within 180 days of making any significant changes; or, submit a demonstration that the most recent test remains valid and representative. On April 6, 2020, AQD reviewed and approved the facilities formal request demonstrating that the NOx and PM10 emission rates determined in the May 2015 stack test are still valid and representative. The facility stated that the overall engine testing program has not changed since that time. CO emissions from gasoline and diesel at the RTO outlet were determined to be 0.27lb/MMBTU and 0.16 lb/MMBTU, respectively. PM emissions from gasoline and diesel at the RTO outlet were determined to be 0.008 lb/MMBTU and 0.011 lb/MMBTU, respectively.

SC V.2: States that the permittee shall verify NOx emission rates in terms of pounds per hour from one dynamometer in Wing 3. This test was conducted in July 2022.

SC V.3: States that within 180 days of burning 330MMBTU of natural gas in Wing 3 and FG-RACINGTCS combined, the permittee shall evaluate NOx emission rates from natural gas. 330MMBTU of natural gas has not been burned at this facility based on the records I reviewed and based on my review of past AQD inspection reports.

SC VI.1, 2, & 3: Specifies recordkeeping requirements for FG-TESTCELLS. The permittee must keep records of each days operation, records of each fuel type used on a monthly and 12-month rolling basis, and emissions of NOx, CO, PM10, & Lead on a monthly and 12-month rolling basis. I verified that these records are maintained.

SC VI.4: Requires the permittee to calculate the daily fuel usage rate based on a monthly average. I verified these records are kept.

SC VI.5 & 6: Requires the permittee to record the thermal oxidizer combustion chamber temperature on a continuous basis. This data shall be used to calculate three-hour rolling average RTO combustion temperatures for each RTO. I verified these records are kept. I reviewed this data during my inspection. I spot checked months August 2023 and February 2024. I did not notice any instances where the RTO temperatures fell below the required temperatures while the facility was operating. The records show that RTO3 was down for maintenance from February 9 through February 14.

SC VI.7: States that the permittee shall evaluate the capture efficiency of the central engine exhaust system (CEES) by monitoring the differential pressure across the enclosure. This parameter is monitored on a continuous basis. I verified that these records are kept. I spot checked the months of August 2023 and February 2024 and did not notice any issues.

SC VI.8: Requires the permittee to report any excursions or exceedances and restore the emission unit to its normal manner of operation. I asked for this information. Based on the records I reviewed, no excursions or exceedances occurred during the period I evaluated.

SC VI.9: Requires the permittee to collect monitoring data (TO temperature and CEES pressure) at all times the pollutant specific emissions unit is operating. Based on my inspection and record review, the facility is monitoring and recording this data at all times the associated equipment is operating.

SC VI.10: Requires the permittee to maintain the monitoring system, including keeping necessary parts for routine repair. Amy stated that spare parts are kept for routine repair including thermocouples and rupture disks.

SC VI.11: Requires the permittee to maintain records of monitoring data, monitor performance data, corrective actions taken, any quality improvement plan, and any other information such as data used to document the adequacy of monitoring. Records of monitoring data are kept. The facility does not currently have a quality improvement plan.

SC VI.12: Requires the permittee to maintain records of the results of all stack tests. I verified that, when required, the facility uses emission factors from the most recent stack test to calculate emissions. I did not request these records from the facility. Records of all stack tests are maintained online in the EGLE database.

SC VI.13: Requires the permittee to verify the accuracy of the natural gas meter. Natural gas was not used at this facility during the period I evaluated.

SC VI. 14: States that the permittee shall keep records of the maximum lead content in any leaded gasoline used. I verified that these records are kept. The maximum lead content reported is in "VP-C6" racing fuel at 6mg/L.

SC VI.15: States that the permittee shall conduct bypass monitoring for each bypass line. I verified that these records are kept. There were 3 bypasses during the period I evaluated. Bypasses occur when the central engine exhaust system receives too high of a pressure in a certain area, causing a pressure sensitive valve (disk) to rupture, which allows excess pressure to escape the system.

On June 15, 2023, bypass line D207 was utilized for 16.5 hours due to a ruptured CEES disk (no engine was running at time of discovery).

On April 29, 2024, bypass line D115 was utilized for 6.5 hours due to a rupture disk alarm, operators found a faulty rupture disk. No engine was running during this alarm.

On June 27, 2024, bypass line D142 was utilized for 6 hours due to a ruptured disk. Engine testing was immediately shut down.

SC IX.1,2: Requires compliance with the facilities CAM plan. The CAM plan has been followed based on my inspection and record review.

FG-RACINGTCS

Description: Three engine dynamometer test cells used for the testing of internal combustion high performance engines for automotive motor vehicles. The engine sizes will vary, up to 1,600 horsepower. The engines tested will be fueled by diesel and the following spark-ignited fuels: unleaded gasoline, unleaded gasoline blends, leaded gasoline, ethanol, natural gas, methanol, and propane. Hydrogen will be used as a fuel for fuel cell testing.

SC I.1: Limits NOx emissions from the racing test cells to 3.3 tons per year. Compliance is demonstrated through keeping records of material use and multiplying material use by the emission factors stated in the ROP. I verified that correct emission factors are used. NOx emissions were reported highest during the 12-month period ending in June 2023 at 2.2 tons.

SC I.2: Limits NOx emissions from the racing test cells to 73.99 pounds per hour. Based on the results of the May 2022 stack test, NOx emissions from a single representative racing dynamometer are 4.23 lb/hour. If it is assumed that all three racing dynamometers were operating simultaneously, total NOX emissions would be 12.69 lb/hour.

SC I.3: Limits NOx emissions from the racing cells to 2.2 pounds per MMBTU of diesel burned. NOx emissions from diesel fuel in the racing test cells were stack tested in June 2020. The results of that test show NOx emissions at 0.64 lb/MMBTU. No diesel fuel was burned in the racing cells during the period I evaluated.

SC I.4 & 5: Limits NOx emissions from the racing cells to 1.38 lb/MMBTU for spark ignited fuels and for natural gas fuel. Compliance with this condition is demonstrated through a stack test. This stack test is only required upon request by the AQD district supervisor. AQD is not requesting stack testing at this time. Natural gas has not been used at the facility during the period I evaluated.

SC I.6: Limits CO emissions from the racing cells to 52.6 tons per year. Compliance is demonstrated through keeping records of material use and multiplying material use by the CO emission factors stated in the ROP. I verified that correct emission factors are used. CO emissions were reported highest during the 12-month period ending in June 2023 at 38.5 tons.

SC II.1: States that the permittee shall only burn diesel, gasoline, unleaded gasoline blends, leaded gasoline, ethanol, natural gas, methanol, and propane in the racing dynamometers. Facility staff stated that no other fuels are used in the racing cells. I did not observe any other fuels during my inspection. The records provided show that only unleaded gasoline was used during the period I evaluated.

SC II.2: Limits the total combined diesel fuel usage for the racing cells to 767 MMBTU/year. No diesel fuel was used during the period I evaluated.

SC II.3: Limits the total combined fuel usage from the racing cells to 3,616 MMBTU/year, and lead fuel usage to 767 MMBTU/year. Total combined fuel usage was reported highest during the 12-month period ending in June 2023 at 3,207 MMBTU. No leaded fuel was used during the period I evaluated.

SC IV.1 & 2: States that the permittee shall install and calibrate a meter before burning any natural gas at the facility. No natural gas was burned during the period I evaluated. Staff stated that they believe there is a natural gas meter present in some cells, but it is not currently used for any testing. Another AQD inspector noted that no natural gas was used in 2017 through 2021.

SC V.1: Requires NOx emission testing every three years. This testing was last completed in July 2022 by Montrose Air Quality Services.

SC V.2: Requires one-time NOx emission testing for diesel fuel, if used. This test was completed in June 2020 by Montrose Air Quality Services.

SC V.3: Requires NOx emission testing in terms of lb/MMBTU if requested by the AQD District Supervisor. AQD is not requesting a stack test for lb/MMBTU NOx at this time.

SC V.4: Requires NOx emission testing for natural gas combustion, if used. Natural gas has not been used in the racing dynamometers based on the records I reviewed.

SC VI.1, 2, 3, 4, 5: Specify recordkeeping requirement for FG-RACINGTCS. The permittee must keep records of each fuel type used on a monthly and 12-month rolling basis, and the corresponding emissions of NOx & CO on a monthly and 12-month rolling basis. I verified that these records are maintained. I verified that the permittee maintains a listing of the maximum lead content of each fuel.

FG-BOILERS
Description: Three 40 MMBTU/HR natural gas fired Johnston boiler's with oxygen trim system subject to 40 CFR 60, Subpart Dc.

SC VI.1: Requires the permittee to record the amount of fuel combusted in the boilers each calendar month. I verified that these records are maintained. A total of 122MCF natural gas was burned in 2023.

SC IX.1: Requires compliance with 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (NSPS Dc). I verified that the facility is maintaining fuel usage records pursuant to NSPS Dc.

FG-RULE287(2)(c)
Description: Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 287(2)(c). Emission units installed/modified before December 20, 2016, may show compliance with Rule 287 in effect at the time of installation/modification.

SC II.1: Limits coating usage in each coating booth to 200 gallons/month. There are currently two active booths at the facility – EU-FUELCELLCOATER and EU-SEALERS. Total coating usage from EU-FUELCELLCOATER was reported at 75.08 gallons for all of 2023. Total coating usage from EU-SEALERS was reported at 77.79 gallons for all of 2023. Records of monthly usage are kept.

SC IV.1: Requires all booths to be equipped with a dry filter. I observed the filter in place in EU-FUELCELLCOATER. The facility maintains a log of filter changes. According to this log, the last EU-FUELCELLCOATER filter change was on December 15, 2023. Facility staff stated that these coating booths are not used often. EU-SEALERS are non-spray type adhesive application stations that are not equipped with filters.

SC VI.1: Requires the permittee to keep records of monthly coating usage. I verified that these records are kept.

FG-RULE290
Description: Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 290. Emission units installed/modified before December 20, 2016, may show compliance with Rule 290 in effect at the time of installation/modification.

There are two emission units currently operating under FG-RULE290 – EU-EMOTOR-BOOTH & EU-INJSPRAYTSTS. The facility provided records showing that EU-EMOTOR-BOOTH & EU-INJSPRAYTSTS emissions meet Rule 290 standards.

FG-TANKS
Description: Underground fuel storage tanks, consisting of 11 tanks at 15,000-gallon capacity, 14 tank compartments at 6,000- gallon capacity, 2 tank compartments at 2,000-gallon capacity, and 2 tank compartments at 1,000-gallon capacity.

SC IV.1, 2, 3: Requires all tanks in FG-TANKS to be equipped with a submerged fill, vapor balance system if their capacity is greater than 2,000 gallons. I observed that all underground storage tanks were equipped with a submerged fill system.

SC VI.1: Requires the permittee to keep records of the dimensions of each storage tank. I verified that these records are kept.

SC IX.1: Requires the permittee to comply with all provisions of the National Emission Standards for Hazardous Air Pollutants, 40 CFR 63, Subpart A and Subpart CCCCCC. AQD has not accepted delegation to enforce these standards, so no attempt has been made to evaluate the facility's compliance with this MACT standard.

FG-EXISTEMERGRICEMACT
Description: Existing emergency reciprocating internal combustion engines (RICE) - subject to 40 CFR 63 Subpart ZZZZ (the RICE MACT), but not subject to the RICE NSPS (40 CFR 63, Subpart IIII or 40 CFR 63, Subpart JJJJ). There are six emission units I this flexible group: EU-BLDGA-GENERATOR, EU-BLDGA-NGGENERATOR, EU-BLDGBFIREPUMP, EU-BLDGBGENERATOR, EU-BLDGC-GENERATOR, and EU-BLDGD-GENERATOR.

SC III.1 ,2, 3, 4, 5, 6, & 7: Specify process/operational restrictions for FG-EXISTEMERGRICEMACT. I checked compliance with EU-BLDGA-GENERATOR only. The records I reviewed show that the oil is changed annually during an annual PM inspection. The spark plugs, hoses & belts, and cooling system are also checked during this annual inspection.
The records I reviewed show that the engine is not operated for greater than 50 hours/year in non-emergency situations, 100 hours per year for maintenance and testing, or more than 500 hours per year for any purpose. Total operating hours were reported highest during the 12-month rolling period ending in January 2024 at 15.1 hours.

SC IV.1: Requires that each engine be equipped with a non-resettable hour meter. I checked the non-resettable hour meter for EU-BLDGA-GENERATOR only. Total hours were 272 hours.
SC V.1 & 2: NA because oil analysis program is not used.

SC VI.1, 2, 3, 4, 5, & 6: Specifies recordkeeping requirements for FG-EXISTEMERGRICEMACT. I checked records for EU-BLDGA-GENERATOR only. I verified that the facility keeps records of the total hours the engine operated, the type of operation (emergency, maintenance, ect.), the sulfur content of diesel, and records of all maintenance on the engine. This engine had its last annual preventative maintenance done on June 12, 2024.

Reporting Requirements

The facility is in compliance with all reporting requirements based on the records I reviewed. The 2022 annual ROP certification was received by AQD in March 2023. In September 2023, AQD received a semi annual ROP certification, a CAM excursion report (no deviations reported), and an R215 notification stating that the responsible official has changed. In March 2024, AQD received the annual ROP certification for CY 2023, the semi-annual ROP certification for the second half of 2023, and the CAM excursion report. The facilities annual emissions report (SLEIS) was submitted in March 2024.

Stack Requirements

I did not verify any stack dimensions during this inspection. All stacks I observed were exhausted vertically upwards unobstructed.

Compliance Determination

Based on my inspection and record review, General Motors LLC – Pontiac Engineering Campus is operating in compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environment, Great Lakes, and Energy, Air Quality Division (EGLE-AQD) rules; 40 CFR Part 63, Subpart ZZZZ – National Emission Standards for Stationary Reciprocating Internal Combustion Engines; 40 CFR Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines; 40 CFR Part 60, Subpart Dc – Standard of Performance for Small Industrial-Commercial-Institutional Steam Generating Units; and ROP No. MI-ROP-B4032-2020a.

NAME Adam Bognar DATE 8/13/2024 SUPERVISOR Joyce K