DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
**ACTIVITY REPORT: Scheduled Inspection**

B403233601

| | | |
|---|---|---|
| FACILITY: General Motors LLC - Pontiac North Campus | | SRN / ID: B4032 |
| LOCATION: 850 Glenwood, PONTIAC | | DISTRICT: Southeast Michigan |
| CITY: PONTIAC | | COUNTY: OAKLAND |
| CONTACT: Lauren Smith , Env. Eng. | | ACTIVITY DATE: 04/01/2016 |
| STAFF: Joyce Zhu | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MAJOR |
| SUBJECT: annual insepction | | |
| RESOLVED COMPLAINTS: | | |

**On 1/ 28 & 1/29/16, I conducted an air quality inspection at General Motors Corp., Pontiac North Campus. The facility is located on 1 Pontiac Plaza, Pontiac. On 1/28/2016, I conducted the inspection at the Pontiac Metal Center. I arrived at the site around 8:20 AM & met with Ms. Barbara Camilleri. She took me for the inspection. On 1/29, I visited GM Powertrain Global Headquarters. Tyler Salamasick from AQD accompanied me during the 2nd day of the inspection. We met with Ms. Lauren Smith & Ms. Stacey Helton from GM. I explained the purpose of the inspection & went over the ROP conditions. Afterwards, we went for the inspection. Also, Mr. Mark Womack & Mr. Steve Romberger from the facility joined us for the inspection**

**Inspection:**

**ROP #MI-ROP-B4032-2014b**
**The ROP consists of two sections. Section I covers the operations in the metal center. The processes identified in the ROP for the metal center are cold cleaners, a fire pumps & a emergency generator. Section II covers the powertrain operation.**

**Section I**

**PLT 49 FIRE PUMP#3 & PUMP#1**
**Pump #3 is a diesel fired compression ignited fire pump with 300 HP. Pump #1 is a diesel fired compression ignited fire pump with 188 HP. During the inspection, they operated neither of the pumps. Since Pump #1 is built in 1970, there is no manufacture certification for the emission. For Pump #3, there is a manufacturer certification documenting that the engine meets the applicable emission limitations contained in the NSPS subpart IIII. I took a reading of the non-resettable hour meters for the pumps. For Pump #1, the meter was at 844.14; & for pump#3, 223.2. According to Barbara, they inspected the air cleaner, hoses, & belts for Pump #3 on 3/2/15; for Pump #1, 1/25/2016. They replaced filters & change the oil for Pump #3 on 3/2/15; & for Pump #1, 7/14/15. The company records show that the diesel oil they used has sulfur content no more than 15 ppm. This complies with the permit requirements. Both pumps have been operated less than 50 hours in a 12-month rolling time period since January 2015. In addition, the company keeps a record of the fuel usage & maintenance activities on the pumps.**

**STORM WATER GENERATOR**
**This is for a diesel fired emergency generator (compression ignition) with 364 HP for the storm water detention facility. They didn't operate the unit during inspection. The non-resettable meter showed its hour was at 90.6. The company's record shows that the fuel they used has sulfur content no more than 15 ppm (complies with the ROP requirement). They have operated the unit less than 30 hours during a 12-month rolling time period since January 2015. The last time they replaced the particulate filter, changed the oil, & inspected the air cleaner, belt as well as hoses was on 9/10/2015. There is a manufacturer certification documenting that the engine meets the applicable emission limitations contained in the NSPS subpart IIII.**

**COLD CLEANERS in SECTION I & II**
**For the cold cleaners in Section I & II, GM has kept the following information: a model number which identifies the each of the units, the installation date, air/vapor interface area for any unit claimed to be exempted under Rule 281(h), the Reid vapor pressure, the Rule 201 exemption rules, & the capacity of the unit. According to the company's record, they have only operated the aqueous part washers in the Metal Center since January 2015. During the inspection of the Powertrain Headquarter, I only inspected**

the units located at the PPO Sand Blasting Room, PPO Torque Converter Area, PPO Crest Ultrasonic Unit by DCT Clean Room, PPO Engine Build Wash Room, & PPO Teardown Area. Except two of the units, all of the above units were mechanically assisted. They used either "premium gold" or "MPC Solution" in these units. Safety Kleen takes care of the solvents replacement. All of the units had the draining devices. They were all closed when not in use. I didn't see any spill near any of the units. The company claims that they don't use any of the halogenated solvents in their cold cleaners. It appeared that GM operated the units in compliance with the air quality regulations.

Section II

FGTESTCELLS, FG-3RDWINGR&DTCS, & FG-TESTCELLMACT
There are total of 89 test cells in Wing I & Wing II. Wing III is still under construction. The emissions from those units are controlled by four regenerative thermal oxidizers (RTOs). The engine tests involve transmission calibration, durability, and heavy duty emission certification for EPA. Those cells are subject to NESHAP subpart PPPPP. During the inspection, they operated 37 cells in Wing II. They conducted developmental tests in 27 cells, & the rest of the tests were relating to validation purpose. The instantaneous temperature reading for RTO I was at 1603 °F with 84.6% VFD output; for RTO III, 1566 °F, 85.8% VDF output; & for RTO IV, 1589 °F, 85.7% VDF output. RTO II was in cool down mode. The minimum bed cycle time for Oxidizer I was set at 180 second; for RTO II, 180, for RTO III, 140, & for RTO IV, 166. The maximum bed cycle time was set at 300 second for all the RTOs. Those readings were within the corresponding parameters range I observed during the destruction efficiency tests for RTO I, II, & IV in October 2015. I didn't observe any corrosive appearance on the bodies of the RTOs; nor did I hear any air infiltration from the RTOs. According to the company, the sensitivity of the temperature probes was within 4 °F (which was within 0.75% of the temperature measurement). They calibrated all the temperature probes on 7/15/2015. The pressure drop across the main duct was at -12.31 inches of water at the north side; & -12.41, at the south side. GM conducts evaluation of the PLC logic for the interlocks of the dampers as well as inspections on the interlock system on a quarterly basis. The last maintenance inspections for RTO I in regards to RTO poppet valves, Combustion chambers, & the burner systems was performed on Jan. 16 & 17 this year; for RTO II, Jan. 23 & 24. They have scheduled the inspection for RTO III & IV in the next two weeks after my inspection. The company keeps the following records for the test cells: a) monthly & 12-month rolling time period fuel usage; b) average daily fuel usage; c) CO, NOx, and PM emission calculation monthly as well as during 12-month rolling time period; d) RTO temperatures recorded every 15-minutes; e) the Startup, Shutdown, & Malfunction Plan (SSMP); f) the length of bypass time. The company indicated that they did not use any lead containing fuels in the test cells. From the company's record, the total fuel usage has been less than 650 MMBTU per day on an average since January 2015. The usage is much less than the permit requirement (7280 MMBTU per day). The average daily diesel usage (<150 MMBTU per day) has been also well below the permit restriction (7280 MMBTU per day) since January 2015. The emission of CO, NOx, and VOC emissions have been less than the corresponding permit limits in terms of tons/(12-month rolling time period) since January 2015. . The temperature on Jan. 27, 2016 for RTOs I, RTO III, & for RTO IV, were kept above the corresponding temperature ranges during the stack tests of 10/13-14/15. The company reported two incidents of bypass in 2015. The company appeared to operate the processes in compliance with ROP requirements.

FG-RULE287(C)
The following processes are exempted from permit to install under the Rule 287: The Powertrain maintenance booth, the booth which coats electric motors (hereinafter "the motor booth"), the coating process which is associated with fuel cell development (hereinafter "fuel cell coater"), the varnish coating booth, & the maintenance painting booth at Wing III. During the .inspection, the motor booth, the varnish coating booth, & the booth at Wing III were still under construction. We only inspected the Powertrain maintenance booth & the fuel cell coater. I observed some over spray inside the Powertrain maintenance booth. Mostly, they use hand held cans to spray. The spent cans are taken out as hazardous waste. All paints were stored in fire proofed cabinets. I didn't see any spill in the storage area. For the fuel cell coater, the dye coating is directly deposit on the paper via a roller. According to the company's usage record, they have used very little paints (<10 gallons) per month since January 2015. It appears that the operation complies with the ROP requirements.

FIRE PUMPS & EMERGENCY GENERATORS
In Section II, there is a fire pump (in Bldg B) & six emergency generators (one in each of Bldg B & Bldg D, two in each of Bldg A & Bldg C, & one in Wing III). In Building A, there are one of each natural gas

fired and diesel fired emergency generators with engine power less than 500 HP. In Building C, one of the generators which is used for computer backup has engine power greater than 500 HP. The generators in Wing III as well as in Bldg B & D have engine power greater than 500 HP. I only inspected the generators in Bldg C. During the inspection, they did not operate the engines. They changed the oil & filter in December 2015. The reading from the non-resettable hour-meter for the generator with < 500 HP was at 107.9; & for the computer backup, 247.9. GM has kept a record of the sulfur content of the diesel fuel. Also, the company's record shows that they have operated less than 50 hours for each of the unit since January 2015.

FGTANKS
This flexible group covers underground fuel storage tanks. I inspected the gasoline storage tanks. The tanks were equipped with permanent submerge fill pipes, vapor balance systems, interlocking systems, and devices to ensure that the vapor-tight collection lines closed upon disconnection. During the inspection, I didn't smell any gasoline odor in the tank area; nor did I observe any spill. GM posted a written procedures regarding to operate the vapor-tight collection line. The company keeps the following records: a) the tank I.D.; b) the capacity & dimensions of the vessel; c) the type of material contained in the vessel.

BOILERS
There are three natural gas fired boilers on site currently. The boilers are subject to Boiler MACT 40 CFR Part 63, subpart DDDDD. According to the company, last time they performed tune-up & energy assessment for the Wing III boiler was 3/27/15; for Boiler #1, 8/18/15; for Boiler #2, 8/19/15. During the inspection, they only operated Boiler #1 & #2. I took an instantaneous reading as follow: steam load for Boiler #1 was at 14536 lb/hr; for Boiler #2, 9156 lb/hr. The natural gas % valve opening was at 50.1% for Boiler #1, & 19.4% for Boiler #2. VFD was at 73.7% for Boiler #1; & 57.1% for Boiler #2.

FG-RACINGCS
This is for the addition of the 3 racing engines in the 3rd Wing. During the inspection, the project was under construction.

FG-INJSPRAYST
There are two fuel spray test chambers for injector pump. The test is to check the durability of the injectors. It is a close loop system. They spray fuel & test the properties of the fuel. The emissions from the injector test bench vents to the atmosphere. The process is exempted from permit to install per Rule 290. During the inspection, the area was clean. The company keeps the following record: a) a list of each of the air contaminants with its ITSL & IRSL; b) emissions from each of the chambers. The company's record shows that the emission from each of the chambers has been no more than 180 lbs./month since January 2015. This was in compliance with the Rule 290 requirements.

EU-CLEANING
This is for the miscellaneous cleaning operations that use a toluene solvent-based cleaner for miscellaneous metal. According to the company, they didn't operate any of the process.

SOURCE WIDE EMISSION LIMIT
The company has obtained a source wide emission limit to restrict the potential HAP emission below the major source threshold. The company's record shows that the emissions from any single HAP as well as the aggregate HAPs were below the corresponding emission limits.

In conclusion, company appeared operating in compliance for other processes & operations that are covered by their permits.

NAME Joyce [signature] DATE 3/7/16 SUPERVISOR CJE