

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

B160467881

<b>FACILITY:</b> GM LLC Customer Care & Aftersales - Swartz Creek		<b>SRN / ID:</b> B1604
<b>LOCATION:</b> 6060 W. BRISTOL RD., FLINT		<b>DISTRICT:</b> Lansing
<b>CITY:</b> FLINT		<b>COUNTY:</b> GENESEE
<b>CONTACT:</b> Daniel Ray , Sr. Environmental Engineer		<b>ACTIVITY DATE:</b> 06/28/2023
<b>STAFF:</b> Julie Brunner	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b> Compliance Inspection, PTI 95-09A, part of a full compliance evaluation (FCE)		
<b>RESOLVED COMPLAINTS:</b>		

On June 28, 2023, I conducted a scheduled inspection of GM Customer Care & Aftersales – Swartz Creek (B1604) in Corunna. The last inspection of the facility was on August 18, 2020.

**Arrived: 9:00 am**

**Weather: 62°F, UV Index 2 Low, and wind WNW 3 MPH**

**Departed: 11:00 am**

**Facility Contacts:**

Daniel Ray, Sr. Env. Engineer, GM – Flint Non-Mfg Sites, Ph: 248-640-9077, dan.ray@gm.com

**Facility Description:**

GM Customer Care & Aftersales (formerly GM Service Parts Operation) in Swartz Creek (GM Swartz Creek) warehouses automotive parts. Some of the auto parts, mostly doors, side panels, hoods, hatches, and fenders are coated with a black primer prior to being shipped to aftermarket customers. The facility is divided into two plants. Plant 1 is the warehouse and coating operations. Plant 2 is shipping. A powerhouse containing three active boilers supplies heat to the 3.2 million square foot facility. There are two (2) diesel fuel-fired generators and one (1) natural gas-fired emergency generator for lights and power. There are three (3) diesel fuel-fired fire pumps for fire water.

**Commencement of Mfg. Operations:** The facility is owned and operated under the “new” GM company, General Motors LLC, since 2009 when the restructuring occurred.

**Plant Capacity:** The coating operation is mainly 1-shift (7:00 am to 3:00 pm). They can run 3-shifts if necessary.

**Staff #: 350 - 400    Shifts/Day: 1-shift (8-10 hours)    Days of Operation/Week: 5-6 days/week**

**List of Active Air Use Permits:**

**Permit to Install (PTI) No. 95-09 was modified May 10, 2016 to include a hazardous air pollutants (HAPs) content limit for the electrodeposition coating. The following emission units and flexible groups are covered by PTI 95-09A:**

<b>Emission Unit (EU) / Flexible Group (FG)</b>	<b>Description</b>	<b>Applicable Regs</b>
<b>EU-ELPO1</b>	<b>Electro-coating (ELPO) of metal parts consisting of a pre-treatment, prime-coating (dipping), and a cure oven.</b>	<b>Rule 205; Rule 702(a)</b>
<b>EU2-BLR001 / FG2-BLRGRP</b>	<b>48 MMBtu/hr natural gas-fired boiler with low-NOx burners</b>	<b>Rule 205; 40 CFR 60, Subpart Dc</b>
<b>EU2-BLR002 / FG2-BLRGRP</b>	<b>48 MMBtu/hr natural gas-fired boiler with low-NOx burners</b>	<b>Rule 205; 40 CFR 60, Subpart Dc</b>
<b>EU2-BLR003 / FG2-BLRGRP</b>	<b>48 MMBtu/hr natural gas-fired boiler with low-NOx burners</b>	<b>Rule 205; 40 CFR 60, Subpart Dc</b>

**The permit also includes the following limits to restrict potential emissions: VOC content of 1.2 lb/gallon (minus water) as applied and a hazardous air pollutant (HAP) content of 0.3% by weight as received on the prime electrodeposition coatings, and combustion of natural gas only in the boilers (FG2-BLRGRP).**

**Regulatory Discussion:**

GM Swartz Creek was issued a Title V Renewable Operating Permit (ROP) in 1999 because the boilers were capable of emitting sulfur dioxide (SO<sub>2</sub>) at greater than 100 tpy. In 2001, the coal-fired boilers were converted to natural gas and a fourth coal-fired boiler was decommissioned. The changes significantly reduced the potential to emit (PTE) for several pollutants. In 2005, the ROP was renewed. In the staff report, PTE for VOC and HAP were identified as being greater than 100 tpy and 25 tpy, respectively. A flow coater primecoat process was removed later that year. A reformulation of the primer coating for the electrophoretic deposition process (EU1-ELPO) was made to remove HAPs. These last process changes significantly reduced VOC and HAP emissions. Because the facility was less than the major source threshold for all criteria pollutants and HAPs, they applied for and were issued a permit to opt-out of the Title V Program in 2009. The facility is a synthetic minor source not subject to the Title V - Renewable Operating Permit (ROP) Program and any applicable federal standards with the permitted restrictions on emissions to below major source thresholds.

On December 20, 2004, an initial notification was received indicating processes were subject to 40 CFR 63, Subpart Mmmm. The coatings used on the EU1-ELPO coating line were reformulated to remove HAPs. A letter was received on December 20, 2006 indicating the reformulation, and that no existing processes were subject to 40 CFR 63, Subpart Mmmm at the facility. The reformulation occurred before the compliance date of January 2, 2007, and the facility was no longer an existing affected source as defined by 40 CFR 63, Subpart Mmmm.

The three natural gas-fired boilers are subject to 40 CFR 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. GM Swartz has one emergency engine that is subject to 40 CFR 60, Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (NSPS CI ICE).

The engines that power the two (2) diesel fuel-fired generators, one (1) natural gas-fired emergency generator, and three (3) diesel fuel-fired fire pumps are subject to 40 CFR 63 Subpart ZZZZ for Reciprocating Internal Combustion Engines (RICE MACT). Michigan has delegation to implement and enforce this standard through the Title V program, but sources with no Title V are still required to comply with this standard.

GM Swartz Creek is an "area source" of HAPs and operates natural gas-fired boilers. Gas-fired boilers are not subject to 40 CFR 63 Subpart JJJJJ for Industrial, Commercial, and Institutional Boiler Area Sources.

#### **Michigan Air Emissions Reporting System (MAERS):**

The facility is required to report to MAERS. The MAERS reporting for 2022 was audited. In the report, the pollutants reported to be emitted in the greatest quantity were 6.34 tpy of nitrogen oxides (NOx) and 8.39 tpy of carbon monoxide (CO) from combustion, and 7.77 tpy of VOC mainly from the EU1-ELPO coating line.

### Inspection:

When I arrived, I detected no odors around the facility. There were no visible emissions from any exhaust stack vents. I checked in with security, and was then met by Dan. Dan has been 6-months in the environmental roll here and covers 6 facilities. He spends about 3-days a week in Flint so pre-scheduling the inspection is more efficient. Facility operations were discussed during the walk through the facility and records were reviewed after.

### **FG2-BLRGRP - Three (3) Natural Gas-Fired Boilers (PTI 95-09A):**

Boiler unit nos. 2, 3, and 4 are converted natural gas-fired boilers used to support the ELPO coating line and to heat the building. Boiler no. 1 has been retired in place. The boiler emission unit numbers on the permit are for EU2-BLR001, EU2-BLR002, and EU2-BLR003 which doesn't match the numbering used by the facility. Units 3 and 4 are combined in a single stack and Unit 2 has its own stack. The stacks appear to be appropriately greater than 75 feet tall and 30 inches in diameter, and are not listed on the permit.

### **Boiler Equipment Information:**

<b>Unit No.</b>	<b>Manufacturer / Type</b>	<b>Date Built</b>	<b>Heat Input Rating*</b>	<b>Operational Capacity</b>
<b>2</b>	<b>Union / Water Tube</b>	<b>3-29-1957</b>	<b>40 MMBtu/hr</b>	<b>100 PSI, 40,000 lb steam/hr</b>
<b>3</b>	<b>Union / Water Tube</b>	<b>3-29-1957</b>	<b>40 MMBtu/hr</b>	<b>100 PSI, 40,000 lb steam/hr</b>
<b>4</b>	<b>Keeler / Water Tube</b>	<b>1961</b>	<b>50 MMBtu/hr</b>	<b>100 PSI, 50,000 lb steam/hr</b>

\* The heat input rating is from the facility staff and does not exactly meet the emission unit description.

Unit 3 was operating. The operating screen on the boiler showed a drum pressure of 57.8 PSI and a stack temperature of 393.4°F. Winter load is typically 70 PSI and 40,000 to 45,000 lbs steam/hr. The boilers are used much less in the summer as the heat demand for the building is much less. In the summer only 1 boiler is run at a time and in the winter 2 boilers are run at a time.

The emission unit description in the permit lists low-NOx burners on the boilers, but there are no requirements in the permit to have low-NOx burners installed and operating properly. The boilers are inspected annually, and a preventative maintenance (PM) program is in place.

The three natural gas-fired boilers are subject to 40 CFR 60, Subpart Dc which requires that records be maintained of the total amount of each steam generating unit fuel delivered to the property during each calendar month per 40 CFR 60.48c(g) (3). Monthly and 12-month rolling fuel use records for FG2-BLRGRP are required to be kept per Special Condition (SC) VI.2. The records are kept in a satisfactory manner for each boiler on a monthly and 12-month rolling basis.

#### **EU-ELPO1 - Electrophoretic Prime Coating Line (PTI 95-09A):**

The primer coating system is an electrophoretic deposition dip application (ELPO). The coating process starts with a zinc phosphate pre-treatment to prepare the parts for coating. The ELPO coating is a two-part coating consisting of resin and paste mixed in water. About 18 to 21% solids are maintained in the dip tank, and electrical usage is used to adjust the tank contents. An on-demand PLC tracks electrical usage. The coated parts are dried in a natural gas-fired oven that according to the application for PTI 95-09 has seven (7) burners with a total of 27.5 MMBtu/hr heat input. The ELPO coating system has two (2) stacks, one (1) on the dip tank and one (1) on the natural gas-fired oven.

A schematic diagram of the phosphate/ELPO system was obtained on the May 18, 2017 inspection. D.I. water on the diagram has been replaced by R.O. water but other than that, the process has not changed. The parts are hung on racks and travel though the coating process on an overhead conveyor.

The process overview is as follows:

#### **1. Phosphating**

2. Dip tank – 60,000 gallons, flow through

3. 4-stages of rinse with R.O. water, ultra filtration removes ELPO solids and returns to ELPO tank.

4. Drying oven

=>It takes about 1-hour for a part to travel through the ELPO coating process.

The line was operating. I observed parts going through the phosphating system and then being coated in the ELPO bath. The racks that the parts are hung on for coating are sent to a 3<sup>rd</sup> party for cleaning to remove coating build-up.

**EU1-MAINTPNT - Maintenance paint booth:**

This booth was installed in 1957 and is grandfathered. A particulate control system is in place. This booth has not been used for spray coating since the painter retired. There may be some paint application done in the booth using rollers.

**Miscellaneous Exempt Equipment:**

**Cold Cleaners Exempt per Rule 281(2)(h) -**

Several water-based parts washers are on-site. Safety-Kleen owns and services the parts washers. ArmaKleen 4 in 1 Cleaner – Cleaning Solution is used in the parts washers. It is a water-based cleaner that according to the SDS (obtained at the last inspection) has a mild detergent odor and a pH greater than 10. A parts washer in the boiler house was viewed. It was a Model 91 Aqueous Vat Parts Cleaner. The lid was closed and procedures were posted along with safe operating practices.

**Emergency Generators and Fire Pumps Exempt per Rule 285(2)(g) –**

1. Plant 1 natural gas-fired emergency generator for lighting – EMGENERATOR EL3.
2. Plant 2 diesel fuel-fired emergency generator for lighting.
3. ELPO diesel fuel-fired emergency to keep the dip tank mixed in the event of power failure – ELPO Generator GG-9.
4. Three (3) diesel fuel-fired fire pump engines – Fire pump Generators #1, #2, and #3.

The emergency generators are tested monthly and the fire pumps are tested weekly (30-min engine run time. PM and runtime logs are kept for each engine, and annual engine inspections are generally done in April by a contractor. The sulfur content of

the fuel oil used in the generators is less than 0.0015% by weight for nonroad diesel fuel as required by 40 CFR 60, Subpart IIII, 40 CFR 60, Subpart ZZZZ, and 40 CFR 1090.305. For emergency engines, it is assumed that they operate no more than 500 hours per year at worse-case.

The following is a list of specifics for each generator:

Generator	Unit / Engine	Total Engine Operating Hours	Notes
EMGENERATOR EL3, natural gas -fired, Manf.: 05/2005	Kohler Power System 125, Model # 125RZG, Serial # 2042338 / GM engine (8.1 L), 130 kW, Model # GM8.1L, Serial # 8P1L10430	87 hours (As viewed on 10-18-2020)	Vents out the roof
Plant 2 Emergency Lighting Generator, diesel fuel-fired, Manf.: 1990	Detroit Model # GC-659300, Serial # L3011-6 / John Deere, 125 kW, Model # 6466TF-00, Serial # RG6466T308638	103.5 hours (As viewed on 10-18-2020)	On a platform above the plant floor
ELPO Generator GG-9, diesel fuel -fired, Manf.: 1987	Marathon Model #NTVEMDA30600XJLU, Serial # SSI03939 / GM Detroit Diesel Engine, 250 kW (415 BHP), Model # 80637405, Serial # 06VF156056	229.1 hours	Diesel fuel tank with secondary containment beside the generator
Fire Pump #1, diesel fuel-fired, Manf.: 1996	Clarke Detroit Diesel, 265 BHP, Model # DDFP-L6FA, Serial # 6VF-215372	809.6 hours	Located in firepump house

Generator	Unit / Engine	Total Engine Operating Hours	Notes
Fire Pump #2, diesel fuel-fired, Manf.: 1/2012	Cummins, 311 BHP, Model # CFP9E-F40, Serial # 73335180	294.6 hours	Located in firepump house, Subject to 40 CFR 60, Subpart III, Certificate No. CEX-STATCI- 11-21
Fire Pump #3, diesel fuel-fired, Manf.: 1996	Clarke Detroit Diesel, 265 BHP, Model # DDFP -L6FA, Serial # 6VF-215372	675.7 hours	Located in firepump house

The emergency engines and fire pumps are subject to the RICE MACT in 40 CFR Part 63, Subpart ZZZZ. All but Fire Pump #2 are considered existing RICE. The requirements include burning only low sulfur fuel oil in the diesel fuel-fired engines, annual maintenance, and no more than 100 hours per year for maintenance, testing, and including 50 hr/yr for non-emergency situations. It was verified that maintenance and operating records for all the emergency engines are being kept.

Fire Pump #2 is subject to 40 CFR 60, Subpart III - NSPS CI ICE. It is a certified engine. Compliance with 40 CFR 60, Subpart III is compliance with 40 CFR Part 63, Subpart ZZZZ.

#### Boilers and Other Natural Gas-Fired Equipment Exempt per Rule 282(2)(b)(i).-

1. Small natural gas-fired boiler (Hydrotherm, Serial # MSD-2179, 474,000 Btu/hr) for fire water protection tanks.
2. Natural gas-fired overhead door space heater (assumed less than 14.4 MMBtu/hr for all space heaters in the opt-out application).

There are also numerous small tanks (less than 500 gallons) for storage of propane, diesel fuel, etc. exempt per Rule 284(2)(b), (c), or (d) at the facility.

#### Records Review:

Electronic copies of the records will be filed in Content Manager with this inspection report.

The following is a list of records obtained as part of the inspection:

1. EU1-ELPO Monitoring and Recordkeeping Form (August 2022 to May 2023)
2. Phosphate System Safety Data Sheets (SDS) – CHEMKLEEN 275, CHEMFOS ACCELERATOR 95
3. ELPO System Safety Data Sheets (SDS) and Environmental Data Sheets (EDS) - CP524 POWERCRON BLACK PASTE, CP691B POWERCRON RESIN, and MZD4094 (bromine).
4. FG2-BLRGRP Monitoring and Recordkeeping Form (January 2022 to May 2023)
5. Emergency Generators: Records obtained for the fire pumps only including the 2023 annual test record, and annual maintenance reports for 2021 and 2022 and 2023 operating hour records for Fire Pump #2.

#### **EU-ELPO1 - Electrophoretic Prime Coating Line (PTI 95-09A):**

VOC emissions for the rolling 12-month period ending in May 2023 were 6.89 tons per year (tpy) well below the allowable limit of 30.0 tpy. The VOC content in the tank was less than the allowable limit of 1.2 lb/gal (minus water) maintained at an estimated 0.4 lb/gal (minus water) per EDS dated 11/29/2022. The highest HAP content was in the paste (EDS CP524 POWERCRON BLACK PASTE dated 11/29/2022) at 0.2% by weight, as received, meeting the permit limit of 0.3% by weight.

Review of the SDS for all materials indicates that there are some VOCs (i.e., alcohols, acetaldehydes) in the pre-treatment chemicals. VOC emissions due to resin and paste, and pre-treatment chemicals are properly accounted for in the mass emission calculations. SDS and EDS are maintained in compliance with SCs V.1 and VI.2. Recordkeeping as required by SC VI.3 is maintained in an acceptable format.

#### **FG2-BLRGRP - Three (3) Natural Gas-Fired Boilers (PTI 95-09A):**

As of May 2023, 97.676 Million cubic feet of natural gas was combusted for the 12-month rolling time period in the boilers. Combustion of pipeline quality gas and recordkeeping of fuel usage are the only permit requirements. Compliance with SC II.1 and VI.2 was demonstrated.

#### **Emergency Generators and Fire Pumps – RICE MACT**

The records provided show that annual maintenance which include oil changes is being completed per the requirements of the RICE MACT. Annual runtime logs for each engine are kept demonstrating when and why the engine is operated per the requirements of the RICE MACT for an emergency RICE. The runtime log for Fire Pump #2 (the only NSPS subject engine) shows that no more than 100 hours per year for maintenance and testing is being complied with. As of May 2023, the engine had been operated 10.6 hours for maintenance and testing. For Fire Pump #2 which is subject to 40 CFR 60, Subpart IIII - NSPS CI ICE, compliance is demonstrated by maintaining a certified engine.

**Summary:**

GM Swartz Creek was in compliance with applicable air quality rules and regulations, and PTI 95-09A.



**Image 1(IMG 0516)** : NSPS subject Fire Pump #2

NAME Julie L Brunner

DATE 7/19/2023

SUPERVISOR RB