

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

B160454921

<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> Alexandra Thibeault , Environmental Operations Supervisor		<b>ACTIVITY DATE:</b> 08/18/2020
<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		
<b>RESOLVED COMPLAINTS:</b>		

On August 18, 2020, I conducted a scheduled inspection of GM Customer Care & Aftersales – Swartz Creek (B1604) in Corunna. The last inspection of the facility was on May 18, 2017.

Arrived: 8:56 am

Weather: 61°F, UV Index 1, and wind WNW 8 MPH

Departed: 11:10 am

**Facility Contacts:**

Alexandra Thibeault, Env. Comp. office: 810-635-5069, alexandra.thibeault@gm.com

Darren Demmer, Env. Comp

**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 system is currently a 1-shift operation (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>
EU-ELPO1	Electro-coating (ELPO) of metal parts consisting of a pre-treatment, prime-coating (dipping), and a cure oven.	Rule 205; Rule 702(a)

<b>Emission Unit (EU) / Flexible Group (FG)</b>	<b>Description</b>	<b>Applicable Regs</b>
EU2-BLR001 / FG2-BLRGRP	48 MMBtu/hr natural gas-fired boiler with low-NOx burners	Rule 205; 40 CFR 60, Subpart Dc
EU2-BLR002 / FG2-BLRGRP	48 MMBtu/hr natural gas-fired boiler with low-NOx burners	Rule 205; 40 CFR 60, Subpart Dc
EU2-BLR003 / FG2-BLRGRP	48 MMBtu/hr natural gas-fired boiler with low-NOx burners	Rule 205; 40 CFR 60, Subpart Dc

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 2019 was audited. In the report, the pollutants reported to be emitted in the greatest quantity were 7.47 tpy of nitrogen oxides (NOx) and 9.86 tpy of carbon monoxide (CO) from combustion, and 11.0 tpy of VOC from the EU1-ELPO coating line.

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 Alex and Darren. The inspection was pre-scheduled and records had already been requested to minimize time on-site due to COVID-19. Facility operations and records were discussed during the walk through the facility.

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

Boiler unit nos. 2, 3, and 4 are converted natural gas-fired boilers. 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:**

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

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

Only Unit 3 was operating and the operating screen on the boiler showed 3 KPH. 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.

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.

**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 through 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 loading and 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 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 as required by the NRLM diesel fuel standard in 40 CFR 80.510(c). For emergency generators, it is assumed that they operate no more than 500 hours per year at worst-case.

The following is a list of specifics for each generator:

Generator	Unit / 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	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	On a platform above the plant floor

Generator	Unit / Engine	Operating Hours	Notes
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	207.5 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	749.6 hours	Located in firepump house
Fire Pump #2, diesel fuel-fired, Manf.: 1/2012	Cummins, 311 BHP, Model # CFP9E-F40, Serial # 73335180	211.5 hours	Located in firepump house, Subject to 40 CFR 60, Subpart IIII, 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	607 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.

Fire Pump #2 is subject to 40 CFR 60, Subpart IIII - NSPS CI ICE. It is a certified engine. Compliance with 40 CFR 60, Subpart IIII 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:**

Paper copies will be attached to this inspection report for the paper file.

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

1. EU1-ELPO Monitoring and Recordkeeping Form (August 2017 to July 2020)
2. Phosphate System Safety Data Sheets (SDS) – CHEMKLEEN 260 & 275, CHEMFOS ACCELERATOR 95
3. ELPO System SDS and Environmental Data Sheets (EDS) - CP524 POWERCRON BLACK PASTE, CP691B POWERCRON RESIN
4. FG2-BLRGRP Monitoring and Recordkeeping Form (August 2017 to July 2020)
5. Emergency Generators and Fire Pumps: 2019 & 2020 annual maintenance reports and 2020 operating hour records.

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

VOC emissions for the rolling 12-month period ending in July 2020 were 9.69 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 0.37 lb/gal (minus water). The highest HAP content was in the paste at 0.2% by weight, as received, less than 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. Safety Data Sheets (SDS) and Environmental Data Sheets (EDS) are maintained in compliance with Special Conditions (SCs) V.1 and VI.2. Recordkeeping as required by SC VI.3 is maintained.

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

As of July 2020, 159,615,000 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. Runtime logs show that no more than 100 hours per year for maintenance and testing including 50 hr/yr for non-emergency situations is being complied with per engine. 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.

NAME Julie L. Brunner

DATE 9/3/2020

SUPERVISOR B.M.