

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

A164149237

FACILITY: General Motors Lansing Grand River Assembly		SRN / ID: A1641
LOCATION: 920 TOWNSEND ST., LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: INGHAM
CONTACT: Melissa Phipps, Environmental Engineer		ACTIVITY DATE: 06/25/2019
STAFF: Robert Byrnes	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: FY 2019 Scheduled Inspection.		
RESOLVED COMPLAINTS:		

On Tuesday June 25, 2019 I conducted an announced inspection at the GM-LGR facility (SRN A1641). I arrived at the facility at 8:30 am and met with Karen Carlson and Melissa Phipps of GM. We began with a meeting deciding out the inspection plan, facility changes, and updates of personnel from GM.

During the Inspection, I visited the paint shop, followed by a walk though of the final assembly plant to view the processes with ROP. After visiting those buildings at the facility we concluded with a follow up meeting. The facility is currently producing the Camaro and has launched the new Cadillac CT5 models (August production vehicle). Work schedules are 1 shift for 10 hours in General Assembly, and 2 shifts per day in Paint and Body. The shifts run from approximately 6:30 am to 4:30 pm and 5:00 pm to 3:00 am Monday through Thursday.

Protocol Review /Testing

A review of the 2018 auto protocol review documents for Transfer Efficiency (TE), Destruction Efficiency (DE), Removal Efficiency (RE) and Capture Efficiency (CE) showed the following recent test results: TE testing was conducted by JLB Industries in May 2016 due to the Camaro being introduced and accounting for 75% of facility production. Oven Solvent Loading (OSL) testing was conducted by BASF in April 2016. CE and DE was conducted in December 2015 by BTEC, (now Montrose Environmental). All of the abatement equipment parameters have recently been tested. A copy of the annual auto protocol review is included as an attachment to this report. The 2019 auto protocol review had not yet been conducted as of the date of this inspection.

Rotary Thermal Oxidizer No. 1 (South)

The Rotary thermal oxidizer No. 1 controls VOC emissions from the ELPO tank enclosure, the ELPO oven, the prime oven and the 2 topcoat cure ovens. The RTO was previously tested and showed a DE of 94.2%. Actual operating parameters recorded during the inspection were as follows:

Inlet temperature: 305 (previously 310, 313) degrees Fahrenheit

Outlet temperature: 380 (previously 369, 390) degrees Fahrenheit

Combustion Chamber Temperature: 1609 (previously 1641, 1591) degrees Fahrenheit (calibrated 4/18/19)

The operating temperature was well above the permit limit of 1400 degrees F. Records of maintenance for the thermal oxidizer noted the Differential RTO pressure at 18.9" (previously 13.8"). During a review of the maintenance logs in the RTO control room it was noted that an RTO bake out had been conducted on 9/28/18. All other records appeared to be normal maintenance. See attachments to this report to view the records mentioned above.

Rotary Thermal Oxidizer #2 & Concentrators (North)

The Rotary Thermal Oxidizer No. 2 controls the Guide coat bells, the Base coat flash, and the clear coat auto zones. Actual operating parameters recorded during the inspection were as follows:

Inlet temperature: 177 (previously 168, 180) degrees Fahrenheit

Outlet temperature: 390 (previously 353, 375) degrees Fahrenheit

Combustion Chamber Temperature: 1710 (previously 1526, 1508) degrees Fahrenheit (calibrated 4/19)

The operating temperature was well above the permit limit of 1400 degrees F and even above the past temperatures in the lower 1500's which seemed odd. No records of the temperature were obtained but temps were observed on the screen. Review of the records of maintenance for the thermal oxidizer appeared normal as everything was mentioned in normal maintenance of the unit. Records of the maintenance for the thermal

oxidizer noted the differential pressure for RTO #2 was at 13.6" (previously 13.0"). See attachments to this report to view the records mentioned above.

RTO #2 is preceded by 2 rotary concentrators. Both concentrators are used at the same time. A single line from the booths, splits into the 2 concentrators. The desorb temperature for the concentrator was at 276 degrees F (previously 264 degrees F), which is above the permit limit of 250 degrees F. The inlet temperature of the concentrator was originally viewed at 177 degree's F. (previously 92 degree's Fahrenheit). This would imply the concentrator was not properly adsorbing and further investigation on a different computer screen showed 51 hz, conc. Inlet 94 degree's F, outlet 98 degree's F (too low?). Further investigation was requested of GM to explain which system was correct and why. On July 1, 2019 Melissa Phipps responded via e-mail explaining signal wire issues and the corrections made. The email also provided the proper monitoring temperatures 85 degree's inlet, 264 desorb for May 30th, 2019 through July 1st, 2019.

Review of the maintenance records showed the pressure drop across the desorb portion of the block was at 0.3-1.7". Attached to this report is a copy of the January 7, 2019 preventative maintenance records for concentrator #1 and #2. See attachments to this report to view the records mentioned above.

Paint Shop

The phosphate process for vehicle bodies is done through a series of tanks with ten tanks. 1 & 2 are cleaner stages utilize soap, tanks 3 a & b use city water for rinse, tank 4 is a conditioner tank, tank 5 adds the nickel/zinc phosphating, tank 6 is for rinse, tank 7 is sealer and 8 a & b is for rinse. The ELPO process is a fully enclosed dip tank (112,000 gallons, 112 ft long, 79 degree's Fahrenheit) with enclosure tunnel until going up into the e-coat oven. Sealers are applied between the e-coat oven and guide coat booths. The cars are wet sanded and solvent wiped prior to entering the guide coat booths.

EU-GUIDECOAT

The guide coat emission unit which uses grey and white solvent borne primers, consists of a Bell section (6 side and overheads) a manual section not currently being used and a cure oven.

EU-TOPCOAT

The topcoat process consists of 2 identical parallel topcoat lines using water borne basecoats and solvent borne clearcoats. The lines each consist of a feather duster, a BC robot section (4 painters, 1 opener), a BC bell section (6 side and overheads), a BC robot section (6 painters), a manual section, a heated flash for basecoat. The clearcoat portion of the line consists of a CC robot bell section (6 side and 3 overheads) then (4 side and 3 overhead bells), an observation zone with back up manual sprayers not currently being utilized and finally a cure oven. The whole guidecoat and topcoat spray booth sections utilized all automated sprayers unless a manual is needed for quality or issues with existing robots.

The topcoat system uses a hydro purge with additive for the BC sections. No purge is collected due to the high water content and it goes straight to the booth water. No VOC credit is taken for hydro purge as they do not send it off as waste. The clear coat booths have purge cups for the robots and the bell purge is collected internally from the bell system. Only the bell cups are released into the booth water. Cleaning for both the base coat and clear coat booths is done with a high pressure water sprayer. Cleanup is minimized by utilizing masking and petroleum jelly like protective coatings which are washed into the booth water when finished/cleaning.

OLD MACT

GM is subject to MACT EEEE because of their Methanol storage tank which is used for windshield wiper fluid. They are not subject to any emission limitations, operating limits or work practice standards. No further notifications are required unless they make one of the following changes to the affected facility:

- a) Any storage tank became subject to control under this subpart EEEE.
- b) Any storage tank greater than 5,000 gallons became part of the affected source, but is not subject to any emission limitations, operating limits or work practice standards of this subpart.

AUTO MACT

GM has provided their semiannual compliance certifications as required. All information was timely and complete. Records of the HAP emission calculations were requested for the month of May 2018 through April 2019 for review as part of the site inspection. A review of the records showed the facility is in compliance with all applicable emission limits. Copies of the May 2018 through April 2019 HAP records are included with this report.

Pollutant	MACT Limit	Actual Emissions April 2019
HAP – PS, Topcoat, Glass Install, Final Repair	0.5 lbs HAP/GSA	0.01 lbs HAP/GSA
HAP – Sealers and Adhesives	0.01 Lbs HAP/Lb material	0.00 Lbs HAP/Lb material
HAP – Deadener	0.01 Lbs HAP/Lb material	0.00 Lbs HAP/Lb material

GM uses the compliance method specified in 63.3091(b) which is the combined emissions from primer surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesives. Electrodeposition is excluded from the grouping per 63.3092(a) since it contains no more than 1.0 percent by weight of any organic HAP and no more than 0.1 percent by weight organic HAP which is a carcinogen.

Final Repair emissions were reviewed and the facility uses the assumed transfer efficiency (TE) of 40% as allowed by 40 CFR 63.3161(h). Two of the materials listed in final repair were for polish cream and micro finish polish which don't readily appear to be coatings. The solids from these materials were also included in the calculation

VOC/HAP Calculations

Review of the VOC calculations was performed for the month of April 2019. All processes associated with painting and assembling of automobiles were included in the tpy and lb VOC/job calculations. A review of the records showed the facility is in compliance with all applicable emission limits. Copies of the records for April 2018 are included as an attachment to this report. See table below.

FG-Facility

Special Condition/Pollutant	Limit	Time Period	Actual Emissions April 2019	Compliance
SC I.1 VOC	606 tpy	12 month rolling	149	Yes
SC I.3 VOC	5.73 lb/job	12 month rolling	4.25	Yes
SC I.4 NOx	36.5 tpy	12 month rolling	18.09	Yes
SC II.1 NG usage limit	769 MMCF/yr	12 month rolling	372.4*	Yes
*Emissions include ASH and Heating				

FG-Cold Cleaners

Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(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.

A copy of all cold cleaners operated at the facility was obtained. The Body, Paint and General Assembly areas have a total of 22 parts washers. The complete list showed a unique identifier, the air/vapor interface area, the Reid vapor pressure of each solvent used, etc. A review of the attached sheet of cold cleaners shows each unit complies with the requirements of Rule 707(2) except for units 6 & 17. Units 6 & 17 could not be verified because they must check Yes for lines 2a, 2b or 2c. Lines b & c were checked no and line a had NA entered. See attachment for more details.

Odors

For the GM-LGR facility, there have been no complaints since 8/28/17 complaints.

Body Shop

A walk through of the body shop was not conducted during this site visit. Previously we viewed the various door panels, hoods, body parts, etc. being welding and assembled throughout the plant. The body shop contained various welding and laser brazing operations which are exempt under Rule 285(i). The welding operations were controlled by Torit cartridge filters and exhaust into the plant environment. 2 laser welders are operated in complete enclosures and are vented internally as well. Various sealers are used in various places to seal body

panels which are being put together prior to going to the paint shop. The sealer emissions are included with the other sealer usages accounted for in the paint and final assembly areas.

Stamping Plant & Logistics Optimization Center (LOC)

GM also has a stamping plant building and the LOC building. Stamping of body panels is now done at this facility for the Camaro and Cadillac models. Various welding and body/door panel lines weld, seal and complete body part assemblies. Sealer materials are included with EU-Sealers & Adhesives emission calculations. The LOC stores and distributes Camaro and Cadillac modules/car parts for the final assembly portion of the plant. Both the Stamping Plant and LOC were added under the flexibility provisions of MI-ROP-A1641-2012b. Recently the LOC has added taller parts racking for additional storage of parts.

MACT DDDDD – Boiler MACT

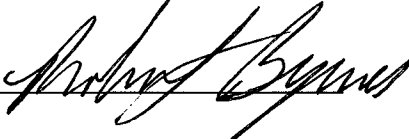
The facility mainly gets all its hot water by using steam provided from the Lansing Board of Power and Light (LBPL). However, they do have one on demand hot water heater as previously described (See the Jim Ecklund email response to additional questions dated August 11, 2017). Jim's email stated the unit is subject to the "hot water heater" definition and does not have a capacity, or it is less than 120 gallons and exempt from requirements as it is an on demand heater with no tank.

MACT ZZZZ – Emergency Engines

There are currently 7 emergency generators at the facility. Copies of the maintenance records and hours of operation were obtained for January 2018 through May 2019. The 12 month rolling hours of operation were below 50 hours for each individual engine. Maintenance records were provided for each engine either from Cummings or Peeress Midwest Inc. Copies of the records are attached to the hard copy of this report.

Conclusion:

The site inspection concluded in the afternoon with a closure meeting. We discussed the observations for the day and asked for any feedback and reminded GM the opportunity to complete an inspection survey. Two issues remained, one was the concentrate inlet temperature monitoring mentioned above and the second was for the SDS for the ELPO equipment cleaner. Melissa Phipps responded via email on July 1, 2019 and provided information as mentioned above on the concentrator inlet issue. The SDS for the ELPO equipment cleaner confirmed there was VOC's within the cleaner material. On July 31, 2019 Melissa revised the RY2018 MAERS report to reflect an increase of 7,107 pounds of VOC emissions. There were no other outstanding issues at the GM Lansing Grand River assembly plant at the closure meeting and based upon my review at this time the Lansing Grand River Assembly Plant is currently in compliance with their ROP obligations.

NAME  DATE 8/22/19 SUPERVISOR 