

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

A164141560

FACILITY: General Motors Lansing Grand River Assembly		SRN / ID: A1641
LOCATION: 920 TOWNSEND ST., LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: INGHAM
CONTACT: JIM ECKLUND ,		ACTIVITY DATE: 08/02/2017
STAFF: Robert Byrnes	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: 2017 Scheduled inspection.		
RESOLVED COMPLAINTS:		

On Wednesday August 2, 2017 Kaitlyn Leffert and I conducted an announced inspection at the GM-LGR facility (SRN A1641). We arrived at the facility at 8:30 am and watched the safety video prior to entering the facility. We met with Jim Ecklund, Kim Essenmacher and Brian Borzenski of GM. We began with a meeting deciding out the inspection plan, the status of the ROP renewal application, facility changes, and updates of personnel from GM.

During the Inspection, we visited the paint shop, followed by a walk though of the final assembly, stamping plant, body shop, and Logistics Optimization Center (LOC) to view the processes within the ROP. After we visited the various buildings at the facility we concluded with a follow up meeting. The facility is currently producing the Cadillac CTS, Cadillac ATS & Camaro models. Work schedules are four days per week, 10 hour shifts, 2 shifts per day. The shifts run from approximately 6:30 am to 4:30 pm and 5:00 pm to 3:00 am.

Protocol Review /Testing/Facility Changes

A review of the 2016 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 in May 2016 due to the Camaro being introduced and accounting for 75% of facility production. Oven Solvent Loading (OSL) testing was conducted in April 2016. CE and DE was conducted in December 2015. All of the abatement equipment parameters have recently been tested. A copy of the annual auto protocol review is included in attachment "5" of this report. The 2017 auto protocol review had not yet been conducted as of the date of this inspection.

The facility is currently planning to install stainless steel materials within the water wash sludge system. Also, there could be some body shop work in December for a 5 year model change on one of the vehicles.

Rotary Thermal Oxidizer No. 1

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. Actual operating parameters recorded during the inspection were as follows:

Inlet temperature: 310 (previously 313) degrees Fahrenheit
 Outlet temperature: 369 (previously 390) degrees Fahrenheit
 Combustion Chamber Temperature: 1641 (previously 1591) degrees Fahrenheit (calibrated 3/18/17)

The operating temperature was well above the permit limit of 1400 degrees F. Also, a copy of the temperature records for week of May 1, 2017 through May 7, 2017 showed the operating temperature again well above the 1400 degree Fahrenheit permit limit. Records of maintenance for the thermal oxidizer noted the Differential RTO pressure at 13.8" (RTO #2 was at 13.0"). During a review of the maintenance logs in the RTO control room it was noted that an RTO bake out had been conducted on 3/18/17. All other records appeared to be normal maintenance. See attachments "6" & "7" to this report to view the records mentioned above.

Rotary Thermal Oxidizer #2 & Concentrators

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: 168 (previously 180) degrees Fahrenheit
 Outlet temperature: 353 (previously 375) degrees Fahrenheit
 Combustion Chamber Temperature: 1526 (previously 1508) degrees Fahrenheit (calibrated 4/17)

The operating temperature was well above the permit limit of 1400 degrees F. A copy of the temperature records May 1, 2017 through May 7, 2017 showed the operating temperature again well above the 1400 degrees Fahrenheit permit limit. Review of the records of maintenance for the thermal oxidizer appeared normal as everything was mentioned in normal maintenance of the unit. See attachment "7" 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 264 degrees F, which is above the permit limit of 250 degrees F. The inlet temperature of the concentrator was 92 degree's Fahrenheit. Review of the records for recent months showed the pressure drop across the block was 1.3" for each concentrator. Attached to this report is a copy of the June 2017 preventative maintenance records for concentrator #1 and #2. See attachments "6 & 7" 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.

Guidecoat booth start-up checklist records were obtained for May 1, 2017 through May 31, 2017. All items were listed as ok in these reports except for 5 not ok for temperature, 2 not ok for booth balance, 2 not ok for temperature/humidity and 1 not ok for other items. Temperature and humidity faults are not necessarily indicators of poor capture efficiency but booth balance could indicate issues. However, the records always indicate corrections must have been made as they return to "ok" as normal. The records are used to demonstrate positive airflow into the booth as required in SC III.1. See attachment "9" included with this report for the start-up checklist details.

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 the 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.

Topcoat booth start-up checklist records were obtained for May 1, 2017 through May 31, 2017. All items were listed as ok in these reports (nothing was listed as "Not OK"). The records are used to demonstrate positive airflow into the booth as required in SC III.1. See attachment "9" to this report for details.

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 June 2016 through May 2017 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 June 2016 through May 2017 HAP records are included with this report as attachment "1".

Pollutant	MACT Limit	Actual Emissions May 2017
HAP – PS, Topcoat, Glass Install, Final Repair	0.5 lbs HAP/GSA	0.0 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 May 2017. All processes associated with painting and assembling and automobile 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 May 2017 are included as attachment "2" of this report. See table below.

FG-Facility

Special Condition/Pollutant	Limit	Time Period	Actual Emissions May 2017	Compliance
SC I.1 VOC	606 tpy	12 month rolling	285	Yes
SC I.3 VOC	5.73 lb/job	12 month rolling	4.73	Yes
SC I.4 NOx	36.5 tpy	12 month rolling	21.6	Yes
SC II.1 NG usage limit	769 MMCF/yr	12 month rolling	375.55	Yes

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 show 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). See attachment "10" for more details.

Odors

The GM-LGR facility has recently been a source of paint odor complaints. 3 complaints over the last year have been received. 9/9/16 and 8/28/17 complaints have been for a paint odor which were confirmed as level 2

around the apartment complex at 920 S. Washington. Another complaint of a garbage like odor was on 10/19/16 in which a paint odor mixed with garbage was verified at level 2 around the facility. This complaint was from the apartment complex at 500 S. Pine. The garbage like odor was suspected to be from the water wash system while the paint solvent odor was likely from the uncontrolled waterborne basecoat booth stack. More information will be necessary before further action will be taken at this time.

Body Shop

A walk through of the body shop was conducted during this site visit. 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 to the in 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 has recently built and began operating the 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. 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.

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 described in the Jim Ecklund response to additional questions dated August 11, 2017. Jim 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. Therefore, no MACT DDDDD obligations have been required at this time.

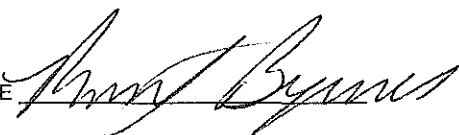
MACT ZZZZ – Emergency Engines

There are currently 7 emergency generators at the facility. Copies of the maintenance records and hours of operation were obtained for 2016 and 2017. The 12 month rolling hours of operation were below 53 hours for each individual engine. Maintenance records were provided for each engine either from Cummings or Peeress Midwest Inc. See attachments "12 & 13" of this report for details.

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. Additional information was requested via e-mail on August 8, 2017 and Jim Ecklund from GM responded on August 11, 2017. There were no 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 in compliance with their ROP obligations.

NAME



DATE

9/21/17

SUPERVISOR

