

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

A164126841

FACILITY: General Motors Lansing Grand River Assembly		SRN / ID: A1641
LOCATION: 920 TOWNSEND ST., LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: INGHAM
CONTACT: Shannon Culberson , Environmental Engineer		ACTIVITY DATE: 09/11/2014
STAFF: Robert Byrnes	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: FY 2014 scheduled inspection.		
RESOLVED COMPLAINTS:		

On Thursday September 11, 2014 Michelle Luplow and I conducted an announced inspection at the GM-LGR facility (SRN A1641). We arrived at the facility at 8:00 am and watched the safety video prior to entering the facility. We met with Shannon Culberson and Kim Essenmacher of GM. We began with a short meeting deciding out the inspection plan.

During the Inspection we visited the body shop, followed by a complete walk though of the paint shop and then proceeding to final assembly to view the processes with ROP conditions. After we visited the body, paint and final assembly portions of the assembly plant we concluded with a meeting to discuss the records request. The following information was requested for the month of June 2014. The information was received on September 22, 2014 via e-mail.

The GM-LGR facility is currently working 2 shifts, 5 days per week for a total of 16 hours per day. The facility is currently producing the Cadillac CTS and ATS coupe & sedan models.

Odors

The GM-LGR facility had previously been a source of musty/moldy odor complaints since the fall of 2009 through the summer of 2012. The AQD has not received an odor complaint on this facility since October 23, 2012.

Testing

In November 2013 the facility conducted revised TE testing for the clear coat booth. Testing for TE of the primer booth was conducted in December 2011. Testing for other portions of the paint shop was conducted in December 2011. Destruction efficiency and removal efficiency was conducted during October 19-22, 2009 and on November 11, 2009 for RTO No 1 (96.87% DE), RTO No 2 (99.13% DE). The combined removal and destruction efficiency of RTO No 2 and the Rotary Carbon Concentrator (RCC) was 92.99%. Due to the recent testing, no testing is planned for the immediate future. Auto Protocol reviews conducted in December 2012 & 2013 documents the recent testing and that no changes have been made since these tests. See attachments to this report for the protocol review documentation.

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 welded 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. No stamping is done at this facility as all the body parts are mostly received from the GM-Delta and Pontiac stamping facilities.

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: 313 degrees Fahrenheit
 Outlet temperature: 394 degrees Fahrenheit
 Combustion Chamber Temperature: 1557 degrees Fahrenheit

The operating temperature was well above the permit limit of 1400 degrees F. Also, a copy of the temperature records for June 2, through June 6, 2014 which showed the operating temperature again well above the 1400 degree Fahrenheit permit limit.

Records of maintenance record for the thermal oxidizer noted the heat exchange media was replaced with a new uni media in May 2014. All other records appeared to be normal maintenance. See attachments 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: 182 degrees Fahrenheit

Outlet temperature: 369 degrees Fahrenheit

Combustion Chamber Temperature: 1480 degrees Fahrenheit

The operating temperature was well above the permit limit of 1400 degrees F. Also, a copy of the temperature records for June 2, through June 6, 2014 which showed the operating temperature again well above the 1400 degree 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 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 265 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 pre-carbon filters and the carbon wheels were replaced in May 2014. Attached to this report is a copy of the June 25&26, 2012 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.

Guidecoat booth start-up checklist records were obtained for June 16, 2014 through June 20, 2014 both 1st and 2nd shifts. All items were listed as ok or need to watch 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 attachments to this report for 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 utilize 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 June 16, 2014 through June 20, 2014 both 1st and 2nd shifts. All items were listed as ok or need to watch 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 attachments 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 2014 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 2014 records are attached to this report.

Pollutant	MACT Limit	Actual Emissions June 2014
HAP – PS, Topcoat, Glass Install, Final Repair	0.5 lbs HAP/GSA	.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.

VOC/HAP Calculations

Review of the VOC calculations was performed for the month of June 2014. 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 June 2014 are attached to this report. See table below.

FG-Facility

Special Condition/Pollutant	Limit	Time Period	Actual Emissions June 2014	Compliance
SC I.1 VOC	606 tpy	12 month rolling	215	Yes
SC I.3 VOC	5.73 lb/job	12 month rolling	4.79	Yes
SC I.4 NOx	36.5 tpy	12 month rolling	20.3	Yes
SC II.1 NG usage limit	769 MMCF/yr	12 month rolling	432.68	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 17 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).

Conclusion:

The site inspection concluded in the afternoon with a closure meeting and a request for information. The requested information was received via e-mail on 9-22-14. There were no other outstanding issues at the GM Lansing Grand River assembly plant and based upon my review at this time the Lansing Grand River Assembly Plant was in compliance with their ROP obligations.

NAME *Robert Byrnes* DATE *9/29/14* SUPERVISOR *M. Miller*