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

A864836559

FACILITY: FORD MOTOR CO ROUGE COMPLEX		**SRN / ID:** A8648
LOCATION: 3001 MILLER RD, DEARBORN		**DISTRICT:** Detroit
CITY: DEARBORN		**COUNTY:** WAYNE
CONTACT: Mike Larson , Env. Rep. - Dearborn paint and Assy., Section 1		**ACTIVITY DATE:** 08/31/2016
STAFF: Robert Byrnes	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MEGASITE
SUBJECT: 2016 Scheduled Inspection, Section 1, Dearborn Paint and Assembly Plant.		
RESOLVED COMPLAINTS:		

On August 31, 2016 I visited the Ford Dearborn Assembly Plant to conduct an announced air quality inspection. I arrived at the facility at approximately 9:15 am and met with Tamberlyn Shell Reed, Mike Larson of Ford and Jay from GZA. The purpose of this inspection was to determine compliance with MI-ROP-A8648-2010a. No visible emissions were observed nor were any odors detected from the security parking lot. The Ford Dearborn Assembly Plant manufacturers, paints and assembles Ford F-150 pick-up trucks. The facility is a major source of VOC/HAP and is cover by ROP MI-ROP-A8648-2015.

Records were requested during the initial meeting and are included as attachments to this report. The records were provided at the closure meeting at the end of the inspection.

Particulate Controls: Ecoat, Guidecoat, Topcoat, Blackout Wax, Repair

Throughout the ROP the facility is required to keep records of the dry filter inspections for EU-Ecoat, EU-Guidecoat, EU-Topcoat and FG-Repair. The purpose of these inspections is to assure the particulate overspray control is working properly and it then can be assumed the tested emission factors for these units remain valid and accurate. A copy of the June 2016 filter inspection records were obtained, the filter records show the following:

Process/Date	6/6/16	6/13/16	6/20/16	6/25/16
Spot Repair Decks (1-3)	Y	Y	Y	Y
E-coat Scuff	0.05 Previous (0.1, 1.9)	0.05 Previous (0.1, 1.9)	0.05 Previous (0.1, 2.0)	0.05 Previous (0.1, 1.3)
Topcoat (Repair) Scuff Booth	0.52 Previous (0.5, 0.35)	0.52 Previous (0.5, 0.35)	0.52 Previous (0.4, 0.35)	0.52 Previous (0.4, 0.35)
Prime Scuff Booth	1.5 Previous (0.9, 1.2)	1.5 Previous (0.9, 1.6)	1.5 Previous (0.95, 1.6)	1.5 Previous (0.95, 0.3)
Black-out Wax Booth	0.3 Previous (0.35, 0.3)	0.3 Previous (035, 0.3)	0.3 Previous (0.35, 0.3)	0.3 Previous (0.35, 0.3)
SPOVEN final building	Y	Y	Y	Y

Based upon a review of the records provided the e-coat, topcoat, prime scuff and black out booths and maintained by pressure drop readings and it appears filters have been changed or cleaned as the pressures rise and then drop after the cleaning and/or replacement. The spot repair and SPOVEN units simply just state "yes" the condition of the filters are acceptable. See Attachment "A" for more detailed information.

Copies of the weekly water wash verification check list was obtained for the Prime Booth, Enamel #1 and Enamel #2. The weekly verifications simply have Yes or No check boxes which indicate abnormal results were reported to management, pressure drop readings have been reported, pump amperage and psi were checked and recorded, repairs were immediately reported and dates and reasons for any repairs were recorded. However, the reports do not really provide any details as to what would have been reported if anything. Records are included for the weeks of 6/1, 6/8, 6/15, 6/22 and 6/29/15. Based upon a review of the records provided it appears the water wash particulate control system has been operated in a satisfactory manner. See Attachment "B" for more detailed information.

VOC Controls

The facility uses carbon wheel concentrators to concentrate VOC emissions from the topcoat auto booths. The concentrators then send the VOC laden air to a 3 cell RTO which also controls the emissions from the E-coat tank, E-coat cure oven, the prime cure oven and the topcoat cure ovens. Operating parameters have been established from performance tests which demonstrate the control devices are installed, maintained and operated in a satisfactory manner. The facility also uses a fluidized bed concentrator and an RTO to control the emissions from the prime coat auto booths. The 3 zones of the 3 cell RTO, the RTO chart recorder, Carbon wheel #1 & #2 Desorb Temperatures, The fluidized bed absorber, the prime coat oxidizer and the prime coat chart recorders were all calibrated on 6/29/2015. A copy of the latest dates of the O&M maintenance records. Copies were also obtained which shows the dates of the calibrations and are included in Attachment "C" of this report.

The following operational parameters were recorded during the day of the inspection:

Prime Abatement System

Adsorber differential pressure 1.8" wc (previous results, 1.78 on 8/5/15, 1.91" on 5/15/13, 1.81" wc on 9/26/12)

Adsorber tray differential pressure 2.55" wc (previous results 2.2 on 8/5/15, 2.00" on 5/15/13, 2.02" wc on 9/26/12)

Desorber tray differential pressure 1.05" wc (previous results 5.7" on 5/15/13, 5.7" wc on 9/26/12)

Desorber temps from top to bottom 96, 325, 615, 292 degree Fahrenheit (previous results 94, 294, 607, 607, 256 on 8/15/15, 99, 343, 646, 257 degree Fahrenheit on 5/15/13, 152, 457, 509, 223 degree Fahrenheit on 9/26/12)

Oxidizer 1419 degree Fahrenheit (previous results 1416 on 8/15/15, 1417 on 5/15/13, 1426 degree Fahrenheit on 9/26/12)

Inlet temp 295 degree Fahrenheit (previous results, 311 on 8/15/15, 315 degree F on 5/15/13, 299 degree Fahrenheit on 9/26/12)

0% natural gas valve, 47% dilution air

The following dates in the table below were part of the records which listed when the fluidized bed concentrator carbon beads were replaced:

Date	Type	Time Span between changes
January 21, 2013	Reactivated	
May 5, 2013	Reactivated	3 months, 1 week
October 30, 2013	Reactivated	6 months, 3 weeks
March 15, 2014	Reactivated	4 months, 2 weeks
July 19, 2014	Reactivated	4 months
December 13, 2014	Reactivated	5 months, 3 weeks
April 25, 2015	Reactivated	4 months, 2 weeks
August 2, 2015	Reactivated	3 months, 1 week
October 17, 2015	Reactivated	2 months, 2 weeks
February 6, 2016	Reactivated	3 months, 3 weeks
May 30, 2016	Reactivated	3 months, 3 weeks
September 4, 2016	Reactivated	Planned Change

A copy of the carbon bead replacement record is included as Attachment "D" of this report.

Topcoat Abatement System

The Topcoat abatement equipment consists of 2 rotary carbon wheels followed by a 3 tower RTO. The main abatement systems controls the E-coat, prime, color 1 & 2 ovens which are sent directly to the RTO and the CC 1 & 2 bells and e-coat dip tank which are sent to the concentrator wheels and then the RTO for VOC abatement. The following operational parameters were recorded:

Concentrator Desorb 393 degree Fahrenheit (previous results, 392 on 8/15/15, 361 on 5/15/13, 361 degree

Fahrenheit on 9/26/12).

Concentrator Outlet Temperature 243 degrees Fahrenheit, Exhaust Temperature 92 degrees Fahrenheit.

RTO inlet temperature 284 degrees F (previous results 264 on 5/15/13, 260 degree Fahrenheit on 9/26/12)

Pressure drop -1.43" wc (previous results -1.21" wc on 8/15/15, -1.59 on 5/15/13, -1.22" wc on 9/26/12)

Average chamber temperature 1492, degree Fahrenheit (previous results, 1451 on 8/15/15, 1412 on 5/15/13, 1429 degrees Fahrenheit on 9/26/12)

Outlet temperature 348 degree Fahrenheit (previous result, 348 on 8/15/15, 323 degree Fahrenheit on 5/15/13)

The recording devices on the oxidizers, concentrators and chart recorders were calibrated on 3/31/16. See attachment "E" for an example of the calibration documentation. All control device parameters were very similar to previously observed values. Copies of monitored values were reviewed for June 15, 2016. A copy of the control device operating parameters is included as Attachment "F" with this report.

Control Device Maintenance Reports & Maintenance Work Order Details

Part of the inspection involved collecting copies of the maintenance inspection records conducted 7/1/15 for the RTO, the prime thermal oxidizer, the rotary concentrators and the fluidized bed concentrator. Review of these records will be part of a follow up to a recently reported downtime event. There were a couple areas where questions/clarification will need to be asked to be assured they are operating in compliance with Rule 910. Rule 910 states an air-cleaning device shall be installed, maintained and operated in a satisfactory manner and in accordance with these rules and existing law. The main concern/questions are the units being operated and maintained in accordance with the manufacturer's recommendations? One example is in the previous report it stated that a deformed thermocouple in tower #1 needs to be replaced. The same item is again stated in the latest RTO inspection report. Copies of the 2015 DURR report are included as Attachment "G" with this report. An additional request for the 2016 DURR report and summary were made to Tamberlyn on September 21, 2016.

FG-Facility

A review of the most recent emission data for the month of June 2016 was reviewed for compliance with the emission and material limits in FG-Facility as follows:

Limit	Permit Limit	June 2016 Actual Emissions	Compliance?
VOC	897 tons per 12 month rolling time period	812.0 tpy	Yes
VOC	4.8 Lbs VOC/Job per 12 month rolling time period	4.2	Pending
NOx	79.5 tons per 12 month rolling time period	40.5 tons	Yes
PM 10	19.0 tons per 12 month rolling time period	10.2 tons	Yes
Natural Gas	1600 MMCF/12 month rolling time period	904 MMCF	Yes

A copy of the June 2016 emission reports can be found as Attachment "H" included with this report.

Auto-Protocol

Copies of the protocol reviews were obtain for 2013, 2014, 2015 (2016 review was in progress). Review of this information shows applicator changes were made to the numbers in 2015. The review stated the changes did not require a new TE, however it has been agreed that these change will not need to be evaluated until all changes have occurred. TE testing is expected to be conducted during 2017. The review information also supposed to cover an evaluation of Capture Efficiency (CE). However the reviews do not cover key items mentioned in the auto protocol (no significant changes in generic coating chemistry, no changes in duct to control devices, no changes in spray booths and no changes in flash tunnels and ovens). It is hoped future reviews will include this as part of the evaluation. See attachment "I" for more details.

Flexibility changes:

A copy of the latest changes made under flexibility special conditions IX.3 and IX.4 in the ROP. Included with this report is a copy of the September 5, 2014 letter which served as a notification to paint applicators and additional sealer robots. These changes are allowed as the permit is a flexible permit The September 5, 2014 letter is included with this report as Attachment "J".

Malfunction Abatement Plan (MAP)

Part of the inspection involved collecting a copy of the MAP. Review of these records will be part of a follow up to a recently reported downtime event. A copy of the MAP is included as Attachment "K" of this report.

Hazardous Air Pollutants (HAP)

Copies of the Auto MACT Work Practice Plan (WPP) as required in 40 CFR 63.3094 and the HAP emission rates for June 2016 were obtained and reviewed. All elements of the WPP appeared consistent and in line with the requirements of 40 CFR 63.3094. The emission calculations for June 2016 were reviewed and compared to the MACT IIII limits as follows:

	June 2016	MACT Limit	Compliance?
e-coat, glass install, repair, guidecoat, topcoats	0.07 lbs HAP/GAC (DEQ calculated)	0.60 lbs HAP/GAC	Yes
Sealers	0.0	0.01 lbs HAP/lb of material	Yes
Deadener	0.0	0.01 lbs HAP/lb of material	Yes

Copies of the MACT WPP and emission calculations for June 2016 are included as Attachment "M" of this report.

Conclusion:

In conclusion we had a brief follow up discussion on the day of inspection. Emissions are all below their respective limits and monitored control device parameters appeared to be all within acceptable ranges. The facility appeared to be compliance with all permit requirements except there remains concerns with the control equipment being installed, maintained and operated in a satisfactory manner under Rule 910. Follow up reviews will be conducted for a recently reported control device malfunction on August 22, 2016 for the main topcoat RTO.

NAME [signature] DATE 9/21/16 SUPERVISOR W.M.