Manila

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

A864841576

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:** 09/06/2017
STAFF: Robert Byrnes	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MEGASITE
SUBJECT: 2017 Scheduled Inspection.		
RESOLVED COMPLAINTS:		

On September 6, 2017 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-A8648-2015. No visible emissions were observed nor were any odors detected from the security parking lot at the time of entry to the plant. The Ford Dearborn Assembly Plant manufacturers, paints and assembles Ford F-150 pick-up trucks. The facility currently runs 2 shifts, 10 hours Monday through Friday. 1 shift, 10 hours on both Saturday and Sunday. Occasionally there are what they call "super Sat. or Sun, in which they run 2 shift 10 hours on those days or holidays. The facility is a major source of VOC/HAP and is cover by ROP MI-ROP-A8648-2015.

The inspection began with a pre-meeting where we planned the walk through portion of the site visit. During that time, we discussed flex permit changes, new projects coming up, and work schedule. The only future project up and coming was due to the replacement of the ceramic block in the topcoat 3 chamber RTO, Destruction Efficiency would be verified at a future date. Previous projects had been reported under the flex permit. Rule 290 vs. Rule 291 was discussed for the aluminum shredder with a cyclone and Ford was told the department may be viewing the cyclone as control equipment (not process equipment) which may make them ineligible for changing exemptions in the future.

Fluidized Bed Carbon Beads
Dave Crompton from Ford came to discuss the carbon bead replacement criteria that has recently been implemented to assure minimal degradation in removal efficiency. This discussion was to address recent concerns in the 2016 VN's and recent stack test results where the carbon removal efficiency increased in the most recent test as new carbon was utilized in the fluidized bed concentrator.

Historically Ford tracked carbon density but their research has determined removal efficiency varies depending on the age of carbon and number of reactivations. They now conduct a weekly ASTM procedure for butane activity. Butane activity quantifies the micro porosity of the carbon = how well it works in the concentrator. There are different sizes of pores in the carbon, VOC is held in those pores. They have concluded butane activity is a better direct measurement of carbon efficiency. Ford has now committed to changing the carbon every 7 weeks and no more than 3 re-activations per carbon set. If their butane activity test value is less than 0.11 they will change out the carbon asap. Copies of the butane activity data versus removal efficiency and information on how the 7 week carbon changeout was determined is attached to the hard copy of this report.

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

Prime Abatement System
Adsorber differential pressure 1.78" wc
Adsorber tray differential pressure 2.35" wc
Desorber tray differential pressure not observed
Desorption temps from top to bottom 85, 347, 501, 240 degree Fahrenheit
Oxidizer 1422 degrees Fahrenheit

Inlet temp 325 degrees Fahrenheit
0% natural gas valve, 54.5 ppm O2 nitrogen generator

The recording devices on the oxidizers, concentrators and chart recorders were calibrated on 8/13/17. All control device parameters were very similar to previously observed values and were above the respective minimum values for control credit. Abatement Equipment Parameters observed during this inspection were written down on the inspection notes and are attached to the hard copy 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 391 degrees Fahrenheit
Concentrator Outlet Temperature 244 degrees Fahrenheit
Exhaust Temperature 90 degrees Fahrenheit.
RTO inlet temperature 282 degrees F
Pressure drop -1.59" wc
Average chamber temperature 1506, degrees Fahrenheit
Outlet temperature 350 degrees Fahrenheit
SLA Fan 52%, 31 Hz, 916 RPM

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Recent Complaint
During part of this inspection, a follow up to a complaint received on Friday 6/16/17 for a nasty, chemical and rotten odor was done inside the plant. This complaint was previously followed up by Katherine Koster and she described her evaluation as rotten meat or a rotting compost odor. Odors downwind of the Ford Dearborn was the same odor mixed with a paint smell on Miller road near the plant entrance and nearby Katherine said. I also followed up with an odor observation suspecting the water wash sludge pit could have those types of odors. My odor evaluation conducted on 8/16/17 did detect a garbage smell.

During the site visit, a walkthrough of the water wash pit area (sludge pit) was conducted to learn more about the system and to characterize the type of odor coming from the area. The water wash system is a floating system which is decanted weekly. The entire system is cleaned out annually in July. Staff did state the system is somewhat undersized as it was designed for car production which are smaller than trucks. After the odor from the area was noticed it was discussed with Ford staff this could be a potential odor concern if future complaints are received. When I was being escorted out of the facility with Ford staff (Tamberlyn, Mike and Jay) at the end of the inspection our vehicle was entering the fitness center on Miller Road where I normally park. I rolled my window down to conduct a quick odor observation as we were downwind of the paint shop at that time. I immediately noticed the sludge pit odor and pointed this out to the group. I also mentioned it could be likely this odor is going throughout the neighborhood and could be the likely source of the recent complaint. More complaints will be necessary before further action is taken.

Control Device Maintenance Reports & Maintenance Work Order Details
A copy of the most recent control device inspection report was requested for July 2017. I was told at the time of inspection this report was still in draft form. A follow was not done to immediately request this report as part of the future consent order will require the submittal of all future maintenance and repair activities on a quarterly basis.

FG-Facility
A review of the most recent VOC emission data for the month of June 2017 was reviewed for compliance with the VOC emission limits in FG-Facility as follows:

Limit	Permit Limit	June 2017 Actual Emissions	Compliance?
VOC	897 tons per 12 month rolling time period	817 tpy	Yes

VOC	4.8 Lbs VOC/Job per 12 month rolling time period	4.4	Yes
Natural Gas	1600 MMCF/12 month rolling time period	1015 MMCF	Yes

A copy of the June 2017 emission reports can be found attached to the hard copy of this report.

Rule 910 notifications
As part of the inspection and as a result from the 2 recent VN's in 2016 I inquired about the process of Rule 910 notifications. Ford provided a one page list of the system set up (shows the processes monitored for online/offline), who gets the text or message about the system breakdown (mainly paint department maintenance supervisors, environmental representative Mike Larson will be added) and example of what triggers the message. Although at first everyone seemed vague on the where, who, what will respond but perhaps this was due to the reporting being a new requirement as part of a future consent order. Ford did provide a Rule 910 abatement equipment breakdown event notification which lasted over 2 hours on 9/18/2017. The initial report did not indicate whether excess emissions occurred. A detailed written report is required within 10 days of the event, which as of the writing of this report had not yet been provided. A copy of the Rule 910 notification and notification list is attached to the hard copy of this report.

Conclusion:
This inspection did not review all the details of the emission calculations because that information was reviewed in the April 12, 2017 scheduled inspection which solely concentrated on the paint shop only. This inspection visit included the paint shop as well as the body shop and final assembly. The focus this time was more on verifying if any changes or new processes were added, whether the process/abatement equipment was operating properly and learning more about the odor characteristics of the water wash/sludge pit. The site walk through also confirmed the cure ovens were balanced for air flow as no internal building smoke was observed, nor was any apparent fugitive VOC. In conclusion to the inspection, we had a brief follow up discussion. All observed activities appeared to be in compliance with the MI-ROP-A8648-2015 requirements.

NAME Amy Byrnes DATE 9/28/17 SUPERVISOR W. M.