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

A864854748

FACILITY: FORD MOTOR CO ROUGE COMPLEX		**SRN / ID:** A8648
LOCATION: 3001 MILLER RD, DEARBORN		**DISTRICT:** Detroit
CITY: DEARBORN		**COUNTY:** WAYNE
CONTACT: Kimberly Cole , Environmental Engineer - Rouge Complex		**ACTIVITY DATE:** 06/23/2020
STAFF: Robert Byrnes	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MEGASITE
SUBJECT: FY 2020 scheduled inspection of Section 1, records request was sent on June 23, 2020. This inspection did not include an on-site visit but may at a future date.		
RESOLVED COMPLAINTS:		

Update: On 9/28/2020 April Wendling and I visited the Ford Dearborn Assembly plant and visiting both the paint shop and the final assembly buildings. Paint shop production was slow as they had just begun the first launch of the new 2021 F-150 but all abatement equipment was operational is appeared in working order. We observed phosphate, ecoat, guidecoat and both topcoat lines. The Assembly side was also slow due to the launch and only the glass install portion was observed operating, roll test was not in use and the repair bays were mostly empty. The following parameters were observed during the site visit:

Adsorber

54.6 Hz fan, 66 degrees F. Exhaust, Desorb Temp 372 degress F., SLA fan was 47.0 Hz.

RTO

Inlet temp 289 degrees F., -.700" wc, average chamber temp 1424 degrees F., delta P was -9.6"wc and exhaust fan was 45.0 Hz.

This report is written based upon a request for information sent on June 23, 2020 and information received on July 14, 2020 for the Ford Dearborn Assembly Plant – Section 1. An actual site visit was not conducted due to the COVID19 concerns but may occur at a later date and time this fiscal year or next.
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.

VOC Controls
The facility uses carbon wheel concentrators to concentrate VOC emissions from the Prime and 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.

Prime Abatement System
The prime abatement system is not longer operational as the prime abatement auto booth has been ducted to the topcoat system for VOC control. This conversion occurred in 2018 and the emission unit and flexible group abatement conditions were corrected in PTI 101-19a issued on March 5, 2019.

Ecoat, Prime and Topcoat Abatement System
The Ecoat, Prime and 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 Prime auto booth, the CC 1 & 2 bells and e-coat dip tank all of which are sent to the concentrator wheels and then the RTO for VOC abatement. Because this inspection has been a records review only thus far, no operation parameters have been observed this time.

The following operational parameters were recorded during the past inspection(s):
Concentrator Desorb (previously 370, 375 & 391) degrees Fahrenheit
Concentrator Outlet Temperature - (previously did not oberve, 258 & 244) degrees Fahrenheit
Exhaust Temperature - (previously did not observe & 90 degrees Fahrenheit).

RTO inlet temperature (previously 291 & 261) degrees F
Pressure drop (previously 8.4, 1.39 &1.59") wc
Average chamber temperature (previously 1486, 1532 & 1506), degrees Fahrenheit
Outlet temperature (previously 346, 348 & 350) degrees Fahrenheit

The recording devices on the oxidizers, concentrators and chart recorders were previously calibrated on 06/05/20 according to the records obtained from Ford. Calibration Certificate records showed thermocouples that were calibrated such as RTO Exhaust, RTO Chart Recorder, RTO temp Low limit, Desorb Heater 2 (not sure what 1 was), Chart Recorder, and Desorb temp high temperature controller. Equipment information included ID's, serial number, manufacturer, inst. Type, model number and Temp./RH were all on the certificates. All records show results as pass. Temperature records for both the desorb inlet temperature and main thermal oxidizer were obtain from 2/16/2020 through 2/21/2020. These records show compliance for all operating periods with the following explanations. On 2/16/20 records showed non-compliant temperature data however it was the weekend shutdown. There were also 2 malfunctions on 2/19/20 for 95 minutes and on 2/20/20 for 95 minutes with non-compliant temperature data but the explanation also notes that production was held during those time frames.

Control Device Maintenance Reports & Maintenance Work Order Details
A copy of the Preventative Maintenance (PM) reports was requested as part of the records request portion of the inspection. Ford has the inspections conducted by PCE Monarch. Review of these reports show the date added, the equipment, priority, description, recommended action/notes and action taken/status. Most items required no action and those that needed fixed or replaced had a timely action taken. KZR seals previously seem to always need replaced but this report stated both units 1 & 2 were no action needed. This report appears to be a December 30, 2019 assessment and the date added was for July 3, 2020? A copy of the PCE Monarch report is included with the hard copy in the file.

FG-Facility
A review of the emission data for the month of December 2019 was reviewed for compliance with the emission and material limits in FG-Facility as follows:

Limit	Permit Limit	December 2019 Actual Emissions	Compliance?
VOC	897 tons per 12 month rolling time period	749.0 tpy	Yes
VOC	4.8 Lbs VOC/Job per 12 month rolling time period	4.1	Yes
NOx	79.5 tons per 12 month rolling time period	44.6 tons	Yes
PM 10	19.0 tons per 12 month rolling time period	10.1 tons	Yes
Natural Gas	1600 MMCF/12 month rolling time period	996 MMCF	Yes

A copy of the 2018 and 2019 emission summary reports can be found attached to the hard copy of this report.

No material changes have occurred for the major VOC portions of FG-Facility including Ecoat, Guidecoat and Topcoat. The Annual evaluation of Transfer Efficiency(TE)/Capture Efficiency(CE) was obtain for 2019. The form did not appear properly updated as 2018 was crossed and 2019 was written in on a type written electronic form. The TE and CE dates were also listed as 2017, but those may likely are the most recent test dates. The form did have a review date of 10/28/2019 though. The form document that no changes to processes or process equipment such that reevaluation of TE or CE would be required at this time.
Particulate Controls
Records were obtained for both the water wash system and for the paint repair spot repair decks (1-3) as well as the pressure drops across the concentrators.

Water wash records were obtained for February 2020 of which inspections were conducted on 2/1, 2/8, 2/15, 2/22 and 2/29 for the Prime Booth, Topcoat 1 Booth, and Topcoat 2 Booth. These records show no issues and document booth pressure drop readings have been recorded, pump amperage and psi were checked, flood sheets and headers visually inspected, any repairs completed or reported and date/time of inspection.

Dry filter records were obtained for February 2020 of which inspections were conducted on 2/3, 2/10, 2/17, and 2/24. These records show the pressure drops for E-coat scuff, Topcoat scuff, Prime scuff, and the black-out wax booth. Records also show the if the filter condition was acceptable for the paint building spot repair decks (1-3). All records for these 4 weeks showed acceptable filters and pressure drops.

Conclusion:
This inspection did not review all the details of the facility and it may include a future visit to the plant and to view the abatement equipment. Records obtained included 9 separate attachments to this report which were reviewed. Those records included: Filter/Water wash records and December 2019 emission data for E-coat, Guidecoat, Topcoat, Miscellaneous Solvents, Repair, Facility and controls; auto protocol annual reviews for 2019; PCE Monarch abatement equipment inspections; thermocouple validation results; thermal oxidizer temperature data for February 16, 2020 through February 21, 2020; natural gas records, December 2019 NOx, CO and PM10 emission summary data. The inspection, records review and observed activities appeared to be in compliance with the MI-ROP-A8648-2015 requirements.

NAME Arthur J Byrnes DATE 9/11/2020 SUPERVISOR Dr. April L. Wendling