M4623
MWILA

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

M462334677

FACILITY: CROWN GROUP, LYNCH ROAD PLANT		**SRN / ID:** M4623
LOCATION: 6334 LYNCH RD., DETROIT		**DISTRICT:** Detroit
CITY: DETROIT		**COUNTY:** WAYNE
CONTACT: Jason Nowak , Environmental Engineer		**ACTIVITY DATE:** 03/29/2016
STAFF: Jonathan Lamb	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MINOR
SUBJECT: FCE, FY 2016		
RESOLVED COMPLAINTS:		

INSPECTED BY: Jonathan Lamb, DEQ-AQD
PERSONNEL PRESENT: Jason Nowak, Environmental Engineer, The Crown Group; Rodney Stone, Paint & Facility Manager, The Crown Group - Lynch Road
FACILITY PHONE NUMBER: (313) 922-8433
FACILITY FAX NUMBER: (313) 922-8469

FACILITY BACKGROUND:

Crown Group – Lynch Road Plant started production at this site in July 2004. MSX International – Special Vehicles operated at this address previously. Operations at this site replaced operations at Crown Group – Detroit Plant, located at 6300 E. Seven Mile, which closed shortly afterwards. The company headquarters are located at 2111 Walter Reuther Drive, Warren, MI 48091.

This site currently coats automobile axles for Chrysler's Warren Truck and Toledo assembly plants, Ford's Kentucky truck plant, and GM's American Axle facility. The plant operates two shifts, 5:30 AM to 2:00 PM and 4:30 PM to 1:00 AM, Monday through Friday with occasional weekend work. There are approximately 100 employees at this site.

COMPLAINT/COMPLIANCE HISTORY:

There have been no complaints regarding this facility since it opened.

EQUIPMENT/PROCESS DESCRIPTION:

The Crown Group coats automobile axles for heat and corrosion protection using a single coating line. Axles are loaded on racks and are carried through the process via a continuous overhead conveyor. The parts first go through a nine-stage pre-treatment process: Stages #1 and #2 spray a heated alkaline cleaner on the axles to remove oils, lubricants and dirt; the axles are rinsed with city water in Stages #3 and #4; a surface conditioner is applied in Stage #5 before the application of zinc phosphate(for corrosion control) in Stage #6. After the application of zinc phosphate, the parts are rinsed with city water in Stage #7, applied with a sealer in Stage #8, before a final reverse osmosis water rinse in Stage #9.

After pre-treatment, the parts are then dried in a forced-air oven before coating. The coating process consists of four paint booths: The first two paint booths use automated bell sprayers, with each booth coating opposite sides of the axle. In the second two paint booths, touch-up painting is done using automated bell sprayer (manual spraying can be performed if the automated sprayers are down for maintenance). After painting, the axles enter a cure oven, which operates at 165°F. The parts take approximately thirteen minutes to pass through the cure oven. After the paint has cured, the axles are unloaded and prepared for shipping to the assembly plants.

Only one water-based black coating is used, and no plastic parts are coated. The facility currently uses one water-based coating: TechKote WA2951 FE made by Fortech Products. The facility started using this coating in June 2014, replacing the previous coating (WA2951 F, VOC content of 0.113), though both coatings were used for several months until the facility phased out WA2951 F in March 2015. During a review of emission records for this inspection, it was determined that Crown Group and Fortech did not have accurate VOC content data for WA2951 FE and WA2951 F. A paint specialist at Crown Group went through the formulation data and recalculated the actual VOC content of WA2951 FE and WA2951 F: WA2951 FE has a VOC content of 0.283 lb/gallon (minus water) and WA2951 F has a VOC content of 0.113 lb/gallon (minus water). These values were

much higher than previously used and, as a result, the facility had been underestimating its VOC emissions. After recalculating emissions for 2014 and 2015, the facility was found to have exceeded the monthly and 12-month rolling time period VOC emission limits, set in General Permit to Install No. 46-04.

No purge or clean-up solvents are used. Spray nozzles and other parts are cleaned using a mix of a non-VOC cleaner (Simple Green) and water in an ultrasonic cleaning tank.

PROCESS CONTROLS:

Overspray from the paint booths are controlled by dry filters. There are no add-on controls used.

Wastewater is treated on-site before being discharged to the sanitary sewer. Waste sludge is sent to landfill for disposal.

APPLICABLE RULES/ PERMIT CONDITIONS:

Crown Group – Lynch Road was issued General Permit to Install No. 46-04 on February 26, 2004. Monthly VOC emissions and material usage records from January 2014 through April 2016 were reviewed to determine compliance. These records can be found in the orange facility file:

I. Design Parameters

A. In compliance. A single coating line is used to coat an approved substrate only.
B. In compliance. Dry filters are used to control particulate overspray. Filters are changed after every shift.
C. In compliance. HPLV bell sprayers are used for paint application.
D. In compliance. Stack heights meet permit requirements.

II. Material Usage/Emission Limits

1. NOT IN COMPLIANCE. VOC emissions exceeded 2,000 lbs./month and 10 ton per 12-month rolling time period limits for the coating line. The facility exceeded the 2,000 lbs per month limit in each of the following months: September 2015 (2,138 lbs.), October 2015 (2,188 lbs.), February 2016 (2,119 lbs.), March 2016 (2,197 lbs.), and April 2016 (2,122 lbs). The facility exceeded the 10 tons per 12-month rolling time period for the 12-month time period ending in April 2016 (10.4 tons).

2. In compliance. Total VOC emissions did not exceed the 30 ton per 12-month rolling time period limit. The facility does not use purge/clean-up solvents containing VOCs, and the highest VOC emissions for any 12-month rolling time period was 10.4 tons in April 2016.

III. Compliance Evaluation

A. Monitoring/Recordkeeping:

1a. In compliance. Facility maintains records of all coatings purchased.
1b. In compliance. Facility uses a non-VOC cleaning solvent and does not use reducers.
1c. NOT IN COMPLIANCE. The facility failed to maintain accurate records of the VOC content of the coatings used.
1d. NOT IN COMPLIANCE. Facility failed to maintain accurate VOC emission records on a monthly and 12-month rolling time period basis for the coating line.
1e. NOT IN COMPLIANCE. Facility failed to maintain accurate VOC emission rates on a 12-month rolling time period basis for the coating line and associated purge and clean-up operations.
1f. In compliance. Facility maintains the dates and descriptions of modifications made to the coating line.
1g. In compliance. Facility maintains information of all coating changes on the coating line.
1h. NOT IN COMPLIANCE. Facility maintained the MSDS of the coating; however, the information did not include sufficient or accurate information to determine VOC content of the coating.
1i. Not applicable. There are no add-on controls for the coating line.

2. In compliance. Facility reports to MAERS.

B. Testing:

1 through 4. In compliance. A sample of the coating was not obtained at the time of inspection, but Fortech Products sent a sample ofWA2951 FE to RTI Labs in Livonia for Method 24 analysis at the request of Crown Group and DEQ-AQD, following the inspection on March 29, 2016. However, the results failed to accurately determine the VOC content of the coating, based on the results forwarded by Mike Nelson of Fortech Products.

IV. Operational Parameters:

1. In compliance. All waste coatings are stored and disposed of in an acceptable manner.

2. In compliance. Dry filters were installed and maintained properly during paint booth operation. Filters are changed at the end of each shift.

V. Allowed Modifications:

1 through 3. In compliance. The facility made minor changes to the existing coating line, including adding wash booths, extending the length of the line, and changing two of the manual spray booths to automated sprayers. These changes are allowed under General PTI No. 46-04.

VII. Add-on controls

1 through 5. Not applicable. Facility does not use add-on controls to control emissions.

Note: A review of the facility file found several old Wayne County permits issued to previous companies located at this address. After discussing these permits with Mr. Nowak, it was determined that all the permits were obsolete and could be voided. The following permits were voided (see letter to Crown Group dated March 31, 2016):

C-9061, paint spray booth. Issued September 24, 1990, to Creative Industries Group.
C-10007, unknown equipment. Issued October 18, 1993, to MascoTech Special Vehicles.
C-11350 through C-11352, paint spray booths. Issued to MSX International Special Vehicles, Inc.

MAERS REVIEW:

Facility reported 2014 and 2015 emissions to MAERS. 2015 MAERS was resubmitted after the actual VOC emissions were recalculated.

FINAL COMPLIANCE DETERMINATION:

At the time of inspection, Crown Group – Lynch Road Plant was not in compliance with General Permit to Install No. 46-04. Specifically, the facility exceeded the monthly and 12-month rolling VOC limits of 2,000 pounds and 10 tons, respectfully, set in Special Condition II.1, and failed to maintain accurate records of VOC emissions and content of the coating, per Special Condition III.A.1. A Violation Notice was issued to The Crown Group – Lynch Road on May 27, 2016. The facility plans on submitting an application for a new Permit to Install. The facility is also attempting to reformulate the coating to a lower VOC content and improve coating application efficiency to reduce paint usage to lower overall VOC emissions.

NAME _____ DATE 5-27-16 SUPERVISOR JK