N7871
MANUAL

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

N787143411

FACILITY: TOWER AUTOMOTIVE		**SRN / ID:** N7871
LOCATION: 43955 PLYMOUTH OAKS BLVD, PLYMOUTH		**DISTRICT:** Detroit
CITY: PLYMOUTH		**COUNTY:** WAYNE
CONTACT: James Pace , Engineer - EH & S		**ACTIVITY DATE:** 02/22/2018
STAFF: Todd Zynda	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Scheduled Inspection
INSPECTED BY: Todd Zynda, AQD
PERSONNEL PRESENT: James Pace, Engineer EH & S; Todd Gibbish, E-Coat Supervisor
FACILITY PHONE NUMBER: 734-414-3100
FACILITY FAX NUMBER: 734-414-3102
FACILITY WEBSITE: www.towerinternational.com

FACILITY BACKGROUND

Tower Automotive Operations, LLC (Tower) manufactures frames for FCA US LLC. In addition to metal manufacturing, Tower coats frames and metal structures through an electrodeposition (E-Coat) process line. The facility is located at 43955 Plymouth Oaks Boulevard, east southeast of the intersection of M-14 and Sheldon Road. The nearest residential property is approximately 450 feet to the southwest of the facility.

Currently the facility has approximately 400 employees and operates 24 hours a day (3 shifts), 7 days a week.

The facility operates the E-Coat line under permit to install (PTI) 103-02C. The permit includes enforceable limits for hazardous air pollutants (HAPs) to restrict the facility's potential to emit (PTE) to less than major source thresholds for HAPs, and thereby allowing the facility to avoid applicability under the National Emission Standards for Hazardous Air Pollutants (NESHAP), Part 63, Subpart MMMM and to opt out of the Renewable Operating Permit (ROP) program.

PROCESS OVERVIEW

The facility operates frame manufacturing lines. The facility currently manufactures frames for the Jeep Wrangler (JK frame and JL frame). The manufacturing lines contain manual and automated steps (robotic) in a continuous process. The lines contain welding stations where employees or robotic welding is conducted to construct the frames. Emissions from welding stations are either released to the general in-plant environment or captured by a central ventilation system and exhausted uncontrolled to ambient air.

The facility also operates an E-Coat process line and natural gas 8.7 million British thermal units per hour (MMBtu/hr) curing oven. During the E-Coat process, the metal to be coated is conveyed over the coating line and dipped into the various E-Coat tanks. Initially, the parts are dip cleaned, conditioned, phosphated, and then dip E-Coated. In the electro-coating tank, electrically grounded parts are slowly coated with paint by passing a low voltage DC current, generated in a nearby rectifier, through the tank. After electro-coating, the parts are cured in a natural gas oven at approximately 400 degrees Fahrenheit (°F).

The E-Coat process line was previously operated by Metokote Corporation (Metokote). On February 14, 2011 Tower provided a letter notifying the AQD that Metokote was purchased by Tower, and the equipment under PTI 103-02 will be operated under Tower ownership. On June 13, 2016, PTI 103-02C was issued to Tower for the E-Coat process line.

INSPECTION NARRATIVE

On February 22, 2018 the Michigan Department of Environmental Quality (MDEQ) Air Quality Division (AQD) inspector, Mr. Todd Zynda, conducted an inspection of Tower. During the inspection, Mr. James Pace, Engineer H & S and Mr. Todd Gibbish, E-Coat Supervisor, provided information and a tour of facility operations relating to

air quality permits and regulations. The inspection was conducted to determine the facility's compliance with the Natural Resources and Environmental Protection Act (NREPA), Act 451, Part 55 and PTI 103-02C.

At 10:30 AM, AQD staff, Mr. Todd Zynda, arrived onsite and was greeted by Mr. Gibbish. Mr. Pace arrived during the walk-through inspection. During the opening meeting the facility operations and permit requirements were discussed. Following discussion of permit conditions and record keeping requirements a walk through inspection of the facility was conducted.

The facility tour began with observation of the E-Coat line. The E-Coat line was observed from the mezzanine observation deck. The mezzanine area includes the E-Coat line control room in addition to a small analytical laboratory. During inspection of the E-Coat line, paste and resin storage containers were closed. According to Mr. Gibbish the E-Coat line currently is operating 24 hours per day, seven days a week. According to Mr. Gibbish, the curing oven was cleaned out during the winter break between Christmas and the New Year (annual cleaning). During the inspection the pre-oven air knifes were observed. The air knife blow off system is used to blow off any excess material prior to the frames entering the curing oven. The facility agreed to increase the blow -off capacity of the pre-oven air knife system per PTI 103-02C, Nuisance Minimization Plan (NMP). Additionally, the new ductwork for the curing oven exhaust was observed. The new duct work has removed the heat exchanger that was located between the oven exit and stack exhaust, also meeting the requirements of PTI 103-02C, NMP.

Following observation of the E-Coat line, frame manufacturing lines were observed. Welding is performed both manually, by employees, and by using robotics. During the inspection, production was occurring. Welding emissions from the old platform (JK) manufacturing is ducted and released uncontrolled to ambient air through stacks at roof level. Welding emissions from the new platform (JL) manufacturing controlled by dust collectors (RoboVent Spire cartridge collector) that vent to the general in-plant environment. Once frames are completed, they are staged for E-Coating.

Next the cold cleaner at the facility was observed. The cold cleaner lid was closed at the time of inspection. The operating procedures for the cold cleaner were posted.

At the closing meeting, the records required were discussed. Tower agreed to provide the requested records within five business days. Records were provided via email on March 9, 2018.

APPLICABLE RULES/PERMIT CONDITIONS

PTI 103-02C was issued on June 13, 2016. The Special Conditions (SC) are listed as appropriate. For brevity, permit conditions and the language of federal and state rules have been paraphrased.

EUELECTROCOAT

An electrodeposition coating process and an associated 8.7 MMBtu/hr natural gas fired curing oven.

SC I. 1, and SC VI. 3. **COMPLIANCE**. VOC emissions shall not exceed 41.9 ton per year on a 12-month rolling basis. The facility provided records for January 2016 through February 2018. The highest reported 12-month rolling VOC emissions in tons per year (tpy) occurred at the end of October 2016 at 14.53 tpy.

SC II. 1 and SC V.1. **COMPLIANCE**. E-COAT shall not contain VOCs greater than 0.6 pound per gallon (minus water) as applied. Application data provided by the facility indicates that FrameCoat II Black has a VOC content of 0.62 pounds per blended gallon, minus water. Using monthly VOC reporting data, AQD calculations for February 2017 also demonstrate compliance with the limit using the below equation.

((1,515 gallons x 2.21 lb/gal minus water) + (9,580 gallons x 0.32 lb/gal minus water)/(1,515 gal +9,580 gal)) = 0.58 pounds per gallon, minus water

Additionally, during the previous inspection on December 3, 2015, a sample was collected for Method 24 analysis. Sample results reported the VOC content as zero. According to the analysis, the discrepancy between %volatiles and %water (1.4%) is well within the precision parameters of the methods, therefore the VOC content is reported as zero (see facility file for analytical results). At this time, the AQD has not requested additional Method 24 analysis.

SC III. 1. **COMPLIANCE**. Shall capture all waste coatings and shall store them in closed containers. The facility appeared to meet this condition based on visual inspection.

SC III. 2. **COMPLIANCE**. Shall handle VOC and HAP containing material in a manner to minimize the generation of fugitive emissions. Shall keep containers covered at all times except when operator access is necessary. During the inspection, the facility appeared to meet this condition. Storage containers of resin and paste storage containers were closed.

SC III. 3, Appendix A. Shall implement and maintain the Nuisance Minimization Plan (NMP) for odors specified in Appendix A. The NMP conditions are evaluated individually below.

Within the NMP the following changes were to be implemented by October 28, 2016.

Redesign and implementation of a new carrier system. The new design will reduce the amount of E-Coat that accumulates on the carriers and is taken through the cure oven. **COMPLIANCE**. According to Mr. Pace all carriers have been converted to the new carrier style. The new carriers were observed during the inspection.

Move cure oven stack #2 (SVELECTROCOAT2) or install a new replacement stack that meets the existing PTI requirements. This action will eliminate a heat exchanger currently installed between the cure oven exit and the stack exhaust. **COMPLIANCE**. It was observed during the inspection that the heat exchanger has been eliminated and the new exhaust has been installed as required.

Increase the blow-off capacity of the pre-oven air-knife to reduce the amount of excess E-Coat taken through the cure oven. **COMPLIANCE**. The pre-oven air knife was observed during the inspection. Records provided indicate that several air knife blowers were replaced prior to October 28, 2016.

Appendix A - NMP Maintenance Schedule conditions are evaluated individually below.

Shall implement and maintain the frame carrier cleaning program for the E-Coat process. All carriers shall be cleaned at least every six months. **NOT IN COMPLIANCE**. As of the inspection date of February 22, 2018, the facility is behind schedule on the carrier cleaning program for carriers 1, 3, 6, 7, 9, 10, 11, 12, 13, 14, 18, 19, 22, 24, 26, 27, 28, and 29. The facility has provided an email on March 9, 2018 with an update on carrier cleaning. The email correspondence indicates that 11 carriers will be cleaned/exchanged over March 31 and April 1, 2018, with another 11 carriers exchanged on April 15, 2018, and the remaining carriers exchanged and cleaned by May 6, 2018. Based on this schedule, all the carriers in use at the facility will be past the 6-month cleaning due date.

Due to the recent Rule 901 violations on March 10 and 12, 2018 (see MACES reports CA_N787143631 and CA_N787143633), the AQD will be requesting that frame carriers be cleaned as soon as possible, with bimonthly reporting (every other month) of carrier cleaning (when each carrier was cleaned last, and when each is next scheduled for cleaning).

The permittee shall prevent excess paint from accumulating on the oven floor. **NOT EVALUATED.** This condition was not evaluated during the inspection as the oven was in use.

The permittee shall vacuum oven walls, ceilings, and floors of the cure oven at least every 12 months. **COMPLIANCE**. Work order details provided as part of the records request indicate that the facility has met this condition with the last cleaning being completed January 9, 2018.

The permittee shall replace E-Coat bag filter when delta pressure is outside acceptable limits. Clean E-Coat ultra -filter at least every 3 weeks. **COMPLIANCE**. The ultrafilter checklist records provided by the facility demonstrates compliance with this condition.

The permittee shall replace filter elements of the air knife every 60 days. **COMPLIANCE**. Work order details provided as part of the records request indicate that the facility has met this condition with the replacement being completed February 15, 2018.

The permittee shall implement and maintain the following housekeeping measures: sweeping and mopping of E-Coat area, closed storage containers and proper disposal of used materials. **COMPLIANCE**. During the visual inspection of the E-Coat area the facility appeared to meet these requirements.

The permittee shall perform the odor incident notification/investigation response as outlined in Appendix A. The facility provided an odor complaint log sheet to demonstrate compliance with these conditions. The carrier cleaning log provided indicates that the carriers have not been cleaned every 6 months as described above.

SC VI.1. **COMPLIANCE**. Shall complete all required calculations in a format acceptable. The facility has provided calculations in an acceptable format.

SC VI. 2. **COMPLIANCE**. Shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The facility provided the safety data sheet (SDS) for the Framecoat II Black Paste and Framecoat II Resin.

SC VI. 3. **COMPLIANCE**. Shall keep the following records on a monthly basis. A. Gallons (with water of each VOC containing material. B. VOC content (minus water and with water) of each material. C. Monthly VOC mass emission calculations. D. 12-month rolling VOC mass emission calculations.

The facility maintains the above listed information as required. The information is included in the VOC Reporting spreadsheet for January 2016 through February 2018.

SC VI. 4. **COMPLIANCE**. Shall keep records for the frame carrier cleaning program in an acceptable format. The carrier cleaning records provided meet this requirement.

SC VIII. **COMPLIANCE**. Exhaust gases from stacks shall be discharge unobstructed vertically upwards and shall meet the following dimensions. SVELECTROCOAT1: 30 inches in diameter, 54 feet above ground; SVELECTROCOAT2: 30 inches in diameter, 57 feet above ground; SVELECTROCOAT3: 30 inches in diameter, 54 feet above ground.

During the inspection, the stacks appeared to meet the specified dimensions. Measurements were not collected. Stacks were verified that exhaust gas discharges unobstructed vertically to ambient air.

FGFACILITY - **COMPLIANCE**

Conditions under FGFACILITY relate to tracking HAP emissions at the facility. The facility currently uses a frame coat that does not contain HAPs as demonstrated by the FrameCoat II Black Application Data. The documentation indicates the coating is a "Non-HAP coating".

The facility operates a cold cleaner which uses Crystal Clean 106 Mineral Spirits that contains HAPs. The SDS provided by the facility indicates the following HAPs: toluene (0.08 to 0.8%), naphthalene (0.08 to 0.4%) and ethylene (0.08 to 0.4%). According to the facility records, the 18 gallon cold cleaner has the solvent changed out approximately every 2 months. Based on the HAP content and frequency of use of the material, AQD does not require records for HAP usage for the cold cleaner.

PERMIT TO INSTALL EXEMPT EQUIPMENT

Welding
The facility welding operations area appears to be exempt from PTI requirements under the following rule.

R336.1285(2)(i): "The requirement to obtain a PTI does not apply to brazing, soldering, welding, or plasma coating equipment."

On July 25, 2007, Tower provided calculations showing that actual emissions from welding operations are below significance levels per R336.1278(1)(b). Please see the facility file for further information.

Wastewater Treatment
The wastewater treatment at the facility appears to be exempt from PTI requirements under the following rule.

R336.1285(2)(m): "The requirement to obtain a PTI does not apply to...lagoons, process water treatment equipment, wastewater treatment and sewage treatment equipment."

According to the "Pretreatment Paint Line Process Flow" diagram provided by the facility, the wastewater treatment processes water from rinse stages prior to E-Coating (see facility file for flow diagram). It does not appear that the wastewater treatment is used to treat VOCs.

Cold Cleaner
The cold cleaner at the facility is exempt from PTI requirements under the following rule.

R336.1281(2)(h): "The requirement to obtain a PTI does not apply to cold cleaners that have an air/vapor interface of not more than 10 square feet."

The facility provided the SDS for the cold cleaner. The cold cleaner is not heated during use and has a vapor pressure of less than 1 millimeters mercury (mmHg) or 0.019 pounds per square inch [psi]). During the inspection the cold cleaner appeared to be in compliance with the applicable requirements of R336.1707.

E-Coat Laboratory
The analytical laboratory associated with the E-Coat line appears to be exempt from PTI requirements under the following rule.

R336.1283(b): "The requirement to obtain a PTI does not apply to laboratory equipment."

40 CFR Part 63, Subpart MMMM – National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products

Tower is not subject to the Subpart MMMM per §63.3881(b) as the facility is not major for HAPs. PTI 103-02C contains enforceable conditions limiting Tower's PTE to less than 10 tpy for individual HAPs and less than 25 tpy for any combination of HAPs.

40 CFR Part 63, Subpart T – National Emission Standards for Halogenated Solvent Cleaning

The cold cleaner at the facility is not subject to Subpart T. The solvent used in the cold cleaner does not contain any of halogenated HAPs as defined in §63.460.

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS

Not applicable.

MAERS REPORT REVIEW

During the 2016 MAERS review, no errors were identified, and the audit was passed.

FINAL COMPLIANCE DETERMINATION

At the time of the inspection, this facility appears to be in noncompliance with PTI 103-02C, SC III. 3, Appendix A – NMP carrier cleaning program. A violation notice will be issued regarding this issue. Due to the recent Rule 901 violations on March 10 and 12, 2018, the AQD will be requesting that frame carriers be cleaned as soon as possible, with bimonthly reporting (every other month) of carrier cleaning (when each carrier was cleaned last, and when each is next scheduled for cleaning).

NAME Jodi Zyla DATE 3/22/18 SUPERVISOR JK