DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

N742659675

FACILITY: CROWN GROUP SHELBY TWP PLANT		**SRN / ID:** N7426
LOCATION: 12020 SHELBY TECH DR, SHELBY TWP		**DISTRICT:** Warren
CITY: SHELBY TWP		**COUNTY:** MACOMB
CONTACT: Jason Nowak , Regional Environmental Manager		**ACTIVITY DATE:** 07/30/2021
STAFF: Joe Forth	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: On-site Inspection (Sebastian Kallumkal revised the report per an email request dated 10/18/2021 from Jason Nowak)		
RESOLVED COMPLAINTS:		

***On October 19, 2021, Sebastian Kallumkal revised this inspection report after Joseph Forth, AQD inspector left AQD, and a request to correct the report recived from Jason Nowak, PPG Regional Environmental Manager*. The changes to the report are underlined.**

On July 30, 2021, AQD staff Joseph Forth conducted a scheduled targeted inspection at Crown Group Shelby (PPG) located at 12020 Shelby Technical Drive, Shelby Township, Michigan. The purpose of the inspection was to determine facility's compliance with the Federal Clean Air Act; and Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451 and Permit to Install (PTI) No. 187-18.

The facility coats miscellaneous metal parts using e-coat system and powder coating process. The powder coating process was exempt under AQD Rule 287(2)(d). The powder coating booth appeared to have properly installed and maintained filters. Metal parts to be coated go through an 11-stage cleaning process that starts with Stages 1-3 metal parts cleaning using Alkaline cleaner at 125ºF (124ºF during inspection) . Stages 4 & 5 are city water rinsing processes. Stage 6 is alkaline cleaning/conditioning. Stage 7 is Zinc phosphating process and observed to be operating at 112ºF. Stages 8 & 9 are reverse osmosis rinsing processes. Stage 10 is a sealing process. Stage 11 is RO (reverse osmosis) water immersion rinse process. After the 11- stage cleaning process, the parts go through electrodeposition coating (e-coat) process and 3 stages of post rinsing. The e-coat process utilizes a very low VOC water-based coating. The coated parts go through a curing oven. The curing oven operates around 370ºF to 385ºF. From the curing oven, the parts go through the powder coating booth, where they may or may not be powder coated, depending on customer requirements. The parts then go through the powder cure oven, a cool-down tunnel, then through final inspection and packing for shipment to customers.

Mr. Nowak stated in the email that "Dibutyltin oxide is a catalyst in the electrocoat bath at very low percentages, and it remains in the cured film on painted parts. In the burnoff oven, it would decompose with the butyl portion burning off, as it is a hydrocarbon. The tin is a metal element, so it would remain in the ash and be shoveled out for proper disposal as non-hazardous special waste."

During the report revisions, AQD staff added the following:

Previously the e-coating process was considered exempt from permit to install requirements (R336.1201) pursuant to R336.1290(2)(a)(ii). However, review of the SDS for the E-Coat (Product Name: POWERCRON BLACK FEED; Product name: CF590-534) show that it contains bis(2-(2-butoxyethoxy)ethoxy)methane (CAS No. 143-29-3). The initial threshold screening level (ITSL) for this compound is 0.1 µg/m^3. In order for the coating process to be exempt under Rule 290(2)(a)(ii) the uncontrolled emissions of air contaminants shall not be more than 1000 pounds month, and the initial risk screening level for any of the air pollutant shall be between 0.04 mg/m^3 and 2.0 mg/m^3, and the uncontrolled monthly emissions this pollutant shall not exceed 20 pounds per month.

Mr. Nowak indicated that the monthly e-coat usage was about 3000 gallons with density of 9.01 lb/gal. This product contains betwen 1-5% bis(2-(2-butoxyethoxy)ethoxy)methane (CAS No. 143-29-3) which is about 1,352 pounds per month. Based on this estimate. the monthly emissions of bis(2-(2-butoxyethoxy)ethoxy)methane (CAS No. 143-29-3) could be more than 20 pounds per month and the e-coat process may not be exempt from R201 requirements pursuant to R290. The coating usage (-water) appears to be more than 200 gallons per month. Therefore, Rule 287(2)(c) may not be applicable. Hence, the facility is advised to apply for a permit to install for this e-coating process.

The AQD does not currently have a screening level for dibutyltin oxide. Crown Group provided emissions records from July 2020 through July 2021, no monthly emissions exceeded the 1000 pounds per month VOC limit in Rule 290(2)(a)(ii).

The facility also has a permitted burn-off oven that is used to remove built up coatings on the metal racks used in the e-coat process.

I arrived at the facility at and was met by Mr. Jason Nowak, Regional Environmental Manager. I introduced myself, presented my credentials, and stated the purpose of the inspection. I requested Mr. Nowak had provided the VOC records electronically, so the main focus of the inspection was to look at the powder coating booth and burn-off oven.

Crown Group Shelby does not have any back-up generators, cold cleaners, or boilers.

Compliance

All records were provided electronically and can be located in: S:\Air Quality Division\STAFF\Joe Forth\N7426 Crown Group Shelby FY21 Inspection

PTI No. 187-18

EUBURNOFF

I.1 EUBURNOFF was not operating at the time of inspection, so visible emissions were not able to be evaluated.

II.1 The only fuel used in EUBURNOFF is natural gas according to Mr. Nowak.

II.2 The permittee only processes cured coatings on metal racks in EUBURNOFF, according to Mr. Nowak. I was shown some of the racks that they process as an example.

II.3 None of the materials processed in EUBURNOFF contain halogens, the SDS for the coating shows it does not contain any halogens.

III.1 and 2 The only materials processed in EUBURNOFF are cured coatings.

IV.1 EUBURNOFF is equipped with a secondary chamber/afterburner. The afterburner is kept at a minimum of 1400 °F according to recently provided temperature data. In the data reviewed it appears that once turned on the afterburner takes between 10-20 minutes to heat up completely then stays above 1400 °F for the duration of the process. The primary chamber isn't brought up to operating temp until the afterburner reaches 1400 °F.

IV.2 EUBURNOFF is equipped with an automatic temperature control for both the primary chamber and afterburner.

IV.3 EUBURNOFF is equipped with an interlock system, as described in the oven manual.

VI.1 EUBURNOFF is equipped with a device to monitor the temperature of both chambers. Temperature records for both chambers were provided.

VI.2 Calibrations for both chambers in EUBURNOFF were provided.

VI.3 EUBURNOFF was equipped with a device to record temperature data at the time of inspection. Temperature logs for both chambers were provided.

VI.4 Maintenance records for EUBURNOFF were available on-site, I reviewed but copies were not requested.

VI.5 The SDS for the coating processed in EUBURNOFF was provided.

VI.6 The manual for EUBURNOFF showed that it is equipped with an afterburner, temperature control for primary chamber and afterburner, and interlock system.

VII.1 (a) and (c) The permittee sent notice to the AQD of the stack height being raised to the 47.25 feet required by the permit, and the proof that EUBURNOFF was equipped with an interlock system.

VII.1(b) The facility did not install a device to record the temperatures of both chambers of EUBURNOFF before the inspection in August 2020. However, after the inspection, the permittee notified the AQD within 7 days of the installation of the temperature recorder, as required by this condition.

VIII.1 The exhaust stack for EUBURNOFF appeared to be unobstructed. And notice to the AQD stated the stack height was the permit required 47.25 feet.

IX.1(a) and (c) The permittee raised the stack height to 47.25 feet and installed the interlock system in EUBURNOFF before the required date of February 1, 2019.

IX.1(b) The permittee did not install the temperature recording device in EUBURNOFF before the required date of February 1, 2019. The facility was issued a violation for this condition as a result of the August 2020 inspection. The facility has since installed the temperature recording device. The violation has been resolved.

Conclusion

Crown Group Shelby appears to be in compliance with PTI No. 187-18. The facility needs to evaluate the permit to install applicability for the e-coating process and apply for a permit to install if applicable.

NAME Sebastian Lykallenkal DATE 10/20/2021 SUPERVISOR Joyce