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

N095052264

FACILITY: MICHIGAN METAL COATINGS		**SRN / ID:** N0950
LOCATION: 2015 DOVE STREET, PORT HURON		**DISTRICT:** Warren
CITY: PORT HURON		**COUNTY:** SAINT CLAIR
CONTACT: Rich Rumohr , Quality Assurance Manager		**ACTIVITY DATE:** 03/09/2021
STAFF: Shamim Ahammod	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Conducted a scheduled inspection to determine the facility's compliance with the requirements of the federal Clean Air Act and Permit to Install (PTI) Nos. 139-06, 116-06C and 24-29.		
RESOLVED COMPLAINTS:		

On March 9, 2021, Michigan Department of Environment, Great Lakes and Energy (EGLE) - Air Quality Division (AQD) staff, I, Shamim Ahammod, conducted a scheduled onsite inspection of Michigan Metal Coatings Company (SRN#N0950); plant 1 located at 2015 Dove Street, Port Huron, Michigan and plant 2 located at 1720 Dove Street, Port Huron, Michigan, 48060. The purpose of the inspection was to determine the facility's compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451) and the Air Pollution Control Rules and Permit to Install (PTI) Nos. 139-06, 116-06C and 24-29A.

SOURCE DESCRIPTION

Michigan metal coatings company (plant 1) uses dip-spin machines to coat metal parts such as nuts and bolts. Parts are washed in an alkaline solution and shot blasted to remove oils, scale, and surface rust prior to coating. The facility (plant 1) uses a burn-off oven to clean cured coated dirty baskets generated from the dip-spin processes.

Michigan metal coatings company (plant 2) uses a rack dip-drain-spin coating line that consists of an alkaline wash with a 1.22 MMBtu/hr boiler, shot blasting stations, three (3) dip-spin coating booths, two (2) natural gas-fired curing ovens, and a cooldown area.

Pre-inspection meeting

On February 26, 2021, due to COVID-19, I pre-arranged a Microsoft Team meeting with Mr. Steve Hlywa, Quality and Engineering Manager of Michigan Metal Coating to discuss the PTI Nos. 139-06, 116-06C and 24-29A. After having a discussion with Mr. Hlywa, I requested to provide me the record-keeping documentation via email. I scheduled an onsite inspection on March 9, 2021.

INSPECTION & REGULATORY ANALYSIS

On March 9, 2021, I arrived at the facility's parking lot at approximately 1:00 PM and met with Mr. Hlywa. Before entering the facility, I observed the RTO and Burn-off oven's stack height and stack emission. During the burn-off oven observation, I met with Mr. Brandon Moppin, Maintenance Supervisor of Michigan Metal Coating.

PTI No. 139-06

EU-BURNOFF
General PTI No. 139-06 was issued to install and operate a batch type natural gas-fired burn off oven with a secondary chamber or afterburner. Burn-off oven is used to remove cured paints, oil or grease from metal parts by thermal decomposition in a primary chamber.

Emission Limits
At the time of inspection, EU-BURNOFF was in operation. As specified in SC I.1, no visible emissions from the EU-BURNOFF stack were observed during the inspection.

Material Limits
As required in SC I.1, Mr. Hlywa informed me that they use only natural gas as fuel in the burn-off oven. According to SC I.2, the permittee shall not process any material in EU-BURNOFF other than cured paints, oil or grease on metal parts, racks and/or hangers. During the inspection, I observed there were several cured painted dirty baskets inside the burn-off oven. Mr. Hlywa told me that they do not process any material in EU-BURNOFF other than cured painted dirty basket.

Process/Operational Restrictions
As required in SC III.1 and SC III.2, the permittee does not process any material in EU-BURNOFF other than cured painted dirty basket per Mr. Hlywa statement.

Design/Equipment Parameters
Per SC IV.1, the permittee shall not operate EU-BURNOFF unless a secondary chamber or afterburner is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the secondary chamber or afterburner includes maintaining a minimum temperature of 1400°F and a minimum retention time of 0.5 seconds.

Per SC IV.2, the permittee shall not operate EU-BURNOFF unless an automatic temperature control system for the primary chamber and secondary chamber or afterburner is installed, maintained, and operated in a satisfactory manner.

At the time of inspection, Mr. Moppin opened the door of the burn-off oven and put cured basket inside the oven. Then he started the machine. At around 1.26 PM, when the after-burner temperature reached to just above 1400 degrees Fahrenheit, the primary burner was started.

Monitoring and Record-keeping
Per SC VI.1 and SC VI.3, the permittee monitors and records the temperature in the burn-off oven secondary chamber or afterburner. I reviewed the weekly temperature records from April 2020 to February 2021 (charts provided by Mr. HIywa) for the secondary chamber. The charts show that the oven was operated with the secondary chamber temperature above 1400 degrees Fahrenheit for the time period reviewed.

Per SC VI.2, The permittee shall calibrate the thermocouples associated with the primary and secondary chambers at least once per year. The permittee has calibrated the thermocouples

associated with primary and secondary chambers on February 24, 2021. Based on review the record it appears temperature controller is in good condition.

According to SC VI.5, MMC is required to maintain a current listing from the manufacturer of the chemical composition of each coating, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both. Mr. Hlywa sent me safety data sheets (SDS) that include component name, CAS Number and the weight percent of each component. After reviewing the information provided by Mr. HIywa, it appears that the facility satisfies the permit condition set forth in SC VI.5.

Stack/Vent Restrictions
I inspected the stack for EU-BURNOFF and noticed the stack height appeared to be more than one and one-half time the building height and that there was no rain cap on the top of the stack. I did not see any visible emissions from the EU-BURNOFF stack during the inspection.

PTI No. 116-06C

On May 2, 2019, for Plant 1 located at 2015 Dove street, Port Huron, MI, Michigan. PTI No. 116-06C was issued for three dip-spin coating lines which apply basecoats to metal parts, and two dip-sin coating lines which apply a water-based topcoat to metal parts.

FGCOATERS
In plant 1, there are 5 coating lines (Line 1 through 5) and one cleaning line (Line 6).

- Line 1(EUCOATER1A) consists of two dip- spin booths that are used to apply basecoats to metal parts and one natural gas-fired oven which is used to cure the parts. For these lines, the parts washers and shot blasters are individual units.

- Line 2, EUCOATER2 has been modified and now it is called EUCOATER2A. It consists of one dip-spin booth which applies topcoats to metal parts. The parts are cured in a natural gas-fired oven.

- Line 3 (EUCOATER3) consists of two dip-spin booths which apply topcoats to metal parts. The parts are cured in a natural gas-fired oven.

- Line 4 (EUCOATER4) consists of two dip-spin booths with spring tool coating equipment that apply topcoats to metal parts. The parts are cured in a natural gas-fired oven. EUCOATER4 will be replaced by EUCOATER4A.

- Line 4 (EUCOATER4A) consists of two dip-spin booths with MWV Tulz coating systems which apply topcoats to metal parts. The parts are cured in a natural gas-fired oven.

- Line 5 (EUCOATER5) has integrated cleaning and coating equipment and utilizes four dip-spin booths and two natural gas-fired ovens. For this unit, the parts washer, six-shot blasters, dip coating equipment and the curing ovens are part of a single unit.

The parts coating process includes alkaline (potassium hydroxide) solution cleaning, shot blasting, dip coating and curing. The exhaust from the shot blasting process is released into the general plant environment after it is controlled by a dust collector baghouse. The shot blasting process appears to be exempt from R.336.1201 requirements per R 336.1285(2)(l)(vi).

FGCOATERS

Three (3) dip-spin coating lines which apply basecoats to metal parts, and two (2) dip-spin coating lines which apply water-based topcoat to metal parts. Each line is equipped with separate natural gas -fired ovens to cure the coated parts. The emissions from the oven portions of the three (3) basecoat lines are controlled by a regenerative thermal oxidizer (RTO). EUCOATER4 will be replaced by EUCOATER4A and EUCOATER2 has been replaced by EUCOATER2A.
Emission Unit: EUCOATER1A, EUCOATER2, EUCOATER2A, EUCOATER3, EUCOATER4, EUCOATER4A, EUCOATER5 and Line 6

Air pollution control equipment

The Regenerative Thermal Oxidizer (RTO) is used to control the emissions from the oven portions of the basecoat lines: EUCOATER1A, EUCOATER2/2A, and EUCOATER5.

Emission Limits

As specified in special condition (SC) I.1, the VOC emissions from the FGCOATERS are limited to 50 TPY based on a 12-month rolling period. Based on records, provided by Mr. HIywa, the VOCs emissions from FGCOATERS from January 2020 through December 2020 were below 10 tons, far below the yearly limit of 50 TPY.

Material Limit

As specified in SC II.1, records of VOC emission calculations determining the volume-weighted average VOC content of the coatings as applied on a daily basis for each individual emission unit in FGCOATERS were provided by Mr. HIywa. These records indicate the daily volume-weighted average VOC content of the coatings as applied on a daily basis for each individual coating line in

FGCOATERS was below the permitted limit of 3.5 Ib/gal (minus water) for the period of January 2020 through December 2020.

Process/Operational Restrictions
As specified in SC III.1 and SC III.2, at the time of inspection, containers of coatings, reducers, solvents, and thinners were covered.
Per SC III.4, during my last inspection, I reviewed the malfunction abatement plan (MAP).

Design/equipment parameters
As specified in SC IV.1, the permittee shall not operate EUCOATER1A, EUCOATER2A, and EUCOATER5 unless the RTO is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the RTO includes a minimum VOC destruction efficiency of 95 percent by weight), maintaining a minimum temperature of 1500 degrees based on the most recent acceptable stack test. The RTO destruction efficiency was 96.05 percent during a stack test conducted on September 8, 2016. A copy of the entire stack test report is on file at the EGLE-AQD Warren District Office. Compliance with the 1500-degree Fahrenheit minimum temperature limit for the RTO is demonstrated through recordkeeping in FGCOATERS.
The temperature readings during the reported period indicate that RTO temperatures were greater than 1500 degrees Fahrenheit while EUCOATER1A, EUCOATER2A, and EUCOATER5 were operating.

In Plant 1, I observed the RTO temperature monitor device during the inspection and noted the temperature was 1514.9 degrees Fahrenheit (one minute average) and 1516.2 degrees Fahrenheit (one hour average).

Per SC IV.2, The permittee shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device in the combustion chamber of the RTO to monitor the temperature on a continuous basis during operation of EUCOATER1A, EUCOATER2, EUCOATER2A, and EUCOATER5. In Plant 1, the RTO temperature monitoring device was calibrated on February 24, 2021. I reviewed the summary of the calibration report and found the condition of the temperature monitoring device is operating within tolerances.

Per SC IV.3, the permittee shall not operate EUCOATER2 and EUCOATER2A at the same time. The permittee has installed the EUCOATER2A in July of 2020. At the time of inspection, only EUCOATER2A was operating. Per SC IV.4, the permittee shall not operate EUCOATER4 and EUCOATER4A at the same time. As of March 9, 2021, the permittee did not install the EUCOATER4. The permittee only operates EUCOATER4.

Testing/Sampling
On September 8, 2016, to comply with the SC V.1, V.2 and V.3, the permittee conducted a stack test on RTO (Plant 1) to verify the total volatile organic compounds (VOC), destruction efficiency and capture efficiency of the Regenerative Thermal Oxidizer (RTO). A copy of the entire stack test report is on file at the EGLE-AQD warren District Office.

Monitoring/Recordkeeping
As stated in SC VI.2, the permittee maintains a current listing from the manufacturer of the chemical composition of each coating including the weight percent of each component. The data may consist

of Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee provided the Safety Data Sheets (SDS) which include the chemical composition of each coating and the weight percent of each component.

As specified in SC VI.3, the permittee shall keep the following information on a daily basis for each emission unit individually for FGCOATING:
VOC content (minus water and with water) of each coating as applied, VOC emission calculations determining the volume-weighted average, and VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month for FGCOATERS.

Based on MS excel sheet record review received via email. It appears the permittee keeps the above records on a daily basis for each emission unit in FGCOATERS. The compliance requirements of SC VI.2 and VI.3 (Monitoring/recordkeeping) have been explained in SC I.1 (Emission Limits) of FGCOATERS and SC II.1 (Material Limits) of FGCOATERS.

As specified in SC VI.4, the permittee records and monitors temperature in the combustion chamber of the RTO on a continuous basis. The temperature readings during the reported period indicate that RTO temperatures were greater than 1500 degrees Fahrenheit while EUCOATER1A, EUCOATER2A, and EUCOATER5 were operating. The compliance requirements of SC VI.4 (Monitoring/recordkeeping) have been explained in SC IV.1 (Design/equipment parameters) of FGCOATERS.

Stack/vent restrictions
I observed the stack height for the RTO and the dimensions appears to be in compliance with the permit requirements. There were no visible emissions from the RTO stack during the inspection.

FGFACILITY (plant 1 and plant 2)
This flexible group encompasses all process equipment at the stationary source including equipment covered by other permits, grandfathered equipment, and exempt equipment. All equipment and processes at MMC are included in FG-FACILITY.

Pollutant	Emission	Limit	Time Period / Operating Scenario
Each Individual HAP	**1.7960 ton**	**Less than 9.0 tpy**	**12-month rolling time period as determined at the end of each calendar month, as of December 2020**
Aggregate HAPs	**2.02 ton**	**Less than 22.5 tpy**	**12-month rolling time period as determined at the end of each calendar month, as of December 2020**

Emission limits/Monitoring/Recordkeeping

Per SC I.1 and VI.2, I reviewed the record for each individual HAP emission for the time period of January 2020 through December 2020. As of December 2020, the highest emitted individual HAP was methanol at 1.7960 tons which is below the permit limit of 9 tons per year based on a 12-month rolling time period. The combined HAPs emissions were 2.02 tons that below the HAP limit of 22.5 tons per year based on a 12-month rolling time period as determined at the end of each calendar month for FGFACILITY.

Permit No. 24-19A

On March 11, 2020, Permit No. 24-19A was issued to Michigan Metal Coating (MMC)-Plant 2 located at 1720 Dove Street, Port Huron, Michigan to install and operate a new coating line (EUDIPSPIN), i.e., Rack Dip Drain Spin (RDDS) line. A Rack Dip Drain Spin coating line comprises an integrated alkaline cleaning system with a 1.22 MMBTU/hr boiler, six-shot blasters, three dip spin coating booths, two natural gas-fired curing ovens, and a cooldown area.

Emission Limits

EUDIPSPIN has been started operating on January 6, 2020.

Material Limits

NA

Process/Operational Restrictions

As required in SC III.2, containers of coatings, reducers, solvents, and thinners were covered.

Design/equipment parameters

As specified in SC IV.1, the permittee shall not operate the dip-coating booths in EUDIPSPIN unless the RTO is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the RTO includes a minimum VOC destruction efficiency of 95 percent by weight, maintaining a minimum temperature of 1500 degrees based on the most recent acceptable stack test.
The permittee has conducted a stack test on RTO located at plant 2 on 11/24/2020.
Based on the average three runs:

	Emission rate	Emission limit/Permit limit
VOC Destruction Efficiency	97.10%	95%
VOC Capture Efficiency	87.64%	85%

I observed the RTO temperature monitor device during the inspection and noted the temperature was 1501 degrees Fahrenheit. The minute average temperature was 1501 degrees Fahrenheit and the hourly average was 1505 degrees Fahrenheit.

Per SC IV.2, the permittee shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device in the combustion chamber of the thermal oxidizer to monitor and record the temperature on a continuous basis, during operation of EUDIPSPIN. The permittee has calibrated the RTO located in Plant 2 on 2/24/2021.

Testing/Sampling

Per SC V.1, V.2 and V.3, within 180 days of initial startup of EUDIPSPIN, the permittee is required to conduct a stack test on RTO (Plant 2) to verify the total volatile organic compounds (VOC) destruction efficiency and capture efficiency of the Regenerative Thermal Oxidizer (RTO). EUDIPSPIN started operating on January 6, 2020. The permittee has conducted a stack test on RTO located at plant 2 on 11/24/2020.
Based on the average three runs:

	Emission rate	Emission limit/Permit limit
VOC Destruction Efficiency	97%	95%
VOC Capture Efficiency	87%	85%

Monitoring/Recordkeeping
As stated in SC VI.2, the permittee maintains a current listing from the manufacturer of the chemical composition of each coating including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee provided Safety Data Sheets (SDS) that include the chemical composition of each coating and the weight percent of each component.

Per SC VI.4, the permittee is required to keep records of the combustion chamber temperature in the RTO on a continuous basis. RTO started operating on January 6, 2020. I observed RTO operating temperatures records that were above the minimum operating temperature of 1500 degrees Fahrenheit during the RTO operating period. Temperatures went down the minimum operating temperature of 1500 degrees Fahrenheit while the RTO was in idle position.

Reporting
On January 6, 2020, the facility started operating the EUDIPSPIN. On January 13, 2020, the permittee notified the AQD District Supervisor, via email, of the installation and completion of EUDIPSPIN.

Based on the on-site inspection, reviewing records and discussion with staff, Michigan Metal Coatings Company is in compliance with the requirements of PTI No. 139-06 and 116-06C and 24-19A.

NAME _____ DATE April 28, 2021 SUPERVISOR _____