

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

N767964518

<b>FACILITY:</b> RACK PROCESSING MICHIGAN LLC		<b>SRN / ID:</b> N7679
<b>LOCATION:</b> 3513 LOUSMA DR SE, WYOMING		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> WYOMING		<b>COUNTY:</b> KENT
<b>CONTACT:</b> Dan Jozwiak , Supervisor		<b>ACTIVITY DATE:</b> 07/29/2022
<b>STAFF:</b> April Lazzaro	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Unannounced, scheduled inspection.		
<b>RESOLVED COMPLAINTS:</b>		

Air Quality Division (AQD) staff April Lazzaro conducted a scheduled inspection of Rack Processing Michigan LLC located at 3513 Lousma Drive SE in Wyoming. The purpose of the inspection was to determine the facility's compliance with state and federal air pollution regulations as well as Renewable Operating Permit No. MI-ROP-N7679-2018. Accompanying AQD staff on the inspection was Dan Jozwiak, Production Manager.

### FACILITY DESCRIPTION

Rack Processing refurbishes metal racks used in the electroplating process. The facility is located in a light industrial zone with residential homes approximately 1,000 feet to the west. The metal racks are fabricated by welding steel components together and then they are coated in plastisol. Metal racks are returned to the facility by customers to have the plastisol coating removed, metal repaired, and recoated in plastisol. The facility consists of a natural gas-fired burn-off oven with afterburner controls, primer and plastisol dip coating application tanks, a sandblasting booth, and various metal fabrication equipment including welding units. The facility is considered a major source of hazardous air pollutants (HAPs) due to hydrogen chloride (HCl) emissions. The facility is permitted pursuant to Renewable Operating Permit No. MI-ROP-N7679-2018. Recently, a new burn-off oven was installed and began operation pursuant to Permit to Install (PTI) No. 3-11D for which a Notification of Change (NOC) was received on May 11, 2022. On the day of the inspection, stack testing of the new burn-off oven was taking place.

### COMPLIANCE EVALUATION

#### Rack Burn-Off Oven (EUBURNOFF):

The company operates a Steelman rack burn-off oven to remove the existing plastisol coating from the metal racks that they refurbish. The primary chamber is operated around 430 °F and the cycle time on a batch of racks can range from 9 to 18 hours.

There is a secondary afterburner installed on the unit and a circular chart to record the temperature. Temperature records were requested, and records show that the afterburner is typically operated at or above 1,600 °F which is above the minimum temperature limit of 1,560 °F in the permit. The afterburner reaches the setpoint of 1,600 °F , and then when the main chamber burner ignites, the afterburner temperature dips dramatically before climbing again. It is noted that due to water sprays used to reduce flame-up, the temperature of the afterburner temperature will dip throughout the cycle. Mr. Jozwiak indicated that they may increase the oven temperature to ensure the temperature remains above 1,560°F

when the water sprays are activated. In addition, the company records on the circular chart, the number of water spray cycles that occurred during a batch and also the total oven run time.

During the inspection, I noted that there are two digital displays for temperature that each correspond with thermocouples that are adjacent to each other in the stack. One is for the main oven controls, and the other corresponds with the temperature chart. The temperatures on the display varied by approximately 15°F, and the one associated with the circular chart indicated compliance with the 1,560°F limit, and the one associated with the oven was below the 1,560°F limit. I requested additional information relative to the thermocouple location, and since they are adjacent, they should read the same temperature. Rack Processing needs to calibrate the units and submit a report to the AQD indicating which one is correct and which one is incorrect.

Records required by MI-ROP-N7679-2018 and the associated PTI No. 3-11D NOC are being maintained, however the formatting could use improvement. Additionally, multiple records requests were required to get the information requested from the company consultant which delayed the compliance determination. The data was sent in different formats, and formulas in Excel were not always used, and information was recalculated to ensure accuracy. The company needs to improve the recordkeeping format and use Excel to calculate emissions vs. entering a number into a cell.

Records were obtained for the time period of January 2017-August 2022. Throughout that period, records indicate compliance with the 188,000 pound limit in the permit. The highest 12-month rolling total period ended in August 2021 at 68,133 pounds. The facility did not conduct burn off activities from April 14, 2022-June 15, 2022, since they were replacing the oven with a new permitted unit. Records show that the highest amount of plastisol burned in a batch in 2022 was 1,048 pounds (7/29/22) which is below the limit of 1,285 pounds in the permit. The company is using the same Chemionics plastisol (with a chlorine content of 30%) used over the years.

In addition, the company is maintaining 12-month rolling hydrogen chloride (HCl) emissions calculations. These calculations are based on stack testing that was completed in 2017 and will be updated if the 2022 stack test is approved. HCl emissions for the period of September 2021 through August 2022 were 8.12 tons which is below the 29 ton per year limit in the permit.

There was concern on the day of the stack test related to how the facility was operated and the oversight of the stack test company staff. It was also noted that while the rack loading and weights appeared to be near the maximum routine production rate, the HCl emissions were much lower than seen during previous tests. Concerns regarding the validity of the test was expressed to the facility consultant.

The company has sufficient maintenance records on the burn-off oven to determine compliance, however, documentation could be improved. The burn-off oven stack was replaced in September 2019 due to corrosion. Stack height is maintained at 53' above ground which meets the minimum height requirement of 51'. According to the company, the thermocouples were calibrated at installation, however there was a

discrepancy between the digital readout and the paper chart record. This was pointed out to the company, and a written request to have them re-calibrated was made.

#### **Sandblasting (EUBLAST):**

After the racks come out of the burn-off oven the racks are sandblasted. The sandblasting booth is fully contained. There are two baghouses used to collect particulate that is exhausted to the in-plant environment. This equipment is exempt under Rule 285(2)(l)(vi)(B).

#### **Primer Dip Coating (FGCOATING):**

After the racks are sandblasted, a soap solution is brushed onto the part clips and the racks are then coated with a primer. The primer coating operation consists of a 2,000 gallon rectangular dip tank containing a primer coating and a diluent mixture. Historically the diluent that makes up the majority of the volume of the total primer coating has been methyl ethyl ketone (MEK), however the company tried adding more acetone to the mixture to reduce VOC emissions. This did not work from a process standpoint and acetone is no longer used. The primer dip tank is not in an enclosed booth, however, there is an air handling system to allow solvent fumes to be vented to the ambient air. There are no exhaust filters, however, no coating atomization is occurring. At the time of the inspection, the primer tank was not operating, and the lid was closed on the dip tank. It was noted that no primer adds have been recorded in the records since August 2021. The consultant stated in an email that no primer has been used since that time, and none has been purchased since July 2021.

The ROP contains conditions that originated from the General Permit to Install (PTI) for Coating lines. According to company records from total VOC emissions from priming operations (including primer coating and added MEK) were 4.52 tons time period of September 2021-August 2022 which is below the 10 ton per line and 30 ton per facility limits contained in MI-ROP-N7679-2018. The primer coating itself without the diluent contains 1.11 pounds of VOC per gallon. The company had adequate records to determine compliance with emission limits. See attached Safety Data Sheet for SD-2461.

#### **Preheat Oven (EU-PREHEAT):**

After priming, racks are placed into a natural gas-fired pre-heat oven with a fuel rating of 1.2 MMBtu/hour. This unit is exempt from permitting under Rule 282(2)(b)(2) ( i ) and exempt from the ROP under Rule 214(4)(c). However, this oven was identified in the General Permit to Install application. Rack Processing should fix this status in the next ROP renewal that is upcoming. During the inspection, I noted that the oven stack was leaning to one side. Mr. Jozwiak accessed the roof and informed me that the stack had completely rotted away at the base. This stack should be safely removed and repaired.

#### **Plastisol Coating (EU-PLASTISOLDIP):**

The heated racks are then dipped into a 2,000 gallon rectangular tank containing black plastisol and reducer. Rack Processing identified in the most recent ROP application that the tank is exempt from permitting under Rule 291(1). The company

used to apply two coats of plastisol but are now only doing one coat and therefore there is no flash curing. Plastisol from 275 gallon bulk containers and a small amount of reducer is added to the tanks on a monthly basis. The company is using a Chemionics Corporation, a Division of Protech Powder Coatings, Inc. plastisol and plasticizer reducer. The Rule 291 emissions calculations associated with the plastisol dip coating tank had not been conducted properly in the past so additional information was requested and received. The initial records received for Rule 291(1) were not acceptable because they did not contain information on Toxic Air Contaminants (TAC) as required. The current consultant questioned AQD on why Rule 291 is being used for this coating tank, vs. the General PTI issued in 2006 and incorporated into the ROP. Following some research, I found that the company had identified Rule 291(1) as the permit status for that tank in the most recent ROP renewal application. It is also noted that criteria pollutant emissions from this emission unit are not being reported to MAERS as required. Rack Processing will need to update the MAERS next year and include that emission unit and associated emissions.

The consultant submitted records for air toxics, however there are some materials that are carcinogenic that were not addressed. The consultant has stated that those materials are not emitted as an air contaminant. The use of exemptions are not formally approved by the AQD, and the claims of the consultant have not been verified at this time.

#### **Curing Oven (EUCURE):**

After the final coat of plastisol, the racks are cured in a natural gas-fired oven with a heat capacity of 1.2 MMBtu/hour. This unit has been listed as exempt from permitting under Rule 282(2)(b)(2)( i ) and exempt from the ROP under Rule 214(4)(c). However, this oven was identified in the General Permit to Install (PTI) application. Rack Processing should correct this status in the next ROP renewal that is upcoming. The final cure in the oven is at 350 °F for about 35 minutes. During the previous inspection, significant smoke was observed inside the plant, however the oven was not operating during this inspection. It is noted that there is no afterburner on this oven. It is also noted that the company stated in the General PTI application that there are HCl emissions emitted from this oven.

#### **FGSOURCE:**

The company is maintaining records to demonstrate that VOC emissions for the permitted coating lines and all associated purge and clean-up operations at the stationary source were 4.28 tons which is below the 30 ton per year limit in the ROP. This value only includes emissions from FGCOATING, so emissions are the same as what is reported above in that flexible group. The limit is not a VOC Opt-out limit, as it only applies to the coating line and associated emissions as the limit originated in the General PTI for coating lines.

#### **Micellaneous:**

No odor or visible emissions issues were noted at that time of the inspection, however Mr. Jozwiak indicated that occasionally smoke is observed for a brief time from the burn off oven.

The final data necessary to determine compliance was received on September 8, 2022.

**SUMMARY**

Rack Processing appears to be in compliance with all applicable requirements.

NAME April Lazzaro

DATE 09/13/2022

SUPERVISOR HH