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

N359268782

FACILITY: Plastic Trim International, Inc.		**SRN / ID:** N3592
LOCATION: 935 AULERICH ROAD, EAST TAWAS		**DISTRICT:** Bay City
CITY: EAST TAWAS		**COUNTY:** IOSCO
CONTACT: Al Cooper , EHS Manager		**ACTIVITY DATE:** 08/24/2023
STAFF: Nathanael Gentle	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Scheduled Onsite Inspection FY23		
RESOLVED COMPLAINTS:		

On August 24, 2023, AQD staff conducted a scheduled onsite inspection at Minth Plastic Trim International, SRN N3592. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environment Great Lakes and Energy, Air Quality Division (AQD) Administrative Rules; and to evaluate compliance with the facilities Permit to Install, PTI No. 119-20. AQD staff included Mr. Nathanael Gentle, Environmental Quality Analyst, and Mr. Chris Hare, Bay City District Supervisor. EGLE staff were assisted onsite by Mr. Al Cooper, EHS Manager. At the time of inspection, the facility was found to be in compliance.

Facility Background and History

Minth Plastic Trim International is located at 935 Aulerich Rd East Tawas, MI 48730. The facility primarily manufactures plastic automotive trim parts for a variety of automobile manufacturers. Parts are produced onsite using plastic injection molding. The plastic parts are coated onsite using an automated paint line. Additionally, the facility operates co-extrusion (co-ex) lines to produce thin metal strips adhered with PVC. The strips produced are utilized as car window sealing strips.

Minth Plastic Trim International is a minor source of Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs). One active Permit to Install (PTI) is associated with the facility, PTI No. 119-20. PTI No. 119-20 was issued on 4/30/2021.

Minth Plastic Trim International was last inspected on April 21, 2022. At the time of the April 2022 inspection, the facility was found to be in non-compliance. A VN was issued on May 4, 2022, following the inspection detailing the following violations. The facility was unable to provide a copy of the malfunction abatement plan (MAP) for EUCOATING. The facility was not monitoring and maintaining records for the RTO combustion chamber temperature. A copy of the stack test report verifying VOC destruction efficiency of the RTO was submitted late and incomplete. The facility was unable to provide copies of test reports demonstrating smoke testing to verify the direction of airflow at each natural draft opening. The facility was not maintaining records of coating usage and VOC emissions from coatings. The facility was not maintaining records of solvent usage and reclaim and VOC emissions from solvents. Records of each acetone containing coating and cleanup solvent used and reclaimed, as well as records of acetone emission calculations, were not available. Records of each naphthalene (CAS No. 91-20-3) containing coating usage, as well as naphthalene emission calculations, were not available. Following the inspection completed on 4/21/2022 and the subsequent VN issued on 5/4/2022, AQD entered

enforcement with Minth Plastic Trim International. Enforcement negotiations resulted in Minth Group LTD entering a Final Order by Consent (Consent Order) AQD No. 2023-13 with the Air Quality Division. The Consent Order became effective on May 19, 2023.

As part of the inspection completed on 8/24/2023, compliance with the Consent Order was evaluated. AQD staff reviewed compliance with the previously cited violations. Material usage and emission calculation records were examined. Additionally, staff observed the completion of smoke tube testing while onsite, verifying the direction of airflow at each natural draft opening.

Compliance Evaluation

EUCOATING

EUCOATING encompasses the plastic parts coating line. The process is fully automated aside from workers loading parts onto racks at the beginning of the process and offloading once the parts are coated. The process begins with the cleaning and pretreatment of parts by sending parts through an acid wash followed by spraying and rinsing. Parts are then conveyed up to the second floor of the system where they enter an electric drying oven. Once parts are dry, they enter the coating portion of the system. The system consists of three coating booths. Coatings are applied within the booths by robotic electrostatic applicators. Following the coating booths, parts pass through a natural gas fired curing oven. Once dried, the parts are conveyed back down to the 1st floor where facility staff unload the newly coated parts.

Particulate emissions from EUCOATING are controlled by an E-Cube system, Special Condition (S.C.) IV. 1. The E-Cube system contains a series of particulate filters. The system is designed to allow facility personnel to easily replace E-Cube filters as needed. Facility staff report the system is equipped with differential pressure sensors to determine when filters need to be changed. Spent E-Cube filters are pulled out and disposed of in a dumpster behind the facility.

Solvents used in EUCOATING are for cleaning purposes only. Paint used in the system does not need to be thinned with solvent. The solvents are used to clean and purge paint lines. The solvents are then recaptured and stored in closed containers, S.C. III. 1. Recaptured solvents are sent to a third party to be reclaimed.

Special Condition III. 5. stipulates the permittee shall implement and maintain a malfunction abatement plan (MAP) as described in Rule 911(2). A copy of the MAP was to be submitted to the AQD within 45 days of permit issuance. Forty five days after permit issuance would have been June 14, 2021. During the inspection completed on 4/21/2022, the facility was unable to provide a copy of their MAP. A copy of the MAP was received by the AQD on 6/27/2022. Upon review of the MAP, a request was sent to the facility for information to be added to the MAP including, identification of the supervisory personnel responsible for overseeing air control equipment, spare parts for the air control equipment maintained onsite, the backpressure set limit of the E-Cube system and procedures followed in the event the limit is exceeded. Following the request, the facility's consultant promptly added the requested information and provided an updated copy of the plan.

EUCOATING is equipped with a regenerative thermal oxidizer (RTO) to control VOC emissions. A minimum temperature of 1,400°F and a retention time of 0.5 seconds is required to be

maintained, S.C. IV. 3. At the time of inspection, the temperature setpoint of the RTO was observed to be 760°C, or 1400°F. Facility staff report if the temperature drops below the system set point, an alarm will sound, and the painting line will automatically shut down. The RTO is equipped with a device to monitor the temperature in the combustion chamber on a continuous basis, S.C.IV.4. Special Condition VI. 4. defines a continuous basis as an instantaneous data point recorded at least once every 15 minutes. Staff report the RTO is set up to automatically record the temperature every 15 minutes. The data is recorded onto a flash drive, plugged into the system. Staff report they periodically pull the flash drive to extract the temperature data.

Records of the temperature in the RTO were requested and provided for the months of November 2022, February 2023, and June 2023, S.C.VI.8. In the records reviewed, the temperature was recorded every 15 minutes. Temperature records show periods when RTO is off, powering on, opearting, and powering down. During periods when unit was operating, temperature readings were 759 to 761°C, or 1398.2°F to 1401.8°F.

Stack testing of the RTO to verify the VOC destruction efficiency was completed on 12/22/2021, S.C.V.3. A copy of the complete test report was provided to the AQD on 5/16/2022. Results of the testing showed the RTO had an average destruction efficiency of 99.96%

EUCOATING is equipped with a non-fugitive enclosure to help control VOC emissions from the process, S.C.IV.5. Special Condition III. 4. requires a negative pressure differential between the non-fugitive enclosure and the adjacent area through each natural draft opening (NDO). A NDO is defined as any opening that is not connected to a duct in which a fan or blower is installed. Compliance with this condition is demonstrated using smoke tests as required by S.C. V. 2. The purpose of the smoke test is to verify that the direction of air flow at each natural draft opening is into the non-fugitive enclosure. As described in S.C. V. 2., a smoke test is to be completed within 180 days from the issuance of the PTI and semi-annually thereafter. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and the District Office. The plan must be approved prior to testing. Once testing is complete, a final report must be submitted to the AQD within 60 days following the last date of the test.

At the time of the onsite inspection, AQD staff requested to observe smoke tube testing. The non -fugitive enclosure has two NDOs, the cure oven exit, and the pre-wash entrance. Smoke tube tests were observed at both NDOs. For each NDO, the air flow direction was evaluated at each of the 4 corners and the center of the openings. At the pre-wash entrance, smoke was observed to enter the enclosure at all 4 corners and the center, indicating negative pressure. The cure oven exit is equipped with fans along the wall parallel to the oven opening and overhead of the oven exit. The fans were put in place to help ensure the air flow direction is into the NDO. All fans were operating, initially, during the observed smoke tube test. Air flow direction was observed to be flowing into the cure oven at the bottom two corners and the center. Air flow at the top two corners was flowing out of the cure oven. Facility staff turned off the overhead fan above the cure oven exit. Once the fan was turned off, air flow was observed to flow into the enclosure at the top two corners. Minth staff reported a third-party company had been hired and was working to evaluate the system design of the cure oven cool down area to ensure consistent inward flow.

A copy of the test report for the smoke testing completed during the inspection was provided. The facility utilizes a typed-up checklist. The checklist documents the date the test was performed, the date notice was provided to the AQD, persons who conduct the test, and

equipment used. The checklist includes a fillable table identifying the NDOs and the points of each NDO in which air flow is evaluated. Staff note whether positive or negative pressure were observed and the time of the observation. During the testing completed on 8/24/2023, negative pressure was observed at all 4 corners and the center of both the pre-wash entrance and the cure oven exit.

The permittee shall keep records of the monthly volume of each coating used, S.C.VI.4. Additionally, the permittee shall maintain records of the monthly volume of each solvent used and reclaimed, S.C.VI.5. Staff report the automated paint line system tracks the volumes of each coatings used, in gallons. Similarly, the system tracks purge solvent volumes. Paint Engineers at the facility tabulate records of the volumes of each coating and solvent used each month. These volumes are tabulated into a spreadsheet and sent to the facility's consultant on a monthly basis. A spreadsheet detailing monthly usage of each individual coating and solvent is maintained by the facility's consultant. The VOC content of each coating and solvent is tracked in the spreadsheet. The VOC contents are determined using the manufacturer's formulation data, S.C.V.1. Staff report all new Safety Data Sheets are sent to their consultant to ensure the spreadsheet is up to date.

Using the monthly volumes of each coating and solvent used, the VOC contents of each, and the 99.96% destruction efficiency of the RTO, monthly and 12-month rolling VOC emissions are calculated in the spreadsheet. Records were provided and reviewed for the period of May 2021 to June 2023. During the period of records reviewed, the highest monthly VOC emissions was 0.051 tons/month in both May 2023 and June 2023. The highest 12-month rolling VOC emissions occurred at the end of June 2023 with 0.593 tpy, well below the permitted limit of 9.31 tpy, S.C.I.1.

In addition to tracking VOC contents, the spreadsheet is used to track the hazardous air pollutant (HAP) composition of each coating and solvent. Emissions of both acetone and naphthalene (CAS No. 91-20-3) are tracked, as required by PTI No. 119-20. Records of acetone emissions were provided and reviewed for the period of May 2021 to June 2023, S.C.VI.6. During calendar year 2021, monthly acetone emissions were consistently 0.0024 tons/month. During the period of January 2022 to June 2023, monthly acetone emissions ranged from 0.0229 to 0.0230 tons/month. During the period of records reviewed, the highest 12-month rolling acetone emissions was 0.2757 tpy at the end of June 2023, well below the permitted limit of 3.0 tpy, S.C.I.2.

Records of naphthalene (CAS No. 91-20-3) emissions were provided and reviewed for the period of May 2021 to June 2023, S.C.VI.7. During the period of records reviewed, the highest monthly emissions of naphthalene occurred in May 2023 with 0.061 lbs/month emitted. The highest 12-month rolling emissions of naphthalene occurred at the end of June 2023 with 0.434 lb/yr, well below the permitted limit of 83.44lb/yr, S.C.I.3.

Additional Processes Onsite

In addition to the paint line permitted by PTI No. 119-20, Minth Plastic Trim International operates additional processes as exempt from needing a PTI. Plastic trim parts are produced onsite using plastic injection molding. The process has no external emissions and appears to meet the exemption criteria of R. 286. The facility has a water-cooling tower used to cool molds for the

plastic injection machines onsite. The water-cooling tower appears to be exempt based on R. 280 (2)(d).

The facility operates co-extrusion (co-ex) lines to produce thin metal strips adhered with PVC. The strips produced are utilized as car window sealing strips. The lines take narrow strips of metal and form it into a rounded channel shape. From there, the strips are passed through a detergent mixture and rinsed. Then, the strips are passed through a phosphoric acid bath, to promote adhesion. At this point, an adhesive is applied, and the metal strips are adhered to rubber inserts, then cured. Emissions from the adhesive process are vented externally. Based on discussion with facility personnel, emissions from the adhesive applied likely meet the requirements of exemption R. 287(2)(c) which exempts a surface coating line if the coating rate is less than 200 gallons, as applied, minus water, per month. Monthly coating use records must be maintained in order to meet the exemption requirements. During the onsite inspection, staff were unable to provide monthly records of adhesive used. Following the onsite visit, staff provided adhesive purchase record information for the period of September 2021 to August 2023. Purchase records showed an average of 117 gallons of adhesive were purchased each month. Facility staff were made aware of the monthly record keeping requirements of exemption R. 287(2)(c). Moving forward, monthly usage records of adhesives usage in the co-ex lines need to be maintained.

Summary

On August 24, 2023, AQD staff conducted a scheduled onsite inspection at Minth Plastic Trim International, SRN N3592. Minth Plastic Trim International is located at 935 Aulerich Rd East Tawas, MI 48730. The facility manufactures plastic automotive trim parts for a variety of automobile manufacturers and car window sealing strips. Minth Plastic Trim International is a minor source of Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs). One active Permit to Install (PTI) is associated with the facility, PTI No. 119-20. The PTI encompasses the plastic parts coating line operated at the facility. The plastic mold injection processes and co-ex lines operate as exempt from needing a PTI. At the time of inspection, the facility was found to be in compliance.

Nathanael Gentle DATE 9/20/2023 SUPERVISOR Chris Hare

NAME