

N0266
MANILA

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

N026648634

FACILITY: SUN PLASTIC COATING CO		SRN / ID: N0266
LOCATION: 42105 POSTIFF DRIVE, PLYMOUTH		DISTRICT: Detroit
CITY: PLYMOUTH		COUNTY: WAYNE
CONTACT: Jason Price , Quality Control Manager		ACTIVITY DATE: 04/11/2019
STAFF: C. Nazaret Sandoval	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY 2019 Scheduled Inspection		
RESOLVED COMPLAINTS:		

SRN: N0266 –Sun Plastic Coating Company

Location: 42105 Postiff Drive, Plymouth, MI 48170

Contacts: Jason Price, Quality Manager
Scott Teasdale, Operations Manager

Phone: 734-453-0822

Inspection Date: April 11, 2019

1. FACILITY BACKGROUND

Sun Coating Company (the facility) is a small miscellaneous parts coater located in the City of Plymouth on the south side of Postiff Avenue, east of North Lilley Road in a mainly industrial setting. The nearest residential area is adjacent to the facility on the west side. The area of the plant is about 29,000 square feet. The facility has operated at this location for over thirty years. The plant regularly operates 5 days per week from 7 AM to 3:30 PM. During high demand and/or for special orders, they operate a second shift from 3:30 PM to midnight and on Saturdays, if needed. The facility engages primarily in applying special lubricating, corrosion-resistant coatings to various metal parts for the automotive, molding, and tooling industries, among others. The process is generally referred to as Teflon-Coating and is used on parts that cannot received lubricants or oils. The individual part dimensions and customer specifications dictate they type of coating and manner of application. At the time of the inspection, I was informed that 40% of the coated products are for the automotive industry and 60% is allocated among diverse types of applications and industries such as packaging, tool and die, medical, etc.

2. COMPLAINT/COMPLIANCE HISTORY

The last time the facility was inspected by AQD staff was on August 12, 2015 and it was found to be in compliance with the state and federal air pollution regulations. We have not received any complaints regarding this facility since the last inspection.

3. INSPECTION NARRATIVE

I arrived at the facility on April 11, 2019 at about 1:00 pm to conduct a scheduled inspection. 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); with the State of Michigan Air Quality Administrative Rules; and Permit to Install No.136-14.

I met with Mr. Jason Price, the facility's Quality Manager and with Scott Teasdale, the

Operations Manager. During the opening meeting I stated the purpose of my visit and I discussed the applicable regulations. I discussed the enforceable restrictions that have been accepted by the facility to limit its potential to emit after the rescinding of Rule 208a and the implementation of the opt-out permit to install, PTI 136-14, issued on November 18, 2014. I described the main points of the compliance evaluation that I was going to cover during the inspection, which are addressed later in this report.

After the opening meeting, Mr. Teasdale left the room to attend another work meeting and Mr. Price lead the tour of the facility.

The processes consist of several application methods: custom spray coating booths, tumble coaters, spin dip machines, horizontal lines, spray coating systems utilizing overhead conveyors, and a robotic spray booth.

Depending on the job orders, some parts need to be pre-treated before coating them, others are pre-baked and/or sandblasted, others are coated as received. In other words, the steps to follow are job-specific and could also be a combination of all the listed processes with no particular order.

The pretreatment line uses zinc phosphate. This unit is run approximately every day. The parts are dipped in an alkaline solution, and rinsed in water, then they are dipped in a zinc phosphate solution and rinsed again in water. Afterwards, the parts are dried in a natural gas-fired oven at 400 F for 20 minutes.

The facility uses N-methyl pyrrolidone (NMP) and MEK to clean up equipment, such as pressure pots and spray guns, in: Horizontal #1& #2, Custom #1 and #2, Spin Dip and Overhead Conveyor booth areas. All lines used HPLV spray guns. The coating booths are controlled by filters.

The equipment layout for this facility was updated during the inspection conducted in 2015 with the information provided by Mr. Price. This year, before the walkthrough, I asked Mr. Price to check the drawing for correctness. He indicated that there have been minor changes in the operations. Mr. Price provided an updated drawing showing the following equipment additions:

- A new custom booth (#3), similar to the existing custom booths 1 and 2, has been installed. The booth is located in the south corner of the west building by the existing EU-Custom 1. A new stack was installed to serve this new booth.
- An oven (known as oven C) originally located by EU-Custom 2 was relocated near the new booth #3.
- A new oven was installed in the same location where oven C was situated. The new oven uses the same old stack.

The modifications listed above were done around July 2018. A copy of the revised drawing is in Appendix A of this report and it will be filed with the facility records in the AQD Detroit District office.

I used the revised building layout drawing during the walk-through of the plant to verify the location of the equipment. At the time of the inspection, I counted fourteen (14) coating booths, seventeen (17) natural gas-fired curing ovens, and one (1) infrared oven (the Nutro Line). There are separate exhaust stacks for the paint booths and the ovens. They also have one large enclosed sandblasting booth and five small sandblasting units: (3) hand-cabinet sandblasting units and (2) tumbles sandblasting units.

The drawing in Appendix A (updated by Mr. Price) shows the location of the equipment in two areas of the building, identified as West and the East Wings. The emission units (EUs) have been labeled to match the MAERS IDs. The itemized list of the equipment, printed from the 2018 MAERS report submittal, has been included in Appendix A. The excel table includes: the emission unit IDs, the description of the equipment, the installation date and the material throughput for the year.

Manual records of paint usage are recorded daily for the custom area booths and with a variable frequency (as new containers are opened) at the production storage line. The custom booth coating lines use minimum amounts of paint. The operators maintain daily logs of paint usage in fraction of cups (8 oz) and Mr. Price totalizes the amounts at the end of each month.

Mr. Price explained that since the issuance of PTI 136 -14 there has been a change in the recordkeeping and reporting procedures. The facility is able to collect the data and produce their own reports directly from their computer system instead of providing the manual records to the consultant engineer. Here is how the new procedure works: The records (logs) collected manually are entered directly to the software (EMTRACK) which is installed in the company's computer system. All the properties of the compounds (densities, VOC content, HAPs, etc.) have been fed into the database that works with the software. The software allows the company to create monthly and annual reports to comply with the permit reporting requirements as well as the annual MAERS reports. When the permit was issued, they went back and entered a year's worth of data in order to calculate the 12-month rolling for year 2014. The facility continues to use the database and all the records are entered in a routine basis at the end of each month.

I requested monthly and 12-month rolling records for the period from 3/2018 to 2/2019 for each one of the coating booths. Mr. Price showed me the database records in his computer and walked me through the steps he follows to enter the material usage and the properties, such as specific gravity, VOC percentage, etc. I checked how the facility keeps monthly and yearly material usage for coating and cleaning solvents, as well as the individual coating booth usage, and the VOC and HAPs emission calculations. Mr. Price printed the requested records and handed them out to me. The monthly and annual records for the cited period are attached to the hard copy of this report. The evaluation of the data is discussed in section 5 of the report.

In preparation for this inspection, I noticed that the SDSs for commonly used coatings at the facility are kept on DEQ/AQD files. During the visit I asked Mr. Price if there have been any changes in suppliers and I requested an update of the SDSs. Mr. Price said that they have kept the same suppliers over the years, with very minor changes. He provided a summary of the current chemicals used at the facility. The documentation shows the material listing with components by code number, descriptions, VOC content, densities, CAS numbers and material composition in percentage. Copies of this information is included in Appendix C.

4. HISTORIC BACKGROUND AND APPLICABLE RULES AND REGULATIONS

In the past, this facility had been relying on the Rule 208a registration process to maintain synthetic minor status for volatile organic compound (VOC) and hazardous air pollutants (HAP) emissions. However, after the rescinding of Rule 208a, the facility selected to apply for a Permit To Install (PTI) and obtain legally enforceable emission limits below the major threshold specified in R 336.1211 (1) (a).

PTI 136 -14 was issued on November 18, 2014. The permit includes opt-out requirements that apply to the entire facility but not to the individual emission units (EUs). The EUs were all grouped into a Flexible Group identified as FGFACILITY. The pollution control equipment consists of overspray filters for each spray booth.

The facility accepted synthetic minor emission limits and the necessary associated record-keeping requirements to remain a (synthetic) minor source.

The permit conditions include a throughput limit (coating and cleanup solvent usage limit) related to VOC emissions.

VOC Emissions Limits:

VOC emission limit of less than 90 tons per year (tpy), with individual and aggregate HAP emission limits of less than 9 tpy and less than 22.5 tpy, respectively. All limits are calculated over a 12-month rolling period determined at the end of each calendar month.

Material Limits:

The total coatings and cleanup solvents used was limited to 24,090 gallons per 12-month rolling time period. This limit on coatings used does not authorize material usage from any emission unit greater than the maximum that complies with the exemption being used.

Other Applicable Rules(The PTI Exemption Handbook - January 2017 edition has been used for the rules citations below).

- The coating lines qualify for exemption Rule 287(2)(c) which limits the coating usage rate to 200 gallons / month.
- Rule 621 regulates VOCs from existing metallic surface coating lines. Sub-rule (10) exempts metallic surface coating lines from the provisions of the Rule, if both of the following conditions are met: (a) the actual rate of VOCs emissions is less than 2,000 pounds per month for a subsequent month and 10.0 tons per year for a subsequent year; (b) the VOCs emissions from a coating line, when combined with the total emissions of VOCs from all other metallic surface coating lines at the stationary source that are exempted by sub-rule (10), do not exceed 30.0 tons per year. If the cited limits are exceeded by a coating line, the provisions of Rule 621 shall thereafter permanently apply to the metallic surface coating.
- The phosphate pretreatment wash-lines qualify for exemption cited in Rule 285(2) (r)(i).
- The solvent cleaning equipment qualifies for PTI exemption per Rule 290(2)(a)(i). Solvent usage records must be kept and demonstrate that carcinogenic VOCs are not used and that noncarcinogenic VOC uncontrolled emissions are below 1,000 pounds per month.
- It appears as if the heat input capacity of all the natural gas fired units are below 50,000,000 BTU per hour. Therefore, the stand-alone ovens - those that are not part of a coating line - are exempt under Rule 282(2)(b)(i).
- The facility operates one large sandblasting booth and five small sandblasting units. The equipment vent to a bag-house and into the plant air. This equipment is exempt from permitting based on Rule 285(2)(l)(vi). No recordkeeping is required under this exemption.

Area Source NESHAP:

The facility is subject to the area source National Emission Standards for Hazardous Air Pollutants in 40 CFR Part 63, Subpart HHHHHH (6H). The State of Michigan AQD has not received jurisdiction to enforce or evaluate compliance with this regulation.

5. COMPLIANCE DETERMINATION

The main purpose of the inspection was to evaluate the terms and conditions of Permit to Install PTI 136 -14 and to verify that all permit exempt equipment qualify for exemptions based on evaluation of compliance with the limiting conditions cited by the specific exemption rule.

SC I. and SC II. - FGFACILITY - In Compliance

Here is the evaluation of VOCs and HAPs calculated emissions recorded for the 12- month period from March 2018 to February 2019, for all process equipment source –wide (FGFACILITY). The records in Appendix B show the monthly and annual material usage records in gallons, the estimated tons of VOC emitted each month, and the 12-month rolling tons of VOC emitted during the evaluated period. Appendix B includes a copy of the HAPs records for the evaluated period.

- The total VOC emitted in the evaluated period was 7.56 tpy, which is less than the permit limit of 90 tpy. The highest estimated emission of VOC was recorded for EU Spin Dip, with 1.59 tpy.
- The estimated total coatings and cleanup solvents used in the 12-month rolling period was 2714.15 gallons per year. This is less than the permit limit of 24,090 gallons per year. EU Spin Dip showed the highest annual material usage rate recorded, with 525.50 gallons per year.
- The aggregates HAPs was 1.27 tons, this is less than the permit limit of 22.5 tpy. The highest emission of an individual HAP was for Methyl Isobutyl Ketone, reporting 0.82 tons, less than the permit limit of 9 tpy.

During the evaluated period the facility appears to be in compliance with the emission limits and material limits cited in PTI 136 -14, special conditions I and II, for FGFACILITY.

Rule 287(2)(c) - Exempt Coating Lines – In Compliance

All surface coating lines exempt under Rule 287(2)(c) showed compliance with the conditions(i) to (iii), cited under the rule:

- Condition (i) limits the coating usage rate to 200 gallons (minus water) per month. Table 2, in Appendix B, summarizes the highest monthly coating usage for each coating line, for calendar year 2018. Based on the records, the monthly coating usage rate for each coating line has always been below 200 gallons per month, with the highest usage rate recorded as 65 gallons, in March 2018, for the Spin Dip Coating Line.
- In compliance with condition (ii), the exhaust system that serves coating spray equipment has a particulate control system using filters that are adequately maintained. The facility has rolls of filter material available on site and to perform filter changes in accordance with the frequency and maintenance schedule specified in the operator's routine maintenance and the instructions for each coating booth.
- In compliance with condition (iii), monthly coating use records are maintained for each one of the coating lines and can be tracked back to a 5-year period. The records were available when AQD staff requested them for review.

Other:

The facility maintains natural gas usage records and calculates the air emissions generated from the combustion that takes place at all cure ovens. The emissions are reported in MAERS.

6. MAERS - Michigan Air Emissions Report System

MAERS report for emission year 2018 was timely submitted to AQD. For details of the MAERS audit please refer to MACES compliance report CA N026648665.

7. CONCLUSION

Based on the inspection observations and the records evaluation at the time of completion of this inspection report, the source seems to be in compliance with the terms and conditions of Permit to Install PTI 136 -14 and the applicable State of Michigan Air Pollution Regulations.

NAME C. Handoral

DATE 4/30/2019

SUPERVISOR JK