N0266
MAWLA

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

N026631047

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:** 08/12/2015
STAFF: C. Nazaret Sandoval	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: FY - 2015 Targeted Inspection. The main purpose of this inspection was to evaluate the terms and conditions of permit PTI 136-14, which was issued to retain compliance with the Air Quality Regulations after the rescinding of Rule 208a		
RESOLVED COMPLAINTS:		

SRN: N0266 –Sun Plastic Coating Company

Location: 42105 Postiff Drive, Plymouth, MI 48170

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Contacts: Mark Tate, President
Daniel Sydes, VP of Operations
Jason Price, Quality Manager

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 29,032 square feet. The facility has operated at this location for over twenty five years. The plant regularly operates 5 days per week from 7 AM to 3:30 PM. A second shift, from 3:30 PM to 12 PM and operations on Saturdays occur during high demand and/or special orders.

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. Currently 60% of the coated products are for the automotive industry and 40% is allocated among diverse types of applications and industries such us packaging, tool and die, medical, etc.

COMPLAINT/COMPLIANCE HISTORY

For the past five years we have not received any complaints regarding this facility.
The last time the facility was inspected by AQD staff was on June 17, 2014 and it was found to be in compliance with the state and federal air pollution regulations.

INSPECTION NARRATIVE

I arrived at the facility on August 12, 2015 at about 2:30 pm to conduct an unannounced targeted inspection. The weather was partly cloudy with north northwest winds at 10 mph. The temperature was 73 °F, and the humidity was 50%.

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 with the State of Michigan Air Quality Administrative Rules.

I met with Mr. Jason Price, the company's quality manager. During the opening meeting I stated the purpose of my visit and I discussed the applicable regulations. I discussed the current mechanism and the enforceable restrictions that have been accepted by the facility to limit its potential to emit. I described the main points of the compliance evaluation. All these points will be addressed later under sections 4 and 5 of this report.
I explained Mr. Price that even though the company had been inspected last year, AQD Detroit Field Office scheduled a visit to assure a smooth transition from Rule 208 to the implementation of the opt-out permit PTI 136-14 issued on November 18, 2014.

The equipment layout for this facility was updated last year with the information provided by Mr. Price. This year, I asked him to check the drawing for correctness. Mr. Price added a few comments, but for the most part the layout was accurate. After the opening meeting we toured the facility and I used the building layout drawing during the walk-through of the plant to verify the location of the equipment.
A copy of the revised drawing is attached to the report (hard copy) in Appendix A, and it will be filed with the facility records in the AQD Detroit Field office.

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.

Over the years the company has removed some of its units operations:

- The parts washer using perchloroethylene was removed from the facility in the year 2000. The Rotomat Tumblers are located at that location.
- The pretreatment line for the etching line was removed around 2007.
- The Dip & Drain line was removed in 2013 and it was replaced by the robotic spray unit which was installed around November 2013. In the same location area, a second Motoman oven was installed adjacent to the existing oven. An exhaust stack was added to the new curing oven. They used an existing ceiling opening (which was previously covered) to install an 8-inch diameter exhaust stack.

At the time of the inspection, the facility had thirteen (13) coating booths, sixteen (16) natural gas-fired curing ovens, and one (1) infrared oven. 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 diagram in Appendix A shows the location of the equipment in two areas of the building labeled as West and the East Wings. An itemized list of the equipment is summarized on Table 1. The table also includes the Emission Units IDs used on MAERS, the description of the equipment, and the applicable Michigan Air Rules exemptions.

The equipment listed on Table 1 was enumerated in accordance with the location of the units at the facility, starting with the coating lines located at the West Wing from the NW corner of the building and continuing counterclockwise. The same procedure was used to list the equipment located in the East Wing.

Some parts need to be pre-treated before coating. The pretreatment line uses zinc phosphate and this unit is run approximately every day. The parts are dipped in an alkaline solution, and rinsed in water, after that they are dipped in a zinc phosphate solution and rinsed again in water. The parts are dried in a natural gas-fired oven at 400 F for 20 minutes.

The facility uses N-methyl pyrrolidone (NMP) to clean up equipment, such as pressure pots and spray guns, in Horizontal #1& #2, Custom #1 and #2 & Spin Dip. Methyl Ethyl Ketone (MEK) is used to clean spin dip and overhead conveyor areas. All lines used HPLV spray guns. Filters were present in all booths.

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. Mr. Price explained that since the issuance of PTI 136 -14 there has been a change in the recordkeeping and reporting procedures. Now, they are 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.) had 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 a year worth of data and fed that information into the software to calculate the 12-month rolling for year 2014.

I had printed the data for the monthly and annual reports for year 2014 using the online MAERS submittal. I discussed the data and evaluated the monthly and yearly usage of combined solvent, coating and cleaning solvent, as well as the individual coating booths usage and the VOC emissions. I requested the HAP information because that type of information was not available from MAERS. Mr. Price emailed me the HAPs information on August 13, 2015. The results of the evaluation of the data are discussed in Section 5 of the report.

The monthly and annual records for VOC and HAPs are attached to the hard copy of this report.

During the file review, 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 they have had any changes in suppliers and I requested an update of the SDS. Mr. Price said that they have kept the same suppliers over the years; therefore, no new SDSs have been collected for this report.

APPLICABLE RULES AND REGULATIONS

The 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, last year, AQD sent a letter dated June 27, 2014 notifying the facility about the rescinding of Rule 208a. In order to remain in compliance, 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).

Permit 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 to24,090 gallons per year. 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 coating lines qualify for exemption Rule.287 (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 or 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 R285 (r) (i).
- The solvent cleaning equipment qualifies for PTI exemption per Rule 290.
- 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 (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 (l) (vi). No recordkeeping is required under this exemption
- The facility must comply with Rules 301 (visible emissions) and Rule 901 (odors).

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.

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. This source was evaluated last year when it was regulate by Rule 208a. This inspection focus in the compliance evaluation of VOCs and HAPs calculated emissions recorded for the 12- month period from January to December of 2014, for all process equipment source –wide

(FGFACILITY). However, for comparison purposes and to evaluate compliance with Rule 287 (c), Table 2 and Table 3 in Appendix B are included. Table 2 shows the Annual Coating Rates and Clean-Up Solvent Usages per Emission Unit for years 2012, 2013 and 2014, and Table 3 shows the Maximum Monthly Coating Rates Usages for years 2012, 2013 and 2014

During the year 2014 the facility is in compliance with the Emission Limits and Material Limits cited in PTI 136 -14 conditions I and II for FGFACILITY:
A copy of the monthly records for all the emission units located at the facility that are listed on Table 1 were provided and they are attached to the hard copy of this report Refer to Appendix C and looked for pages 1 to 13 dated 03/06/2015 on the left bottom corner. The records shows the monthly and annual material usage records in gallons, the estimated tons of VOC emitted each month, and the 12-month tons of VOC emitted during 2014. For a summary of year 2014 records, refer to the last column on Tables 2 and 3. Appendix D includes a copy of the HAPs records for year 2014.

- The total VOC emitted in 2014 was 14.23 tpy (less than the permit limit of 90 tpy). The highest estimated emission of VOC was recorded for the EU –Spin Dip, with 3.79 tpy.
- The estimated total coatings and cleanup solvents used in 2014 was reported to be 4,333.05 gallons. This is less than the permit limit of 24,090 gallons per year. EU Horizontal #1 showed the highest annual material usage rate recorded, with 980.25 gallons per year.
- The aggregates HAPs was 3.53 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 2.49 tons. The permit limits is less than 9 tpy.

The surface coating lines that are exempt under Rule 287 (c) showed compliance with all the conditions cited under that rule:

- Condition (i) limits the coating usage rate to 200 gallons (minus water) per month. Table 3 in Appendix C shows the maximum monthly coating rates for years 2012, 2013 and 2014. Horizontal 1 had the highest monthly coating usage for all three years: 95.25 gals in October of 2012, 104.75 gals in June of 2013 and 123.5 gals in June 2014.
- In compliance with condition (ii), the exhaust system that serves coating spray equipment has a particulate control system.
- In compliance with condition (iii), monthly coating use records are rigorously maintained for each one of the coating lines and can be tracked back to a 5-year period or more. The records were available when AQD staff requested them for review.

MAERS Review:

- MAERS reports have been submitted on time and the reported emissions have shown compliance with the former emission restrictions under Rule 208a and more recently with the limits cited on PTI 136 -14. However, the facility is not keeping records of natural gas usage rates at the Cured Ovens and the generated emissions from the combustions at these sources. Even if all the "stand alone ovens" are exempt under Rule 282 (b) (i) "Natural Gas fired equipment with a rated heat input capacity of not more than 50 MMBU per hour"), the facility still requires maintaining records for the combustion sources. At a minimum, natural gas usage records shall be obtained from the gas company. AP-42 emission factors can be used to calculate the criteria pollutants. It is expected that the natural gas throughput and the calculated emissions of pollutants from these combustion sources will be minor; however, the facility must keep track of these records going forward. It is suggested the company use Source

Classification Code (SCC = 402010010) to estimate the emissions coming out of the ovens based on the natural gas usage. The cited SCC has been used by similar source using cure ovens at surface coating operations. The details for the code classification SCC 402010010 are: [4] Petroleum and Solvent Evaporation; [402] Surface Coating Operations; [402010] Coating Oven Heater; [40201001] Natural Gas.

Compliance with Rules 901 or 301 could not be assessed during this site visit. The coating operations have ceased for the day when I toured the facility and inspected the stacks and the outside surroundings areas.

In conclusion, at the time of completion of this inspection, 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 Abandoval DATE 9/8/15 SUPERVISOR JK