N0266
MAWLA

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

N026625542

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:** 06/17/2014
STAFF: C. Nazaret Sandoval	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM 208A
SUBJECT: 2014 TARGETED INSPECTION - The inspection included a site visit and records review to evaluate compliance with the provisions and applicable requirements of Rule 208a.		
RESOLVED COMPLAINTS:		

SRN: N0266 –Sun Plastic Coating Company

Location: 42105 Postiff Drive, Plymouth, MI 48170

Phone: 734-453-0822

Fax: 734 455-6125

Contacts: Mark Tate, Owner, General Manager
Jason Price, Quality Manager
Andrew Tate, Recordkeeping Assistant

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 29,032 square feet. The facility has operated at this location for over twenty five years. The plant regularly operates 5 days per week in two shifts, from 7 AM to 3:30 PM and from 3:30 PM to 12 PM.

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.

2. COMPLAINT/COMPLIANCE HISTORY

Our records show that on May 12, 2006 the DEQ-AQD received a complaint involving odors generated at the facility. The complaint was resolved based on an odor investigation, facility inspection and a meeting with the complainant.

No other complaints have been received regarding this facility.

The last time the facility was inspected by AQD staff was on September 19, 2008 and it was found to be in compliance with the state and federal air pollution regulations.

3. INSPECTION NARRATIVE

I arrived at the facility on June 17, 2014 at about 1:00 pm to conduct an unannounced

targeted inspection. The weather was partly cloudy with south southwest winds at 20 mph and a high chance of rain. The temperature was 88 °F, and the humidity was 45%

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 also described the main points of the compliance evaluation. All these points will be addressed later in this report under sections 4, 5 and 6
After the initial meeting we toured the facility, but before the tour I showed Mr. Price a copy of the facility layout which I have found in our records. I asked him if the drawing was accurate and if it represented the current status of the plant. Mr. Price indicated that the plot did not look up to date, so I asked him for a copy of the shop layout showing the current operations and the actual location of the equipment. He printed out a building layout and I asked him to identify the emission units before we walked through the plant.

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.

The facility has fifteen (15) coating booths, fourteen (14) 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 (1) large enclosed sandblasting booth and four (4) small enclosed sandblasting units.

During the preparation of this report I used the information provided by Mr. Price to update the layout and to identify the equipment. The attached diagram 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 t is presented below. The equipment is enumerated counterclockwise from the NW corner of the building, starting with the coating lines located in the West Wing. The same procedure was used to list the equipment located in the East Wing

West Wing equipment:

1- The Nutro Line/Cure Oven: Chain-on-edge coating line using IR cure oven
2- Horizontal booth line H2, and High Bake Ovens #2
3- Horizontal booth lines H1 and High Bake Ovens #1
4- Custom Booth No.2: Spray coating process for nonproduction materials
5- Custom Ovens A& B (ovens #7 and #8) dedicated to Custom Booth No.2
6- PQ Large Walk-in Batch oven for curing large parts – Oven # 4 (up to 700F)
7- Overhead Line No. 2: Overhead Conveyor # 2 with spray booth and Oven # 3
8- Custom Ovens C & D (ovens #5 and #6) dedicated to Custom Booth No.1
9- Custom Booth No.1: Spray coating process for nonproduction materials
10-Small Batch Oven West - Multipurpose Oven for cures up to 400 F (Oven #9)
11-Rotomat-Tumbler #1 and # 2:- Tumbling units with automatic spray system for coating parts

12-Custom Walk-In Booth: Located north of the Custom Booth No. 1. Spray coating process for nonproduction materials, used for large items.

East Wing equipment:

13-Small Portable Sandblasting Equipment (4)
14-Spin Dip Line: Three (3) spin and dip machines under one exhaust hood and Batch Oven (Oven # 11)
15-Large Sandblasting Area
16-JC Metal Batch Oven: High Cure oven (up to 700 F) used mainly for large items- Oven # 10
17-Small Tumble Coater (not in-use): Tumbling unit with hand-held spray system for coating parts.
18-Oven # 14-dedicated to Overhead Conveyor Line No.1
19-Overhead Line No.1- Formerly known as Polynorm coating line: Parts are racked onto an overhead conveyor.
20-Robot Spray and Two Motomat Ovens #15 and #16: Robot use for spray coating misc. parts. Located at the center of East Wing.
21-Phosphate Line and Phosphate Batch Ovens (Oven # 12 and #13)

NOTE: The Dip & Drain line was removed in 2013 and it was replaced by the robot spray unit which was installed around November 2013. In the same location area, a second oven was installed adjacent to the existing oven. An exhaust stack was added to the new curing oven. Mr. Price said that they used an existing ceiling opening (which was previously covered) to install the exhaust tack. He did not know the exact diameter of the stack but he estimated it was an 8-inches diameter stack.

Some parts need to be pre-treated before coating. The pretreatment line uses zinc phosphate and this unit is run approximately every other 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 powered oven at 450 F for 8 hours. The pretreatment line for the etch line was not operable because the etch line is no longer used. The parts washer with per-chloroethylene was removed from the facility in 2000.

The facility uses N-methyl pyrrolidone (NMP) to clean up equipment, such as pressure pots and spray guns, in Horizontal 1&2, Custom & Spin Dip.

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 kept daily for all booths in the paint storage room. Mr. Andrew Tate collects the manual records and prepares the electronic spread sheets to compute the monthly and annual paint usage totals. The records are saved and kept in the computer. Mr. Price reviews the data and provides the information to the consultant engineer who prepares the annual emission report for the MAERS submittal. I reviewed the records for the different emission units and asked for a "sample" print-out. A sample of the monthly records was collected at the time of the inspection, and it is attached to this report.

During the file review in preparation for this inspection I noticed that the MSDSs 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 MSDS. Mr. Price said that they have kept the same suppliers over the years.

At the end of our tour I showed Mr. Price the original facility description (dated October 20, 1994) that we have in our files, which seems to have been the description submitted during the initial 208a registration. I also showed him the list of the equipment (dated February 25, 1996) which included the dimensions of the booths, stacks and the fans capacities. I asked him to update that information because it seemed to be out-of-date.

At the site, I reviewed the most recent monthly coating usage records.

4. APPLICABLE RULES AND REGULATIONS

The facility has been relying on Rule 208a registration process to maintain synthetic minor status for volatile organic compound (VOC) and hazardous air pollutants (HAP) emissions.

- Rule 208a allows sources with actual emissions less than 50% of major source thresholds to accept the 50% thresholds as legal limits on their potential to emit. In other words, the actual emissions of the regulated pollutants have to be less than 12.5 Tons for any combination of HAPS, less than 5 tons for any individual HAP, and less than 50 Tons for total VOCs emissions.
- Rule 208a requires that a facility be formally registered for this program to certify that the stationary source has actual emissions of less than 50% of major source threshold.
- Certification is renewed annually by submittal of a registration form in conjunction with the annual report of emissions (MAERS) by March 15.
- The recordkeeping and reporting requirements specified in sub-rules (5) and (6) of Rule 208a shall be met.

Other applicable Rules:
The coating lines as well as the phosphate pretreatment wash-lines are exempt under Rules R.287 (c) and R285 (r) (i), respectively. Rules 287 (c) limits the coating usage rate to 200 gallons / month.

The solvent cleaning equipment qualifies for PTI exemption per Rule 290

All the ovens are exempt under Rule 282 (b) (i). The heat input capacity of all the gas natural fired units are below 50,000,000 BTU per hour.

The facility operates one large sandblast booth and four small sandblast units. These equipment vents to a bag-house and into the plant air. Therefore this equipment is exempt from permitting based on Rule 285 (l) (vi). No recordkeeping required under this exemption

The facility must comply with Rules 301 (visible emissions) and Rule 901 (odors).

5. COMPLIANCE DETERMINATION

The main objectives of the inspection included:

- To evaluate the process and sources of emissions and verify if there have been changes in the process and/or equipment, since the last inspections.
- To verify if the recordkeeping and reporting requirements specified under Rule 208a and R 287 (c) are met
- To verify (by evaluating the records/emission calculations) that the actual emissions for

the entire stationary source are maintained below the emission threshold levels.

- To verify that all exempt equipment still qualify for exemptions based on evaluation of compliance with the limiting conditions cited by the specific exemption

EVALUATION

- The facility has been consistently and timely submitting the annual renewal registration form required by Rule 208a. The last form was received by the DEQ-AQD Detroit office on March 13, 2014.
- Records are rigorously maintained to show compliance with the conditions cited under Rule 208a and R.287 (c).
- The exhaust system that serves coating spray equipment has a particulate control system
- MAERS reports have been submitted on time and the reported emissions have shown compliance with the threshold limits established by Rule 208a. The calculated emissions of the regulated pollutants have been less than: 12.5 Tons for any combination of HAPS, less than 5 tons for any individual HAP, and less than 50 Tons for total VOCs emissions. Table 1 (hard copy of the report).has been prepared using information from MAERS from years 2007 to 2013. The table shows the annual material usage records and the calculated VOC emissions from each emission unit at the facility. The highest VOCs emissions were reported for year 2013, at 9.89 Tons. The aggregates HAPs were 4.03 Tons, and the emissions for Methyl Isobutyl Ketone (individual HAP) were 3.21 Tons.
- According to the data on Table 1, the highest total annual coating rate (minus clean-up solvent) was recorded for the year 2013 at 2,980 gallons. The highest coating rate and the corresponding emission unit, for the period 2007 to 2013, have been highlighted on Table 1. EU Horizontal #1 showed the highest coating rate in 2012 and in 2013; at 665.25 gallons and 904.5 gallons, respectively.
- Monthly coating records are maintained on file and can be traced back to a 5-year period or more. The records were available when AQD staff requested them for review. Table 2 shows the maximum monthly coating rates for years 2012 and 2013. Horizontal 1 had the highest monthly coating usage at 95.25 gals in October of 2012 and 104.75 gals in June of 2013. The next highest usage was Horizontal 2 with 57.5 gals in September 2012 and 85.5 gals in April 2013. The rest of the emission units had maximum monthly usages at half, or much less than half, of Horizontal 1.
- The facility is NOT keeping records of natural gas usage rates at the Cured Ovens and the generated emissions from these sources. Although all the cure ovens are exempt under Rule 282 (b) (i), the facility still requires maintaining records for the combustion sources. At a minimum, natural gas usage records should be obtained from the gas company. AP-42 emission factors can be used to calculate the criteria pollutants. It is expected that the throughput and the calculated emissions of pollutants from these combustion sources will be minor, but we expect the facility to keep tract of these records going forward.

At the end of the inspection I drove around the parking lot of the facility and to the side and back of the building and did not perceive any odors from the facility. The facility appears to be in compliance with Rule 901.

Visible emissions were not noticed from any of the stacks (Rule 301 compliance).

In conclusion, at the time of completion of this inspection, the source seems to be in

compliance with the applicable State of Michigan and the Federal regulations pertaining Air Quality.

6. FOLLOW UP - UPDATE

A letter dated June 27, 2017 was sent by AQD to notify the facility about the rescinding of Rule 208a to be finalized by early 2015. In order to remain in compliance with the Michigan Air Pollution Control Rules after the R208a is rescinded, the facility needed to take action and select one of the three options proposed by AQD and described in the letter. Sun Plastic Coating Company selected alternative (a) which proposed the submittal of a Permit To Install (PTI) application to obtain legally enforceable emission limits below the major threshold specified in R 336.1211 (1) (a).

The PTI application was received by AQD- Permit Section on September 5, 2014. The application was reviewed and processed by Paul Schleusener, AQD -Permit Engineer The review process included discussions with Jody Mastroeni, Cirrus Environmental Services (the Consultant Engineer for Sun Plastic Coating Company) and in concurrence with the Detroit District Staff, Nazaret Sandoval

The draft permit conditions were accepted by the owner of the facility, Mr. Mark Tate on November 18, 2014. Permit to Install No. 136-14 for Sun Plastic Coating Company has been approved effective November 18, 2014.

A paper copy of the approved permit and conditions is going to be mailed to the facility by the end of November 2014. The permit will include a signed certificate page and a signed copy of the permit form dated November 18, 2014.

NAME Nsandoval DATE 11-19-14 SUPERVISOR JK