

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

A549646099

FACILITY: Precision Coatings, Inc.		SRN / ID: A5496
LOCATION: 8120 Goldie St., WALLED LAKE		DISTRICT: Southeast Michigan
CITY: WALLED LAKE		COUNTY: OAKLAND
CONTACT: Mr. Jason L. Smith , Manufacturing Manager		ACTIVITY DATE: 08/14/2018
STAFF: Kerry Kelly	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Evaluate Precision Coating's compliance with Title V permit MI-ROP-A5496-2014 and State and Federal air quality rules and regulations.		
RESOLVED COMPLAINTS:		

On August 14, 2018, I (Kerry Kelly, DEQ) conducted an inspection of Precision Coatings, Inc. located at 8120 Goldie Street, Commerce Township, MI 48390-0155. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994, PA 451; Michigan Department of and Environmental Quality, Air Quality Division (MDEQ-AQD) Administrative Rules; National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating (40 CFR 63 Subpart JJJJ); and Title V permit number MI-ROP-A5496-2014.

Mr. Jason Smith, Precision Coatings, Materials Manager, assisted me during the inspection by providing records, answering questions, and showing me equipment.

FACILITY INFORMATION

At Precision Coatings, polyester films, purchased from a supplier, are coated to create ink jet films, printing plates, reflective safety vests, window films, and other products. According to Mr. Smith, Precision typically is staffed to run two coating lines Monday through Friday, 24 hours a day.

Precision Coatings is located in central Oakland County, Michigan. The properties immediately surrounding Precision Coatings are commercial/industrial. There is a residential subdivision approximately one-tenth of a mile east of Precision Coatings. Middle Straights Lake and Lower Straights Lake are both located within six-tenths of a mile north of Precision Coatings.

ONCE IN ALWAYS IN POLICY

The USEPA promulgated the National Emission Standards for Hazardous Air Pollutants (HAP) for Paper and Other Web Coating (40 CFR, Part 63, Subpart JJJJ) on Dec. 4, 2002. 40 CFR 63 Subpart JJJJ applies to each new and existing facility that is a major source of HAP at which web coating lines are operated. Precision Coatings is an existing major source of HAPs that operates web coating lines and is, therefore, subject to 40 CFR 63 Subpart JJJJ. The compliance date listed in 40 CFR 63 Subpart JJJJ for existing major sources of HAP is December 5, 2005.

On May 16, 1995, the USEPA released a memorandum titled: Potential to Emit for MACT Standards -- Guidance on Timing Issues. This memo provides guidance on the "Once In Always In" (OIAI) policy. According to this memo, facilities that are major sources for HAPs on the "first compliance date" are required to comply permanently with the MACT standard to ensure that maximum achievable reductions in toxic emissions are achieved and maintained." As such, Precision Coatings was required to always be in compliance with 40 CFR 63 Subpart JJJJ.

A memorandum dated January 25, 2018 titled "Reclassification of Major Sources as Area Sources Under Section 112 of the Clean Air Act" was signed by the EPA Assistant Administrator, William L. Wehrum. This memo states "This guidance memorandum addresses the question of when a major source subject to a maximum achievable control technology (MACT) standard under section 112 of the Clean Air Act (CAA) may be reclassified as an area source". The guidance in this memo states "EPA has now determined that a major source which takes an enforceable limit on its PTE and takes measures to bring its HAP emissions below the applicable threshold and becomes an area source, no matter when the source may choose to take measures to limit its PTE. That source, now having area source status, will not be subject thereafter to those requirements applicable to the source as a major source under CAA section 112, including, in particular, major source MACT standards – so long as the source's PTE remains below the applicable HAP thresholds."

Title V permitting (Michigan ROP program) is required for sources subject to 40 CFR 63 Subpart JJJJ. On

September 14, 2018, the AQD Permit Section received a PTI application (PTI 154-18) from Precision Coatings. This application includes requests to limit the source's PTE below major source thresholds and to void MI-ROP-A5496-2014 following issuance of PTI 154-18.

MI-ROP-A5496-2014

MI-ROP-A5496-2014 includes the following six flexible groups (FG) of equipment/processes: FG-WEBCOATING, FG-RULE284-TANKS, FG-RULE290, FG-COLD-CLEANERS, and FG-WEBCOATING-MACT4J-RTO-CAM.

FG-WEBCOATING

FG-WEBCOATING consists of four web coating lines used to apply coatings to polyester film. Three Regenerative Thermal Oxidizers (RTOs) are used to control volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions from the web coating lines. Emission units in FG-WEBCOATING are: Web Coating Line # 1 (EU-LINE1RECO2), Web Coating Line # 4 (EU-LINE4RECO1), Web Coating Line # 6 (EU-LINE6ANDJZINK), and Web Coating Line # 8 (EU-LINE8ANDRECO1).

The ROP prohibits Precision Coatings from operating any of the four web coating lines (including clean-up times using organic solvents) in FG-WEBCOATING unless emissions from the coating line/s are exhausted to the associated RTO which is installed and operating properly. Proper operation of each of the three RTOs includes maintaining a minimum temperature established during testing, a minimum retention time, and minimum overall VOC control efficiency (OCE).

Each line is also required to be equipped with a permanent total enclosure (PTE).

On February 24 and 25, 2015, Precision Coatings had EU-LINE1RECO2, EU-LINE4RECO1, and EU-LINE6ANDJZINK tested for capture efficiency (CE), destruction efficiency (DE), and OCE as required in Special Condition (SC) V.2 of the ROP. During the inspection, Mr. Smith provided the summary of the test results and the operating temperatures of the RTOs during testing (Attachment 1). The stack test report summary provided along with the Stack Test Field Observation Report written by Tom Gaslioli, DEQ, indicate the following:

- The minimum temperature recorded during testing for RECO1, RECO2, and J.Zink was 1600 degrees Fahrenheit, 1607 degrees Fahrenheit, and 1617 degrees Fahrenheit respectively.
- DEs for EU-LINE1RECO2, EU-LINE4RECO1, and EU-LINE6ANDJZINK were 92.3%, 96.1%, and 96.2% respectively.
- The coating head enclosure for all lines are considered a PTE.

Monitoring and recording of the combustion zone temperature for each of the three regenerative thermal oxidizers (Reco1, Reco2, J. Zink) on a continuous basis using a temperature measurement device and a recording system that produces a permanent, continuous record of combustion zone temperatures is required in the ROP to ensure the minimum temperature established during testing is maintained. Each temperature measurement device is required to have an accuracy of greater of ± 1.0 percent of the temperature being measured expressed in degrees Celsius or ± 1.0 °C. Mr. Smith provided thermocouple and digital recorder calibration records for each monitoring system from January 2018 through June 2018 (Attachment 2). These records indicate the thermocouple on each system is calibrated monthly and the digital recorder is calibrated quarterly. These records indicate each thermocouple and digital recorder has an accuracy of the greater of ± 1.0 percent of the temperature being measured. All temperatures noted in the calibration records were within 0.26 percent of the temperature being measured in degrees Celcius.

Mr. Smith also provided records of the temperature readings every 10 minutes and three-hour rolling averages for each RTO for four months between August 2017 and June 2018. These records indicate the three-hour rolling average temperatures for each RTO were above the respective minimum temperature recorded during testing. Records of the monthly minimum temp, maximum temp, and temp average for each RTO for four months between August 2017 and August 2018 were also provided (Attachment 3). The monthly summary records indicate the minimum temperature each month was above the minimum temperature recorded during testing and there were no deviations during the reporting period.

Line #1 and Line #6 were the only coating lines running during the inspection. I inspected the RTO for Line #1 (RECO2) and Line #6 (J. Zink) and noted the operating temperatures were 1645 degrees Fahrenheit and 1705 degrees Fahrenheit respectively.

Based on the information in the stack test summary report and the Stack Test Field Observation Report the OCE for each RTO is greater than the minimum OCE required in the ROP.

Mr. Smith provided records of the CAM plan for each thermal oxidizer and enclosure (Attachment 4). The CAM plan was reviewed by the AQD during the renewal of the ROP in 2014 and contains applicable conditions in 40 CFR, Part 64. Precision Coatings is required to review the CAM plan annually. Each CAM plan includes a record of reviews/revisions conducted by Precision Coatings.

Contents of the CAM plan include Quality Assurance and Quality Control procedures designed to ensure the RTO and its monitoring systems are operating in manner that provides reasonable assurance of compliance with the VOC and HAP emission limits in FG-WEBCOATING.

Monitoring approaches identified in the ROP and CAM plan for each RTO at Precision Coatings are: thermocouple calibration, temperature alarm tests, and visual inspection and repair of burners. Mr. Smith provided records of the thermocouple calibration, temperature alarm tests, and visual inspections of each RTO (Attachment 2,5,6). These records indicate Precision Coatings is calibrating the thermocouple on each system monthly, calibrating the digital recorder on each system quarterly, and checking the interlock system (alarm test) on each system monthly. The CAM plan only requires semi-annual calibration and alarm testing. Each RTO chamber was inspected once between March 2018 and July 2018 based on the information in Attachment 6. The frequency of burner inspection noted in the CAM plan is annually.

The ROP and CAM plan for the PTE require monthly recordings of the pressures at each coating head/enclosure to ensure the enclosure is being maintained as a PTE. Mr. Smith provided records of the monthly pressure readings for January 2017 through September 2018 (Attachment 7). These records indicate each coating head on each coating line is maintaining negative pressure.

During the inspection I observed that Precision Coatings is maintaining clean room standards for coating lines # 1 and # 4. Each coating room for Line #1 and Line #4 was at a higher pressure than the surroundings such as office space, plant space, etc. Coating head enclosures for each line, located within the coating room, were at lower pressure than the coating room. Therefore, air flow is from coating rooms to coating head enclosures. Each coating line had two coating heads. Emissions from the coating heads of each line are drawn to the coating ovens and then to one of two RTOs (RECO2 for Line #1 or RECO1 for Line #4). One head was running on Line #1 and the head enclosure pressure was - 0.04 inches water gauge pressure during the inspection. Line #4 was not operating at the time of the inspection.

Line #6 has two coating heads, one of which was running at the time of the inspection. Emissions from the coating heads are drawn to the coating ovens and then to one of the J.Zink RTO. During the inspection I noted the film production footage was being monitored and was at 554 feet and the pressure was -0.01 inches water gauge pressure.

Line #8 is a small, pilot line (~2 feet wide) used for research and development purposes. I did not see a coating head on Line #8 during the inspection. Emissions from Line #8 are released to RECO1 RTO.

Performance tests (CE, DE, OCE) are required within 90 calendar days of any reconfiguration of the coating lines/RTOs. According to Mr. Smith, the configuration of the equipment has not changed since the 2015 performance test.

VOC emissions from FG-WEBCOATING are limited to 1.6 tons per day and 198.1 tons per year in SC I.1 and I.2. of MI-ROP-A5496-2014. Compliance with the VOC emission limits is demonstrated through emission calculation requirements in SC VI.4.a. SC VI.4.a. requires VOC mass emission calculations be kept on a daily, monthly, and 12-month rolling time period for FG-WEBCOATING. Data collected from material and stack testing requirements in SC. V. shall be used in the VOC emissions calculations. Mr. Smith provided records of the daily (Attachment 8) and monthly and 12-month rolling (Attachment 9) VOC emissions from August 2017 through August 2018. These records show the highest daily VOC emissions reported were 0.15 tons reported October 11, 2017 and the highest 12-month rolling emissions were 11.05 tons.

Organic HAP emissions from FG-WEBCOATING are limited to 0.04 kg HAP/kg coating as applied (4 percent of kg weight of total coating usage on a monthly average) in Special Condition (SC) I.3. Compliance with the organic HAP limit is demonstrated through SC VI.4.b according to the ROP. SC VI.4.b requires the HAP emission calculations to show compliance with 40 CFR 63.3320. Mr. Smith provided records of the organic HAP emissions from FG-WEBCOATING August 2017 through July 2018 (Attachment 10). These records indicate the highest percentage of HAP emitted per kg of coating applied was 1.7 percent.

Determination of the VOC content of all coatings as applied and as received is required in SC V.1. Precision Coatings uses formulation data and Method 24 testing to determine the VOC content of the coatings. According to Mr. Smith, six to eight samples of coatings are sent to a laboratory each November for Method 24 testing. Mr. Smith gave me a copy of the Method 24 test results from November 2017 (Attachment 11). These results indicate the highest VOC content minus water of the eight samples tested was 6.5 lbs/gallon of L159 2011.

Other conditions in FG-WEBCOATING require Precision coatings implement the Start-up, Shutdown and Malfunction Plan (SSMP) and make the plan available to MDEQ-AQD for inspection, capture and store all waste coatings, reducers, purge solvents and clean-up solvents in closed containers, and notify the Southeast Michigan District Supervisor, Air Quality Division in writing within 15 calendar days of reconfiguring the coating lines regenerative thermal oxidizer (RTO) set-up.

Mr. Smith provided a copy of the SSMP during the inspection (Attachment 12).

During the inspection all of the waste coatings, reducers, purge solvents and clean-up solvents I observed were stored in closed containers.

According to Mr. Smith, the configuration of the equipment has not changed since the 2015 performance test.

FG-WEBCOATING-MACT4J-RTO-CAM

FG-WEBCOATING-MACT4J-RTO-CAM applies Compliance Assurance Monitoring (CAM) for FG-WEBCOATING. Compliance with requirements in this flexible group is demonstrated through compliance with the conditions in FG-WEBCOATING, which were evaluated in the preceding section.

FG-RULE284-TANKS

This FG applies to any existing (placed into operation before 7/1/79), new (placed into operation on or after 7/1/79) or modified storage tank that is exempt from the requirements of R 336.1201 pursuant to R 336.1284.

The ROP permits the storage of

- Butane, propane, or liquefied petroleum gas in a vessel with a capacity of less than 40,000 gallons
- Lubricating, hydraulic, and thermal oils and indirect heat transfer fluids
- No. 1 to no. 6 fuel oil as specified in ASTM-D-396-95, gas turbine fuel oils nos. 2-GT to 4-GT as specified in ASTM-D2880-96 or diesel fuel oils nos. 2-D and 4-D as specified in ASTM-D-975-96
- Sweet crude or sweet condensate is conducted in a vessel with a capacity of less than 40,000 gallons (151.4 cubic meters or 151,417 liters)
- Gasoline storage and handling equipment handling less than 20,000 gallons (75.7 cubic meters or 75,708 liters) per day
- Volatile organic compounds or noncarcinogenic liquids in a vessel that has a capacity of not more than 40,000 gallons (151.4 cubic meters or 151,417 liters) where the contents have a true vapor pressure of not more than 1.5 psia (103.4 millibar) at the actual storage conditions

During the inspection I noted there were six storage tanks outside at Precision Coatings. According to Mr. Smith, three of the tanks are not being used, one of which has never been used because it doesn't have proper retaining area. Labels on the tanks were: ethyl acetate, methanol, and methyl ethyl ketone (MEK).

Mr. Smith determined the vapor pressure of each material stored at actual storage conditions (Attachment 13);

- methanol = 1.856 psia
- ethyl acetate = 1.41 psia
- MEK – 1.38

The methanol tank, because the true vapor pressure of methanol is greater than 1.5 psia, does not meet the requirements in R 336.1284 and is included in the FG-RULE 290 table as a result.

The ROP requires records be kept of the name, location within the plant, capacity, installation date, type of material stored, and true vapor pressure of the material for each tank. Mr. Smith provided a copy of the storage tank inspection conducted in August 2008 (Attachment 14). This document includes the name and contents of each tank and indicates each tank is equipped with an overfill alarm and spill protection at fill pipe. The ROP states the installation date for each tank is August 30, 1998 and the sizes either 6,000 gallons (22.7 m³) or 4,170 gallons (15.8 m³).

FG-RULE284-TANKS SC IX.1. requires any gasoline tank or volatile organic liquid (VOL) storage tank comply with New Source Performance Standards or NSPS (40 CFR, Part 60, Subparts A, K, Ka, or Kb) based on installation date and capacity. 40 CFR, Part 60, Subparts Kb applies to storage vessels with a capacity greater than or equal to 75 cubic meters (m³) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. The tanks at Precision Coatings are 22.7 m³ and 15.8 m³, therefore the tanks do not appear to be subject to 40 CFR, Part 60, Subpart Kb.

FG-RICEMACT

FG-RICEMACT applies to one 0.125 MM BTU per hour natural gas fired spark ignition (SI) reciprocating internal combustion engine (RICE) emergency generator installed February 1985. The following maintenance is required for FG-RICEMACT:

- Change oil and filter every 500 hours of operation or annually, whichever comes first .
- Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first and replace as necessary.
- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Precision Coatings is prohibited from allowing the engine to exceed 100 hours for Maintenance checks and readiness testing and 50 hours per year for non-emergency situations.

Mr. Smith provided copies of the hours of operation for the engine for 2018 (Attachment 15) and the annual maintenance performed October 30, 2017 (Attachment 16). This information indicates the engine ran for 30.77 hours total between January 2018 through August 2018. The reason reported for all hours of engine operation for 2018 was emergency. The preventative maintenance records show Precision Coatings is performing the maintenance activities required in the ROP.

FG-COLD CLEANERS

Conditions in FG-COLD CLEANERS apply to EU-WASHTANK. I inspected EU-WASHTANK which is being stored upstairs at the plant. The lid to the tank was closed during the inspection and there was a large metal part on top of the lid making the interior of the tank inaccessible. It appears EU-WASHTANK is not being used currently and has not been used any time recently. According to Mr. Smith, EU-WASHTANK has not been used in about two years.

FG-RULE 290

A 6,000 gallon methanol storage tank is currently the only emission unit in FG-RULE 290. FG-RULE 290 limits the emissions of noncarcinogenic air contaminants with initial threshold screening levels (ITSL) greater than or equal to 2.0 micrograms per cubic meter to 1,000 pounds per month uncontrolled or 500 pounds per month controlled. Mr. Smith provided records of the VOC emissions from the methanol storage tank between January 2017 and July 2018 (Attachment 17). These records state methanol has an ITSL of 20,000 and does not have an initial risk screening level (IRSL). IRSL are calculated for possible, probable, or known human carcinogens. The reported monthly methanol emissions from the storage tank are 46.99 lbs/month. The reported emissions are less than the 1,000 pound limit in FG-RULE 290.

REPORTING

SC VII. 1. in each flexible group requires semi-annual and annual deviation reports be submitted by September 15 and March 15 each year. AQD received the 2017 semi-annual and annual deviation report, as well as, annual certification of compliance report for 40 CFR, Part 63, Subpart JJJJ, 40 CFR, Part 63, Subpart ZZZZ, and CAM certification on March 15, 2018. No deviations were reported during the reporting period.

Precision Coatings reported 11 tons of VOC emissions facility-wide in MAERS for calendar year 2017.

OTHER EQUIPMENT NOT IN ROP

During the inspection I observed six mixers used for mixing coatings. Emissions from this process are included in the FG-WEBCOATING emissions according to Mr. Smith. These emission units appear to be exempt from the requirement to obtain a permit to install per R 336.1287(2)(k).

CONCLUSION

Based on information collected and belief formed after reasonable inquiry during this inspection, Precision Coatings appears to be in compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994, PA 451; Michigan Department of Environmental

Quality, Air Quality Division (MDEQ-AQD) administrative rules and MI-ROP-A5498-2014.

NAME K. Kelly

DATE 9/21/18

SUPERVISOR Joseph Z