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

| A549671257 | | | | |
|--|--------------------------------------|--------------------------|--|--|
| FACILITY: Precision Coatings, Inc. | SRN / ID: A5496 | | | |
| LOCATION: 8120 Goldie St., WALL | DISTRICT: Warren | | | |
| CITY: WALLED LAKE | COUNTY: OAKLAND | | | |
| CONTACT: Jason Smith , Manufact | ACTIVITY DATE: 04/25/2024 | | | |
| STAFF: Robert Joseph | COMPLIANCE STATUS: Compliance | SOURCE CLASS: SM OPT OUT | | |
| SUBJECT: Scheduled inspection of coating facility. | | | | |
| RESOLVED COMPLAINTS: | | | | |

On March 26 and April 25, 2024, I, Michigan Department Environment, Great Lakes, and Energy-Air Quality Division staff, Robert Joseph, conducted a scheduled inspection of Precision Coatings, Inc. (SRN: A5496, also referred to as "the facility") located at 8120 Goldie Street, Walled Lake, MI, 48390. 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; and the Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) Administrative Rules, and conditions of the facility's Permit to Install (PTI) 154-18.

General Information

Precision Coatings Inc. designs, develops, manufactures, and markets coated laminated/converted films, foils, and papers for a variety of industries including – medical, automotive, and food packaging. The facility formulates and processes liquid coatings that are applied to flexible substrates via a continuous roll-to-roll manufacturing system. The facility manufactures the following type of coatings and example uses: Adhesive (pressure sensitive), Optical (light diffusion), Protective (scratch resistant), Print Receptive (toner), Resistant (anti-glare), and Specialty (fluorescent). The facility has maintained its business since 1969 and typically operates two shifts, Monday – Friday.

Background History

On May 16, 1995, the United States Environmental Protection Agency (U.S. EPA) provided a guidance document detailing the National Emission Standards for Hazardous Air Pollutants (NESHAP) and the Maximum Achievable Control Technology (MACT) regarding the "Once In Always In Policy" (OIAI) for the Potential to Emit for MACT Standards. The document indicated that major source facilities for Hazardous Air Pollutants (HAPs) on their 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.

The policy took effect on Dec. 4, 2002, for paper and other web coating per 40 CFR Part 63, Subpart JJJJ. It applied to each new and existing facility that is a major source of HAPs at which web coating lines are operated. At the time of the first compliance date (December 5, 2005), Precision Coatings was an existing major source of HAPs that operated web coating lines and therefore became subject to 40 CFR 63 Subpart JJJJ. As a major source, Precision Coatings was also subject to the State of Michigan Title V Program - Renewable Operating Permit (ROP) which Precision Coatings was required to obtain on November 26, 2002.

On January 25, 2018, the U.S EPA issued a document revisiting this classification, stating the OIAI was to be withdrawn. It stated that a major source that takes an enforceable limit

on its Potential to Emit and takes actions to bring its HAP emissions below the applicable threshold to become an area source – will no longer be subject to the requirements to that of a major source (as well as a major source MACT standard) as long as the source's Potential to Emit remains below the applicable HAP thresholds.

On September 14, 2018, Precision Coatings submitted a PTI application to the AQD requesting to limit the facility's PTE below major source thresholds. This allowed the facility's, ROP (MI-ROP-A5496-2014 – renewed on September 2, 2014) to be voided. PTI 154-18 was issued on January 29, 2019. Precision Coatings' ROP was no longer subject to the Title V Program and was reclassified as an Opt-Out source.

Facility Tour

I arrived on-site and met with Jason Smith, Manufacturing Manager. I requested that Jason provide me a tour of the facility's operations. Coating Lines 1, 4, and 6 consist of two coating heads, a laminator, and a four-zoned curing oven – except for Line 4 which is five-zoned. The emissions from both processes (coating heads and ovens) are routed to a regenerative thermal oxidizer (RTO) via a permanent total enclosure (PTE).

Line 8 also consists of one coating head, a laminator, and a single curing oven. This line is primarily used for testing and development. The emissions of these processes are also routed to an RTO via a PTE. Both emissions from both Line 8 and Line 4 are routed to the same RTO (REECO1), whereas Line 1 and Line 6 are routed to RTO's, REECO2 and J.Zink, respectively.

The coating heads apply resins and other specialty resin types that have been dissolved in water-based or organic solvents onto a polyester underlying substance or layer.

PTI 154-18 (only those sections which reference applicable conditions are referenced)

General Conditions

There were no concerns regarding the conditions detailed.

FG – WEBCOATING (Lines 1, 4, 6 and 8)

I. EMISSION LIMITS

| Pollutant | Limit | Time Period/ Operating Scenario | Equipment |
|-----------|----------|--|---------------|
| 1. VOC | 84.0 tpy | 12-month rolling time period as determined at the end of each calendar month | FG-WEBCOATING |

Records review of the facility indicated that the highest 12-month VOC emission total was approximately 15 tons.

III. PROCESS/OPERATIONAL RESTRICTIONS

All waste coatings, reducers, purge/clean-up solvents were stored in closed containers. Lines 1 and 4 were observed at a higher pressure reading than the capture rooms, and the coating head enclosures for each line were maintained at lower pressures than the coating room. The facility maintains an alarm system that sounds should the solvent limit exceed the maximum VOC limit or if the RTO falls below its intended temperature. This also includes a shut-off system which halts all the operations. The minimum operating temperature of the RTO is monitored on a continuous basis, and each thermocouple is maintained by recalibration at a minimum of once every 18 months. The emissions from all four coating lines (1, 4, 6, and 8) have not bypassed the coating lines due to a hazardous event (fire/explosion).

The facility has submitted a MAP (last reviewed on 01-10-23) that details each RTO and PTE which includes identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices. This includes a description of the items inspected, the frequency of the inspection as well as all repairs. The facility has identified replacement parts and the identification of all air-cleaning device operating variables monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.

Finally, the MAP outlines corrective actions that are to occur during a malfunction or failure event so compliance with the emission limits may be achieved. Should a malfunction occur (such as if the RTO does not maintain the proper combustion temperature required for destruction), *the* associated coating line shuts down immediately. It appeared that all VOC and HAP-containing materials were being utilized to minimize fugitive emissions from being generated, and the pressure differential between the PTE and the adjacent area was maintained at negative 0.007 or less.

IV. DESIGN PARAMETERS

The facility is to maintain a minimum temperature, minimum retention time, and minimum overall VOC control efficiency (combined capture and destruction efficiency) for each of the three RTOs, however, if a stack test is performed to demonstrate that the required control efficiency is achieved – then the minimum temperature as determined is to be maintained for each RTO. The facility performed a stack on February 24 and 25, 2015, with the following summarized results:

| RTO Name | Coating Line (s) | Minimum Operating Temperature (1500 Degrees Fahrenheit) | Minimum Retention Time, Seconds (in parentheses) | Minimum Overall Control Efficiency % (in parentheses) |
|----------|---------------------|--|---|---|
| Reeco1 | 8, 4 | 1600 | PTE (1.0) | 92.3 (90.0) |
| Reeco2 | 1 | 1607 | PTE (0.45) | 96.1 (92.5) |
| J. Zink | 6 | 1617 | PTE (2.0) | 96.2 (90.25) |

All results are within the required operational values. The facility has installed, calibrates (at least every 18 months), and maintains a temperature monitoring device to record the combustion chamber of the RTO on a continuous basis. In addition, since the coating heads operate under negative pressure in an enclosed area (PTE), EGLE confirmed on May 16, 2007, that the capture efficiency of the PTE can be considered 100% based upon the design of the room – given the installation of the Magnehelic gauges as a monitoring system. In the absence of any structural changes to the enclosure rooms, per EPA guidance, it can be presumed that a determined PTE remains a PTE. The facility regularly (approximately every 12-18 months) replaces the pressure measurement device to ensure

they are working properly. In addition, the facility verifies and records the negative pressure readings on a monthly basis.

V. TESTING/SAMPLING

The facility performs material coating testing using EPA Reference Method 24. Test results from 2023 and 2024 showed six different materials were tested each year, this satisfies conditions 1a and 1b. Tests were completed each year by December 15 and tabulated with each material's formulation content. In addition, the facility maintains material information on file and the AQD has not requested that the facility verify HAP formulation using EPA Test Method 311.

The AQD has not requested that the facility determine the Capture Efficiency nor the Destruction Efficiency (at the owner's expense) since the initial testing in 2015 when the Minimum Overall Control Efficiency was tested (combined Capture and Destruction Efficiency as detailed in Section IV. Design Parameters) nor has the facility reconfigured the coating lines or RTO configuration since the testing.

VI. MONITORING/RECORDKEEPING

The facility maintains the chemical composition of materials used via SDS. Records are maintained for the hours of operation for both the coating lines and RTO. The highest operating hours of each during the last 12 months are as follows; Line 1 and Reeco2 RTO (Feb. 2024 – 286 hrs), Line 4 and Reeco1 RTO (March 2024 – 201 hrs), and Line 6 and J-Zink RTO (Feb. 2024 – 107 hrs). The pounds of each material used monthly are also recorded and maintained. The VOC content of each material is recorded using each material's SDS and logged via a spreadsheet.

The monthly VOC emission rate (tons) and 12-month rolling VOC emission totals are also maintained. The highest monthly VOC emission totals observed for each coating line and its associated RTO during the last 12-months are as follows; Line 1 and Reeco2 RTO (Feb. 2024 – 1.31 tons), Line 4 and Reeco1 RTO (Feb. 2024 – 0.68 tons), and Line 6 and J. Zink RTO (Aug. 2023 – 0.19 tons).

The current 12-month rolling VOC emission totals for each coating line and RTO are as follows; Line 1 and Reeco2 RTO (10.64 tons), Line 4 and Reeco1 RTO (4.35 tons), and Line 6 and J. Zink RTO (Aug. 2023 – 1.07 tons).

The temperature of the combustion chamber for each RTO is maintained and recorded every 10 minutes. Temperatures for each RTO appear to be as follows Reeco2 (Line 1 - 1675-1700 F), Reeco1 (Line 4 – 1600-1640 F), and J. Zink (Line 6 – 1700-1725 F). In addition, the pressure differential between the PTE for each coating line and the adjacent area is monitored on a continuous basis. Pressure readings are recorded monthly with readings for each coating room varying between -0.02 and -0.2 inches (both less negative than 0.007) per the requirement in Section III.

The facility also maintains work orders for all preventative maintenance activity performed on the processes (RTO, PTE) per the MAP. Records were viewed for orders occurring in 2024. Also, the coating lines and RTO's have not been reconfigured nor has the bypass been opened during operations.

VIII. STACK/VENT RESTRICTIONS

There were no visible emissions emanating from the facility's stacks at the time of inspection.

IX. OTHER REQUIREMENT(S)

The facility has not reconfigured the coating lines RTO set-up.

FG-FACILITY

I. EMISSION LIMITS

| Pollutant | Limit | Time Period/ Operating Scenario | Facility Emissions current 12-month totals (April '23 – March '24) |
|---------------------------|----------|---|--|
| 1. Each Individual HAP | 8.9 tpy | 12-month rolling time period as determined at the end of each calendar month | 4.7 tons (highest) |
| 2. Aggregate HAPs | 22.4 tpy | 12-month rolling time period as determined at the end of each calendar month | 6.54 tons |
| 3. VOC | 89.9 tpy | 12-month rolling time period as determined at the end of each calendar month | 16.5 tons |

All of the above facility emissions are below the pollutant limit.

V. TESTING/SAMPLING

The facility determines each material's HAP content using the manufacturer's formulation data on file.

VI. MONITORING/RECORDKEEPING

The facility records the pounds of each HAP-containing material (coating, purge, and cleanup) used each month, as well as the HAP content (density = lb/gal) of each HAP-containing material used.

The monthly individual and aggregate HAP emission totals are determined with Toluene having the highest monthly emission rate (0.35 tons – January 2024) and the highest aggregate total occurring in February 2024 at (0.41 tons). The 12-month rolling individual and aggregate HAP emission totals are also determined with Toluene having the highest individual current 12-month rolling total (4.7 tons). The current aggregate 12-month rolling total HAP emission rate is 6.54 tons.

The facility maintains the VOC content of each material on file and determines the monthly and 12-month rolling VOC emissions. The highest monthly VOC emission rate was

February 2024 (2.16 tons) and the current aggregate 12-month rolling total VOC emission rate is 16.5 tons.

IX. OTHER REQUIREMENT(S)

During the tour, a natural gas reciprocating internal combustion engine (RICE) emergency generator was observed on site for power outages (rated 0.125 MM BTU/hr). Jason stated this engine was installed in 1985. It is subject to 40 CFR 63 Subpart ZZZZ, however, the AQD does have delegation for of this subpart at area sources of HAPs, therefore, compliance for this was not determined.

Conclusion

Based on the EGLE-AQD inspection and records review, Precision Coatings, Inc. LLC is in compliance with the aforementioned requirements and conditions of the facility's Permit to Install (PTI) 154-18.

NAME____Robert Joseph

DATE 06-12-24 SUPERVISOR