

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

B617532455

FACILITY: Coding Products, A Division of Illinois Tool Works		SRN / ID: B6175
LOCATION: 111 W. Park Dr., KALKASKA		DISTRICT: Cadillac
CITY: KALKASKA		COUNTY: KALKASKA
CONTACT: Lisa Surowitz, Environmental Mgr.		ACTIVITY DATE: 12/08/2015
STAFF: Shane Nixon	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: On site inspection and records review.		
RESOLVED COMPLAINTS:		

AQD staff traveled to Kalkaska to perform an inspection of the Coding Product facility. The purpose of the inspection was to determine the facility's compliance with Renewable Operating Permit (ROP) No. MI-ROP-B6175-2013. Ms. Lisa Surowitz, accompanied AQD staff during the inspection.

Coding Products applies solvent-based coatings to polyester film. Three of the emission units utilize Mayer Rod Coating technology. The remaining three emission units utilize Gravure technology. Mayer Rod Coating technology consists of a metal rod wound with a tight spiral of wire. The grooves between the wire coil determines the amount of coating applied to a web substrate. The thickness of the coating is proportional to the diameter of the wire on the metal rod. The coating appears as straight lines across the substrate until surface tension of the coating pulls the stripes together to form a flat surface. The coated web is then passed through an oven for drying and VOCs are ducted to a solvent recovery system for to condense vapors or regenerative thermal oxidizer (RTO) for destruction. The Gravure coating technology relies on an engraved roller running in a bath of coating, which fills the engraved portion of the roller with coating. The excess coating is wiped from roller and the remaining coating is then deposited onto the web. Similar to Mayer Rod technology, surface tension of the coating causes a flat surface to form. VOCs which flashed during the oven drying are routed to the RTO for destruction.

At the time of ROP renewal, the company listed the following equipment as exempt devices pursuant to Rules 281(h) and 284(i) and are not subject to any process-specific emission limit or standard: solvent distillation equipment, drum washer, cleaning solvent storage behind EUCOATER5 and HIR building, and cleaning solvent storage behind EUCOATER3.

The facility is subject to 40 CFR Part 63, Subpart JJJJ: Maximum Achievable Control Technology Standards for Hazardous Air Pollutants: Paper and Other Web Coating because the potential to emit a single HAP is equal to or greater than 10 tons per year and the potential to emit of all HAPs combined is equal to or greater than 25 tons per year.

SOURCEWIDE - There are no sourcewide conditions associated with this facility; therefore, this section is not applicable.

EUCOATER3 - This emission unit applies a continuous layer of coating material across a portion of a web substrate using the Hot Stamp process with the Mayer Rod Coating Technology. Pollution control equipment consists of a solvent recovery system.

1. **Emission Limits** - Organic HAP emissions are limited to no more than 5% of the organic HAP applied for each month. In other words, organic HAP emissions must be reduced by at least 95%. Records maintained by the facility indicates organic HAP reduction is 97%.

2. **Material Limits** - There are no material limits associated with this emission unit; therefore, this section is not applicable.

3. **Process/Operational Restrictions** - EUCOATER 3 is not allowed to operate and purge operations are not to occur unless the solvent recovery system is installed and operating. AQD staff observed the solvent recovery system during the inspection but the emission unit was not operating. AQD staff also observed a micro motion meter which indicates the amount of volatile organic compounds (VOC) recovered by the solvent recovery device.

4. Design/Equipment Parameters - There are no design or equipment parameters associated with this emission unit; therefore, this section is not applicable.

5. Testing - The organic HAP mass fraction of each coating material is determined by using formulation data. The coatings are mixed on-site and AQD staff noted that the records are well documented and maintained.

6. Monitoring/Recordkeeping - Per the requirements of the ROP and 40 CFR 63 Subpart JJJJ, the facility is required to maintain monthly records of:

Organic HAP content data;

Material usage;

Organic HAP usage;

Volatile matter usage;

Coating solids usage;

Liquid-liquid material balances.

AQD staff determined the aforementioned records to be complete and in compliance with the ROP and 40 CFR 63 based upon their review on-site.

Liquid-liquid material balances are performed on a monthly basis pursuant to the ROP and 40 CFR 63 Subpart JJJJ. AQD review of the records indicate the density and the volume of each coating is maintained in lieu of the mass of each coating, which is easily calculated based on the maintained records. AQD staff suggested to Ms. Surowitz on December 14, 2015 that the records contain the mass of each coating to avoid further inquiry in the future. Ms. Surowitz indicated that records from this point going forward will include the mass of each coating applied. All other records required pursuant to the ROP and 40 CFR 63 Subpart JJJJ were maintained and determined adequate.

Monthly organic HAP emissions were maintained for EUCOATER3. Records of the monthly HAP emissions are attached.

The P2 fan and liquid level of the heat exchanger on the solvent recovery system is required to be monitored. The liquid level range of the heat exchanger is 26-51 percent. AQD review of previously submitted reports indicate there were no excursions or monitor downtime.

7. Reporting - Semiannual deviation reports, annual certifications of compliance, and semiannual compliance assurance monitoring reports were previously submitted and reviewed by AQD staff.

8. Stack/Vent Restrictions - There are no stack or vent restrictions associated with this emission unit; therefore, this section is not applicable.

9. Other Requirements - AQD staff observed a copy of the startup, shutdown, and malfunction abatement plan maintained at the facility. AQD facility file review demonstrates Ms. Surowitz has recently reviewed the plan and submitted documentation to the AQD indicating a revision was not necessary.

FGCOATING12456 - The emission units contained in this flexible group apply a continuous layer of coating material across a web substrate. EUCOATER1 and EUCOATER2 utilize a Hot Stamp process with the Mayer Rod Coating Technology. EUCOATER4, EUCOATER5, and EUCOATER6 utilize the Thermal Transfer process with the Gravure Technology. Pollution control equipment consists of a regenerative thermal oxidizer (RTO) and permanent total enclosure.

1. **Emission Limits** - Similar to EUCOATER3, organic HAPs are limited to no more than 5 percent of the HAP applied (95% reduction) for each month. Records maintained demonstrate that organic HAP emissions are reduced by at least 99%. The reduction is based on stack testing performed in 2012.

2. **Material Limits** - There are no material limits associated with this flexible group; therefore, this section is not applicable.

3. **Process/Operational Restrictions** - Release coat big mixing coating X-43 is not allowed on any coating line listed in the flexible group. This limitation is to ensure the facility is able to meet the VOC limit contained in FGCOATING-ALL. Ms. Surowitz mentioned during the inspection that EUCOATER3 is the only line that used the release coat.

At the time of the inspection, each of the coating lines were equipped with permanent total enclosures and collected volatile organic compounds were routed to the RTO for destruction. The draft induced by the RTO fan on the enclosures was -3.5 inches W.G. during the inspection, which is determined to indicate proper performance of the permanent total enclosures. It was also observed by AQD staff that the RTO temperature 1,630°F, which is in compliance with the minimum temperature requirement of 1,400°F. Based upon the observations made, AQD staff determined the facility is in compliance with the requirement to maintain a continuous parameter monitoring system.

4. **Design/Equipment Parameters** - The RTO was equipped with an operating continuous combustion temperature monitor. Values recorded from the monitor are used by the facility to demonstrate the RTO is operating properly. A RTO retention time of 0.5 seconds or greater is factored into the design and AQD staff do not have the ability to determine compliance with the condition.

5. **Testing/Sampling** - Testing of the permanent total enclosures and the RTO pursuant to 40 CFR 63 Subpart JJJJ was performed in 2012. Testing is required every five years and will be necessary in 2017.

6. **Monitoring/Recordkeeping** - Monitoring and recording of the RTO and Permanent Total Enclosures parameters was performed as required by the ROP and 40 CFR 63 Subpart JJJJ. Records of the monitoring were made available to AQD staff upon request. AQD staff determined the records were adequate based upon review.

The HAP control efficiency was accounted for and documented in calculations performed by facility personnel.

7. **Reporting** - Semiannual deviation reports, annual certifications of compliance, and semiannual compliance assurance monitoring reports were previously submitted and reviewed by AQD staff.

8. **Stack/Vent Restrictions** - The RTO stack appeared to be constructed in accordance with the parameters listed in the ROP.

9. **Other Requirements** - A capture system/permanent total enclosure monitoring plan and startup, shutdown, and malfunction abatement plan were previously submitted and approved by AQD staff. The facility informed AQD staff via a letter that the plans were reviewed and updates were not necessary at that time.

FGCOATING-ALL - All coating lines within the facility, consisting of: EUCOATER1, EUCOATER2, EUCOATER3, EUCOATER4, EUCOATER5, and EUCOATER6. Pollution control equipment consists of a solvent recovery system for EUCOATER3 and the remaining coating lines are controlled by a RTO.

1. **Emission Limits** - VOC emissions from the flexible group are limited to 47.8 pounds per hour, 171.9 tons per 12 month rolling time period, and 4.79 pound per gallon of solids applied (based upon a 24 hour averaging period. Records reviewed by AQD indicate compliance with the pound per hour limit. Pound per hour emissions ranges between 2 and 15 pounds per hour with a peak of 24.7 pounds per hour. The highest 12 month rolling time period emissions, which occurred in February 2015, was 27.4 tons.

VOC emissions from each emission unit are limited to 4.79 pounds per gallon of solids applied (based upon a 24 hour averaging period). However, emission averaging over all six coating lines is allowed if the average VOC emissions are less than 4.31 pounds per gallon of solids applied. Records maintained by the facility demonstrate that, when using emission averaging, VOC emissions are less than 4.31 pounds per gallon of solids applied.

2. **Material Limits** - There are no material limits associated with this flexible group; therefore, this section is not applicable.

3. **Process/Operational Restrictions** - Waste coatings and solvents are required to be disposed of in a manner that minimizes the introduction of air contaminants to the outer air. Coding Products reclaims solvents using the solvent recovery system. AQD staff observed coating and solvent containers were closed during the inspection.

4. **Design/Equipment Parameters** - There are no design or equipment parameters associated with this flexible group; therefore, this section is not applicable.

5. **Testing/Sampling** - The VOC emission rate, in pounds per hour, from the flexible group is required to be tested every five years. The most recent test was performed in 2012 so testing will need to occur in 2017.

Testing of coatings to determine the VOC content is performed at the facility. Test results of several coatings are attached.

6. **Monitoring/Recordkeeping** - Records of VOC emissions and material usage were available for AQD staff review during the inspection. The records were maintained in accordance with Appendix 7 of the ROP.

7. **Reporting** - All reports submitted pursuant to the ROP were previously reviewed and documented.

8. **Stack/Vent Restrictions** - The stack associated with the RTO appeared to be constructed within the parameters listed in the ROP.

9. **Other Requirements** - Each web coating line was labeled in accordance with the requirements of the ROP.

FG-COLDCLEANERS - Three cold cleaners that are exempt from the requirements to obtain a Permit to Install pursuant to Rules 281(h) or 285(r)(iv).

1. **Emission Limits** - There are no emission limits associated with this flexible group; therefore, this section is not applicable.

2. **Material Limits** - Solvents used in the cold cleaners are limited to no more than 5%, by weight, of certain halogenated compounds. The facility is in compliance with the limit since methyl ethyl ketone and toluene are used as the cleaning solvents.

3. **Process/Operational Restrictions** - Cleaned parts are drained for no less than 15 seconds as required by the ROP.

4. **Design/Equipment Parameters** - The air/vapor interface of each cold cleaner is less than 10 square feet and covers were in place and closed at the time of the inspection.

5. **Testing/Sampling** - There are no testing or sampling requirements associated with this flexible group; therefore, this section is not applicable.

6. **Monitoring/Recordkeeping** - Cold cleaner specific information including the air/vapor interface and unique identifier were available to AQD staff upon request.

7. Reporting - All reports submitted pursuant to requirements of the ROP were previously reviewed and documented.

8. Stack/Vent Restrictions - There are no stack or vent restrictions associated with this flexible group; therefore, this section is not applicable.

9. Other Requirements - There are no other requirements associated with this flexible group; therefore, this section is not applicable.

CONCLUSION - Based upon the on-site inspection and review of records, AQD staff considers the facility in compliance with ROP No. MI-ROP-B6175-2013 and 40 CFR 63 Subpart JJJJ.

NAME Shawn Moxon

DATE 1/19/16

SUPERVISOR 