

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

N621827079

FACILITY: Spectrum Industries, Inc.		SRN / ID: N6218
LOCATION: 13 MCCONNELL STREET SW, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Scott Miller, Process Technician		ACTIVITY DATE: 08/27/2014
STAFF: David Morgan	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

At 10:30 A.M. on August 27, 2014, Air Quality Division staff Dave Morgan and Prudy Blue conducted an unannounced scheduled inspection of Spectrum Industries located at 13 McConnell Street in Grand Rapids. The purpose of the inspection was to determine the facility's compliance with state and federal air pollution regulations as well as PTI Nos. 277-97 and 142-13. Accompanying AQD staff on the inspection was Scott Miller, Process Engineer.

FACILITY DESCRIPTION

Spectrum Industries conducts surface coating of interior plastic automotive and some aviation parts. The facility consists of several coating lines and a regenerative thermal oxidizer (RTO). The facility is considered a synthetic minor source for hazardous air pollutant (HAP) emissions.

COMPLIANCE EVALUATION

EUMINILINE:

A new plastic parts paint line called the Mini Line was installed in July 2012 under Rule 287(c). This is a single shift line consisting of two small robotic booths, and an oven. According to Mr. Miller high volume, low pressure (HVLP) spray nozzles are used on the robots.

EUAEROSPACE:

Another small paint line called the Aerospace Spray Booth was installed in September 2011 under Rule 287(c). This line consists of one small hand spray booth used to paint plastic parts. This line consists of a small dry filter spray booth and HVLP applicators. Filters are changed on a daily basis.

EUCLEARCOAT (formerly known as EUMCCUBIC):

Permit to Install No. 277-97 covers a clear coat line (EUCLEARCOAT) where an activator compound is applied onto a water-soluble film (in the decorator booth) having a pre-applied layer of ink. The activated film (which includes polyvinyl acetate) floats onto water and parts are robotically dipped into one of two baths picking up film and ink through a chemical reaction. The part is washed to remove the film and dried. Then a transparent top coat is applied in two robotic spray booths. Two booths are used in order to achieve complete coverage of the part. Parts are cured in an oven at less than 185°F and therefore considered 'air-dried'.

PTI No. 277-97 requires that high volume low pressure (HVLP) spray guns or similar technology with comparable or better transfer efficiency be used on the clear coat robot booths. The company is using Devilbiss conventional spray guns which is a violation of Condition No. 21 of the permit. Each spray booth is also equipped with several water curtains, to collect overspray, which were operating properly in accordance with Special Condition No. 20. Lines are flushed using Haviland purge solvent which is drained into a bucket in the paint booth. Mr. Miller was advised that lids should be placed on all purge bucket containers to minimize emissions.

All exhaust gases from EUCLEARCOAT are routed through a regenerative thermal oxidizer (RTO).

RTO:

At the time of the inspection, the RTO was operating at 1,542 °F which is in compliance with the minimum temperature limit of 1,500°F in Condition No. 18 of the permit. In addition the company monitors and records the RTO operating temperature in accordance with Condition No. 19 of the permit using both a circular chart recorder and digital display. It is noted that the pen on the chart recorder needed replacement because the values were hard to read on the paper. Records show that the RTO is mostly run above 1,500°F, there were a few instances where the temperature dips below the minimum 1,500°F. AQD staff advised Spectrum that additional documentation needs to be made including any startup, shutdown, malfunction events when the temperature dips below 1,500°F.

EUOVERLAY (formerly EUMCBASECOAT):

There are two robotic paint booths and an oven used to apply a black coating to parts. These booths are operated independently of each other and can be considered separate lines. At the time of inspection, the water curtains were installed and operating. Both of these booths are operated under Rule 287(c) which allowed the company to remove these booths from exhausting to the RTO. Paint usage and emission calculations are combined for the two booths in the company's recordkeeping system.

HANDSPRAYBOOTHS:

There are three dry filter spray booths used for the application of a black mask coating on parts or a "soft-feel" coating associated with the Overlay process. Each of these booths is exempt from permitting under Rule 287 (c). Filters appeared to be installed and maintained properly. It is not clear whether emissions from these booths were reported in the 2014 Michigan Air Emissions Report (MAERS). The company will be advised to ensure emissions are accounted for in the 2015 report.

EUSAMPLEBOOTHS:

There are two sample booths that the company uses for testing. EUSAMPLEBOOTH1 is for a dry filter spray booth and EUSAMPLEBOOTH2 is for small dip tank. Each of these processes uses a small amount of coating and can be considered exempt under Rule 287(c).

Recordkeeping:

The company maintains coating, catalyst, and thinning solvent usage records as well as VOC and HAP emissions calculations. The company primarily uses the EMTRACK software for compliance records, but also uses some spreadsheets. According to company records, for the period from August 2013 through July 2014 the company had the following emissions or usage:

Equipment	Pollutant	Actual	Limit	
EUAEROSPACE	Coating Usage	<18.15 gallons (Oct. 2013)	200 gallons per month	
EUAEROSPACE	VOC	0.51 tons	NA	
EUMINILINE	Coating Usage	<211 gallons (July 2014)	200 gallons per month	The company is aware of the one month overage on usage and plans to adjust production to avoid future overages.
EUMINILINE	VOC	3.44 tons	NA	
EUCLEARCOAT	VOC	2.51 tons	9.9 tons per 12-month rolling	
EUCLEARCOAT	VOC	NA	7.5 pounds per hour	Due to the low emission rate and RTO controls the company is assumed to meet the lb/hour emission rate.
EUCLEARCOAT	VOC	0.33 pounds/gallon	5.0 pounds per gallon	Red and black coatings have a higher limit under Rule 632 by using a factor of 1.15. Because of the control factor from the RTO, compliance with the Rule 632 limits is easily achieved.
EUOVERLAYAREA	Coating Usage	<233 gallons in Oct. 2013	200 gallons per month	This value represents total usage for two separate booths. Based on company information 164 gallons were for one booth and 70 for another.
EUOVERLAYAREA	VOC	3.61 tons	NA	
EUHANDSPRAY1, EUHANDSPRAY2, EUHANDSPRAY3	Coating Usage	<30 gallons	200 gallons per month	Each hand spray booth was less than 30 gallons per month

EUSAMPLEBOOTH1, EUSAMPLEBOOTH2	Coating Usage	<5 gallons	200 gallons per month	Each booth was less than 5 gallons per month.
FGFACILITY	HAP individual	<1.0 ton	9.0 per 12- month rolling	
FGFACILITY	HAP aggregate	6.67 tons	22.5 tons per 12- month rolling	The company's HAP records include compounds which are not HAPs therefore the value represented is an overestimate of HAP emissions.

All other lines are exempt from Rule 632 because emissions from each line are less than 2,000 pounds per month, 10 tons per year and all lines combined is less than 30 tons per year.

It is noted that the VOC content of coatings does not appear to be updated in the facility's Emtrack program with the latest manufacturer information. For example the quality control report for the Red Spot paint #379S21654B (the highest used coating), does not match that in Emtrack. Because the company is not maintaining records with the most up-to-date VOC content information in the records, this is a violation of PTI No. 277-97, Condition No. 17. AQD staff does not believe that this recordkeeping issue will have an impact on compliance with applicable emission limits.

Attached to this report are company records.

EUBOILER-200HP and EUBOILER-350HP:

The company has two Cleaver Brooks natural gas-fired boilers at the facility used to provide service water heating as well as steam heat for various curing ovens. According to the boilerplate, EUBOILER-200HP has a heat input capacity of 8.375 MillionBtu/hour and is exempt under Rule 282(b)(l). From the boilerplate, EUBOILER-350HP has a heat input capacity of 14.6 millionBtu/ hour and is also exempt under Rule 282(b)(l). However, because EUBOILER-350HP is greater than 10 million Btu/hour, it is also subject to the New Source Performance Standard for Institutional, Commercial and Industrial Boilers under 40 CFR Part 60, Subpart Dc. The company will need to submit an initial notification and record natural gas fuel usage. AQD staff will forward a fact sheet on the topic.

Miscellaneous:

No visible emissions were observed from the facility.

SUMMARY

Spectrum Industries Inc. will be cited for violations identified above. Attached to this report are records obtained during the compliance evaluation.

NAME 

DATE 9/23/14

SUPERVISOR PAB