

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

N775466863

FACILITY: Harbor Foam		SRN / ID: N7754
LOCATION: 2950 Prairie SW, GRANDVILLE		DISTRICT: Grand Rapids
CITY: GRANDVILLE		COUNTY: KENT
CONTACT: Laura Kuperus , Owner		ACTIVITY DATE: 03/09/2023
STAFF: Michael Cox	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled Unannounced Inspection		
RESOLVED COMPLAINTS:		

Air Quality Division (AQD) staff Michael Cox (MTC) arrived at the Harbor Foam facility located at 2950 Prairie Street SW, Grandville, MI at 1:30 pm on March 9, 2023, to complete a scheduled, unannounced inspection. The purpose of the inspection was to determine the facility's compliance with state and federal air pollution regulations, Renewable Operating Permit (ROP) MI-ROP-N7754-2018 and Permit to Install (PTI) No. 35-07C. Prior to entering the facility, offsite odor and visible emission observations were completed. No odors or visible emissions were noted.

Facility Description

Harbor Foam is an expanded polystyrene (EPS) foam manufacturing facility. The facility is a major source of volatile organic compounds (VOCs) and is subject to the Title V program. The facility is in operation with ROP No. MI-ROP-N7754-2018 and PTI No. 35-07C. Upon arrival, AQD staff MTC met with Ms. Laura Kuperus, Vice President, and Mr. Tate Kuperus, Owner, who provided all applicable records and a walk-through of the facility. Following the initial site visit, additional records were provided by Mr. Nathan Cottrell, CFR Environmental, who is a consultant for the facility.

Compliance Evaluation

MI-ROP-N7754-2018 and PTI No. 35-07C

EUPLASTICRESIN

This emission unit is for the Hirsch 9000 resin pre-expander, canvas holding bags, Hirsch adjustable wall mold, hot room, wire cutting operations, embossing area, and other polystyrene foam producing operations.

During the course of the inspection the various stages of this emission unit were observed. EPS beads impregnated with pentane are received on site via large bulk bags. At the start of the process the beads go through a pre-expander where they are expanded with steam. Once expanded the beads are placed into holding bags and aged appropriately. After aging, the beads are then sent to the molding machine where they are pressed and turned into blocks with varying densities based on the function of the product. The blocks are placed into storage until they are shaped to the desired size through various processes such as wire cutting before being shipped off site to the consumer. Scrap material is transported to a grinding area, which was observed during the inspection. In the grinding area, the material is grinded and compressed before being shipped offsite.

This emission unit is subject to a VOC emission limit of 139.8 tons per year (tpy) per a 12-month rolling time period. PTI No. 35-07C was issued to for a temporary increase of VOC emissions for various time periods. Records were requested and reviewed for the time period of January 1, 2021 through February 2023. The following table summarizes the VOC emissions for the various time periods as required by PTI No. 35-07C:

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Highest 12-consecutive month VOC Emission
1. VOC	139.8 tpy	12-month rolling time period as determined at the end of each calendar month. Effective through August 31, 2021.	EUPLASTICRESIN	133 tons
2. VOC	164.8 tpy	12-month rolling time period as determined at the end of each calendar month. Effective from September 1, 2021, through February 28, 2022.	EUPLASTICRESIN	149.03 tons
3. VOC	159.8 tpy*	12-month time period effective from April 1, 2021, through March 31, 2022.	EUPLASTICRESIN	147 tons
4. VOC	154.8 tpy*	12-month time period effective from May 1, 2021, through April 30, 2022.	EUPLASTICRESIN	146.69 tons
5. VOC	149.8 tpy*	12-month time period effective from June 1, 2021, through May 31, 2022.	EUPLASTICRESIN	147.68 tons

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Highest 12-consecutive month VOC Emission
6. VOC	144.8 tpy*	12-month time period effective from July 1, 2021, through June 30, 2022.	EUPLASTICRESIN	144.21 tons
7. VOC	139.8 tpy	12-month rolling time period as determined at the end of each calendar month. Effective beginning July 1, 2022.	EUPLASTICRESIN	148.16 tons (July 2022) 142.14 tons (August 2022)

After a review of the records, it appears that Harbor Foam exceeded their VOC emission limit of 139.8 tons per year per 12-month rolling time period during the 12-consecutive month periods ending in July 2022 and August 2022, when 148.16 tons and 142.14 tons of VOC was emitted respectively. A Violation notice will be sent to the facility for the two exceedances.

Harbor Foam is required to conduct yearly testing to determine the VOC content, as received and as shipped, of select EUPLASTICRESIN products. Pentane content testing results were requested and provided for the 2021 and 2022 calendar years. After further review, the test results appear acceptable.

Harbor Foam shall keep records of pounds of VOCs per 100 lbs of EPS beads for each shipment received, 12-month rolling total VOC contents of lbs of VOCs per 100 lbs of EPS beads used, pounds of scrap material processed, EPS bead throughput at the pre-expander portion, VOC content of product shipped and monthly / 12-month rolling total VOC emissions. The facility has a material VOC limit of 6.3 lbs/100lbs of EPS beads as received. Records were requested and reviewed for the time period of January 1, 2022, through February 2023. The highest material VOC content per 100lbs of EPS beads as received was noted to be 4.69lbs/100lbs which occurred during the month of February 2023. Based on the records reviewed, it appears that Harbor Foam is keeping applicable records. No issues were noted.

Two stacks are listed in association with EUPLASTICRESIN. The stacks were observed venting unobstructed vertically. All four stack heights were verified using a Nikon Forestry Pro II rangefinder. Each of the stacks were determined to be within 3

feet of the stated stack height listed in MI-ROP-N7754-2018. Due to possible human error a difference of 3 feet was determined to be acceptable.

Additional Observations

- One 6.69 MMBtu/hr natural gas-fired boiler used to provide steam for the pre-expander was observed during the inspection that appears to be exempt from Rule 201 permitting per Rule 282(2)(b)(i).
- The facility is currently undergoing construction of a new building. During the walk through of the facility it was noted that the new building was still under construction and no emission units were in place. Mr. Kuperus stated that cutting machines that are exempt from air permitting were to be housed in the new building.
- A PTI application for the construction and installation of a regenerative thermal oxidizer (RTO) and an increase in VOC emission limits is currently under review. It was noted that the RTO was not on-site.

Conclusion

Based on the facility walkthrough, observations made, and records received, Harbor Foam was found to not be in compliance with the MI-ROP-N7754-2018 and PTI No. 35-07C. A Violation Notice for the emissions exceedances referenced above will be sent to the facility.

NAME Michael T. Cox

DATE 3/31/2023

SUPERVISOR HH