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

B421663928

FACILITY: NuPak Solutions, Inc.		**SRN / ID:** B4216
LOCATION: 2850 LINCOLN, MUSKEGON		**DISTRICT:** Grand Rapids
CITY: MUSKEGON		**COUNTY:** MUSKEGON
CONTACT: Herb Bevelhymer , President		**ACTIVITY DATE:** 07/19/2022
STAFF: Scott Evans	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: On-Site inspection conducted to assess compliance with Air Quality rules and regulations.		
RESOLVED COMPLAINTS:		

Introduction

On July 19, 2022, State of Michigan Department of Environment, Great Lakes, and Energy Air Quality Division (AQD) staff member Scott Evans (SE) conducted an on-site inspection of the NuPak Solutions facility located at 2850 Lincoln in Muskegon, Michigan, to assess compliance with the requirements of Permit to Install (PTI) No. 333-92 and all other applicable air quality rules and regulations. NuPak Solutions is a manufacturer of molded polystyrene beads. These molded forms are produced by heating up raw, polystyrene beads and molding them into desired forms such as packing materials. The facility also uses heat to expand beads for various other uses.

Upon arrival at the facility SE conducted an initial inspection of the facility exterior. There were no noticeable visible emissions observed during this process and only minor styrene odors while on facility property. After entering the facility, SE was greeted by Acting Operations Chief Jason Schaub. A discussion was had during which the purpose of the day's visit was discussed. An inspection of the facility followed this discussion, during which all production areas were visited. Compliance with the requirements of PTI No. 333-92 and all other applicable rules and regulations was evaluated during this inspection as well as during a detailed records review conducted remotely at a later date.

PTI No. 333-92

This permit was first issued in 1992 and had supplemental conditions added in 1995. There are six special conditions (SC) included in this permit.

SC15 requires that pentane emissions from the polystyrene pre-expansion and molding process shall not exceed 22.8 lbs/hr nor 49 tons per year (tpy) as calculated through the use of pentane content records of raw materials and production records of final products. Applicable SDS information for pentane content was reviewed on site. Production records on a 12-month rolling annual schedule were provided that demonstrated the following analyses:

- 12-month rolling annual emissions peaked from January 2021 to December 2021 at 4.183 tpy.
- Average hourly emissions for that period were approximately 4.02 lbs/hr based on a full time 2080 hrs per year operational schedule.

The provided documentation demonstrates that facility emission rates are well within permitted limits and that the facility is in compliance with this condition.

SC16 requires that there be no visible emissions from the polystyrene pre-expansion molding process. During the inspection, no visible emissions were observed inside or outside of the facility.

SC17 states that the facility may be required to verify through testing the emission rates from polystyrene. At this time further verification is not required as emission limits appear accurate and are well within compliance limitation.

SC18 requires that a stack of maximum diameter of 30 inches and minimum height of 27 feet be used to exhaust polystyrene pre-expansion emissions. The stack was observed and, though it was not directly measured for safety purposes, it appeared to meet required dimensions.

SC19 limits the facility to a production rate requiring no more than 2,180,000 lbs of polystyrene beads in any 12-month rolling time period. Records were provided demonstrating production use of 130,787 lbs from October 2020 through September 2021. This is well within the permitted requirement.

SC20 requires that the pentane content of the polystyrene beads shall not exceed 6.5% by weight. MSDS and analysis results of the beads show that the pentane content of the beads is approximately 6% and compliant with the condition.

Other Items

The facility has a wooden pallet making process at the facility. This process includes curing the pallets in an oven at 300°F for approximately 30 minutes. Records for pallet production and calculated emissions were provided for review on site. During all months reviewed the facility treated fewer than 7,000 board feet, which would release less than one pound of VOCs, calculated by using Environmental Protection Agency lumber drying emissions data. These VOC emissions are well below the limit of 10 lbs/month, as required to meet air permitting exemption Rule 290.

Historically the facility has recycled Styrofoam. This is no longer done by this facility.

The facility utilizes steam molding machines for part of the bead manufacturing process. This is exempt from air permitting by Rule 286(2)(b). The facility also utilizes a cooling tower during production that is exempt from air permitting by Rule 280(2)(d).

The facility has two natural gas boilers on site. One has a capacity of 150 hp and the other has a capacity of 3.3 mmBTU. These boilers are exempt from air permitting requirements by Rule 282(2)(b)(i). These boilers are not subject to New Source Performance Standard 40 CFR Part 60 Subpart Dc as they each have a capacity of under 10 mmBTU. These boilers are not subject to National Emissions Standards for Hazardous Air Pollutants 40 CFR Part 63 Subpart JJJJJJ as they are natural gas fired units.

Conclusion

At the conclusion of the inspection the facility appeared to be compliant with requirements of PTI No. 333-92 and all other applicable air quality regulations. This was discussed with the facility and they were advised to maintain records and to inform the AQD of any production changes that may occur, including any increases in wooden pallet production that may result in higher VOC emission rates due to wood drying operations.

NAME Scott Evans DATE 8/5/2022 SUPERVISOR HH