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

N1447/3742		
FACILITY: BORIDE ENGINEERED ABRASIVES		SRN / ID: N1447
LOCATION: 2615 AERO PARK DR, TRAVERSE CITY		DISTRICT: Cadillac
CITY: TRAVERSE CITY		COUNTY: GRAND TRAVERSE
CONTACT:		ACTIVITY DATE: 07/31/2024
STAFF: Caryn Owens	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: On-site inspection & Records Review		
RESOLVED COMPLAINTS:		

On Wednesday, July 31, 2024, Caryn Owens and Tammie Puite of the Department of Environment, Great Lakes, and Energy (EGLE) – Air Quality Division (AQD) conducted an on-site field inspection of Boride Engineered Abrasives (SRN: N1447) located at 2615 Aero Park Drive in Traverse City, Grand Traverse County, Michigan. More specifically, the entrance of the site is located on the north side of Aero Park Drive, approximately ½ mile west of North 3 Mile Road.

The field inspection and records review were to determine compliance with permit to install (PTI) 1139-91A. The site is considered a minor source of criteria air pollutants and an area source of hazardous air pollutants (HAPs).

Evaluation Summary

The activities covered during this field inspection and records review appear to be in compliance with PTI 1139-91A. No further actions are necessary at this time. Specific permit conditions that were reviewed are discussed below.

On-site Inspection:

During the field inspection the weather Conditions were mostly sunny, about 77 degrees Fahrenheit, and winds about 0-5 miles per hour from the west. AQD met Mr. Mark Klug, for an unannounced, on-site inspection and records review. Mr. Klug accompanied AQD through the facility to observe the permitted emission units and associated processes. The facility consisted of one main building, with a parking lot west of the main building, commercial industry to the south, east and west of the facility, and wooded area to the north. Inside the building contained offices on the western side of the building. The facility manufactures honing and sharpening stones. The Northern portion of the building contained is sales storage for concrete polishing stones in different sizes and grain. The central portion of the building contained 4 kilns for the different stone products. There are 3 natural gas fired kilns and one electric kiln, each kiln including the electric kiln, contained an afterburner to further reduce emissions and any potential odors from the processes. During the inspection, kilns 1 and 2 were operating, kiln 3 and the electric kiln were not operating. During the inspection Kiln 1 was at a temperature of 1147 degrees Fahrenheit, and kiln 2 was cooling down because it was done firing and was at a temperature of 167 degrees Fahrenheit. Depending on the different types of material in the kilns, the kilns fire under different programs. But typically, the kilns fire between 23.5 to 29.5 hours.

There is a mixing room in the western-central portion of the building, and each product contains a specific mixture of raw materials used to meet the correct grain dimension specified by customer demand. The ductwork in the mixing room and throughout the building appeared to be in good condition. There was a baghouse outside on the eastern portion of the building. Even though there was no pressure gauge for the baghouse, the baghouse appeared to be working properly. AQD observed no visible emissions coming from the baghouse, and the hopper area that that captures the heavier particulate that falls out for waste disposal was clean. According to Mr. Klug, there are 32 filters, and they are changed annually, and the container collecting the heavier particulate matter for waste is disposed of on a weekly basis.

The southern portion of the building contains the presses that use a resin formulated sand material, which was not operating during the inspection. According to Mr. Klug, the resin material is only used on average about 2 days per week, and occasionally 3 days per week. Additionally, the cutting of the stones is located in the southwestern portion of the building.

Boride is claiming the following exemptions at the facility from air permitting:

- Kiln Firing: which states kilns for firing ceramic ware that are electrically heated or which fire sweet gas fuel or no. 1 or no. 2 fuel oil at a maximum total heat input rate of not more than 10,000,000 Btu per hour under exemption R 336.1282(2)(a)(iii).
- Part Cleaner: Parts cleaner, that changed to water-based solvent in June 2000, in the maintenance area of the building that is cleaning equipment used for metal treatment processes if the process emissions are only released into the general in-plant environment under exemption R 336.1285(2)(r)(iv).

- Stone Cutting: the kiln and cut equipment and any exhaust system or collector exclusively serving the equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, graphite, plastics, concrete, rubber, paper board, wood, wood products, stone, glass, fiberglass, or fabric that has emissions that are released only into the general in-plant environment under exemption R 336.1285(2)(I)(iv)(B).
- **Cutting, Grinding, and welding:** These processes are performed in the maintenance portion of the building indicating activities that meet: brazing, soldering, welding, or plasma coating equipment and Portable torch cutting equipment that does not cause a nuisance or adversely impact surrounding areas and is used for activities performed on a non-production basis, such as maintenance, repair, and dismantling under exemptions R 336.1285 (2)(i) and (j)(i).
- Heating Units: Ten natural gas heating units, which is under fuel-burning equipment which is used for space heating, service water heating, electric power generation, oil and gas production or processing, or indirect heating and which burns sweet natural gas, synthetic natural gas, liquefied petroleum gas, or a combination thereof and the equipment has a rated heat input capacity of not more than 50,000,000 Btu per hour under exemption R 336.1282(2)(b)(i).
- Wheels Process: This is regarding a fume hood vented outside that includes a solvent called LES under exemption R 336.1290.

Records Reviewed

• Emission Limits: The emission limits for particulate are limited to 0.01 pounds of particulate matter (PM) per 1000 pounds of exhaust gases. The method to show compliance with this limit is through visible emissions. No visible emissions were observed during the inspection, and AQD has not received complaints regarding this facility.

Additionally, for the resin stone treat process is limited to 13.0 tons of volatile organic compounds (VOCs) per year. Based on the records reviewed, the VOC emissions for the resin stone treat process were reported at 4.0 tons per year.

Formaldehyde emissions were reported at 00.10 tons per year. The sulfur emissions were determined an insignificant activity at the site, and the emissions were minimal if any at all. Based on the records reviewed, the emissions were reported below the permitted emission limits.

- Material Limits: No Material Limits were applicable for the facility.
- Process/Operational Restrictions: Based on observations during the site inspection, the baghouse appeared to be operating properly. AQD did not see evidence of concern associated with the baghouse. Additionally, the facility appeared to have good housekeeping practices and appeared to capture air contaminants properly and disposing of them properly.
- Design/Equipment Parameters: No design and equipment parameters applicable with the site.
- **Testing/Sampling:** The facility uses VOC data from safety data sheets for their resin and solvents, and AP-42 emission factors for natural gas to calculate the emissions. Performance testing has not been completed at this facility.
- Monitoring/Recordkeeping: The facility monitors the natural gas usage and quantity of resin used at the facility.
- Reporting: No Reporting requirements were applicable for the facility.
- Stack/Vent Restrictions: Based on visible observations during the field inspection, the stack of the baghouse appeared to be at least 14 feet above ground surface and appeared to be 36 by 36 inches in diameter. The stacks for the resin stone treat and sulfur stone treat appeared to be at least 33 feet above ground surface, and within the requirements of the permit.
- · Other Requirements: No Other Requirements are applicable to the facility.

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