

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

N290766158

FACILITY: Boss Products		SRN / ID: N2907
LOCATION: 1809 N STEPHENSON AVE, IRON MOUNTAIN		DISTRICT: Marquette
CITY: IRON MOUNTAIN		COUNTY: DICKINSON
CONTACT: Bill Cobb , Safety Specialist		ACTIVITY DATE: 12/02/2022
STAFF: Joe Scanlan	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Inspection to determine compliance with PTI 39-96 and PTI 39-96A		
RESOLVED COMPLAINTS:		

REGULATORY AUTHORITY

Under the Authority of Section 5526 of Part 55 of NREPA, the Department of Environment, Great Lakes, and Energy may upon the presentation of their card, and stating the authority and purpose of the investigation, enter and inspect any property at reasonable times for the purpose of investigating either an actual or suspected source of air pollution or ascertaining compliance or noncompliance with NREPA, Rules promulgated thereunder, and the federal Clean Air Act.

FACILITY DESCRIPTION:

BOSS Products is a division of the TORO Company and manufactures and sells snowplows and various snow removal equipment in Iron Mountain, Dickinson County, Michigan.

PROCESS DESCRIPTION

Sheet steel is bent, formed, and welded within the plant. Manufactured products are coated with powdered coatings.

PTI 39-96A was issued in 2022 due to the addition of EUBURNOFF2 and replaces PTI 39-96. PTI 39-96A includes Special Conditions (SC) for heat cleaning ovens, EUBURNOFF1 & EUBURNOFF2, which are used to remove baked-on powder paint from various racks, hooks, fixtures, and snowplow parts. Keeping the hooks and racks clean allows for better electrostatic connection to the conveyor belt. The burnoff ovens are controlled by afterburners and emissions are exhausted from a roof stack. EUBURNOFF2 was on site; however, it had not been installed yet at the time of this inspection and was still in a crate in a storage area. There is no solid date by which installation of EUBURNOFF2 will occur.

While EUBURNOFF1 and EUBURNOFF2 are operating, afterburners must maintain a minimum temperature of 1500 and 1400 degrees Fahrenheit, respectively, and a minimum retention time of 0.5 seconds for both units.

The current powder paint in use by the facility contains chlorine, which has the potential to form HCl during the burnoff process. To keep HCl emissions of EUBURNOFF1 below the 10 tpy threshold of a major HAP source, the PTI incorporates a batch limit on EUBURNOFF1 of 365 batches per year. Because of this, the facility is a synthetic minor for HAPs. Additionally, even though modeling determined a maximum PTE HCl of 8.95 tpy using the current powder paint, EUBURNOFF2 has a batch limit of 1000 batches per year to comply with Rule 225 toxic air contaminant (TAC) screening levels through material and operational restrictions.

The company intends to switch powder paints to a product with a lower chlorine content. At that time, there would be no batch restrictions on EUBURNOFF1 and the annual batch limit for EUBURNOFF2 would be raised to 1375 to show compliance with Rule 225.

The powder coating operation is exempt under Michigan Air Pollution Control Rule 287(d). Other permit exempt activities onsite include drilling, cutting, and assembly of each plow (Rule 285(i) and 285(l)(vi)).

EMISSIONS

Afterburners on each oven control visible emissions (smoke) and VOCs utilizing minimum temperatures and residence time.

EMISSIONS REPORTING

Prior to issuance of PTI 39-96A, the facility was considered a true minor source. During the permit evaluation for PTI 39-96A, it was discovered the facility has been using a compound containing chlorine in their powder paint. Potential to emit (PTE) calculations exceeded the threshold for HCl emissions. A batch limit was put in place in the PTI to ensure the facility stayed below the HAPs threshold. Therefore, upon issuance of PTI 39-96A on July 18, 2022, the facility has been re-categorized as a synthetic minor for HAPs and must now report emissions to MAERS.

COMPLIANCE HISTORY

This facility does not have any previous violations.

INSPECTION (covers PTI 39-96 until July 17, 2022; PTI 39-96A effective July 18, 2022)

EUBURNOFF1

I. Emission Limit

PTI 36-96 SC 13 and PTI 36-96A SC I.1 Visible emissions shall not exceed 6-minute average of 20% opacity.

The unit was not operating at the time of inspection; therefore, opacity could not be determined.

II. Material Limits

PTI 39-96A SC II.1 Shall not process any materials in EUBURNOFF1 with a chlorine content greater than:

a. 6.8%

The company is currently using a powder paint that contains a Bisphenol A epichlorohydrin polymer resin, which has a chlorine content of up to 11.05%. This resin constitutes approximately 50-60% of the powder paint, therefore the powder paint has a potential maximum overall chlorine content of 6.8%.

b. 1.6% after switching to a powder paint with lower chlorine content

The facility has not switched powder paint yet and there is no timeline in place for this to occur.

III. Process/Operational Restrictions

PTI 39-96A SC III.1 Shall not process more than 365 batches per year in EUBURNOFF1 before switching to a powder paint with lower chlorine content.

No batch report was provided.

IV. Design/Equipment Parameters

PTI 39-96 SC 14 and PTI 39-96A SC IV.1 Shall not operate EUBURNOFF1 unless a secondary chamber or afterburner is installed, maintained, and operated in a satisfactory manner. The afterburner must maintain a minimum temperature of 1500 degrees Fahrenheit and a minimum retention time of 0.5 seconds.

During the records review, it was noted that aside from startup/shutdown, the afterburner was operating between 1502 and 2498 degrees Fahrenheit. While this is above the minimum operating temperature, the unit should not be routinely operating at 1000 degrees Fahrenheit over the minimum operating temperature.

During the month of February, it was noted that the thermocouple was removed from its proper position on February 1st, 2022, but the malfunction was not noticed until February 28th, 2022. This resulted in missed afterburner readings for the month of February 2022.

Additionally, there were multiple temperature recordings of a negative value (-454 F) on 11 days during the month of September 2022.

It appears the facility has an issue monitoring and maintaining the afterburner temperature on EUBURNOFF1 and is not satisfying the conditions of SC IV.1.

V. Testing/Sampling

NA

VI. Monitoring/Recordkeeping

PTI 39-96A SC VI.1 Shall install, calibrate, maintain, and operate a device to continuously monitor the temperature in the secondary chamber or afterburner portion of EUBURNOFF1 and record the temperature every 15 minutes.

In addition to the comments above for PTI 39-96A SC VI.1, it was discovered during the records review that from July 18th, 2022, through December 30th, 2022, the temperature was only recorded every 30 minutes. The facility is not in compliance with PTI 39-96A SC VI.1.

PTI 39-96A SC VI.2 Shall keep records of the number of batches per 12-month rolling time period as determined at the end of each calendar month until the company switches to the lower-chlorine powder paint.

No monthly or 12-month rolling batch report was provided. The company did provide a spreadsheet of afterburner temperature recordings based on 30-minute increments from July 18th, 2022, through December 30th, 2022. It was apparent that temperatures highlighted in red were batches, however they were not easily distinguishable, and no 12-month rolling or monthly

batch totals were provided. The company should be able to present the 12-month rolling and monthly batch data in a clear and concise manner and is not in compliance with PTI 39-96A SC VI.2.

EUBURNOFF2

This unit has not been installed yet and there is no timeline in place for this to occur.

CONCLUSION

The facility is in violation of PTI 39-96 SC 14 and 15, PTI 39-96A SC IV.1, SC VI.1, and SC VI.2 of EUBURNOFF1. To maintain compliance with these Special Conditions, the company needs to be more diligent on calibrating and maintaining the afterburner and temperature recording device, as well as maintaining concise 12-month rolling and monthly batch records as required. A violation notice will be sent to the facility.

NAME 

DATE 2-7-2023

SUPERVISOR 