

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

P120858941

FACILITY: State Heat Treating Company		SRN / ID: P1208
LOCATION: 520 32nd Street SE, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Jason Angell , Plant Manager		ACTIVITY DATE: 07/09/2021
STAFF: April Lazzaro	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS:
SUBJECT: Unannounced, self-initiated inspection.		
RESOLVED COMPLAINTS:		

Staff, April Lazzaro arrived at the facility to conduct an unannounced, self-initiated inspection. This inspection was conducted in response to an ammonia leak that occurred at the facility on July 6, 2021. Information regarding the facility and operations were provided by Jason Angell, Plant Manager and Greg Raspovic, Quality Technician.

FACILITY DESCRIPTION

State Heat Treat is a heat treating facility that services a variety of steel and aluminum parts. Parts for a variety of industries are treated, including automotive, military, medical, furniture and more. The facility dates back to 1946 at this location and is owned by G.A Richards. This facility is considered a separate entity and employs approximately 20 people and runs three shifts.

It is noted that Ed Lukasiewicz, Maintenance Supervisor and 35 year employee of the facility was on vacation and will be used as a resource of information in the future as needed.

COMPLIANCE EVALUATION

State Heat Treat leases a 1,000 gallon anhydrous ammonia tank. Anhydrous ammonia is used in the carbonitriding processes that take place at the facility. The leak from the anhydrous ammonia delivery system occurred at the regulator which is equipment owned by State Heat Treat. The tank delivery system was shut off at the time of the inspection. State Heat Treat has contracted a company to come and repair the piping. New information available to the company has indicated that a loss of less than 10 gallons of anhydrous ammonia occurred.

The Air Quality Division (AQD) requires a Permit to Install (PTI) for an anhydrous ammonia tank of this size. State Heat Treat does not have a PTI. The date of tank construction per the name plate is December 31, 1956, however at this time it is unclear what the actual installation date of the tank is. A request for the installation data of the tank will be made. Information related to the AQD General Permit to Install for anhydrous ammonia tanks has been provided to the company via email.

An internally vented tumbler is used to apply Metguard 30 which is a rustproofing agent. I requested a copy of the Safety Data Sheet (SDS) for this material via email. This process may be exempt per Rule 285(2)(l)(iii).

We observed the maintenance area which had a variety of unlabeled totes and drums. It was not clear at the time of the inspection whether the containers were full or empty, or if they contained product or waste. As a result of this observation, I have referred this facility to Wade O'Boyle of the Materials Management Division. It is noted that throughout the facility there were a variety of drums and totes that were not labeled.

The facility operates 2 aluminum draw furnaces and 2 quench pits. These furnaces and the quench pits are located below floor level. Aluminum is placed in baskets which are lowered into the furnace which consists of a retort shell. The aluminum is annealed for 10 hours at temperatures reaching 980°F. After that, it is quenched in a separate pit that contains water only. This process is internally vented and appears to be exempt from permitting pursuant to Rule 282(2)(a)(ii), as it is believed ammonia is not used. If ammonia is used, a permit may be required. The company conducts preventative maintenance according to the Maintenizer maintenance system.

There are a variety of batch and draw furnaces throughout the facility. These furnaces are used for carburizing, nitriding, annealing etc. The batch furnaces are configured in a three state process. 1- harden, 2- wash, 3- temper. Various cycles can be utilized, and a mixture of endothermic gasses and ammonia are used.

Each furnace in the facility can utilize ammonia and are therefore excluded from the Rule 282 heat treating furnace permit exemption. At this time, I am unaware of an appropriate permit exemption that can be used for the furnaces at this facility.

The exact age of the furnaces is unknown, and as such a request for installation, modification and reconstruction dates of each piece of equipment at the facility will be requested. This information will be used to determine Rule 201 applicability at the facility. If the equipment is not considered grandfathered a Permit to Install may be required.

The company has two endothermic gas generators for use in the furnaces. One is currently used as a back-up unit. These endothermic gas generators are exempt from permitting pursuant to Rule 285(2)(l)(iv). The gasses generated consist of typical/generic mix used in heat treating processes, including N, CO, CO₂, H and CH₄.

The facility operates an internally vented blast tumbler that utilizes a grit media to polish materials. This is controlled by an internally vented torit dust collector. The pressure drop gauge read 2.9" w.c. at the time of the inspection which is an acceptable reading. It is noted that there was a large amount of grit media on the floor surrounding the unit that should be properly disposed of. It was not becoming an air contaminant. This process is exempt from permitting per Rule 285(2)(vi)(B).

A Jackson Oven Supply company burn-off oven is used to remove powder coat from paint racks. These racks are brought in from a different company owned by G.A. Richards. It is labeled as BO-1. It was not operating during the inspection and the digital display was observed. The set point for the afterburner was 1,500°F. The burn off oven requires a Permit to Install but does not have one. As such a Violation Notice will be issued. Information on obtaining a General Permit to Install for burn-off ovens has been provided to the company via email.

In the old part of the building, State Heat Treat operates 4 "pushers" which are heat treating processes that utilize ammonia. These are zoned continuous furnaces that harden, quench, wash and temper steel parts. These are identified as P-61, P-62, P-63 and P-64 and have anywhere between 4-6 zones. Because these pushers utilize anhydrous ammonia, a permit exemption has not been identified. A Violation Notice will be issued.

An unheated externally vented Spiral Washer identified as SW-1 was observed. The SDS for the wash material was requested and will be submitted. If applicable, this washer may be exempt per Rule 285(2)(l)(iii). The permitting status of this unit is currently unknown.

A multi-tank oil reclamation system is used at the facility to reclaim quench oil. The unit is heated but appeared to be internally vented. The process details were unknown, but the unit is operated and maintained by Mr. Lukasiewicz who was on vacation. Emissions from this process are believed to be insignificant. No odors were noted, however there were a variety of unlabeled drums in the area.

Due to the large number of furnaces at this facility, natural gas usage information will be requested from company in order to conduct a calculation on the emissions generated from the combustion of natural gas.

CONCLUSION

State Heat Treating Company was in non-compliance at the time of the inspection. A Violation Notice will be issued.

Finally, State Heat Treating Company has been notified that the Small Business Assistance Program at the Environmental Assistance Center (EAC) is available for non-regulatory compliance assistance. The EAC can be reached at 1-800-662-9278.

NAME April Lazzaro

DATE 07/16/2021

SUPERVISOR HH