DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

P054248782

FACILITY: Port City Architectural Signage		**SRN / ID:** P0542
LOCATION: 2350 South Getty Street, MUSKEGON		**DISTRICT:** Grand Rapids
CITY: MUSKEGON		**COUNTY:** MUSKEGON
CONTACT: Timothy Mills , Owner/President		**ACTIVITY DATE:** 05/07/2019
STAFF: Eric Grinstern	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Unannounced inspection		
RESOLVED COMPLAINTS:		

FACILITY DESCRIPTION

Port City Architectural Signage is a foundry that manufactures aluminum and bronze signs. Operations consist primarily of melting,casting, finishing and coating. .

The facility currently operates one shift (07:00-15:30) five days a week and employs 13 workers.

REGULATORY OVERVIEW

The facility is a small foundry operation that would be classified as a minor source. The facility currently does not hold any air use permits.

The primary purpose of this inspection was to determine if the facility was still in operation and if they are operating emission units that require air use permits. The facility was previously issued a Violation Notice on October 31, 2016, for failing to obtain a permit to install for various foundry processes. The facility failed to obtain a permit to install in response to the Violation Notice.

The facility is currently not subject to 40 CFR Part 63 Subpart ZZZZZZ, Aluminum, Copper, and other nonferrous foundries area source NESHAP. The facility is not subject because they do not melt metal above the applicability threshold of 600 tons per year.

The facility only melts spec alloy ingot for both the aluminum and bronze, as well as internal runaround. Therefore, the facility is not subject to any secondary metal processing NESHAPs, such as Subpart RRR.

COMPLIANCE EVALUATION

Prior to entering the facility a survey of the perimeter was made. No abnormal odors or opacity were noted.

At the facility, staff met with David Hutson, Plant Manager. The Owner/President, Timothy Mills, was not onsite at the time of the inspection.

Mold Making

The facility has two 30-ton sand silos for the storage of mold sand. Sand silos are normally exempt from permitting via Rule 284(2)(k). However, Rule 284(2)(k) requires control with a fabric filter collector or an

equivalent control system. The silos each have a 4-6 inch pvc pipe that vents emissions uncontrolled at a point of 2-3 feet above the ground. The facility previously stated that the silos would exhaust to a control device. Lacking control, the silos require a permit or the use of another appropriate exemption.

Sand from the silos is conveyed to one 125 lb./minute mixer. At the mixer, sand is heated and blended with a two part phenolic no-bake sand binder. The facility utilizes a HA International ester cured Alphaset sand binder system. The resin is Alphaset 9010 and the curing agent is Alphacure 910. The resin contains formaldehyde and phenol, while the co-reactant curing agent contains organic esters. The blended sand fills mold boxes, which are manually packed and prepped on a conveyor line. There are emissions associated with the sand mixer and mold making process (PM/VOC) that require an air use permit or appropriate exemption.

Melting

The facility currently has three gas-fired crucible melting furnaces. One furnace has a 30 pound holding capacity, while the other two each have a 50 pound capacity. The type of metal melted in the furnaces is interchangeable with the switching out of crucibles. Above the furnaces is a hood the vents to the outside atmosphere uncontrolled. The facility only melts spec metal, no scrap.

The facility stated that they use a small amount of flux when melting aluminum. (maximum of 1/2 cup flux per 50 pounds of aluminum)

If fluxing occurs in the furnace, the furnaces require an air use permit. If fluxing occurs outside of the furnaces, the furnaces are exempt from the requirement to obtain a permit to install under Rule 282(a)(iv).

Pouring/Cooling /Shakeout

Molds are manually poured and cooled on the conveyor line on which they are produced. The furnace crucible is brought to the conveyor line for pouring. Molds are manually knocked out and dumped in a hopper. Emissions associated with pouring/cooling/shakeout are released into the in-plant air uncontrolled and subsequently emitted through the general ventilation system and building openings. Pouring/Cooling/Shakeout has emissions (PM/VOC) that require an air us permit or appropriate exemption.

Finishing

After the signs are cast in the foundry, they are finished via grinding, sand blasting, belt sanding, etc. A majority of the finishing processes vent to a baghouse located on the north side of the facility that exhausts to the outside atmosphere. Observation of the baghouse showed no visible emissions. Mr. Hutson stated that all of the processes are equipped with drop boxes prior to the baghouse. The sand blasting unit is controlled by an internal baghouse that vents internally. Operations are exempt from the requirement to obtain a permit to install under Rule 285(2)(l)(vi).

Coating

The facility has one booth for the application of coatings. At the time of the inspection the booth had particulate filters in place that were in good condition. The facility has an estimated usage of approximately 7 gallons of paint a month, including reducer/catalyst. The painting operations are

exempt from the requirement to obtain a permit to install under Rule 287(2)(c)(i). Adjacent to the coating booth is a small oven used to cure the coated parts. The oven is operated at a temperature of 250 degrees F and appears to exempt from the requirement to obtain a permit to install under Rule 282(2)(b).

Conclusion

The facility remains in violation for the operation of the sand silos, the sand mixer, mold making, melt furnaces, and pouring, cooling and shakeout processes without an air use permit or documented permit exemption. A violation notice will be issued for the unpermitted processes.

NAME _____ DATE 6/3/19 SUPERVISOR _____