

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

N771451669

FACILITY: Century Foundry	SRN / ID: N7714
LOCATION: 2524 PARK ST, MUSKEGON HTS	DISTRICT: Grand Rapids
CITY: MUSKEGON HTS	COUNTY: MUSKEGON
CONTACT: Dan Strouf , Plant Manager - Plant 2	ACTIVITY DATE: 12/11/2019
STAFF: Eric Grinstern	COMPLIANCE STATUS: Compliance
SUBJECT: Unannounced Inspection	SOURCE CLASS: MINOR
RESOLVED COMPLAINTS:	

Unannounced inspection of Century Foundry - Plant 2 - Permanent Mold

FACILITY DESCRIPTION

Century Foundry - Plant 2 is located in the City of Muskegon Heights. There are residential homes adjacent to the facility on the north side as well as across the street to the east. The building previously housed Harbor Castings, which operated an investment casting foundry. Century Foundry operates a permanent mold aluminum casting foundry at the location. The facility has approximately 30 employees. The facility runs production from 05:00 - 13:30.

REGULATORY ANALYSIS

The facility holds one air use permit, PTI No. 162-14B. PTI No. 162-14B covers five 1,500 lb capacity gas-fired crucible melting furnaces and one 400 lb capacity portable melting furnace. The facility was previously subject to Subpart 5Z, which is no longer applicable since Century does not cast iron or steel. The facility was previously viewed as one stationary source along with Plants 1 and 3. However it does not appear that they meet the "adjacent or contiguous" requirement to be one stationary source. Therefore, Plant 2 is considered a separate stationary source. The facility is subject to Subpart ZZZZZZ, based on potential melt capacity and the use of 319 alloy, which has a nickel content over the NESHAP threshold of 0.1. Century submitted an initial notification in 2015, at which time all three plants were considered one stationary source. The initial notification appears to be sufficient, even though Plant 2 is now considered a separate stationary source.

COMPLAINE EVALUATION

Prior to entering the facility a survey of the perimeter was made, no opacity or odors were noted from the facility. Concurrent with the inspection, staff also investigated a recent odor and fugitive dust complaint. No odors or fugitive emissions were documented (See Report No. CA N771451677).

At the facility EG met with Shane Leroux, VP Operations, and Dan Strouf, Plant Manager.

Below is an evaluation of compliance based on PTI No. 162-14B and applicable rules and regulations. PTI No. 162-14B contains one flex group, FGPT2FURN1-5.

Mr. Strouf accompanied EG on a tour of the facility.

FGPT2FURN1-5

The flex group includes five aluminum melting furnaces. Of the five permitted furnaces, four are installed. The facility has not installed a fifth 1,500 lb capacity furnace and the 400 lb capacity portable furnace is infrequently used on-site.

The furnaces vent emissions from melting uncontrolled into the in-plant atmosphere. The natural gas combustion emissions are permitted through four stacks.

Emissions of PM, PM10 and PM2.5 are limited on a pound per hour basis. Compliance is demonstrated through the requirement that the facility calculate and maintain records of the average pound per hour emission rate on a daily basis. The facility provided records (attached) for the previous 12-month period demonstrating compliance with each of the PM limits. (PM: 0.6pph, PM10: 0.55pph, PM2.5: 0.55pph)

The flex group has material usage limits for feed/charge and flux (feed: 7.5 tons/day, flux: 23 lb./day). Compliance is demonstrated through the requirement that the facility maintain daily records of the flux usage rate for each flux, feed/charge rate, and hours of operation. The facility provided daily records of melt, remelt, flux, and hours of operation. Feed and flux rates are well below the limits. All days that the plant operated recorded 24 hours of operation, while the facility stated that they currently only operate from 05:00 - 13:00. The facility stated that they hold melt in the furnaces 24 hours a day. This may need to be evaluated further to determine if assuming 24 hours of operations is correct.

Charge/feed to the furnaces is limited to "clean charge" as defined by Subpart RRR. Inspection of the charge material showed aluminum ingot and internal runaround. Additionally, in one of the charge bins was a single painted aluminum home sign. The facility was unable to explain the presence of the sign in the charge bin, which looked out of place. EG reminded the facility that they are not allowed to melt any aluminum outside of that defined as "clean", which a painted sign, that they did not manufacture, is not.

Pouring

The facility is a permanent mold operation. While on-site shell cores were observed. The facility utilizes shell cores that are manufactured off-site. The facility stated that less than 10% of the castings are cored. During the inspection, a majority of the observed castings were cored. Some of the shell cores observed were fairly large. Review of previous permit applications do not appear to address the use of cores. The facility will be requested to demonstrate that the use of cores is exempt or submit a permit application to modify the existing permit to address emissions from core use. On January 9, 2020, the facility's consultant stated they he would calculate the emissions from cores.

The facility uses three sprays/coatings on the molds (primer, release, insulator). The facility stated that they use approximately 3 gallons of coating a month. The facility has purchase records to verify that they are exempt under Rule 287(2)(c), by using less than 200 gallons/month.

Knock-out

Cores are removed from the casting at a pneumatic vibratory station located in an enclosed booth in the northeast corner of the plant. The process is not equipped with capture or control and vents to the in-plant atmosphere. The process was operating at the time of the inspection, with no observed visible emissions.

Finishing

Finishing consists of grinders, saws, and a shot blast unit. Finishing is controlled by two baghouses located on the northwest side of the plant. Observation of the baghouses showed the east unit to have a pressure drop of 2", and the west unit to have a pressure drop of 0.6". No visible emissions were observed from either baghouse. The west baghouse had collected particulate piled up on top of the collection drum. The facility acknowledge the need to address the issue. EG discussed the need for the facility to have baghouse maintenance part of a regular maintenance schedule. Additionally, the facility has a small heat treat oven that is exempt from permitting under Rule 282(2)(i).

Based on the information and observation made during this inspection, the facility appears to be in compliance with the applicable air quality rules and regulation.

NAME 

DATE 1/16/20

SUPERVISOR 