

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

N771467470

<b>FACILITY:</b> Century Foundry		<b>SRN / ID:</b> N7714
<b>LOCATION:</b> 2524 PARK ST, MUSKEGON HTS		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> MUSKEGON HTS		<b>COUNTY:</b> MUSKEGON
<b>CONTACT:</b> Shane LaRoux , VP Operations		<b>ACTIVITY DATE:</b> 05/11/2023
<b>STAFF:</b> Eric Grinstern	<b>COMPLIANCE STATUS:</b> Non Compliance	<b>SOURCE CLASS:</b> MINOR
<b>SUBJECT:</b> Compliance inspection - EJ Initiative		
<b>RESOLVED COMPLAINTS:</b>		

**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. Century Foundry operates a permanent mold aluminum casting foundry at the location. The facility has approximately 30 employees and operates from 05:00 - 13:30.

The facility was targeted for inspection in FY 23 under the statewide initiative evaluating secondary metal processing facilities located in Environmental Justice (EJ) areas. The facility is located in an EJ area using EPA EJSCREEN, based on the population within a one-mile radius of the facility having a Demographic Index (Population of Color and Low-Income Population average), Population of Color and Linguistically Isolated at or above the 75th percentile on a state-wide basis.

**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 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.

The facility was issued a Violation Notice on April 18, 2023, for violation of Rule 901, due to nuisance odors observed on April 12, 2023. The facility has a history of complaints regarding odors. The facility responded to the VN on May 5, 2023, stating that they had switched to an Eco-Friendly sand binder and will be installing a ventilation system that will capture pouring emissions and vent them through the roof. The facility's goal is to prevent pouring emissions from exiting the plant at ground level.

**COMPLIANCE EVALUATION**

Prior to entering the facility, a survey of the perimeter was made, no opacity or odors were noted from the facility.

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

Below is an evaluation of compliance based on PTI No. 162-14B and applicable rules and regulations. All of the emission units addressed in PTI No. 162-14B are contained in FGPT2FURN1-5.

Mr. Strouf and Chris Woods 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 no longer in use.

The furnaces vent emissions from melting uncontrolled into the in-plant atmosphere. The natural gas combustion emissions from each of the furnaces vent to the outside atmosphere through four individual stacks.

Emissions of PM, PM10 and PM2.5 are limited on a pound per hour basis (PM: 0.6pph, PM10: 0.55pph, PM2.5: 0.55pph). 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 from 2021 until current. The facility is calculating emissions based on a monthly average as opposed to the required daily average. The facility was requested to calculate emissions in pounds per hour based on a calendar day time period going forward. Review of the provided records showed exceedances of the PM10 and PM2.5 emission rate during the months of April, May, and June 2022, as well as October 2022 through March 2023. The highest recorded PM10 and PM2.5 emission rates recorded were both 0.70 pph.

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 for each of the furnaces, as well as a combined total for the flex group. Feed and flux rates for the records reviewed were below the limits. Flux usage is approximately 3 pounds per day in each furnace (12 pounds total for the flex group).

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, demonstrating compliance.

### Pouring

The facility is a permanent mold operation. The facility utilizes shell cores that are manufactured off-site. The facility estimated that approximately 50% of the molds are cored. This is an increase from the last inspection, at which time it was estimated that 10% of the molds were cored. Molds are floor poured adjacent to the melt furnaces. The facility is proposing to install a 15-foot curtain from the ceiling that will capture emissions from the furnaces and mold pouring. Captured emissions will be vented through the roof via three existing stacks. Forced air will be supplied to help force the captured emissions out the roof stacks.

### Knock-out

Cores are removed from the casting at a pneumatic vibratory station (rattle booth) located in an enclosed booth in the northeast corner of the plant. During the inspection it was observed that that booth had a small fan the vents to the outside atmosphere. The process does not appear to generate a significant amount of particulate emissions from core removal. The facility was informed they either need to seek a permit or demonstrate exemption under Rule 290 if the process continues to vent externally. The facility will likely discontinue venting the booth externally.

### Finishing

Finishing consists of grinders, saws, and a shot blast unit. Some sanders/band saws do not have capture and are vented to the in-plant atmosphere. These processes are exempt from permitting under Rule 285(2)(vi)(C). Other finishing processes are controlled by two baghouses located on the northwest side of the plant. Observation of the baghouses showed that the pressure drop gauges were not functional on either the east or west units. The processes associated with the baghouses were not operating and no visible emissions were observed from either baghouse. Aluminum particulate fallout was observed around the baghouses. EG discussed the need for the facility to address baghouse maintenance. The facility will be requested to provide a PMP for the baghouses.

Additionally, the facility has a small aging oven that is exempt from permitting under Rule 282(2)(i).

### Subpart ZZZZZZ

The facility is subject to Subpart 6Z and submitted an initial notification in 2015. As part of this inspection the facility was requested to provide a current copy of the management practices plan as required by Subpart 6Z. The facility provided a copy of the plan detailing the minimization of emissions by using the furnace covers and melting scrap that is depleted of HAPs (The facility only melts internal runaround scrap).

Conclusion

Based on the information and observation made during this inspection, the facility appears to be in compliance with the applicable air quality rules and regulations, with the exception of the following:  
FGPT2FURN1-5, Five aluminum melting furnaces. Exceedance of the pound per hour PM10 and PM2.5 emission limits during a period of ten months. PTI No. 162-14B, FGPT2FURN1-5, Special Conditions 1.2.&3.

A Violation Notice will be issued for the above listed violation.

NAME *Cic Guintan* DATE 07/17/2023 SUPERVISOR *HH*