

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

A246559401

<b>FACILITY:</b> Quality Non-Ferrous Foundry		<b>SRN / ID:</b> A2465
<b>LOCATION:</b> 1251 JUDD STREET SW, GRAND RAPIDS		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> GRAND RAPIDS		<b>COUNTY:</b> KENT
<b>CONTACT:</b> Chris Royce , Foundry Supervisor		<b>ACTIVITY DATE:</b> 08/19/2021
<b>STAFF:</b> Eric Grinstern	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MINOR
<b>SUBJECT:</b> Unannounced compliance inspection		
<b>RESOLVED COMPLAINTS:</b>		

## **FACILITY DESCRIPTION**

The facility is a copper/brass and aluminum foundry that utilizes green sand and air set molding systems along with a permanent mold caster. Operations include metal melting, core and mold making, pouring and cooling, shakeout and finishing operations.

## **REGULATORY ANALYSIS**

The facility holds one air use permit, PTI No. 167-02B. The permit was issued in 2019 to include a metal throughput limit of 599 tons per year. The throughput limit keeps the facility melt below the threshold for applicability (600 tons per year) to Subpart ZZZZZZ (Non-Ferrous Foundry NESHAP). The facility previously held the following permits PTI No. 151-78: sand muller and overhead sand system, PTI No. 355-78: Wheelabrator tumblast and collector and PTI No. 167-02: two electric furnaces for aluminum, 1,500 lb. capacity. Those permits were voided with the issuance of PTI No. 167-02B. PTI 167-02B lists the three aluminum furnaces, EUFURNACE1, EUFURNACE2 and EUFURNACE3, and contains facility-wide metal and throughput limits. The facility proposed the use of permit exemptions for all other processes at the plant. The facility provided calculations documenting that each of the emission units are below Rule 291 thresholds, if metal throughput is below the permit established 599 tons per year.

## **COMPLIANCE EVALUATION**

At the facility, staff consisting of Eric Grinstern, met with Chris Royce, Foundry Supervisor, as well as representatives of the parent company, RoMan Manufacturing. Representing RoMan Manufacturing was: Nelson Sanchez, COO, Melissa Iden, Director of Human Resources, and Chad Schondelmayer, Director of Manufacturing.

This was an unannounced inspection. Proper precautions were taken in response to COVID 19.

Below is a compliance summary based on PTI No. 167-02B and emission unit exemptions.

## **MOLDING**

### **EUMOLDMAKING**

The facility uses green sand and air set sand systems. The facility has a sand reclaim system for green sand that vents to baghouse control. Green sand molds are produced on four squeeze/ram machines. The facility makes a few (1 day/week) air set molds. The air set process vents to the in-plant environment. The facility provided calculations documenting exemption under Rule 291.

### **EUCOREMAKING**

The facility receives precoated shell sand, which is used to make cores in two Redford core machines. The core machines are ducted to a Geoff dust collector that vents to the in-plant atmosphere. The facility also makes air set cores, with emissions venting to the in-plant environment. The facility provided calculations documenting exemption under Rule 291.

## **Other**

The facility has one permanent mold aluminum caster. The casting mold is coated with a refractory coating to aid with cast release from the mold.

## **MELTING**

The facility has three electric resistance aluminum melting furnaces EUFURNACE1, EUFURNACE2 and EUFURNACE3. The furnaces are vented uncontrolled into the in-plant atmosphere. The facility also has two 200 pound capacity natural gas fired crucible furnaces used to melt copper/brass. The furnaces have a hood that ducts emissions to the outside atmosphere uncontrolled. The crucible furnaces are designated by the facility as exempt from permitting under Rule 285(2)(a)(iv).

## **Material Limits/Recordkeeping**

The aluminum furnaces are fluxed. Flux usage is limited on a facility wide basis to 2,995 pounds/year. The facility provided flux records that showed a 12-month usage high of 700 pounds. The usage amount is inflated since the facility is tracking flux purchases. The facility has not purchased flux since October 2020. The facility was informed of the need to record flux usage on a monthly basis as opposed to purchases.

Total non-ferrous metal throughput is limited to 599 tons per year. The facility provided records showing a 12-month metal throughput high of 393 tons.

The permit limits charge material to “clean charge” as defined in Subpart RRR, to avoid the facility being applicable to Subpart RRR. The facility stated that they only charge ingot and internal runaround. During the inspection, no material other than clean charge was observed.

The facility is required to maintain records of metal and flux throughput on a monthly and 12-month rolling basis. The facility provided requested records in compliance with the requirement.

## **POURING/COOLING/SHAKEOUT**

The facility manually pours on conveyor tables on which the molds are also cooled. Molds are knocked out on the floor at the end of the conveyor tables. The spend sand is then fed to the sand system via a hole in the floor. The facility provided a demonstration as part of the permit application that pouring/cooling and shakeout are exempt under Rule 291 as long as the facility stays below the 599 tpy metal throughput limit. Observation of the baghouse controlling emissions from the green sand reclaim system should no visible emissions and good housekeeping practices around the baghouse. The facility stated that the baghouse is maintained via a regular preventative maintenance schedule.

## **FINISHING**

The facility has a small tumblast unit that vents to the baghouse that also controls emissions from sand reclaim. This unit is exempt under Rule 285(2)(l)(vi)(C). The facility has several grinders, sanders and cut-off saws that emit to the in-plant atmosphere without capture or control. These processes are exempt from permitting under under Rule 285(2)(l)(vi)(B).

## **CONCLUSION**

Based on the information obtained during this inspection the facility appears to be in compliance with applicable air quality rules and regulations at this time.

NAME Eric Grinstern

DATE 09/03/2021

SUPERVISOR HH