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

A431533956

FACILITY: CANNON MUSKEGON CORP		**SRN / ID:** A4315
LOCATION: 2875 LINCOLN ST, MUSKEGON		**DISTRICT:** Grand Rapids
CITY: MUSKEGON		**COUNTY:** MUSKEGON
CONTACT: Cobb Vincent , EHS Manager		**ACTIVITY DATE:** 03/29/2016
STAFF: Eric Grinstern	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

Unannounced inspection of Cannon Muskegon Corp.

FACILTY DESCRIPTION

The facility produces super alloys (primarily cobalt, nickel, and stainless steel) for the investment casting industry. The metals are specialty/high quality super alloys for use primarily in the medical and aerospace industry. All metal produced is in the form of bars. The facility operates (2) 10-ton electric induction furnaces, (1) AOD vessel, and (5) vacuum melting furnaces.

REGULATORY ANALYSIS

The facility has previously supplied documentation that they qualify as a minor source. The facility has evaluated and determined that they are not subject to the area source Iron and Steel Foundry NESHAP, Subpart ZZZZZ, since they do not meet the EPA definition of a foundry.

The facility operates under four NSR permits:

No. 767-80 – AOD System
No. 374-89B – (2) electric induction furnaces
No. 335-90A – Cut-off saws, shotblast, etc.
No. 851-93- In-line blast cleaning

COMPLIANCE EVALUATION

At the facility staff met with Vince Cobb, EH&S Manager and Mat Selbee, Facility Engineer, Cannon Muskegon Corp.

Review of facility Permits to Install:

 # 767-80 – (1) five ton AOD system w/baghouse

Permit covers the AOD vessel and associated equipment for introducing oxygen, argon, and nitrogen to molten metal for refining.

Process is in place and in operation.

Status: Compliant

Permit has a particulate emission limit of 0.33 lb./1,000 lb. of exhaust gas. Testing was performed in 2000 that showed compliance with the limit. The facility has since improved the capture hood over the AOD.

Since the facility could possibly be considered a "steel plant"; if the AOD was modified or reconstructed after August 17, 1983, the AOD would be subject to the requirements of Subpart AAa. Staff previously

brought this issue up with the facility, at which time the facility stated that the AOD has not had any modifications. During this inspection the facility stated that there has been work on the AOD gear box and that there are multiple AOD vessels. The facility will be requested to provide documentation of modifications to the AOD since 1983. This information will be used to determine applicability of Subpart AAa.

#374-89B – (2) 10 ton electric induction furnace

The (2) 10 ton holding capacity furnaces are identified as Furnace #9 and Furnace #10.

Both furnaces are still in operation.

Status: Compliant

Metal melt limit of 18,200 tons per year. The permit requires the facility to keep monthly and annual tonnage records of metal melted for Furnace # 9 and Furnace #10. While onsite staff reviewed facility records that documented compliance with the melt limit.

The facility is required to maintain daily pressure drop records for the baghouse. Mr. Selbee stated that they electronically maintain baghouse pressure drop records.

#335-90A – Cut-off saws, wheelabrator shotblast, pipe cleaning station operation

Status: Processes still in operation- compliant

Permit requires the process to be controlled by a baghouse and limit opacity to 5%.

#851-93 –In-line blast cleaning operation.

Jet Wheelblast unit that handles product produced in the AOD process.

Status – Process still in operation - compliant

Permit requires the process to be controlled by a baghouse.

In addition to the above permitted equipment, the facility has the following processes which they are claiming exemption under Rule 290.

While onsite, staff reviewed facility records that documented exemption under Rule 290.

Vacuum Furnaces

12,000 lb./15,000 lb. vacuum furnace (V7)
12,000 lb./ 15,000 lb. vacuum furnace (V4)
8,000 lb./ 8,500 lb. vacuum furnace (V3)
1,500 lb./ 3,000 lb./5,000 lb. vacuum furnace (V6)
250 lb. / 500 lb. vacuum furnace (V5)

The facility's operations can be divided into two segments, Air Melt and Vacuum Melt.

<u>Air Melt</u>

Charging/ Melting

Melt from the (2) 10 ton furnaces is transported to the AOD vessel. In the AOD the melt is treated (oxygen, argon) and then tapped into a bottom feed vessel from which the melt is transferred into a tundish ladle. The metal is fed from the tundish ladle into the continuous caster.

Finishing

From the continuous caster the metal is processed as follows: bar cut, sheer, quench, blast cleaning. The in-line blast cleaning process located in the "sheer line" is permitted under PTI# 851-93. The process is controlled by a Torit cartridge collector. This is the same Torit collector that controls emissions from an adjacent wheelabrator shot blast unit (PTI #335-90A).

The facility has various blast cleaning/finishing operations that vent to baghouse control. These processes are exempt from permitting under Rule 285(g).

Vacuum Melting

The facility has five vacuum melting furnaces. The furnace emissions have previously been evaluated and determined by the facility to be exempt from permitting under Rule 290.

Cast from the vacuum furnaces is finished in various grinders and other processes controlled by Torit collectors that vent internally and are exempt under Rule 285(g).

The pipe mold cleaning shot blast unit is controlled by an internal Torit collector. The pipe molds receive the metal from the vacuum furnaces. This process is permitted under PTI #335-90A. Adjacent to this process is a silica blast area that is controlled by two cartridge collectors that vent internally.

In the area where the sinto blast was once located are two blast cleaning units that are controlled by Torit collectors and are exempt under Rule 285(g). These blast cleaners are used to clean charge material.

While on the roof, emissions were noted from the exhaust of what was believed to be vacuum furnace No.4. Due to the stack location and sun position, Method 9 readings could not be performed at the time of in the inspection. A follow-up evaluation of emissions from the process maybe warranted.

Miscellaneous

The facility had a fire in the furnace/AOD baghouse on September 16, 2014. The baghouse had to be rebuilt and was down for approximately 1- 1.5 weeks. The facility stated that they rented a portable baghouse during this time to allow for operation of the furnaces/AOD. The facility provided details for the rented baghouse which showed that it was rated at 40,000 cfm. Permit to Install No. 374-89B was issued (based upon the facility's permit application) with control by a 70,000 cfm baghouse. Based upon the information provided, operation of the furnaces/AOD with a baghouse having less cfm than the baghouse for which the facility was issued a permit would have required a permit modification.

The VN will be issued to the facility for operating the reduced cfm baghouse.

Conclusion

Based on the information and observations made during this inspection, the facility appears to be in compliance with applicable air quality rules and regulations, with the exception of operating a reduced cfm baghouse following the fire on September 2014. Additionally, the facility will be requested to provide information to allow for an applicability determination regarding Subpart AAa.

NAME  DATE 5/9/16 SUPERVISOR