

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

B453837934

FACILITY: BLACKMER		SRN / ID: B4538
LOCATION: 1809 CENTURY AVE SW, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Charles Hacht , EHS Coordinator		ACTIVITY DATE: 12/14/2016
STAFF: Eric Grinstern	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Unannounced Inspection		
RESOLVED COMPLAINTS:		

FACILITY DESCRIPTION

Blackmer is located in the city of Grand Rapids and employees approximately 270 workers. Blackmer has been in operation for over 100 years and produces cast iron pumps which are primarily used in the gas/oil and food industry. The facility can be divided into two segments, (1) Factory, (2) Foundry. The Foundry casts the iron components of the pumps which are machined and assembled in the Factory portion of the plant.

REGULATORY ANALYSIS

The facility is a synthetic minor source that operates under Opt Out Permit No. 171-09. The facility is subject to the Iron and Steel Foundry Area Source NESHAP, Subpart ZZZZZ. The facility is considered an existing small area source under the NESHAP.

COMPLIANCE EVALUATION

At the facility, staff consisting of Chris Robinson and Eric Grinstern met with Charles Hacht, Safety and Environmental Coordinator, PSG Grand Rapids.

Below is an evaluation of compliance based on PTI No. 171-09 and applicable rules and regulations.

FACTORY

The factory portion of the facility consists of various assembling, machining, painting and packaging operations.

EUPAINTING

PTI No. 171-09 addresses five paint booths under EUPAINTING.

EUPAINTING requires the booths to be maintained with exhaust filters and for the facility to monthly paint usage and to calculate the amount of VOC emissions on a monthly basis.

Observation of the booths showed exhaust filters installed and maintained.

The facility supplied records documenting compliance with the recordkeeping requirement for paint usage and VOC emissions.

Status: Compliant

FOUNDRY

The foundry portion of the facility consists primarily of pattern making, core making, mold making, charge preheating and melting, pouring, cooling, shakeout, cleanup of castings (grinding, cut-off, and shotblasting), sand handling, and heat treating.

EUCOREMOLDMAKING

The facility utilizes shell cores and phenolic no-bake cores.

The permit addresses five (5) shell core machines, ((1) Dependable, (2) Redford and (2) Harrison core machines).

The phenolic no-bake cores are made via the two-part Ashland core process which consists of a binder, catalyst and sand. The binder and catalyst are combined in an automatic mixer and then manually rammed into a core mold. A portion of the cores are coated. Emissions from core making are uncontrolled. The facility recently installed a sand feed system for the phenolic no-bake system.

The facility utilizes a green system for molds. The facility has four (4) green sand molding machines. Two (2) of the machines make the smaller molds and are automated (Hunter), while the other two make the larger molds and are primarily manually operated. Mold making emissions are uncontrolled.

There are no emission unit specific conditions for core and mold making. EUCOREMOLDMAKING is restricted under FGFACILITY (facility-wide emission limit).

EUPOURING

Emission unit includes pouring and cooling.

Mold pouring and cooling is conducted on a conveyor system. Emission from pouring and cooling are not captured or controlled.

There are no emission unit specific conditions for pouring. EUPOURING is restricted under FGFACILITY.

EUPREHEATER

The facility has a 275,000 Btu preheater that is uncontrolled. The preheater heats steel scrap (bushling), Sorel pig iron, and gates and risers to a temperature of about 700 degrees prior to charging the furnace. Sorel pig iron is a grade of iron that has higher carbon content than standard pig iron. It also has lower silicon, manganese, phosphorus, and sulfur.

There are no emission unit specific conditions for the preheater. EUPREHEATER is restricted under FGFACILITY (facility-wide emission limit).

EUMELTING

The facility has two (2) electric induction furnaces with each having a 3 ton holding capacity. Only one furnace is run at a time, with the power supply being switched between the two crucible pots. Emissions from the furnaces are not captured or controlled.

Permit limits the charge rate to 2.26 tons on an hourly basis. The facility is required to maintain records of the daily charge rate to EUMELTING.

Review of charge records supplied by the facility showed compliance with the permitted charge rate. The highest charge rate occurred in May 2016, when an hourly (daily average) charge rate of 1.09 tons per hour occurred.

Status: Compliant

EUINOCCULATION

Approximately 50% of the iron produced is inoculated to produce ductile iron. The facility performs inoculation in a standard ladle that they place a hood over during treatment. This hood captures about 80% of the emissions, which are vented uncontrolled.

There are no emission unit specific conditions for the inoculation. EUINOCCULATION is restricted under FGFACILITY (facility-wide emission limit).

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EUSHOTBLAST

(1) Cinto Shotblast - Facility has one Cinto shotblast unit that has replaced the previous two Rotoblast units. The Cinto unit is baghouse controlled by an internally vented Torit unit.

Permit requires the facility to continuously monitor and record daily the pressure drop across the dust collector. Generally pressure drop readings are not required for internally vented controls. The facility started maintaining pressure drop records upon becoming aware of the requirement.

Status: Compliant

FGFOUNDRY

Flex group includes EUFINISHING and EUSANDHANDLING

Finishing consists of shakeout, Didion drum, bench grinders, snag grinders and cutoff saws.

Sand handling consists of the sand reclamation system.

Cut-off saws 1-2-3-4, Pedestal grinders, Snag grinders 1-2-3-4, Bench grinders 1-2-3-4

All equipment used to clean-up castings is vented to the internally vented Torit baghouse.

Sand System - The sand handling system is vented to the north Dostar baghouse. The system recycles used sand, adds in new sand, clay, water, and cereal bonding ingredients.

Shakeout - Shakeout consists of a dump table, which dumps the molds on to a vibrating conveyor table. The vibrating conveyor table is completely enclosed and is vented to the Dostar baghouse. The conveyor carries the castings and sand toward a rotary tumbler. Prior to entering the rotary tumbler the sand falls out and goes to the sand reclamation system. The exit end of the rotary tumbler is exhausted to the same baghouse as the vibrating conveyor table. The Dostar baghouse was observed and no VE was noted. The pressure drop was 3.8 inches across the baghouse.

Emission Limits

Restricts PM emissions from the baghouse controlling emissions from the flex group to 0.01 lb./1000 lbs. gas and also restricts opacity to 10%. Compliance is demonstrated through proper operation of the baghouse, which in part is demonstrated through the requirement to continuously monitor and record the pressure drop daily.

The facility provided records documenting compliance with the recordkeeping requirements. The pressure drop readings were below the established maximum level.

Status: Compliant

FGFACILITY

FGFACILITY establishes facility-wide PM, PM10, NOx and VOC limits, as well as opt-out limits for HAP emissions. The flex group also incorporates some of the requirements of Subpart ZZZZZ.

Emission Limits

Restricts emission of PM, PM10, NOx, VOC and HAP emissions. Compliance with the emission limits is demonstrated via the requirement that the facility calculates and maintain monthly and 12-month rolling time period records of emissions.

The facility provided records documenting compliance with the emission limits. (attached)

Status: Compliant

Material Limits

Restricts metal throughput to 19,900 tons melted/year and sand throughput to 56,700 tons/year. Compliance is demonstrated via the requirement that the facility calculates and maintain monthly records of sand and metal throughput.

The facility supplied records documenting compliance with the material usage limits. (attached)

Status: Complaint

Requires the facility to monitor and record the monthly natural gas usage for FGFACILITY.

The facility provided records of monthly natural gas usage. (attached)

Status: Complaint

The facility is subject to the Area Source Iron and Steel Foundry NESHAP, Subpart ZZZZZ. The facility submitted an initial notification. The facility also submitted the notification of size classification and notification of compliance with the metallic scrap management plan. The facility has been timely with submitting semi-annual compliance certifications, with exception to the most recent submittal. The consultant confused NESHAP due dates.

Summary

Based on the information and observations obtained during this inspection, the facility is in compliance with applicable air quality rules and regulations.

NAME 

DATE 3/14/17

SUPERVISOR 