

N1022
Maw121DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

N102273059

FACILITY: METALTEC STEEL ABRASIVE CO		SRN / ID: N1022
LOCATION: 41155 JOY RD, CANTON TWP		DISTRICT: Detroit
CITY: CANTON TWP		COUNTY: WAYNE
CONTACT: Martin Schendel , Vice President		ACTIVITY DATE: 07/23/2024
STAFF: Jill Zimmerman	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced inspection		
RESOLVED COMPLAINTS:		

DATE OF INSPECTION : July 23, 2024

TIME OF INSPECTION : 2:45 pm

INSPECTED BY : Jill Zimmerman

Eric Grinstern

PERSONNEL PRESENT : Martin Schendel

FACILITY PHONE NUMBER : 734-459-7900

FACILITY EMAIL : mschendel@metaltectsteel.com

FACILITY BACKGROUND

Metaltec Steel Abrasive is located on the southwest corner of Joy Road and Haggerty Road in Canton, Michigan. The area surrounding the facility is an industrial and commercial area. The facility operates Sunday morning through Saturday morning, with most of the work occurring during the traditional third shift time.

The facility melts scrap metal and transforms it into a metal shot used for shot cleaning such things as overpass bridges and other metal structures. The facility has been operating at this location for more than 15 years.

COMPLAINT/COMPLIANCE HISTORY

Since the last inspection on August 28, 2023, no complaints have been received regarding this facility.

OUTSTANDING VNs

A Violation Notice (VN) was issued on September 29, 2023, addressing multiple violations. For EUGRITPROCESS the violation was for failure to maintain the fabric collector with an alarm that

sounds when the pressure drop exceeds 5 inches of water. For FGFOUNDRYNORTH the violations were for failure to maintain the fabric collector with an alarm that sounds when the pressure drop exceeds 5 inches of water and visible emission readings exceeding a six-minute average of 5 percent opacity due to the six-minute average documented of 35 percent; the furnace was operational while the baghouse was not operational. For FGFOUNDRYSOUTH the violation was for failure to maintain the fabric collector with an alarm that sounds when the pressure drop exceeds 5 inches of water; the furnace was operational while the baghouse was not operational. For FGFACILITY the violation was for failure to take appropriate action procedures in accordance when the facility Malfunction Abatement Plan with the baghouse associated with FGFURNACENORTH malfunctioned.

The facility responded to the VN in the following manner:

EUGRITPROCESS – The facility replaced the baghouse alarm.

FGFOUNDRYNORTH – To address the visible emissions, the facility examined the ductwork and lowered the scrap bay doors to mitigate excessive visible emissions from the doors and any other openings. The facility also replaced the baghouse alarm.

FGFOUNDRYSOUTH – The facility replaced the baghouse alarm.

FGFACILITY – The facility stated that the v-belts on the North baghouse burned off the unit the morning of the inspection. In response to the VN, the facility stated that they would review the PM program and v-belt replacement with be analyzed and adjusted to decrease the time between replacement.

PROCESS EQUIPMENT AND CONTROLS

Scrap metal is brought to the facility usually by truck. All truck deliveries are prescheduled to ensure that most of the scrap collected during the month is melted during that month. The process at both foundries is basically the same. The north foundry only produces low carbon steel shot. The south foundry produces low carbon steel shot or high carbon steel shot. The high carbon steel shot passes through the grit process, where it is crushed into a more abrasive product.

The scrap metal is placed in either the storage pit at the north foundry or the storage pad at the south foundry. From either pad, the scrap metal is picked up with a giant magnet and placed into

the furnace, where it is melted. After it is melted, it is put in a tundish bowl, where the liquid metal exits through a nozzle into a stream of water. Although all sizes of metal shot are created at all water pressures, larger particles are created with a lower water pressure. After the shot is formed, it is placed in a water bath to cool. After it cools, a large magnet picks up the shot and, after allowing it to drain for about six and a half minutes, it is placed in the dryer. After drying the shot, it is separated by size and placed in a collection barrel for the customer. When high carbon steel shot is created, it will pass through the grit process, where it is crushed to create a more angular product, which is usually used to shot clean highway bridges. The tundishes need to be treated with heat so that the bowl does not melt during the melting process. The facility does this in the bowl garage, which is located on the west end of the property.

The facility uses multiple baghouses to control emissions at both foundries as well as for the crushing process. The facility is in the process of replacing a baghouse with a cartridge dust collector. During this transition time, all emissions from the grit process and south foundry are passing through the grit baghouses. The facility plans to update the malfunction abatement plan (MAP) once the dust collectors are installed and operating.

INSPECTION NARRATIVE

This inspection was performed with Eric Grinstern (EGLE) and the purpose of the inspection as a follow-up inspection to determine whether the past violations had been adequately addressed. Initially, we met with Mr. Marty Schendel, Vice President to discuss the purpose of the inspection as well as the process. Before the inspection began, Mr. Grinstern observed visible emissions of 16.04 percent from the north foundry.

Next, we walked through the facility to observe the process. Initially we observed the EUGRITPROCESS. This unit consists of a gas-fired rotary heat treat furnace, roll crushers, a gas-fired tempering furnace, and the associated equipment and is controlled by the east baghouse. While onsite it was observed that the pressure drop was exceeding 5 inches of water without the alarm sounding. Mr. Schendel was unable to get the alarm to trigger. Mr. Schendel stated that the alarm was replaced after the August 2023 inspection and must have recently stopped working and the facility will work on repairing the alarm the next day. The alarm for the west baghouse appeared to be operating properly.

Next, we observed FGFOUNDRYNORTH, which includes two electric induction furnaces controlled by a 20,000-cfm baghouse, and a gas-fired rotary dryer controlled by the same baghouse. Under the north baghouse we observed dust on the ground. The duct work associated with the north baghouse that was disconnected during the previous inspection appeared to be reconnected. Poor capture efficiency was observed in the charge bay with a substantial amount of emissions escaping from the furnace melting and tapping operations. Visible emissions were observed

exceeded the permit limit of 5 percent opacity. However, the 16.04 percent was lower during this inspection than the previous inspection.

We then observed the FGFOUNDRYSOUTH, which includes one electric induction furnaces controlled by a 30,000-cfm baghouse, and a gas-fired rotary dryer. Dust was observed under the west baghouse on the ground and Mr. Schendel said that the facility recently emptied the collection hopper of the baghouse. Substantial amount of emissions were observed escaping the furnace during the tapping and while the furnace was idle. These emissions were observed escaping the building through the vents and other openings.

APPLICABLE RULES/PERMIT CONDITIONS

The facility is exempt from 40 CFR 63 subpart ZZZZZ and Rule 949 because it does not meet the definition of a foundry since the molten metal is not poured into molds or casts. The facility is exempt from 40 CFR 63 subpart YYYYY and Rule 948 because the furnaces are not electric arc furnaces. The facility currently operates under permit 258-07, which was issued on October 31, 2007.

PERMIT 258-07

EUGRITPROCESS

1. Emission Limits – Undetermined – PM10 emission limitations are to be determined by testing at the AQD's request. To date, the AQD has not requested testing. Absent testing, compliance is presumed based on the facility's compliance with the visible emission limit and the control equipment requirements.
2. Visible Emission limits. Compliance – During the onsite inspection, no visible emissions were observed from the baghouse associated with the grit process.
3. Equipment – Noncompliance – The facility failed to maintain the east baghouse with an alarm that sounds when the pressure drop exceeds five inches of water. The facility stated that the alarm was recently replaced and will be repairing the alarm the following day.
4. Stack/Vent Restriction – Compliance – All stacks were installed according to the required height and inside diameter. The stack was raised by twenty feet as part of a class action lawsuit about 8 years ago.

FGFOUNDRYNORTH

2.1 Emission Limits – Undetermined – PM10 emission limitations are to be determined by testing at the AQD's request. To date, the AQD has not requested testing. Absent testing, compliance is presumed based on the facility's compliance with the visible emission limit and the control equipment requirements.

2.2 Visible Emission Limits – Noncompliance – During the onsite inspection it was observed that the duct work between a fan and the stack in the baghouse had been reconnected. Visible emissions were observed, and based on the readings taken by Eric Grinstern was at 16.04% on a 6-minute average which exceeds the permit limit.

2.3 Equipment – Compliance – During the onsite inspection, Mr. Schendel stated that a new alarm had been installed on the baghouse.

2.4 Stack/Vent Restrictions – All stacks were installed according to the required height and inside diameter. The stacks have not been altered since they were initially installed.

FGFOUNDRYSOUTH

3.1 Emission Limits – Undetermined – PM10 emission limitations are to be determined by testing at the AQD's request. To date, the AQD has not requested testing. Absent testing, compliance is presumed based on the facility's compliance with the visible emission limit and the control equipment requirements.

3.2 Visible Emission Limits – Compliance – No visible emissions were observed from the south foundry process during the onsite inspection.

3.3 Equipment – Compliance – During the onsite inspection, Mr. Schendel stated that a new alarm had been installed since the last inspection.

3.4 Stack/Vent Restrictions – All stacks were installed according to the required height and inside diameter. The stacks have not been altered since it was installed.

FGFACILITY

4.1 Material Limits – Unknown – The facility preschedules all steel incoming to the facility so that most of the steel can be melted during the month. Records were not reviewed during the onsite inspection.

4.2 Material Limits – Unknown – Natural gas readings are recorded daily at noon. Records were not reviewed during the onsite inspection.

4.3 Process / Operational Limits – Compliance – The facility has a fugitive dust plan to control the dust. Usually once per year the facility treats the dirt roadways with calcium chloride. The majority of the lot is paved to help control fugitive dust. During the onsite inspection a permit modification was discuss since the facility is required to treat the roadways monthly and treatment is typically not necessary during the winter months.

4.4 Process / Operational Limits – Compliance —The facility is operating currently has a MAP.

4.5 Recordkeeping / Reporting / Notification – Unknown – Records were not reviewed during the onsite inspection.

4.6 Recordkeeping / Reporting / Notification – Unknown – Records were not reviewed during the onsite inspection.

For EUGRITPROCESS and FGFOUNDRYNORTH the general condition 12 was out of compliance as the facility failed to properly handle collected air contaminants from the baghouse

collector.

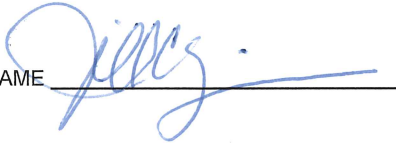
MAERS REPORT REVIEW

This facility is exempt from submitting MAERS.

FINAL COMPLIANCE DETERMINATION

Metaltec Steel Abrasive does not appear to be operating in all permit conditions. Mr. Eric Grinstern will issue a VN to address the areas of noncompliance observed during the onsite inspection. These include failure to properly handle collected air contaminants from the baghouse collector for both EUGRITPROCESS and FGFOUNDRYNORTH, and the visible emission from FGFOUNDRYNORTH exceeded a 6-minute average of 5 percent opacity with an observed opacity during the inspection was 16.04 percent based on a 6-minute average. Also, based on the fugitive emissions observed from the furnace operations due to the inefficiency of the capture systems, it is unlikely the facility is in compliance with the permitted PM-10 emissions limits for FGFOUNDRYNORTH and FGFOUNDRYSOUTH based on the combined baghouse and fugitive emissions for each flexible group.

NAME



DATE

10/24/24

SUPERVISOR

