

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

B523663359

FACILITY: STEELTECH LTD		SRN / ID: B5236
LOCATION: 1251 PHILLIPS SW, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Derek Donley , Plant Manager		ACTIVITY DATE: 06/27/2022
STAFF: Eric Grinstern	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced compliance inspection		
RESOLVED COMPLAINTS:		

Unannounced on-site inspection of Steeltech LLC. The facility was targeted for inspection in FY 22 under the statewide initiative evaluating secondary metal processing facilities located in Environmental Justice (EJ) areas. The facility is located in an EJ area according to EPA EJSCREEN because the population within a one-mile radius of the facility has a Demographic Index, Population of Color, Low Income Population and is Linguistically Isolated at or above the 75 percentiles on a state-wide basis. An on-site inspection was conducted since it had been >5 years since the last inspection.

Prior to entering the facility, a survey of the perimeter was made. During the survey, an employee of Steeltech was observed utilizing a fork truck to empty the collection hoppers associated with the facility's two baghouses. The employee dumped each of the hoppers into a roll-off bin located in a sloped truck dock. Dumping of the collected particulate into the roll-off bin resulted in large plumes of fugitive emissions extending east across Phillips Street. No odors were observed to be resulting from Steeltech. Odors were noted from Fluresh Inc., which is adjacent to Steeltech, and processes and sells marijuana.

FACILITY DESCRIPTION

The facility manufactures stainless steel heat/corrosion resistant alloy products for steel mills, heat treaters and similar industries. The facility is comprised of three buildings, one on the west side of Phillips St. and two on the east.

The facility had a fire in 2021 which impacted operations on the west-side of Phillips Street. In response to the fire, the facility has temporarily moved finishing operations to the "C" Building located on the east-side of Phillips Street.

The facility currently has approximately 48 employees and operates 5 days (M-F) a week from 06:00 to 14:00 or 15:00.

COMPLIANCE EVALUATION

At the facility staff, Eric Grinstern (EG) met with Derek Donley, Plant Manager and Bill Smitley, Director of Human Resources. Mr. Donley and Mr. Smitley accompanied EG on an inspection of the facility. Below is a summary of the processes and operations at the facility.

The facility holds one permit, PTI No. 59-03A (issued April 25, 2008), which covers the operation of a sand reclaim unit, Gudgeon sand shaker unit, and a shotblast unit.

The facility is subject to Subpart ZZZZZ, area source iron and steel foundry NESHAP. The facility is a small area source. AQD records show that the facility has not submitted the semi-annual certification for 7/1/2021 through 12/31/2021.

West-Side of Phillips Street

MOLD AND CORE MAKING

The facility has two sand towers that are equipped with bin vent filters. One sand tower stores reclaimed sand and one holds new sand. New and reclaimed sand are combined in a 500 pound/minute sand mixer that blends the binder system, which is a two-part phenolic urethane no-bake system. The mixer was previously determined to be grandfathered from permitting. Both molds and cores are manually made from the resin sand. Molds, and a portion of the cores, are coated with an alcohol/zircon-based mixture (Refcohol) that is subsequently ignited.

The facility also makes cores from precoated shell sand. The facility has one (1) shell core machine. During the previous inspection the facility had two shell core machines, of which one was subsequently removed. The shell core machine was previously determined to be exempt from permitting (grandfathered).

MELTING & POURING

The facility has three (3) 1,000-pound holding capacity electric induction furnaces. Two of the furnaces are on one control panel, with only one capable of being operated at a time. The facility previously had a 500-pound holding capacity furnace that has been removed. The furnaces have no specific capture or control. The roof and walls have vents/open doors. The furnaces are exempt from permitting under Rule 282(2)(a)(vi). The facility melts and pours 304 grade (and higher) stainless steel.

Pouring is conducted on the floor (non-conveyorized).

COOLING & SHAKEOUT

Cooling and shakeout are performed on the floor of the plant. All cooling and shakeout is uncontrolled and vents in-plant. Pouring and cooling were previously determined to be grandfathered from permitting. Spent mold sand is loaded onto the Gudgeon sand shaker unit, which uses a vibratory table to reduce the size of the mold pieces to allow for the sand to be processed through the sand reclaim unit. The Gudgeon sand shaker is permitted under PTI No. 59-03A. The shaker table does not have capture or control. PTI No. 59-03A limits visible emissions from FGSANDHANDLING, which includes the Gudgeon unit, to 20 percent opacity and requires monthly records of sand usage in tons per month for FGSANDHANDLING. Observation of the Gudgeon sand shaker in operation showed a large amount of particulate emissions from the unit being drawn into a large, powered roof fan directly above the Gudgeon. The powered roof fan discharges to the outside atmosphere. At the time of the inspection, opacity in excess of 20% was not observed. Additionally, during the inspection the adjacent bay door was open, which also was a source of fugitive emissions. The emission of particulate from the roof fan will be further evaluated for compliance.

SAND RECLAIM

The facility has a small sand reclamation unit that is addressed in PTI No. 59-03A. The permit restricts PM emissions to 0.1lb./1,000 pounds of exhaust gas and requires baghouse control. EUSANDRECLAIM is controlled by a baghouse and compliance with the emission limit is assumed based on proper operation of the baghouse. The baghouse has a routine PM that addresses bag replacement. Additionally, the facility stated that they monitor the volume of collected particulate to determine if the baghouse requires maintenance. EUSANDRECLAIM is part of FGSANDHANDLING, which limits visible emissions to 20 percent opacity and requires monthly records of sand usage in tons per month for FGSANDHANDLING. No visible emissions were observed from the baghouse exhaust during the inspection. As previously noted, observation of the facility emptying the baghouse collection hopper showed the generation of a large fugitive dust plume. Failure to minimize the introduction of contaminants to the outer air during the disposal of collected particulate matter is a violation of Rule 370 as well as General Condition No. 12 of PTI No. 59-03A.

FINISHING

The facility has one shot blast enclosure unit (EUSHOTBLAST) that is controlled by a baghouse. Shot blasting is performed by a person inside an old shot blast cabinet. Observation of the baghouse outlet area showed no recent particulate emissions from the baghouse. The facility stated that they have a routine PM that addresses baghouse replacement. Additionally, the facility stated that they monitor the volume of collected particulate to determine if the baghouse requires maintenance. The shot blast unit was not in operation at the time of the inspection. EUSHOTBLAST is contained in PTI No. 59-03A. The permit restricts PM emissions to 0.1lb./1,000 pounds of exhaust gas and requires baghouse control. EUSHOTBLAST is controlled by a baghouse and compliance with the emission limit is assumed based on proper operation of the baghouse. Prior to entering the facility, operations were observed from Phillips Street. EG observed an employee of the facility remove the collection hopper from the baghouse and dump the collected particulate into a roll-off bin. The wind blew the fine particulate from the hopper, creating a large fugitive dust cloud across Phillips Street. Failure to minimize the introduction of contaminants to the outer air during the disposal of collected particulate matter is a violation of Rule 370 as well as General Condition No. 12 of PTI No. 59-03A.

The facility is in the process of rebuilding the portion of the building that housed finishing operations that burnt in 2021.

East-Side of Phillips Street - Building “C”

During the previous inspection, Building “C” contained a 1,000-pound capacity electric induction furnace, a 200 pound per minute and a 50 pound per minute sand mixer, as well as a shell mold and a core mold machine. All of these processes have either been removed or are no longer operable. Building “C” temporarily holds the finishing operations that were displaced by the 2021 fire in the west building.

Finishing operations in Building “C” include cut-off saws, grinders and welding stations. The processes either have no capture or control and vent internally or are controlled by internally vented collectors. The facility currently has two internally vented collectors, with two more planned to be installed. The processes are exempt from permitting under Rule 285(2)(l)(vi)(B) for the finishing operations and Rule 285(2)(i) for the welding operations.

SOUTHEAST BUILDING

The Southeast building is used for pattern making and storage. Pattern making includes wood saws, mills, sanders, etc. All of the processes vent internally without capture or control. The processes are exempt from permitting under Rule 285(2)(l)(vi)(B). Additionally, the building houses a tube assembly operation. Tube assembly consists of the welding of connections cast at the facility to tubes casts at the companies Wisconsin foundry. The process has two welding stations, each controlled by internally vented Lincoln Electric fume extractors. The welding operations are exempt from permitting under Rule 285(2)(i).

Subpart ZZZZZ – Area Source Iron and Steel Foundry NESHAP

The facility is subject to Subpart ZZZZZ and is classified as a small area source.

The facility has previously submitted the required notifications and semi-annual reports.

The facility failed to submit a semi-annual certification for 7/1/2021 through 12/31/2021. Subsequent to the inspection, the facility provided a copy of the semi-annual certifications on July 8, 2022. The facility also acknowledged the need to submit certifications via CEDRI. The facility stated that they were figuring out how to upload a pdf and were seeking assistance.

The facility provided records documenting monthly and annual metal throughput, as well as records of usage for sand binders and coatings containing HAPs, as required by the NESHAP.

Conclusion

Based on the information and observations during this inspection, the facility appears to be in compliance at this time with applicable air quality rules and regulations, with the exception of the following:

EUSANDRECLAIM - Failure to minimize the introduction of contaminants to the outer air during the disposal of collected particulate matter is a violation of Rule 370 as well as General Condition No. 12 of PTI No. 59-03A.

EUSHOTBLAST - Failure to minimize the introduction of contaminants to the outer air during the disposal of collected particulate matter is a violation of Rule 370 as well as General Condition No. 12 of PTI No. 59-03A.

Failure to submit Subpart ZZZZZ semi-annual certification report (7/1/2021 – 12/31/2021) in a timely manner.

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

NAME *Eric Grinstern*

DATE 07/25/2022

SUPERVISOR *HH*