

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

B885161936

FACILITY: SUN STEEL TREATING INC		SRN / ID: B8851
LOCATION: 550 N Mill St., SOUTH LYON		DISTRICT: Warren
CITY: SOUTH LYON		COUNTY: OAKLAND
CONTACT: Andy Smith , Manager, Quoting and Purchasing		ACTIVITY DATE: 02/17/2022
STAFF: Kaitlyn Leffert	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY2022 Scheduled Inspection		
RESOLVED COMPLAINTS:		

On February 17th, 2022, I, Kaitlyn Leffert, conducted an inspection of Sun Steel Treating, located at 550 North Mill Street, South Lyon, Michigan. The purpose of the inspection was to determine the facility's compliance with the requirements of the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the administrative rules; and the conditions of Permit to Install (PTI) Numbers 811-89 and 546-94.

Sun Steel Treating is permitted to operate a metal heat-treating process and associated grit blasting process (PTI No. 811-89), as well as two emergency generators (PTI No. 546-94). The permitted metal heat-treating process consists of eight molten salt baths. Emissions from the molten salt baths are controlled by two fabric filter control systems, which each control a portion of the emissions.

I arrived at the facility around 11:15 am on February 17th. I met Andy Smith, Manager of Quoting/Purchasing, Sun Steel Treating, and explained the purpose of my visit. I was informed that Sun Steel Treating no longer operates the molten salt baths. The molten salt baths were removed in 2021 since they were no longer cost-effective to operate. We walked to the area where the molten salt baths were previously located, and I observed that there was a large open space in the plant floor where these salt baths had previously been located. The two fabric filter control systems that controlled emissions from the molten salt baths are still installed. The openings of the ventilation that connects to fabric filter controls were open to the general in-plant environment.

Sun Steel Treating continues to operate other metal treating processes, including an ion nitriding process and a vacuum hardening process. The ion nitriding process involves the application of an electrical charge to the metal parts under a vacuum, resulting in the hardening of the metal surface. An example application of this process at Sun Steel Treating is on metal presses, used in automotive manufacturing. The metal surface is hardened to prolong the life of the press. Sun Steel Treating is currently operating 10 of these ion nitriding machines and plans to install an additional machine soon. The ion nitriding process vents to the general plant environment. The ion nitriding process is exempt from the requirement to obtain a permit to install according to Rule 282(2)(a).

In addition, Sun Steel Treating has a Vacuum Department, which is located in a separate building behind the main facility. The Vacuum Department consists of 5 vacuum heaters, 12 tempering furnaces, as well as a nitrogen gas creation system, and a nitrogen gas storage tank. In this process, parts first go in the heaters, where they are heated under vacuum and then quenched with nitrogen gas. The parts are then transferred to the tempering furnaces to complete the hardening

of the metal surface. The heaters and furnaces involved in this process are both considered exempt from the requirement to obtain a permit to install according to Rule 282(2)(a).

To create the nitrogen gas used in this process, Sun Steel Treating operates a process that takes ambient air and separates the nitrogen out of it. The nitrogen gas creation system is exempt according to Rule 285(2)(II). The nitrogen gas creation process does not generate enough nitrogen gas on its own to supply all that is needed in the process, so the facility also purchases supplemental nitrogen gas, which is then stored in the storage tanks located on the exterior of the vacuum department building.

I also observed two straightening presses being used at the facility. These presses vent to the general in-plant environment are considered exempt from the requirement to obtain a permit to install according to Rule 285(2)(I)(i).

Sun Steel Treating has a few grit blasters. There are two smaller grit blasters and one large grit blaster, which are all used to smooth the surface of metal parts following the heat-treating processes. The grit blasters primarily were used in conjunction with the molten salt baths. With the removal of the molten salt baths, the grit blasters are used much less frequently but are still used occasionally. The large grit blaster exhausts to a dust collector and the collected dust is disposed of as hazardous waste. The grit blasters were permitted along with the molten salt baths and are covered by PTI No. 811-89. They were not operating at the time of my inspection and I did not observe any visible emissions.

The facility operates two diesel-powered emergency generators, which were primarily used to supply backup power for the molten salt baths. Due to the removal of the molten salt baths, there is no longer a need for the emergency generators and the facility is looking into selling them. The generators currently only operate for occasional testing. The emergency generators were not operating during my visit, and I did not observe any visible emissions from the generators (PTI No. 546-94, Condition 15).

PTI No. 546-94 Conditions 17 requires that Sun Steel Treating maintain a log of hours of operation of the emergency generators and limits operation of each generator to 2,098 hours of operation per 12-month rolling time period. I was provided records that documented the date that each generator ran, along with the start and end time of operation, and the start and end fuel level for 2014 through the present. The provided records indicated that the generators had last operated on September 22, 2021. Over the previous 12 months, the generators combined had operated a total of 18.5 hours. In addition, PTI No. 546-94 Condition 18 requires Sun Steel Treating to maintain a log of fuel usage in the emergency generators and limits total fuel usage to 80 gallons per hour of fuel in both units. The provided records indicate fuel usage when the emergency generators are operated is below 80 gallons per hour.

The emergency engines were installed in September 1979 and 1981 and therefore are not subject to the New Source Performance Standards for Stationary Compression Ignition (CI) Internal Combustion Engines, or 40 CFR Part 60 Subpart IIII.

Conclusion

Based on my inspection and review of the provided records, Sun Steel Treating appears to be operating in compliance with the conditions of PTI No. 546-94, 811-89, and all applicable air quality rules and regulations.

NAME *Kaitly Jeffert*

DATE 03/17/2022

SUPERVISOR *K. Kelly*