

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

N567567344

FACILITY: SPARTAN STEEL COATING		SRN / ID: N5675
LOCATION: 3300 WOLVERINE DR, MONROE		DISTRICT: Jackson
CITY: MONROE		COUNTY: MONROE
CONTACT: Will Gombash , Environmental Technician Steel Processing		ACTIVITY DATE: 05/11/2023
STAFF: Diane Kavanaugh Vetort	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FCE compliance inspection Opt Out Facility.		
RESOLVED COMPLAINTS:		

SRN: N5675

COMPANY: Spartan Steel Coating

COMPANY ADDRESS: 3300 Wolverine Dr.; Monroe, MI 48162

PURPOSE OF INSPECTION: Compliance determination, Synthetic Minor / Opt-Out

CONTACT PERSONS: Will Gombash, Environmental Technician,

Steel Processing, William.Gombash@worthingtonindustries.com office (419) 822-2538; cell (419)822-6502; Derrick Stiriz, EHS, Derrick.Stiriz@worthingtonindustries.com office (734)289-5423; cell

(419) 388-9225.

COMPANY PHONE NUMBER: 734-289-5426

INTRODUCTION

On May 11, 2023, AQD staff, Diane Kavanaugh Vetort, conducted an announced, scheduled inspection at Spartan Steel Coating (SSC) located at 3300 Wolverine Dr. in Monroe, Michigan. The purpose of the inspection was to determine the facility's compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451, and administrative rules; and conditions of Permit To Install (PTI) Number 423-95D for a hot-dipped galvanized steel coil processing line and associated equipment.

Emission Units and Flexible Groups under PTI 423-95D include the following: EU-CLEANING; EU-ROLLCOATING; EU-ELECTROSTATIC; FG-FURNACES consisting of EU-DRFURNACE and RTFURNACE; FG-BURNERS consisting of EU-SPRAYCLEANER1, EU-SPRAYCLEANER2, EU-RINSESECTION; EU-DRYER#1, EU-DRYER#2, EU-DRYER#3, EU-DRYER#4, and EU-DRYER#5; and FG-FACILITY. The FG-FACILITY sets source wide individual and aggregate hazardous air pollutant (HAP) emission limits for the facility. The facility is also subject to the New Source Performance Standard (NSPS) Subpart TT for Metal Coil Surface Coating Operations. The applicable parts NSPS Subpart TT were incorporated into PTI 423-95D under EU-ROLLCOATING. The FG-FURNACES and FG-BURNERS limit NOx emissions to below major source threshold of 100 tons.

In 2011, SSC submitted an Initial Notification indicating subject as existing source to the National Emission Standard for Hazardous Air Pollutants (NESHAP), Maximum Achievable Control Technology (MACT) Area Source Standards for Plating and Polishing Operations, 40 CFR 63 Subpart WWWW. The Chrome conversion coating was indicated and the only applicable requirement is proper operation/maintenance. Six items are listed on an Annual Compliance Report copy obtained during

today's inspection. It is a one page statement of compliance dated 1/24/23 signed by a responsible official. NOTE: All records obtained during the inspection are attached to this report and placed in the AQD facility files.

Upon arriving at the facility, I did not observe any visible emissions or odors from the facility. I signed in and met with Will Gombash, and Derrick Stiriz, a new AQD contact for this facility. Another SSC contact, Brad Parker, Utility Coordinator, joined us for the inspection. The required personal protective equipment for SSC is **long sleeves**, hard hat, safety shields (some areas), hearing protection, and steel toe/equivalent footwear. Full face shield (SSC provided) was required to view the EU-ROLLCOATING Process and was provided to me.

I discussed the purpose of the visit and the records needed. Will, Derrick, and Brad were responsive to my questions and requests, and provided full cooperation during the inspection. Will indicated that SSC operates 12 hour shifts, 24 hours a day, 7 days a week and that approximately 72 people are employed at this site. SSC coats coiled steels with a galvanized material consisting of either pure zinc or a zinc-aluminum or zinc-iron alloy. The majority of the company's client base consists of General Motors, Chrysler, and Ford, but the company also has contracts with Whirlpool and other companies. The company also has some contracts within the trucking industry. In addition to the hot-dipped galvanized coating line, the company has an emergency generator, a lab mill CNC machine, and 3 shop welders. The diesel emergency generator was verified to be existing, greater than 500 HP and subject to MACT Subpart ZZZZ for Reciprocating Internal Combustion Engines (RICE). The AQD has not accepted delegation for RICE engines at area sources of HAP emissions. In the prior inspection report I identified the lab mill CNC machine and shop welders as determined to be exempt from PTI requirements pursuant Rule 285(2)(l)(vi)(B) or (C) and Rule 285 (2)(i), respectively. During this inspection SSC identified this as laboratory equipment, however traditional laboratory equipment, such as bench hoods, etc.. are the intent of that exemption. Spartan's process appears to be more product for sale / material testing.

PROCESS DESCRIPTION (prior inspection report detail below appears same/similar)

SSC receives coiled steel from various steel manufacturers. After the steel has been received, the heads and tails of the coils are welded together and loaded onto a hot-dipped steel galvanizing processing line consisting of 2 passlines which are on top of one another. After being loaded, the steel is then sent through EU-CLEANING which consists of a 170 to 200 degree Fahrenheit alkaline spray mist and a 170 to 190 degree rinse tank. EU-RINSESECTION, EU-SPRAYCLEANING1 and EU-SPRAYCLEANING2 are burners associated with EU-CLEANING. The steel is cleaned to remove oil and to prep it for surface coating. From EU-CLEANING, the steel is sent through EU-DRYER#1 to be dried. The steel is sent through an accumulator which provides the welder with time to weld the head and the tails of the coils together at the beginning of the galvanization process. From the accumulator, the steel is sent through DF-FURNACE at 950 to 1350 degrees Fahrenheit to further clean and to anneal the steel. From DF-FURNACE, the steel is sent through RT-FURNACE at 1050 to 1600 degrees Fahrenheit to alter the surface properties of the steel prior to it being coated. From RT-FURNACE, the steel is dipped in EU-ZINCPOT at 855 to 870 degrees Fahrenheit for a varying length of time depending upon the desired thickness of metal on the final product. After being dipped in EU-ZINCPOT, the steel undergoes an air cooled cooling stage. Next the steel is sent to a water quench tank consisting of city water at ambient temperatures for further

cooling. Then the steel is sent through a skim pass mill where it is elongated and its physical appearance is altered. The steel is then sent through a tension leveler to change the mechanical properties of the steel. From there, the steel is sent through EU-DRYER#3 to remove excess moisture. The steel is next sent through EU-ROLLCOATER where a coating consisting of phosphate or chromic acid (chrome conversion) is applied to it. After that the steel is sent through an infrared oven for curing purposes. From oven, the steel is sent to an exit accumulator which allows the entire processing line to keep moving without interruption. From there, the steel undergoes an exit inspection in which it is removed from the processing line and tested for hardness and customer specifications. After the exit inspection, the steel may be sent through EU-ELECTROSTATIC to add a rust inhibitor layer of oil to the final product per customer specifications. EU-HEATERS#1 through #5 heat the tanks which comprise EU-ELECTROSTATIC. After this stage, the steel is packaged and shipped to the customer.

FACILITY INSPECTION

Today, Will and Derrick, accompanied me during the physical inspection of the facility. Will asked Brad Parker, to also accompany us due to his familiarity with the main process line and scrubber control. The steel coil process line was fully operational. We walked almost the entire coil process line from near the cleaning section to the end of line. The primary applicable requirements and AQD observations are documented below:

EU-CLEANING

PTI Emissions limits: PM 0.01 gr/dscf hourly and 0.69 pph hourly. Opacity 10% Emissions from the alkaline cleaning & rinse section of the line are ducted to a packed bed/mist eliminator fume scrubber. The EU-CLEANING scrubber is located in a separate adjacent room and it appeared to be operating. I observed two monitoring devices for the scrubber, a Photohelic pressure differential gauge, and a water level indicator gauge. SSC has a Malfunction Abatement Plan (MAP) for EU-CLEANING. I requested an updated copy of this document. Will gave me a hard copy Revision date 2/21/20. The MAP is acceptable and will be placed in plant file. Emission limits were determined by performance testing. The Scrubber was tested in 2003 and was found to be compliant with or without using water. A Rule 912 malfunction in 2015 however resulted in SSC now operating the Unit with water. At that time AQD was informed an automated system would be installed to monitor water level. Brad confirmed they have automated alarms on water addition and low / high levels. Asko (manufacturer) has an auto turn on spray every 10 minutes to clean mist eliminator. SCC checks levels daily and conducts quarterly preventative maintenance. Brad said about every 2 years they remove and clean the packing material themselves.

The overall scrubber shell condition and the inlet/outlet ductwork and outside stack appeared in good condition. No visible emissions or evidence of fallout was observed. I observed the fan/blower was vibrating and loud, it did not sound normal. In pre-inspection conference Brad said he is aware of this and told me it is scheduled to be repaired/replaced. I requested to be kept up to date on this until repaired. PENDING.

During the inspection I observed the pressure gauge read 5 inches, range is 4-7 marked on the gauge. I observed inlet water and the high/low monitors in the basin below the scrubber. MAP lists normal pressure reading is 5 inches W.C. and "if found to be out of 3-7 inches range, then the mist eliminator and packed bed scrubber will be inspection and cleaned if necessary." In the record submittal, Will provided me with a copy of the regular Quarterly maintenance form, conducted 4/5/23. SCRUBBER APPEARS TO BE IN COMPLIANCE.

EU-ROLLCOATING

During the inspection I observed the rollcoater and was told it uses one of three coatings, Chrome 6, Chrome 3, or Chrome conversion. Today I was told they were using Cr 6. SSC has in the past used non-VOC containing coatings in the EUROLLCOATER. I observed several coating containers/totes located behind the Rollcoater. Three Safety Data Sheets (SDS) were submitted by SSC, and are attached to this report: Henkel Bonderite 6010, PPG Chemfos 2007, Gardolene D 6403. Based on the type of coatings the company uses, it is in compliance with the **PTI Emission Limits**: daily volume weighted average of 2.6 pounds of VOC/ gallon of coating applied, and the monthly volume weight average of 0.28 kg of VOC/liter of coating applied, and 20 tons per year, 12 month rolling.

Will provided VOC and HAP calculation sheets and coating usage. The current coatings contain no VOCs. Records indicate compliance. Records are attached to this report to file

EU-ELECTROSTATIC

During the inspection I observed this emission unit was not operational. I was informed SSC uses four different rust preventative oils (RPOs), (2) primary and (2) occasional. However SSC, SDS and records received show (5) RPOs in use as follows: Fuchs Metalub PL7105 A (0.44 lb/gal VOC); Quaker Ferrocoate MAL HCL (0.23 lb/gal VOC); Fuchs Anticorit PL 3802 39S (1.24 lb/gal VOC); Quaker Ferrocoate 505 WS (2.91 lb/gal VOC); Quaker Ferrocoate 61 AUS (0.44 lb/gal VOC). A couple of these oils appear to be different than the prior inspection.

PTI Emission Limits: daily volume weighted average (VWA) of 1.5 pounds of VOC/gallon of oil applied; and 26.7 tons per 12 month rolling time period.

Will provided records for May 2022 through April, 2023. Records show monthly gallon usages of each of the 5 oils, VOC in tons per month, and VWA. The highest monthly total oil usage was in February 2023 at 2443.4 gallons. The VWA was consistent between 0.41 - 0.44.

VOC emissions per 12 month rolling time period record shows emissions of 5.06 tons per year as of April 1, 2023. Emissions are well below the 26.7 tons per 12-month rolling VOC Emission Limit established in the PTI. Records indicate compliance. Records are attached to this report to file.

FG-FURNACES

The burners of the furnaces permitted under FG-FURNACES are installed, maintained, and operated in a satisfactory manner. A post combustion chamber for carbon monoxide for EU-DRFURNACE is also installed, maintained, and operated in a satisfactory manner. AQD previously observed a device to monitor and record the natural gas usage records has been installed on the furnaces in this group.

NOx emission records from May 1, 2022 to April 1, 2023, show that NOx emissions were 25.99 tons. These emissions are well below the 90 tons per 12-month rolling time period NOx emission limit established in the PTI. Natural gas usage for the same time period shows 257.29 MMscf. This is well below the 750 MMscf natural gas usage limit established in the PTI. Records indicate compliance. Records are attached to this report to file.

FG-BURNERS

The burners of the equipment permitted under FG-FURNACES are installed, maintained, and operated in a satisfactory manner. AQD previously observed two devices to monitor and record the natural gas usage records are installed on the heat generating equipment in this group.

NOx emission records from May 1, 2022 to April 1, 2023 show that NOx emissions were 4.19 tons. These emissions are well below the 9.8 tons per 12-month rolling time period NOx emission limit established in the PTI. Natural gas usage for the same time period shows 83.60 MMscf. This is well below the 195.56 MMscf natural gas usage limit established in the PTI.

Records indicate compliance. Records are attached to this report to file.

FG-FACILITY

Source wide individual and aggregate HAP emission limits of 9 tons and 22.5 tons per 12-month rolling time period are established in FG-FACILITY. Records show actual year end 2022 HAPs for Facility is 0.3545 tons. Records show 12 month rolling Sum pdf. reports combined HAPs as of April 1, 2023 as 0.32 tons.

I requested and received SDS of Ingots melted and used to galvanize steel: Aluminum Ingot and Zinc Ingot.

RECORDKEEPING

Safety Data Sheets (SDS) for the coatings used in EU-ROLLCOATING and EU-ELECTROSTATIC, and the records required for EU-ROLLCOATING, EU-ELECTROSTATIC, FG-FURNACES, FG-BURNERS, and FG-FACILITY were requested electronically and were received following the inspection on May 15, 2023. Records are attached to this report and placed in AQD's plant files. Additional Information requested during the inspection was received timely. Details of the reported emissions and usage are listed under the EU/FG above. AQD received the following email from Will Gombash with the record submittal:

Attached, please find a zip file which contains the documents requested, including:

- SDS's for rust preventive oils used at the electrostatic oiler
- SDS's for coatings used at the roll coater
- SDS's for the zinc and aluminum ingots
- Permit-required records (12-month rolling total, VOCs, HAPs calcs, monthly NG Usage, Monthly NOx)
- A copy of the quarterly PM for the generator
- A copy of the annual PM for the generator
- A copy of the quarterly PM for the scrubber

Additionally, you asked for the following information:

- Exemption status of the lab fume hood
 - The chemical fume hood, located at the tech services laboratory area, is exempt from the requirement to obtain a permit to install under R 336.1283(2)(b): Testing and inspection equipment—laboratory equipment.
- The size of the bulk oil tanks
 - 6,000 gallons each

COMPLIANCE RELATED ADDITIONAL INFORMATION /RECORD REVIEW

On May 26, 2023, I sent an email to Will and Derrick stating their records are acceptable, however additional information regarding the Fume Scrubber Fan repair is still pending. Also, I had discussed the foaming observed from a cleaning line section tank with EGLE Water Resources Division. I included their questions in my email and requested Spartan's reply.

On May 31, 2023, Will responded by email, and included two attachments: 1) The Scrubber Vibration study from May 27, 2022; and 2) Scrubber Fan Quote document. His response addresses both issues from my email. However, I felt it necessary to call Will for clarification and to discuss repair delay and to request preventative measures for the scrubber fan in future. I called Will on June 2nd, he explained that he discussed this with Derrick and maintenance staff. He said due to the high cost of replacement @ \$19K, Spartan implemented some other recommendations to mitigate the issue including realignment and rebalancing. Overtime this has not resolved the issue and now the fan will be replaced.

I suggested, and Will agreed, that Spartan will modify their MAP/PM to include Fan PMs, repairs, replacements, etc... I requested they submit a revised MAP to me when complete. The revised MAP was received on June 6, 2023. I also requested an update when the new Fan installation is complete.

Will's 5/31 Email:

Regarding the fume scrubber, please find a vibration analysis survey attached. The fume exhaust fan is asset #1 within the report. Additionally, please find a quote for a new exhaust fan attached. A purchase order was issued to Verantis on May 23, 2023 for the purchase of a new fan as quoted. The new fan will be installed once received.

Regarding the tank that you observed to be foaming at the cleaning section, foaming is a natural occurrence within that process due to the chemicals used within the cleaning section. Generally, a defoamer chemical is used to prevent the foaming from occurring. At the time that you observed the tank, it seems that an inadequate amount of defoamer had been added.

The cleaning section is fully contained within a containment area to prevent any spillage from exiting the facility and there are no floor drains in that area. Therefore, none of the foaming that you observed exited the facility or entered any floor drains. Any spillage within the containment area of the cleaning section collects within a sump and is pumped to wastewater treatment and treated within compliance of our industrial pretreatment permit issued by the City of Monroe.

COMPLIANCE DETERMINATION

SSC is an existing HAP Opt Out source subject to the several Area Source MACTs. It appears they are in substantial compliance with these based on AQD's limited review.

Based on this inspection, the records and information received, AQD has determined that Spartan Steel Coating is in substantial compliance with PTI No. 423-95D and the other applicable state and federal air regulations evaluated.

NAME Mariane Kavanagh Vitest

DATE 5/11/2023

SUPERVISOR 