

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

N567544957

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: 06/28/2018
STAFF: Diane Kavanaugh-Vetort	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Conducted complete scheduled inspection PCE/FCE. SM Opt Out Facility.		
RESOLVED COMPLAINTS:		

SRN: N5675

COMPANY: Spartan Steel Coating

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

PURPOSE OF INSPECTION: Compliance determination

CONTACT PERSON: Will Gombash, Environmental Technician,

Steel Processing, William.Gombash@worthingtonindustries.com office (419) 822-2538; cell (419) 822-6502

COMPANY PHONE NUMBER: 734-289-5426

INTRODUCTION

On June 28, 2018, 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 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. FG-FACILITY sets source wide individual and aggregate hazardous air pollutant (HAP) emission limits for the facility. The facility is also subject to area source 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. 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.

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, a new AQD contact for this facility. I was required to watch a Facility Safety video. The required personal protective equipment for SSC is **long sleeves**, hard hat, safety shields, hearing protection, and steel toe/equivalent footwear. Full face shield (SSC provided) was required to view the EU-ROLLCOATING Process.

I discussed the purpose of the visit with Mr. Gombash, Environmental Technician with responsibility for this facility and one in Ohio. Will indicated that SSC operates 24 hours a day, 4 to 5 days a week and that approximately 63 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 also 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. The lab mill CNC machine and shop welders were previously determined to be exempt from PTI requirements pursuant Rule 285(2)(l)(vi)(B) and Rule 285(2)(i), respectively.

PROCESS DESCRIPTION

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 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 is 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

Will accompanied me during the physical inspection of the facility. Will asked two Operators to also accompany us due to their familiarity with the main process line. The steel coil process line was fully operational. We walked the entire coil process line start to end. The primary applicable requirements and AQD observations are documented below:

EU-CLEANING

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. 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.

During the inspection it was not clear to me if the differential pressure reading was compliant. I did observe the reading was @ 3 inches of H₂O (photohelic) between two marked positions that

appeared to be the high/low ranges. From the flexible tubing the gauge appeared to be reading the pressure change across the packing. Will and the other two gentleman were unfamiliar with the details of the scrubber's operation. They said another SSC employee operates/ maintains the Unit and he was not available today. Therefore I was not able to obtain answers to questions regarding the acceptable pressure reading, the amount of water level or flow to scrubber, the packing material and mist eliminator condition (no site glass/port), maintenance of these items, and the existence of alarms of any kind. We did locate the Water gauge outside the scrubber room on water inlet piping it appears, or may be recirculating piping system. The gauge was unreadable. 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.

During the exit interview Will and I reviewed the MAP which contains some of the answers to AQD questions. I requested that Will follow up with required details regarding the scrubber operation. I informed him the last performance testing was done in 2003, well over 10 years ago. Will was aware of the malfunction at the Unit reported under Rule 912. The 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." I informed Will that this is probably what is needed at this time.

I requested that SSC immediately quality check the pressure gauge, and replace the water gauge (was not readable). I requested he confirm with a diagram if possible the structure of the unit and how it is operated now. Will provided AQD copies of the regular maintenance forms, monthly, semi-annual, and annual to demonstrate maintenance of unit. The last yearly PM was 6/30/17; semi-annuals were 1/3/17, 7/5/17 and 1/3/18. Monthly inspections (dated 1st or 30th) are fairly consistent per sheets provided, however there are some gaps, no PMs for November, December 2017, April, May 2018.

Following the inspection Will provided clarification on Scrubber monitoring, and revised the MAP to reflect these changes and associated recordkeeping forms. Regarding the regular quality assurance check for the Photohelic gage, SSC provided a copy of the manufacturer's operating instructions. The "Maintenance" section at the end of the document references a periodic check and reset of the zero adjustment in order to maintain accuracy. The steps for checking and resetting the zero adjustment are found on page 2. Per Will, SSC will perform this check and reset quarterly as called out in the MAP in accordance to the operating instructions.

EU-ROLLCOATING

SSC is using non-VOC containing coatings in the EU-ROLLCOATER. Gardobond 4610/1 is listed on records because it does contain VOC but has not been used in years. I observed coating containers/totes located behind the Rollcoater, using Chemetall plus per Operator they mix others, @ 3 coatings. The updated MSDS sheets for Permatreat 2510, Henkel Bonderite 6010, and PPG Chemfos 2007 are attached to this report. Based on the type of coatings the company uses, it is in compliance with the **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 calculations sheets and coating usage. The current coatings contain no VOCs. Records indicate compliance. Records are attached to this report to file

EU-ELECTROSTATIC

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.

SSC uses 5 different types of oil in EU-ELECTROSTATIC. The 5 oils are PL3802-39S, Fuchs 7105A, MAL-HCL, Quaker 505, and Quaker 61 AUS. The VOC content of these oils ranges from a low of 0.44 lbs of VOC/gallon for Fuchs 7105A to a high of 2.91 lbs VOC/gallon for Quaker 505.

Will provided records for January, 2017 to May, 2018 show monthly gallon usages, VOC in tons per month and VWA. The highest monthly oil usage total was 2277.2 gallons in April 2017. The lowest VWA was 0.40 and highest 0.52.

VOC emissions per 12 month rolling record shows emissions of 3.37 tons per period ending May 1, 2018. 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. 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, 2017 to May 1, 2018 show that NOx emissions were 14.57 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 144.39 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 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, 2017 to May 1, 2018 show that NOx emissions were 4.84 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 96.79 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. The only product SSC indicates they use which contains HAPs is Quaker 61 A US. This product only contains a trace amount of HAPs and the company calculated its PTE of HAPs from this product as 5.66 lbs per year. The PTE calculations are attached to this report.

Records show actual 12 month rolling HAPs for Facility is 0.54 tons for period ending May 1, 2018

I requested overall production information and Will provided database printout of input of production weight. For 2017: 230,226.00 total tons steel. For 2018 (Jan through May): 83,168.00 total tons steel.

COMPLIANCE DETERMINATION

SSC is an existing source subject to the Area Source MACT Subpart (6)W, Standards for Plating and Polishing Operations due to the use of the Chrome conversion coating. My review of this standard prior to the inspection did not find clear applicability and requirements. Will replied by email confirming applicability and compliance by proper operation and maintenance.

Data sheets 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 and received and are attached to this report.

Additional Information requested during the inspection was received timely. All correspondence has been placed in the facility's files. The list of AQD requested/required information that was received from SSC:

1. Diagram of steel coil processing line, up-to-date and showing exhaust points if possible.
2. Emergency Generator details and RICE MACT / NSPS applicability review & compliance
3. Product data sheets/AQ data sheets: all coatings and oils
4. Records - VOC, HAPs, NOx, production, obtained 6-28-18 on site
5. Scrubber PM/MAP, obtained 6-28-18 on site. Additional information within one week (demonstrate monitoring & installed/operating properly). AQD reviewed first revision of MAP and submitted comments. This resulted in the final revised MAP received 7-10-18.
6. NESHAP Area Source 6(W) follow-up

Based on this inspection and information received, it is 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 

DATE 7/12/18

SUPERVISOR 