

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION

FCE Summary Report

Facility : SPARTAN STEEL COATING		SRN : N5675
Location : 3300 WOLVERINE DR		District : Jackson
		County : MONROE
City : MONROE	State: MI	Zip Code : 48162
Compliance Status :		Compliance
Source Class : SM OPT OUT	Staff : Erik Gurshaw	
FCE Begin Date : 5/7/2013	FCE Completion Date :	5/7/2014
Comments : 2014 FCE Report		

List of Partial Compliance Evaluations :

Activity Date	Activity Type	Compliance Status	Comments
05/07/2014	Scheduled Inspection	Compliance	2014 FCE Inspection
04/04/2014	MAERS	Compliance	SM Opt Out Souce, NSPS Cat II Fee for specific steel coating process. Report timely. Some support doc attached/other requested by email. Galvanized steel thruput reported. Natural gas usage is majority of emissions along process line. Also Rust preventative oiler is VOC source.

Name: Erik Gurshaw Date: 5/15/14 Supervisor: 

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection 5

N567525129

FACILITY: SPARTAN STEEL COATING		SRN / ID: N5675
LOCATION: 3300 WOLVERINE DR, MONROE		DISTRICT: Jackson
CITY: MONROE		COUNTY: MONROE
CONTACT: Elaine Veth , Regional Mgr Enviro, Health & Safety		ACTIVITY DATE: 05/07/2014
STAFF: Erik Gurshaw	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: 2014 FCE Inspection		
RESOLVED COMPLAINTS:		

SRN: N5675

COMPANY: Spartan Steel Coating

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

PURPOSE OF INSPECTION: Targeted

CONTACT PERSON: Mr. Jim Riley, Safety Manager/Transformation Lead (Ph: 734-289-5426; Fax: 734-289-5501; E-mail: jeriley@worthingtonindustries.com)

COMPANY PHONE NUMBER: 734-289-5426

INTRODUCTION

On May 7, 2014, AQD staff, Erik Gurshaw, conducted an unannounced, targeted inspection at Spartan Steel Coating located at 3300 Wolverine Dr. in Monroe, Michigan. The purpose of the inspection was to determine 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; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Rules; and Permit To Install (PTI) Number 423-95C for a hot-dipped galvanized steel processing line and associated equipment. Emission Units and Flexible Groups under PTI #423-95C include the following: EU-CLEANING; EU-ROLLCOATER; 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 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 #423-95C under EU-ROLLCOATER.

COMPANY OVERVIEW

Upon arriving at the facility, AQD staff introduced themselves and stated the purpose of the visit to Mr. James Riley, Safety Manager/Transformation Lead. Mr. Riley informed AQD staff that Ms. Elaine Veth, Regional Manager, Environmental Health & Safety, is responsible for environmental compliance issues at the facility, but that Ms. Veth was in Porter, Indiana on the day of the inspection. Mr. Riley was able to assist AQD staff on the inspection, however. Mr. Riley indicated that Spartan Steel Company operates 24 hours a day, 7 days a week and that approximately 63 people are employed by the company. Spartan Steel Company 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 emergency generator is subject to MACT Subpart ZZZZ for Reciprocating Internal Combustion Engines (RICE), but the AQD has not accepted delegation for RICE engines at area sources of HAP emissions. The lab mill CNC machine and shop welders are exempt from PTI requirements pursuant Rule 285(l)(vi)(B) and Rule 285(i), respectively

PROCESS DESCRIPTION

The company 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-SPRAYCLEANING1 and EU-SPRAYCLEANING2 provide the heat EU-CLEANING. The steel 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. From EU-DRYER#1, 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. After being air cooled, the steel is sent to a water quench tank consisting of city water at ambient temperatures for further cooling. After the water quench tank stage, the steel is sent through a skim pass mill where it is elongated and its physical appearance is altered. From the skim pass mill, the steel is sent through a tension leveler to change the mechanical properties of the steel. From the tension leveler, the steel is sent through EU-DRYER#3 to remove excess moisture. After being sent through EU-DRYER#3, the steel is sent through EU-ROLLCOATER where a coating consisting of phosphate or chromic acid is applied to it. After the EU-ROLLCOATER stage, the steel is sent through an infrared oven for curing purposes. From the infrared oven, the steel is sent to an exit accumulator which allows the entire processing line to keep moving without interruption. From the exit accumulator, 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 the EU-ELECTROSTATIC stage, the steel is packaged and shipped to the customer.

### PTI #423-95C EVALUATION

#### EU-CLEANING

AQD staff did not observe any visible emissions from the stack of EU-CLEANING after the inspection. The fume scrubber associated with EU-CLEANING was installed and appeared to be operated and maintained in a satisfactory manner. The stack from EU-CLEANING appeared to meet the dimensions required by the PTI.

#### EU-ROLLCOATER

The company is using non-VOC containing coatings in EU-ROLLCOATER. The MSDS sheets for these coatings are attached to this report. Based on the type of coatings the company uses, it is in compliance with the 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. Records provided by the company from January 2013 through March 2014 indicate that the following information is being recorded as required by the PTI: monthly records of the gallons of each coating applied; the VOC content of each coating applied; daily and monthly volume weighted average VOC content calculations for the coatings applied; monthly VOC emission calculations; and 12-month rolling VOC emission calculations. No VOC emissions are being reported since the coatings used in EU-ROLLCOATER contain no VOCs.

#### EU-ELECTROSTATIC

The company only uses 5 different types of oil in EU-ELECTROSTATIC. The 5 oils are PL3802-39S, Fuchs 7105A, MAL-HCL, Quaker 505, and Quaker 61 A US. The VOC content of these oils ranges

from a low of 0.01 lbs of VOC/gallon for Fuchs 7105A to a high of 1.24 pounds per gallon for PL3802-39S. Regardless of which oil the company is using in EU-ELECTROSTATIC, it is in compliance with the daily volume weighted average of 1.5 pounds of VOC/gallon of oil applied requirement in its PTI. Records obtained from the company from January 2013 through March 2014 indicate that the following information is being recorded as required by the PTI: daily and monthly oil usage rates in gallons; the VOC content of each oil as applied; calculations determining the daily volume weighted average VOC content of the oil applied; monthly VOC emission calculations; and 12-month rolling VOC emission calculations. 12-month rolling VOC emission records from January 2013 through March 2014 indicate that VOC emissions ranged from a low of 5.75 tons from May 2013 through April 2014 to a high of 9.76 tons from February 2012 through January 2013. These emissions are well below the 26.7 tons per 12-month rolling VOC emission limit established in the PTI.

### 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 staff asked Mr. Riley to provide the last Preventative Maintenance (PM) record for the burners and post combustion chamber for carbon monoxide of EU-DRFURNACE. Mr. Riley said that he would E-mail AQD staff PM records by May 13, 2014. A device to monitor and record the natural gas usage records has been installed on the furnaces in this group. Gas usage records from January 2013 to March 2014 indicate that 12-month rolling NOx emissions ranged from a low of 19.51 tons from August 2012 through July 2013 to a high of 26.59 tons from April 2013 through March 2014. These emissions are well below the 90 ton per 12-month rolling NOx emission limit established in the PTI. 12-month rolling natural gas usage records from the same time period ranged from a low of 243.33 MMscf from August 2012 through July 2013 to a high of 332.45 MMscf from April 2013 through March 2014. These natural gas usage records are well below the 750 MMscf material usage limit established in the PTI. The records also indicate that NOx emissions have been below the 240 pounds of NOx per MMscf of natural gas burned limit established in the PTI.

### FG-BURNERS

The burners of the equipment permitted under FG-FURNACES are installed, maintained, and operated in a satisfactory manner. AQD staff asked Mr. Riley to provide the last PM record for FG-BURNERS. A device to monitor and record the natural gas usage records has been installed on the heat generating equipment in this group. Gas usage records from January 2013 to March 2014 that NOx emissions ranged from a low of 4.92 tons from June 2012 through May 2013 to a high of 5.86 tons from March 2013 through February 2013. These emissions are well below the 9.8 tons per 12-month rolling time period NOx emission limit established in the PTI. 12-month natural gas usage for the same time period ranged from 97.87 MMscf to 116.95 MMscf. This is well below the 195.56 MMscf natural gas usage limit established in the PTI. The records also indicate that NOx emissions have been below the 100 pounds of NOx per MMscf of natural gas combusted limit established in the PTI.

### 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 the company uses 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. This PTE calculation is attached to this report.

### COMPLIANCE DETERMINATION

Based on this inspection, it was determined that Spartan Steel Coating is in compliance with its permits and all other applicable air rules and requirements. MSDS sheets for the coatings used in EU-

ROLLCOATER and EU-ELECTROSTATIC, the last PM record for FG-FURNACES and FG-BURNERS, and the records required for EU-ROLLCOATER, EU-ELECTROSTATIC, FG-FURNACES, FG-BURNERS, and FG-FACILITY are on a zip file on the CD attached to this report.

NAME Erik Hurshaw

DATE 5/15/14

SUPERVISOR 