

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection**

N243248393

FACILITY: A G SIMPSON (USA), Inc.		SRN / ID: N2432
LOCATION: 6640 Sterling Drive South, STERLING HTS		DISTRICT: Southeast Michigan
CITY: STERLING HTS		COUNTY: MACOMB
CONTACT: Nadum Jwad , Sr. Environmental Coordinator		ACTIVITY DATE: 12/07/2018
STAFF: Joe Forth	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: On-site inspection		
RESOLVED COMPLAINTS:		

On December,7, 2018, I, Joseph Forth, Michigan Department of Environmental Quality-Air Quality Division (MDEQ-AQD) Staff, conducted a self-initiated inspection at AG Simpson Automotive Systems located at 6640 Sterling Dr. South, Sterling Heights, MI 48312. 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, as amended, MDEQ-AQD Air Pollution Rules, the National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart N- National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks, and Permits to Install No. 88-08 and 269-06A

Facility Inspection

I arrived at the facility at 1:30 pm and met with Senior Environmental Coordinator Nadum Jwad. Mr. Jwad then brought me inside where we also met with Cindy Jones, and Maurice Pestowka (Manager). I introduced myself, provided my credentials, and stated the purpose of the inspection. I was shown the manual and new automatic spray booth. We then discussed the permits, if any changes have been made to their process, and the required records. I communicated the requirements of the permit and what records I would need to review. After discussing the permits and necessary proof of compliance, I was given a tour of the facility. Next, I was shown the plating line, which was on a raised section of scaffolding which guests are not allowed to access. I was shown the differential pressure gauge for the composite mesh pad control for the chrome tank. The pressure differential was at 3.85 in of water column (3.85" wc) at the time of inspection.

Facility Description

AG Simpson Automotive Systems is an automobile bumper plating and coating plant. The plant consists of 1 nickel strike tank, 18 semi-bright nickel tanks, 2 hi-sulfur tanks, 6 bright nickel tanks, and a dur-ni nickel tank that require no control. Also, the facility has 2 decorative chrome tanks with composite mesh pad control. The plant has two spray coating operations; a manual booth, and an automated booth which are controlled by dry filters.

Compliance

PTI NO. 88-08

This is a General PTI issued for a bumper back-side coating process. The coating process consists of a paint spray booth and necessary dry filters, spray guns, pumps, a stack, a flash off area with an exhaust fan, an infrared oven, and transfer and cool down conveyors.

The facility provided VOC records from 2017 to present 2018.

SC (I)(1): VOC emission limit of 2000 lb/month (calendar month). Facility has not exceeded 650 pounds in a month according to the provided records. (See Attachment A)

SC (I)(2): VOC emission limit of 10 tons/year. No 12-month rolling time period exceeded 10 tons from December 2017 through November 2018. (See Attachment A)

SC (III)(1): The permittee shall capture and dispose of all purge/clean-up solvents and waste coatings in a manner compliant with state and federal rules. The facility stores waste in an underground tank which is removed by a waste treatment company approximately every six weeks. An example of the manifest was provided. (See Attachment B).

SC (IV)(1): The permittee shall equip and maintain a high volume-low pressure (HVLP) spray applicators

or comparable technology. The facility uses hand operated sprayers that were explained to be HVLP. The sprayers in the automatic system are HVLP as well.

SC (IV)(2): The permittee must equip particulate control to operate spray application (dry filters or water curtain). Dry filters appeared to be installed and properly maintained by the facility. Filters were explained to be replaced approximately every two days or twice a week depending on process volume.

SC(VI)(3): The permittee shall keep the following information on a monthly basis for FG-COATING:

- a) Purchase orders and invoices for all coatings, reducers, and purge/clean-up solvents. (See Attachment C)
- b) VOC content, in pounds per gallon, of each coating, reducer and purge/clean-up solvent used. The company does not use any reducers. The coating in use, Z Shield 2928 SM1, has a VOC content of 0.08 lb/gal. The cleaner in use, Z Shield Over-Spray Cleaner, has a VOC content 0.5 lb/gal. (See Attachment D)
- c) Gallons of each coating and purge/clean-up solvent used and reclaimed. (See Attachment A)
- d) VOC mass emission calculations determining the monthly emission rate for each coating line, in tons per calendar month. (See Attachments A and E)
- e) VOC mass emission calculations determining the annual emission rate for each coating line, in tons per 12-month rolling time period as determined at the end of each calendar month. (See Attachments A and E)

SC(VI)(4): The permittee shall maintain current listing from the manufacturer of the chemical composition of each coating, including weight percent (i.e. Material Safety Data Sheets). The facility is keeping all necessary documents (See Attachment D).

SC (VIII)(1): The exhaust stack of FG-COATING must be discharged vertically unobstructed, at a height not less than one and one half the building height. Stack parameters not verified during inspection as no changes have been made since installation. Stack appeared to be unobstructed and venting vertically.

SC(IX)(1a-c): The permittee shall not replace or modify the FG-COATING process unless: (a) The permittee shall update the general permit by submitting form EQP5759 to the permit section and district supervisor identifying the existing and new equipment at least 10 days before the changes are made. (b) The permittee shall continue to meet the requirements of the PTI. (c) Keep records of the date and description of the modification for at least five years, available at request of the Department.

The facility properly notified the AQD of their plans for the new coating line before installation took place. AGS anticipated the new coating line's emissions would not push them above permit limits. The facility appears to be still meeting PTI requirements for the new coating line.

FG-SOURCE

SC (I)(1) and (VI)(1) VOC emission limit of 30 tons/year 12-month rolling total, including calculations and records. The facility appears to be keeping proper calculations. The total VOC emissions for the facility did not reach 30 tons per 12-month period. The highest 12 month total in the provided records was 1.343 from December 2017 to November 2018. (See Attachment A)

The facility appears to be compliant with all requirements for PTI No. 88-08.

PTI 269-06A

Compliance for PTI 269-06A is accomplished by meeting the following conditions

EUBUFFER

An enclosed booth for a buffing and polishing operation. Emissions are controlled by a wet scrubber.

SC (I)(1) A PM-10 emission limit of 0.10 lbs/1000 pounds of exhaust gas. This emission limit is met by proper operation and maintenance of the wet scrubber, which the facility appears to be doing. Maintenance logs for the scrubber are attached. (See Attachment F)

SC (III)(1) The facility must have an approved operation and maintenance plan for the wet scrubber. The

facility showed me the operation and maintenance plan and it appears to be satisfactory.

SC (IV)(1) The facility shall not operate the buffing station unless the wet scrubber is properly operated and maintained. The wet scrubber appears to be properly operated and maintained. Maintenance logs for the scrubber are attached. (See Attachment F)

Special Conditions IV.2, VI.1, and VII.1 contain language stating the facility must equip the scrubber in EUBUFFER with a liquid flow gauge, to monitor, and keep records of, the liquid flow rate. The scrubbers instead have a pressure differential monitor. AQD was willing to accept this monitor instead of the liquid flow gauge, but AG Simpson must modify the PTI to contain language specifying pressure difference instead of liquid flow rate. The permit was modified in March 2019.

The facility was monitoring and keeping records of the pressure differential for the EUBUFFER scrubber. (See Attachment G)

EUSLUDGEDRYER

An indirect natural gas fired sludge dryer. Emissions are controlled by a wet scrubber/cyclone.

SC(I)(1-4):

1. Stipulates the total PM emissions not to exceed 0.10 lb per 1000 lbs of exhaust gas. Records and testing for PM emissions only required upon AQD request.
2. Stipulates the total PM emissions not to exceed 0.0056 pph. Records and testing for PM emissions only required upon AQD request.
3. Stipulates the total Chromium emissions not to exceed 0.000125 lb/hr.
- The total Chromium emission rate was determined to be 0.0000709 lb/hr via a stack test, which was conducted in June, 2009.
4. Stipulates the Nickel emissions not to exceed 0.00063 lb/hr.
- The Nickel emission rate was determined to be 0.00021 lb/hr via a stack test, which was conducted in June, 2009.

SC(II)(1,2):

1. The permittee shall not produce more than 14,600 cubic feet of dry sludge in EUSLUDGEDRYER per 12-month rolling period as determined at the end of each calendar month. The amount of sludge produced in a 12-month period never exceeded the 14,600 limit. Sludge records dating from December 2017 to November 2018. (See Attachment H)
2. The permittee shall only process wet sludge from the plating waste system with solids content (% weight that is solids) less than 50 percent by weight. Sludge was sampled several times and shown to be compliant (33% solids). (See Attachment I)

SC(IV)(1,2): Sludge records dating from December 2017 to November 2018 were provided.

1. The permittee shall not operate EUSLUDGEDRYER unless the cyclone/wet scrubber is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining and operating the wet scrubber in accordance with the operation and maintenance plan. The wet scrubber was installed and operable at the time of inspection. The operation and maintenance plan was reviewed onsite, and the facility appeared to be operating in correspondence with it.
2. The permittee shall equip and maintain the wet scrubber in EUSLUDGEDRYER with a liquid flow gauge. The wet scrubber is equipped with a liquid flow gauge (See Attachment J).

SC(V)(1): Within 180 days of initial startup, the permittee shall verify chromium and nickel emission rates. Emission rates confirmed via stack test in June, 2009.

SC(V)(2):

At least once per quarter the permittee shall sample the wet sludge for solids and metals content.

Quarterly, the facility contracts the sludge sampling to RTI Laboratories, Inc. to document the solids content of the sludge (See Attachment I).

SC(VI)(1-4): (All records shall be maintained for a period of five years.)

1. The permittee shall monitor, on a continuous basis, the liquid flow rate for the scrubber. The scrubber is continuously monitored, and the flow rate is recorded on average about once a day. (See Attachment J)
2. The permittee shall record at least once per calendar day, the liquid flow for the scrubber portion of EUSLUDGEDRYER. The facility records the flow rate on average about once a day. (See Attachment J)
3. The permittee shall keep, monthly and 12-month rolling time period records of the amount of dry sludge produced in EUSLUDGEDRYER each month and 12-month rolling time period. The facility keeps record of both the monthly and 12-month rolling period sludge production. (See Attachment H)
4. The permittee shall keep quarterly records of the wet sludge analysis results. (See Attachment I)

SC(VIII): Stack and vent restrictions: Diameter must be 6 in, height from ground level 32 ft. Stack parameters not verified during inspection as no changes have been made since installation. Stack appeared to be unobstructed and venting vertically.

EUNICKELPLATE

A Nickel plating process consisting of: a nickel strike tank, eighteen semi-bright nickel plate tanks, two hi-sulfur nickel strike tanks, six bright nickel tanks and a Dur-ni nickel tank. No control equipment.

(I)(2) The nickel emission rate from EUNICKELPLATE not to exceed 0.90 lb/hr.

The nickel emission rate was determined to be 0.01 lb/hr via stack test conducted in June 2009.

SC(VIII)(1,2,3): Stack parameters not verified during inspection as no changes have been made since installation. Stack appeared to be unobstructed and venting vertically.

FGCHROME

Two decorative chrome electroplating tanks and a wastewater evaporator to minimize the waste chromic acid rinse water generated and treated. It contains: EUCHROME1, EUCHROME2, and EUEVAPORATOR. Emissions are controlled by composite mesh pad (CMP) scrubbers for the tanks. Chrome tanks are subject to 40 CFR Part 63 Subparts A and N.

SC(I)(1,2): The emission limit for chromium is not to exceed 0.01 mg/m³ or 0.0013 lb/h.

The total chromium emission rates were determined to be 0.00099 mg/m³ and 0.00005 lb/hr via stack test conducted in June 2009.

SC(VI)(1)(a-e):

1. The permittee shall perform inspections of the composite mesh pad (CMP) system as follows:

- a) Determine pressure drop across the CMP system on a daily basis. The pressure drop of the CMP system was determined during compliance testing in June 2009 to be 2.32 in of water. During the inspection I observed the pressure drop to be 3.85 in of water which is within ± 2 of the 2.32 determined during compliance testing. (See Attachment K)
- b) Visually inspect the CMP system, on a quarterly basis, to ensure there is proper drainage, no chromic acid build up on the pads, and no evidence of chemical attack on the structural integrity of the control device.
- c) Visually inspect the back portion of the mesh pad closest to the fan, on a quarterly basis.
- d) Visually inspect ductwork from tanks to the CMP system, on a quarterly basis, to ensure there are no leaks.
- e) Perform wash-down of composite mesh pads in accordance with manufacturer's recommendations.

The facility provided records of the operation and maintenance plan and maintenance records appear to be satisfy compliance. The records show that the facility is conducting necessary inspections. (See Attachment L)

SC(VII)(2):The permittee shall maintain records of inspections required to comply with the standards of 40 CFR Subparts A and N. The facility provided records that show they are performing the necessary inspections. (See Attachment L)

SC(VIII)(1): Stack parameters not verified during inspection as no changes have been made since installation. Stack appeared to be unobstructed and venting vertically.

Conclusion

The facility appears to be operating in compliance with permits 88-08 and 269-06A, the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451, 40 CFR 63, Subpart N- National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks.

NAME *J. M. Pitt* DATE 6-3-19 SUPERVISOR *SK*