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

N243271283

FACILITY: A G SIMPSON (USA), Inc.		**SRN / ID:** N2432
LOCATION: 6640 Sterling Drive South, STERLING HTS		**DISTRICT:** Warren
CITY: STERLING HTS		**COUNTY:** MACOMB
CONTACT: Cindy Jones , Sr. Environmental Coordinator		**ACTIVITY DATE:** 03/05/2024
STAFF: Mark Dziadosz	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: FY 2024 inspection		
RESOLVED COMPLAINTS:		

On Tuesday, March 5, 2024, I, Michigan Department of Environment Great Lakes and Energy-Air Quality Division staff Mark Dziadosz, conducted an announced scheduled inspection of AG Simpson, Inc (N2432), located at 6640 Sterling Drive South Sterling Heights, Michigan. The purpose of this inspection was to determine the facility's compliance with the Federal Clean Air Act Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, the National Emission 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 (PTI) Nos. 269-09C, 88-08, and 45-23.

I arrived at AG Simpson, Inc. at 10:00 AM and met with Cindy Jones, Senior Environmental Coordinator. Prior to the inspection, records were requested electronically on 2/22/2024. Upon arrival, Cindy and I reviewed the electronic records and discussed operations. I was then taken on a tour of the facility.

AG Simpson Automotive Systems is an automobile bumper plating and coating plant. The plant consists of 1 nickel strike tank, 14 semi-bright nickel tanks, 1 hi-sulfur tank, 4 bright nickel tanks, and a dur-ni nickel tank that require no control. 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. The sludge dryer has been removed from the facility. This was verified during the inspection on June 22, 2022. There is no emergency generator onsite. The facility has approximately 150 employees. The facility operates 2 8-hour shifts per day.

After the June 22, 2022, inspection, AG Simpson was asked to get a (Hazardous Air Pollutant) HAP opt-out permit due to the presence of 2 coating lines. As explained in an e-mail with the facility on July 28, 2022: a general PTI does not contain any emission limits for HAPs and contains a 30 TPY VOC limit. In theory, all 30 tons of VOC could be HAPs and therefore the facility would be above the 25-ton threshold for aggregate HAPs for major sources. A HAP opt-out permit limits HAPS to 22.4 tons for aggregate

HAPs and 8.9 tons for each individual HAP. The facility was issued PTI 45-23.

Compliance

AG Simpson provided an excel spreadsheet of all calculations. The document can be found in: S:\Air Quality Division\Staff\Mark Dziadosz\N2432 AG Simpson FY24 Inspection or the facility plant file.

PTI No. 88-08

This is a General PTI issued for bumper back-side coating process. The coating process consists of a manual (Building 1) and a robotic paint booth (plating building), dry filters, spray guns, pumps, stacks, a flash off area with an exhaust fan, an infrared oven, and transfer and cool down conveyors. The facility uses the same coating and purge solvent for both lines.

The facility provided digital VOC records for the coating booths. The records were for July 2022-January 2024.

SC I.1 A 2,000 pound per month VOC emission limit. For the time reviewed, the highest monthly emissions were 1126.3 pounds in March 2023.

SC I.2 A 12-month rolling VOC emission limit of 10 tons per year. For the time reviewed, the highest average 12-month rolling total observed was 4.65 tons emitted from September 2022 through August 2023.

SC III.1 The permittee shall capture all purge/clean-up solvents and waste coatings from all coating applicators used in FG-COATING and store and dispose of them in a manner compliant with state and federal law. The facility stores waste in a 55-gallon drum which is removed by a waste treatment company.

SC IV.1 The permittee shall equip and maintain a high-volume-low pressure (HVLP) spray applicators or comparable technology. The facility uses hand sprayers, that according to the facility, are HVLP. The sprayers in the robotic booth were explained to be HVLP also.

SC IV.2 The permittee shall not operate any spray application unless particulate control (dry filters or water curtain) is installed, maintained and operated in a satisfactory manner. Dry filters were installed in each booth and appear to be properly maintained by the facility. Filters were explained to be changed 3 times per week. For both booths, clean, unused filters were present for replacement.

SC IV.3-5 N/A-The permittee does not use a thermal oxidizer or a catalytic oxidizer.

SC V.1-N/A EGLE has not requested verification of VOC emissions and VOC content of any coating, reducer, or purge/clean-up solvent.

SC VI.1-2 N/A-The permittee does not use a thermal oxidizer or a catalytic oxidizer.

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 were reviewed. During the inspection, I requested purchase orders for March 2023; 1,126.3 gallons of paint were ordered. The facility is keeping the required records.

b) VOC content in pounds per gallon, of each coating, reducer and purge/clean-up solvent used. The facility only uses one coating (Z Shield 2928 SM1 has a VOC content of 0.08 lb/gallon) and one purge/clean-up solvent (Ecolex 6036 has a VOC content of .49 lb/gallon).

c) Gallons of each coating and purge/clean-up solvent used was provided. The facility does not reclaim any coatings or purge/clean-up solvent.

d) VOC mass emission calculations determining the monthly emission rate for each coating line, in tons per calendar month were provided. The facility calculates emissions for both booths combined in one spreadsheet. If emissions are ever over the 10-ton per year limit of VOC for one line, the facility will have to break up the spreadsheet by booth.

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 were provided.

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 SDS sheets for each coating used.

SC VI.5-7 N/A-the facility does not have a thermal oxidizer or a catalytic oxidizer.

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 were not verified during inspection as no changes had been made since the last inspection. The stack appears to discharge vertically, unobstructed into the ambient air.

SC IX.1a-1c The permittee shall not replace or modify the FG-COATING process unless:

a) The permittee shall update the general permit by submitting a new Process Information form (EQP5759) to the Permit Section and District Supervisor, identifying the existing and new equipment a minimum of 10 days before the replacement, modification or installation of new equipment.

b) The permittee shall continue to meet all general permit to install applicability criteria after the replacement, modification or installation of new equipment is complete.

c) The permittee shall keep records of the date and description of the replacement or modification, installation of new equipment, or any coating change. All records shall be kept on file for a period of at least five years and made available to the Department upon request.

The facility has properly notified the AQD whenever changes as stated above were made to the emission unit. No changes have occurred since the previous inspection.

FG-SOURCE

SC I.1 and VI.1 VOC emission limit of 30 tons per 12-month rolling time period determined at the end of each calendar month, including calculations and records. The facility appears to be keeping the required calculations. The highest total VOC 12-month rolling total in the submitted records was 4.65 tons from September 2023 to August 2024.

PTI 269-06C

EUBUFFER

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

SC I.1 A PM emission limit of 0.01 lbs/1,000 lbs of exhaust gas. The emission limit is met by proper operation of a wet scrubber, which the facility appears to be doing. Maintenance logs were provided for review during the inspection.

SC III.1 Within 30 calendar days of commencement of operation, the permittee shall submit to the AQD District Supervisor, an approvable operation and maintenance plan for the scrubber portion of EUBUFFER. The facility provided the operations and maintenance plan; and it appears sufficient.

SC IV.1 The permittee shall not operate EUBUFFER unless the wet scrubber is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining and operating the scrubbers in accordance with the operation and maintenance plan. The facility provided the operations and maintenance plan, and it appears sufficient.

SC IV.2 The permittee shall equip and maintain each scrubber in EUBUFFER with a differential pressure gauge.

At the time of inspection, the differential pressure gauge was installed and the pressure drop was 11.8 in.

SC V1.1 The permittee shall monitor, in a satisfactory manner, the differential pressure for the scrubber in EUBUFFER on a continuous basis. The facility has a differential pressure gauge installed and was monitoring the differential pressure.

SC V1.2 The permittee shall record, in a satisfactory manner, at least once per calendar day, the differential pressure for the scrubber portion of EUBUFFER. The permittee shall keep all records on file at the facility and shall make them available to the Department upon request. Records of the differential pressure for 2023 and 2024 were reviewed during the inspection.

EU NICKELPLATE

Nickel plating process consisting of: a nickel strike tank, fourteen semi-bright nickel plate tanks, one hi-sulfur nickel strike tank, four bright nickel tanks and a Dur-ni nickel tank.

SC I.1 A PM emission limit of 0.10 lbs/1,000 lbs of exhaust gas. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. A stack test has not been requested at this time.

SC I.2 A nickel emission limit of 0.90 lbs/hour. The nickel emission rate was determined to be 0.01 lbs/hr via a stack test in June 2009.

SC V.1 Within 180 days after commencement of initial startup, the permittee shall verify nickel emission rates from EUNICKELPLATE by testing stacks SVNICKEL3, SVNICKEL4, and SVNICKEL5, at owner's expense, in accordance with Department requirements. Stack testing was performed in June 2009 and the nickel emission rate was determined to be 0.01 lbs/hour.

SC VIII(1-3) Stack parameters were not verified during inspection as no changes had been made since installation. Stacks appear to be unobstructed and venting vertically.

FGCHROME

Two decorative chrome electroplating tanks with composite mesh pad scrubber. The chrome tanks are subject to 40 CFR Part 63 Subparts A and N

SC I.1-2 Total chromium emission limit of 0.01 mg/m^3 or 0.0013 lb/hour. The total chromium emission rate was determined to be 0.00099 mg/m^3 and 0.00005 lb/hr via a stack test in June 2009.

SC III.1 Within 30 calendar days of commencement of operation, the permittee shall submit to the AQD District Supervisor, an approvable operation and maintenance plan. The plan shall contain all information required by 40 CFR 63.342(f)(3)(i), which includes the following:

a) Operation and maintenance criteria for FGCHROME, add-on control device(s), and for the process and control device(s) monitoring equipment as well as a standardized checklist to document the operation and maintenance of the equipment;

b) The work practice standards for the add-on control device(s) and monitoring equipment;

c) Procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur; and

d) A systematic procedure for identifying process equipment, add-on control device(s) and monitoring equipment malfunctions and for implementing corrective actions to address such malfunctions.

The facility provided a copy of the FG CHROME Scrubber Unit O & M manual. It appears to contain the materials mentioned above.

SC IV.1 The permittee shall not operate FGCHROME unless the composite mesh pad system is installed, maintained, and operated in a satisfactory manner. The CMP system appeared to be operating in a satisfactory manner.

SC IV.1 The permittee shall equip and maintain the composite mesh pad system with a differential pressure monitoring device. During inspection, the CMP was equipped with a differential pressure monitoring device.

SC V.1 Within 180 days after commencement of trial operation, the permittee shall verify chromium emission rates from FGCHROME, by testing at owner's expense, in accordance with 40 CFR Part 63 Subparts A and N. The total chromium emission rate was determined to be 0.00099 mg/m^3 and 0.00005 lb/hr via a stack test 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. If the pressure drop across the control varies by more than ±2 inch of water gauge, from the pressure drop determined during compliance testing, the permittee shall document the variation, and review the operation and maintenance procedures. The permittee shall document any corrective action. The pressure drop of the system was determined to be 2.32 in. of water during the stack test in June 2009, during inspection the pressure drop was approximately 2.8 in.

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, to ensure there is no breakthrough of chromic acid mist.

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 satisfy the requirements. The records appear to show the facility is conducting necessary inspections.

SC VI.2 The permittee shall monitor emissions and operating and maintenance information in accordance with the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and N. The facility provided records that appear to show the facility is conducting necessary inspections.

SC VII.2 The permittee shall maintain records of inspections required to comply with applicable work practice standards of 40 CFR 63.342(f). Each inspection record shall identify the device inspected, the date, approximate time of inspection, and a brief description of the working condition of the device during the inspection. The permittee shall also record any actions taken to correct the deficiencies found during the inspection.

The facility provided records to show they are providing the necessary inspections.

SC VII.3 The permittee shall keep records of emission information and operating and maintenance information to comply with the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR

Part 63 Subparts A and N. The facility provided records that appear to show they are meeting the requirements of 40 CFR Part 63 Subpart A and N.

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

PTI 45-23

This PTI applies source-wide to all process equipment covered by other permits, grand-fathered equipment and exempt equipment.

FGFACILITY

SC I.1 & SC I.2. An individual HAP emission limit of less than 8.9 tpy over a 12-month period as determined at the end of each calendar month; & An aggregate HAP emission limit of less than 22.4 tpy over a 12-month period as determined at the end of each calendar month. The facility only uses 1 coating and 1 cleaner/solvent. The SDS indicates that the coating contains acrylic acid polymer (0.38%). Acrylic acid is a HAP. The facility currently has a 12-month rolling actual VOC emissions of 4.65 tons. As worst-case scenario that all VOC are HAPs, the facility is still in compliance with the individual HAP limit as well as the aggregate HAPs limit.

SC VI.3 The permittee shall keep the following information on a calendar month basis for FGFACILITY:

a) Gallons or pounds of each HAP containing material. The facility is keeping the required records.

b) Gallons or pounds of each HAP containing material reclaimed. N/A-the facility does not reclaim any materials.

c) HAP content, in lb/gal or lb/lb, of each HAP material used. The facility is keeping the required records.

d) HAP mass emission calculations determining the monthly emission rate for each coating line, in tons per calendar month. The facility currently records VOC emissions. VOCs are used as a surrogate for HAP(s) emissions.

e) Individual and aggregate HAP mass emission calculations determining the annual emission rate for each during the first 12-months and the annual emission rate of each thereafter, in tons per 12-month rolling time period as determined at the end of each calendar month. The facility currently records a 12-month rolling total of VOC emissions. VOCs are used as a surrogate for HAP(s) emissions.

The facility has submitted their emission inventory report since 2018. Based on the information gathered during the inspection, AG Simpson appears to be in compliance with the Federal Clean Air Act Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, and PTI Nos. 88-08, 269-06C, and 45-23.

NAME _____ DATE _____ SUPERVISOR _____