

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

N770755272

FACILITY: Shelby Foam Systems, a Division of Magna Seating		SRN / ID: N7707
LOCATION: 6200 26 MILE RD, SHELBY TWP		DISTRICT: Warren
CITY: SHELBY TWP		COUNTY: MACOMB
CONTACT: Linda Moore , EH&S Specialist		ACTIVITY DATE: 09/18/2020
STAFF: Rem Pinga	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Level 2 Scheduled Inspection		
RESOLVED COMPLAINTS:		

On September 18, 2020, I conducted a level 2 Scheduled inspection at Shelby Foam Systems, a Division of Magna Seating of America, Inc. The facility is located at 6200 26 Mile Road, Shelby Township, Michigan 48316. The purpose of the inspection was to determine the facility's compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), the administrative rules, the Renewable Operating Permit (ROP) No. MI-ROP-N7707-2018, Permit to Install (PTI) No. 303-06F, and the area source MACT, 40 CFR Part 63 Subpart OOOOOO. During the pre-inspection meeting, I met with Ms. Linda Moore, EH&S Specialist, and facility contact. Ms. Moore accompanied me during the walk-through inspection.

To comply with the COVID-19 Emergency AQD Field Inspection Guidance Update (June 2020), the inspection was announced and scheduled. I adhered to the facility's COVID-19 safety protocols such as temperature check and completing a checklist/questionnaire of health/contact information. I entered the facility wearing face mask, face shield, safety glasses, hard hat, and safety shoes. Following AQD guidance, I obtained recordkeeping information through email prior to the inspection. During inspection, I requested additional information which were emailed to me by my facility contact.

ROP No. MI-ROP-N7707-2018 was issued on August 6, 2018 as renewal ROP to the initial ROP No. MI-ROP-N7707-2013 because the facility is a major source for Volatile Organic Compounds (VOC) and subject to the Title V of Clean Air Act of 1990, Renewable Operating Permit program. The facility obtained the initial Title V permit, ROP No. MI-ROP-N7707-2013, on August 23, 2013. The ROP contained federally enforceable restrictions on the single and aggregate Hazardous Air Pollutants (HAPs) emissions to make the permit a synthetic minor for HAPs. Shelby Foam Systems obtained Permit to Install (PTI) No. 303-06E on 06/23/2017 for an additional seat cushion line, EU-RULINE, and modify EU-Anti-Squeak to add 2 additional spraybooths for a total of 3 spraybooths. The applicable requirements in PTI No. 303-06E was also incorporated in the current ROP. Permit to Install (PTI) No. 303-06F was issued on October 16, 2019 per the company's request, to modify EU-Anti-Squeak from the emission unit that was rolled into the ROP, by

increasing the spraybooths from three to four spraybooth lines. However, the VOC emission limit was unchanged.

The facility manufactures seat cushions used in the production of automotive seats. Prior to Covid-19, the facility operated 3 shifts per day (0700 to 1530 hours, 1500 to 2330 hours, and 2300 to 0730 hours) and 6 to 7 days per week for all the lines. Per Ms. Moore, the facility shut down on March 20, 2020 due to the Covid-19 pandemic. On May 26, 2020, the facility commenced operations at 2 shifts per day but they plan to go back to 3 shifts starting September 21, 2020. The seat cushion is produced by injecting/mixing polyol, polymeric diphenylmethane diisocyanate (MDI), and some additives into a lid and bowl type molding press and allow for chemical reaction to occur for about 3 to 4 minutes to form the product.

Per ROP No. MI-ROP-N7707-2018 (B) SOURCE-WIDE CONDITIONS (VI.1, 2 & 3), the facility kept records of individual and aggregate monthly HAP(s) emission rates and monthly 12-month rolling total emission rates through August 2020. Per ROP No. MI-ROP-N7707-2018 (B) SOURCE-WIDE CONDITIONS (I.1 & I.2), the facility's highest monthly 12-month rolling total aggregate HAPs emission rate in 2020 occurred in February 2020 at 0.298 ton and below both the individual HAP permit limit of 9.5 tpy as well as the aggregate HAPs permit limit of 24.5 tpy. Chlorobenzene showed the highest monthly 12-month rolling total individual HAP emission rate at 0.221 ton/year for June 2020.

During the walk-through inspection, I observed both the RT Line and CF Line operating before going to lunch break. EU-RTLine utilizes a mold release solvent to help release the seat cushion product from the mold. The mold release solvent contains volatile organic compounds (VOCs) and Hazardous Air Pollutants (HAPs). The EU-RTLine comprises of 32 individual carriers (3molds/carrier) that are lined up in an oval shaped conveyor system similar to a race track (hence RT line). The line is divided into 2 work stations in succession wherein designated manual HVLP applicators spray mold release solvent and/or paste wax to the mold prior to injection of polyol/MDI mixture. The bowl is sprayed in the first station while the lid is sprayed in the second station. The plastic components are mixed at the spray gun and poured into the bowl through robotic applicators at the foam application stage. After the lid is closed, the process undergoes a chemical reaction under high pressure to form the polyurethane cushion/foam product for bench seat and back seat production. The entire production cycle occurs for about 6.0 to 6.5 minutes. The line has an exhaust ductwork system at the back to capture any potential air emission releases and exhausted through 4-24" Diameter stacks (SV-RTLine-02...05) as required in ROP No. MI-ROP-N7707-2018 (C) EU-RTLine (VIII). The line also has an additional exhaust stack, SV-RTLine-01, for heat release only.

Per ROP No. MI-ROP-N7707-2018 (C) EU-RTLine (I.1), the facility's monthly 12-month rolling total VOC emission rate from January 2020 through August 2020 was

highest in February 2020 at 37.0 tons per year (tpy). This VOC emission rate was in compliance with the permit limit of 102 tons/year. The monthly 12-month rolling total VOC emission rate for August 2020 was 28.9 tpy. Per ROP No. MI-ROP-N7707-2018 (C) EU-RTLine (I.2), the facility's monthly 12-month rolling total Hydrocarbon Naphtha emission rate from January 2020 through August 2020 was highest in February 2020 at 6.028 tpy and less than the 18.7 permit limit. The monthly 12-month rolling total Hydrocarbon Naphtha emission rate for August 2020 was 4.663 tpy. Per ROP No. MI-ROP-N7707-2018 (C) EU-RTLine (II.1), the facility's spray mold release VOC content was reported at 6.0 lb./gallon and less than the 6.2 lb./gallon permit limit. Per ROP No. MI-ROP-N7707-2018 (C) EU-RTLine (II.2), the paste wax VOC content was reported at 4.4 lb./gallon and less than the 5.1 lb./gallon permit limit. Per ROP No. MI-ROP-N7707-2018 (C) EU-RTLine (III.1 & 2), the facility appeared to be capturing and disposing waste materials in an acceptable manner and containers of VOC/HAP containing materials and waste materials were covered at all times during inspection. Per ROP No. MI-ROP-N7707-2018 (C) EU-RTLine (IV), I observed airless manual applicators were used to spray the mold release. Per ROP No. MI-ROP-N7707-2018 (C) EU-RTLine (V), the facility obtains data sheet from the mold release and wax manufacturer and utilizes formulation data to calculate for emissions. Per ROP No. MI-ROP-N7707-2018 (C) EU-RTLine (VI), the facility keeps records of mold release and paste wax VOC contents, raw materials usage, and calculations of monthly and monthly 12-month rolling total VOC emission rates for EU-RTLine. Per ROP No. MI-ROP-N7707-2018 (C) EU-RTLine (VII), the facility submits the annual and semi-annual compliance/deviation ROP Report Certification timely.

The EU-CFLine comprises of 24 individual lid and bowl type molds arranged in a circular carousel (hence the carousel line). This line produces seat cushion/foam for bucket seat production. The process is similar to the EU-RTLine process except for the use of airless spray guns for mold release applications and negative pressure. Each mold press has a filtered exhaust duct at the top connected to the 36 inches diameter exhaust stack as required in ROP No. MI-ROP-N7707-2018 (C) EU-CFLine (VIII.1). This is a common stack that is also utilized by the anti-squeak line. The facility replaced the HVLP guns with the airless spray guns in December 2011 and submitted documentation that the airless spray guns have better transfer efficiency than HVLP guns per ROP No. MI-ROP-N7707-2018 (C) EU-CFLine (IV.1). Per ROP No. MI-ROP-N7707-2018 (C) EU-CFLine (I.1), the facility submitted records showing the monthly 12-month rolling total VOC emission rate from January 2020 through August 2020 was highest in March 2020 at 14.7 tpy and in compliance with the permit limit of 47 tons/year. The EU-CFLine monthly 12-month rolling total VOC emission rate for August 2020 was 12.6 tpy. Per ROP No. MI-ROP-N7707-2018 (C) EU-CFLine (I.2), the facility monthly 12-month rolling total Hydrocarbon Naphtha emission rate from January 2020 through August 2020 was highest in March 2020 at 2.373 tpy and in compliance with the permit limit of 8.7 tpy. Per ROP No. MI-ROP-N7707-2018 (C) EU-CFLine (II.1), the facility's spray mold release VOC content was reported at 6.0 lb./gallon and less than the 6.2

lb./gallon permit limit. Per ROP No. MI-ROP-N7707-2018 (C) EU-CFLine (II.2), the paste wax VOC content was reported at 4.4 lb./gallon and less than the 5.1 lb./gallon permit limit. Per ROP No. MI-ROP-N7707-2018 (C) EU-CFLine (III.1 & 2), the facility appeared to be capturing and disposing waste materials in an acceptable manner and containers of VOC/HAP containing materials and waste materials were covered at all times during inspection. Per ROP No. MI-ROP-N7707-2018 (C) EU-CFLine (V), the facility obtains data sheet from the mold release and wax manufacturer and utilizes formulation data to calculate for emissions. Per ROP No. MI-ROP-N7707-2018 (C) EU-CFLine (VI), the facility keeps records of mold release and paste wax VOC contents, raw materials usage, and calculations of monthly and monthly 12-month rolling total VOC emission rates for EU-CFLine. Per ROP No. MI-ROP-N7707-2018 (C) EU-CFLine (VII), the facility submits the annual and semi-annual compliance/deviation ROP Report Certification timely.

Under PTI No. 303-06F, EU-Anti-Squeak consists of spraybooths used to coat the underside of select parts to prevent friction noise between the automotive seat frame and the foam cushion. The parts are coated in spraybooths consisting of two 3-sided spraybooths line and an enclosed spray system over the belt. The Anti-Squeak emission unit also includes another idle 3-sided spraybooths line which is only used if the enclosed spray system over the belt fails. During walk-through inspection, I observed only 2 of the total 3 3-sided spraybooths that were installed. Only one 3-sided spraybooths were operating along with the enclosed spray system. The seat cushions/foams from EU-RTLline and EU-CFLine are inspected, trimmed, sanded, repaired, and packaged for shipment to customers. An anti-squeak water-based emulsion is applied to the foam prior to packaging and shipment to customers. Per ROP No. MI-ROP-N7707-2018 (C) EU-Anti-Squeak (I.1), the facility submitted records showing the monthly 12-month rolling total VOC emission rate from January 2020 through August 2020 was highest in January 2020 at 0.0190 tpy and in compliance with the permit limit of 1.0 tpy. The EU-Anti-Squeak monthly 12-month rolling total VOC emission rate for August 2020 was 0.0080 tpy. Per ROP No. MI-ROP-N7707-2018 (C) EU-Anti-Squeak (II.1), the Anti-Squeak material VOC content was reported at 0.017 lb./gallon and in compliance with the permit limit of 0.04 lb/gallon. Per ROP No. MI-ROP-N7707-2018 (C) EU-Anti-Squeak (III.1, 2, & 3), I observed that the facility appeared to be capturing and disposing waste materials in an acceptable manner and spent filters were disposed properly in a closed container. I observed VOC containing material containers covered during inspection. Per ROP No. MI-ROP-N7707-2018 (C) EU-Anti-Squeak (IV.1 & IV.2), I observed filters in place for the spraybooths without gaps. Per ROP No. MI-ROP-N7707-2018 (C) EU-Anti-Squeak (V.1), the facility utilized manufacturer's formulation data to calculate for emissions. Per ROP No. MI-ROP-N7707-2018 (C) EU-Anti-Squeak (VI), the facility keeps records of coating VOC content, gallons of coating used and calculations of monthly and monthly 12-month rolling total VOC emission rates for EU-Anti-Squeak. Per ROP No. MI-ROP-N7707-2018 (C) EU-Anti-Squeak (VII), the facility submits the annual and semi-annual

compliance/deviation ROP Report Certification timely. Per ROP No. MI-ROP-N7707-2018 (C) EU-Anti-Squeak (VIII), this emission unit shares a stack (SV-CFLine) with EU-CFLine.

The CY 2019 Annual and Second Semi-Annual ROP Report Certification were received on February 14, 2020 and in compliance with the March 15, 2020 deadline. The CY 2020 First Semi-Annual ROP Report Certification was received on September 10, 2020 and in compliance with the September 15, 2020 deadline. No deviations were reported in the above submitted compliance certifications.

ROP No. MI-ROP-N7707-2018 also included EU-RULine for a new line to produce foam bench seat cushions and backs for automotive applications. During inspection, this line is not yet installed. Although this emission unit was included in the ROP, the 18 months installation deadline from the permit to install issuance (PTI No. 303-06E dated 06/23/2017) is over, per General Conditions No. 2 of PTI No. 303-06E, which is now superseded by PTI No. 303-06F. I discussed this situation with Ms. Moore and informed her that the facility needs to apply for a new permit to install if they decide to install EU-RULine in the future.

The facility also used the water-based adhesive, SIMALFA 309, for repair of cracks and imperfections in some products. The SDS showed no VOC content for this product but contains a proprietary mixture that I will conduct further research on component breakdown.

ROP No. MI-ROP-N7707-2018 contained an emission unit, EU-EMERGEN, for a 1120 kilowatts (kW) diesel-fueled emergency generator. The generator falls under the category of compression ignition (CI) reciprocating internal combustion engine (RICE) that shows a model year of 2013 and has a displacement of 2.7 liters/cylinder. EU-EMERGEN is subject to 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, as a new RICE located at an area source of HAP emissions. An affected source that meets any of the criteria in paragraphs 40 CFR 63.6590(c)(1) through (7), must meet the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR part 60 subpart IIII, for CI engines. From previous inspection and during the 9/18/2020 walk-through inspection, AQD staff verified that the emergency generator is a 1474 Brake Horsepower (BHP), diesel fired Caterpillar RICE.

The AQD has on record several data about the engine. A notice was received on 4/22/2014 for date of installation and startup at 01/03/2014. The engine's rated heat input calculates to about 3.75 MMBtu/hr., thus exempt from permit to install requirements per AQD Administrative Rule R 336.1285(g) (the rated heat input is less than 10 MMBTU/hr). As an emergency generator, the facility is not required to submit initial notification. The engine is V12 and has a total displacement of 32 liters thus falls under < 30 li/cyl displacement category subject to §60.4205(b) and

§60.4211(c) compliance requirements. A USEPA Certificate of Conformity with CCA of 1990 for the same Caterpillar Engine was submitted to meet and as substitute for testing requirements of emission limits.

Per ROP No. MI-ROP-N7707-2018 (C) EU-EMERGEN (IV.2), I observed the non-resettable hour meter at 219.1 hours. Ms. Moore took a photo of the hours meter while we were at the generator site. Per ROP No. MI-ROP-N7707-2018 (C) EU-EMERGEN (III & VI), the facility conducts once a year tune-up through an outside contractor, bi-weekly inspection and 20 minute maintenance runs, and twice per year general inspection of the generator by the outside contractor. Per ROP No. MI-ROP-N7707-2018 (C) EU-EMERGEN (I.1), the NMHC + NO_x certified value for the engine was 4.93 g/kW-hr and less than the 6.4 g/kW-hr permit limit. Per ROP No. MI-ROP-N7707-2018(C)EU-EMERGEN(I.2), the CO certified value for the engine was 0.13 g/kW-hr and less than the 3.5 g/kW-hr permit limit. Per ROP No. MI-ROP-N7707-2018 (C) EU-EMERGEN (I.3), the PM certified value for the engine was 0.018 g/kW-hr and less than the 0.20 g/kW-hr permit limit. Per ROP No. MI-ROP-N7707-2018 (C) EU-EMERGEN (II.1 & VI.3), facility submitted diesel fuel certification from supplier dated 11/15/2017 showing Sulfur content of 15 ppm and minimum Cetane Index of 40. Ms. Moore mentioned that the same fuel is used to fire the engine. I asked for an updated fuel data sheet from the supplier. Per ROP No. MI-ROP-N7707-2018 (C) EU-EMERGEN (III.4 & VI.3), facility submitted records showing beginning and ending operating dates, hours of operation for non-emergency and emergency runs, and description of use. For FY2020, the facility total run time through August 2020 showed 18.2 hours which included 2 hours run time for emergency. If you prorate to December 2020, it appears the total run time will still be less than the 50/100 hours limit for non-emergency operation per year.

The RO permit included FG-Coldcleaners, for any parts washer installed after July 1, 1979 that is exempt from permit to install requirements per AQD Rule R 336.1285(r)(iv) or R 336.1281(h). Per ROP No. MI-ROP-N7707-2018 (D) FG-Coldcleaners, the facility has one parts washer that uses non-halogenated solvent. The facility keeps records of equipment dimensions, vapor pressure, quantity used, type of solvent used, etc. It has an air/vapor interface of less than 10 square feet (36"x18"). During the walk-through inspection, I observed the cover was closed. I observed safety/operating instructions posted by the cover. The solvent used is Super Agitene 141 and contains >97% aliphatic petroleum distillate. For FY 2020, the facility reported purchasing 146.5 gallons of solvent.

Per ROP No. MI-ROP-N7707-2018(D)FG-MACTOOOOOO, the facility submitted the initial/compliance notification requirements dated 8/11/2008. The company showed compliance with the applicable requirements of the standard by certifying that methylene chloride was not used at the facility. Submitted records also showed no methylene chloride in the mold release agent, paste wax, etc.

Overall, I did not observe any noncompliance issues during the inspection.

NAME *[Handwritten Signature]*

DATE September 24, 2020

SUPERVISOR *Joyce [Handwritten Signature]*