

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION

ACTIVITY REPORT: Scheduled Inspection

N770747204

FACILITY: Shelby Foam Systems, a Division of Magna Seating		SRN / ID: N7707
LOCATION: 6200 26 MILE RD, SHELBY TWP		DISTRICT: Southeast Michigan
CITY: SHELBY TWP		COUNTY: MACOMB
CONTACT: Linda Moore, EH&S Specialist		ACTIVITY DATE: 12/04/2018
STAFF: Rem Pinga	COMPLIANCE STATUS: Compliance	
SUBJECT: Level 2 Scheduled Inspection		SOURCE CLASS: MAJOR
RESOLVED COMPLAINTS:		

On December 04, 2018, 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, and the recently issued Renewable Operating Permit (ROP) No. MI-ROP-N7707-2018.

Permit to Install (PTI) No. 303-06E is now incorporated in the ROP No. MI-ROP-N7707-2018. During the inspection, I was accompanied by Ms. Linda Moore, EHS Manager and facility contact person. Prior to conducting the walk-through inspection, I initially showed my credentials and stated the purpose of my inspection to Ms. Moore. During the pre-inspection meeting, I met briefly with Mr. Rene Chauvin, General Manager and facility designated responsible official. Mr. Chauvin talked about recent developments at the plant and potential future changes in response to corporate goals and business needs. I thanked Mr. Chauvin for taking the proactive approach and working with DEQ-AQD to not only keep the facility in compliance with State and Federal regulations but also to continuously explore ways to minimize air emissions and improve the environment.

As a background, Magna Seating of America, Inc. acquired the facility from Faurecia Automotive Seating, Inc. on December 21, 2009. AQD District received Notices of Change of Ownership and Request to Transfer Permit to Install No. 303-06A (effective permit at that time) and Consent Order AQD No. 31-2008 both from Faurecia Automotive Seating, Inc. and Magna Seating of America, Inc. Magna Seating agreed to assume the responsibility for complying with the conditions of the permit to install and the stipulations in the consent order. The facility obtained modified PTI No. 303-08B in June 2011 to remove facility-wide VOC emission restriction of less than 100 tons per year (tpy) thus making the facility a major source for 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 permit contained federally enforceable restrictions on the single and aggregate Hazardous Air Pollutants (HAPs) emissions to make the permit a synthetic minor for HAPs. The facility's Consent Order, AQD No. 31-2008, was terminated on May 2, 2014, per company's request and upon verification that the company has achieved compliance with the terms and

requirements of the Consent Order. The facility is subject to the area source MACT, 40 CFR Part 63 Subpart OOOOOO.

ROP No. MI-ROP-N7707-2018 was issued on August 6, 2018 as renewal ROP to the initial ROP No. MI-ROP-N7707-2013 prior to the it's 5-year cycle expiration. The 5-year cycle of this ROP was set to expire on August 23, 2018. An ROP renewal application was received timely last January 9, 2018. AQD staff Kerry Kelly was assigned to review the application and work on the renewal process. An ROP Application administratively complete letter was sent on 01/30/2018 which also gives the facility an application shield. 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.

The facility manufactures seat cushions used in the production of automotive seats. Currently, the facility operates 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. 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(I.1 & I.2), the facility kept records of individual and aggregate monthly HAP(s) emissions and monthly 12-month rolling time period emissions through November 2018. Per ROP No. MI-ROP-N7707-2018(B)SOURCE-WIDE CONDITIONS(I.1 & I.2), the highest monthly 12-month rolling time period combined HAPs emissions occurred in June 2018 at 0.537 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. Xylene showed the highest monthly 12-month rolling individual HAP emission at 0.367 ton/year for June 2018.

During the walk-through inspection, I observed both the RT Line and CF Line operating. EU-RTLLine 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-RTLLine 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 currently only.

Per ROP No. MI-ROP-N7707-2018(C)EU-RTLine(I.1), the facility's monthly 12-month rolling time period VOC emission rate from January 2018 through October 2018 was highest in January 2018 at 49.2 tons per year (tpy). This VOC emission rate was in compliance with the permit limit of 102 tons/year. The monthly 12-month rolling time period VOC emission rate for October 2018 was 41.5 tpy. Per ROP No. MI-ROP-N7707-2018(C)EU-RTLine(I.2), the facility's monthly 12-month rolling time period Hydrocarbon Naphtha emission rate from January 2018 through October 2018 was highest in January 2018 at 7.99 tpy and less than the 18.7 permit limit. The monthly 12-month rolling time period Hydrocarbon Naphtha emission rate for October 2018 was 6.763 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 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 obtained data sheet from the wax manufacturer for every shipment of wax and utilized formulation data to calculate for emissions. Per ROP No. MI-ROP-N7707-2018(C)EU-RTLine(VI), the facility kept records of mold release VOC contents, raw materials used and calculations of monthly and 12 month rolling VOC emissions for EURT-Line. 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 comprised of 24 individual lid and bowl type molds arranged in a circular carousel (hence the carousel line). This line produced 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 had 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 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 time period VOC emission rate from January 2018 through October 2018 was highest in January 2018 at 20.2 tpy and in compliance with the permit limit of 47 tons/year. The EU-CFLine monthly 12-month rolling time period VOC emission rate for October 2018 was 15.8 tpy. Per ROP No. MI-ROP-N7707-2018(C)EU-CFLine(I.2), the facility monthly 12-month rolling time period

Hydrocarbon Naphtha emission rate from January 2018 through October 2018 was highest in January 2018 at 3.239 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.

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. PTI No. 303-06E that was rolled into ROP No. MI-ROP-N7707-2018 contained applicable requirements to cover 3 spraybooths in EU-Anti-Squeak as expansion from the original single spraybooth. Per ROP No. MI-ROP-N7707-2018(C)EU-Anti-Squeak(I.1), the facility submitted records showing the monthly 12-month rolling time period VOC emission rates from January 2018 through October 2018 was highest in March 2018 at 0.0240 tpy and in compliance with the permit limit of 1.0 tpy. The EU-Anti-Squeak monthly 12-month rolling time period VOC emission rate for October 2018 was 0.0230 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, III.2, & III.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 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 3 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 kept records of coating VOC content, gallons of coating used and calculations of monthly and 12-month rolling VOC emissions 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. The CY 2017 Annual and Second Semi-Annual ROP Report Certification were received on February 9, 2018 and in compliance with the March 15, 2018 deadline. The CY 2018 First Semi-Annual ROP Report Certification was received on August 20, 2018 and in compliance with the September 15, 2018 deadline. No deviations were reported in the above submitted compliance certifications. Per ROP No. MI-ROP-N7707-2018(C)EU-Anti-Squeak(VIII), this emission unit shares a stack (SV-CFLine) with EU-CFLine.

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.

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.

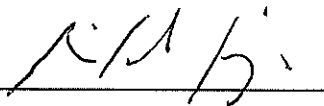
ROP No. MI-ROP-N7707-2018 contained an emission unit, EU-EMERGEN, for a 1120 kilowatts (kW) diesel-fueled emergency generator. The generator falls under the category of compression ignition (CI) reciprocating internal combustion engine (RICE) that shows a model year of 2013 and has a displacement of 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. During the walk-through inspection, I verified that the emergency generator is a 1474 Brake Horsepower (BHP), diesel fired Caterpillar RICE. An ROP certified notice was sent to AQD 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. During inspection and per ROP No. MI-ROP-N7707-2018(C)EU-EMERGEN(IV.2), I observed the non-resettable hour meter at 144.9 hours. Per ROP No. MI-ROP-N7707-2018(C)EU-EMERGEN(III & VI), facility conducts once a year tune-up, bi-weekly inspection and 20 minute maintenance run, and twice per year general inspection of the generator by an outside contractor. Submitted records showed bi-weekly generator inspection. Outside contract general PM was conducted on 08/29/2018 and 12/08/2018. Per ROP No. MI-ROP-N7707-2018(C)EU-EMERGEN(I.1), the NMHC + NOx 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 0.18 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. 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. Records showed for FY2017, the facility total run time was 21.3 hours with zero run for emergency. From January through November 2018, total run time was 23.15 hours and less than the 50/100 hours limit 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 kept 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 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 2017, the facility reported 2x5 gallons of solvent usage.

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, even prior to July 16, 2007, methylene chloride was not used at the facility.

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

NAME



DATE

12/28/2018

SUPERVISOR

