

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

ACTIVITY REPORT: Scheduled Inspection

N770732757

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: Rene Chauvin , General Manager		ACTIVITY DATE: 12/21/2015
STAFF: Rem Pinga	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Level 2 Scheduled Inspection		
RESOLVED COMPLAINTS:		

On December 21, 2015, I conducted a scheduled level 2 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 facility's Renewable Operating Permit (ROP) No. MI-ROP-N7707-2013a. During the inspection, I was accompanied by Mr. Ben Ardelean, Facilities Manager and facility contact person. Prior to conducting the walk through inspection, I initially showed my credentials, stated the purpose of my inspection, and gave a copy of the pamphlet "Environmental Inspections: Rights and Responsibilities" to Mr. Ardelean and Ms. Paula McIntyre.

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. The facility submitted the initial/compliance notification requirements per Subpart OOOOOO 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.

The facility manufactures seat cushions for the production of automotive seats. It normally 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. During the inspection, only the RT Line was operating 3 shifts per day. The CF Line was shutdown 1st week of December due to loss of some business. 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. The facility obtained a modified (minor) renewable operating permit, MI-ROP-N7707-2013a, on April 14, 2014 to remove the applicable requirements for the 749 BHP Caterpillar compression ignition emergency generator that was uninstalled from the facility. I verified that this generator was no longer at the facility during inspection. I also saw a new generator, 1474 BHP diesel fired Caterpillar compression ignition emergency generator. A ROP certified notice was sent to AQD on 4/22/2014 for date of installation and startup at 01/03/2014.

During the inspection, I observed the facility operated only 1 line (emission unit), EU-RTLine, which utilize mold release solvent that contain volatile organic compounds (VOCs) and Hazardous Air Pollutants (HAPs). The EU-RTLine comprised of 32 individual molds lined up in an oval shaped conveyor system similar to a race track (hence RT line). The line was divided into 2 work stations in succession wherein designated manual HVLP applicators sprayed mold release solvent and/or paste wax to the mold prior to injection of polyol/MDI mixture. The lid was sprayed in the first station while the bowl got sprayed in the second work station. The plastic components were mixed at the spray gun and poured into the bowl through robotic applicators at the foam application stage. After the lid was closed, the process underwent a chemical reaction under high pressure to form the polyurethane foam product for bench seat and back seat production. The entire production cycle occurred for about 6 to 6.5 minutes. The line had an exhaust ductwork system at the back to capture any potential air emission releases and exhausted through 4-24" Diameter stacks per MI-ROP-N7707-2013a special condition EU-RTLine (VIII). The line also had an additional exhaust stack, SV-RTLine-01, for heat release currently only.

Per MI-ROP-N7707-2013a special condition EU-RTLine I(1), the facility's monthly 12 month rolling time period VOC emission from January 2015 through November 2015 was highest in April 2015 at 66.9 tons per year (tpy). This was in compliance with the permit limit of 102 tons/year. Per MI-ROP-N7707-2013a special condition EU-RTLine I(2), the facility's monthly 12 month rolling time period Hydrocarbon Naphtha emission rates from January 2015 through November 2015 was highest in January 2015 at 4.803 tpy and less than the 18.7 permit limit. Per MI-ROP-N7707-2013a special condition EU-RTLine II(1), the facility's spray mold release VOC content was reported at 6.1 lb/gallon and less than the 6.2 lb/gallon permit limit. Per MI-ROP-N7707-2013a special condition 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 MI-ROP-N7707-2013a special condition 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 MI-ROP-N7707-2013a special condition EU-RTLine (IV), I observed airless manual applicators were used to spray the mold release. Per MI-ROP-N7707-2013a special condition 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 MI-ROP-N7707-2013a special condition 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 MI-ROP-N7707-2013a special condition 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 foam for bucket seat production. The process was similar to the EU-RTLine 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 back connected to the 36 inches diameter exhaust stack per PTI MI-ROP-N7707-2013a special condition EU-CFLine (VIII) (1). This was 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 MI-ROP-N7707-2013a special condition EU-CFLine(IV)(1). As stated earlier, this line was shutdown early December due to loss of some business. Per MI-ROP-N7707-2013a special condition EU-CFLine(I)(1), the facility submitted records showing the monthly 12 month rolling time period VOC emission rates from January 2015 through November 2015 had highest figures in January 2015 at 31.3 tpy and in compliance with the permit limit of 47 tons/year. Per MI-ROP-N7707-2013a special condition EU-CFLine(I)(2), the facility monthly 12 month rolling time period Hydrocarbon Naphtha emission rates from January 2015 through November 2015 had highest figures in January 2015 at 1.646 tpy and in compliance with the permit limit of 8.7 tpy. Per MI-ROP-N7707-2013a special condition EU-CFLine II(1), the facility's spray mold release VOC content was reported at 6.1 lb/gallon and less than the 6.2 lb/gallon permit limit. Per MI-ROP-N7707-2013a special condition 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 foams from EU-RTLine 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. EU-Anti-Squeak consists of a three-sided spraybooth. Per MI-ROP-N7707-2013a special condition EU-Anti-Squeak (I)(1), the facility submitted records showing the monthly 12 month rolling time period VOC emission rates from January 2015 through November 2015 had highest figures in April 2015 at 0.0145 tpy and in compliance with the permit limit of 1.0 tpy. Per MI-ROP-N7707-2013a special condition 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 MI-ROP-N7707-2013a special condition EU-Anti-Squeak (III)(1, 2, & 3), the facility appeared to be capturing and disposing waste materials in an acceptable manner, filters were disposed properly, and I observed containers covered at all times during inspection. Per MI-ROP-N7707-2013a special condition EU-Anti-Squeak (IV)(1 & 2), I observed filters in place for the spraybooth and HVLP spray guns were used. Per MI-ROP-N7707-2013a special condition EU-Anti-Squeak (V), the facility utilized formulation data to calculate for emissions. Per MI-ROP-N7707-2013a special condition EU-Anti-Squeak (VI), the facility kept records coating VOC content, gallons of coating used and calculations of monthly and 12 month rolling VOC emissions for EU-Anti-Squeak. Per MI-ROP-N7707-2013a special condition EU-Anti-Squeak (VII), the facility submits the annual and semi-annual compliance/deviation ROP Report Certification timely. Per MI-ROP-N7707-2013a special condition EU-Anti-Squeak (VIII), this emission unit shares a stack (SV-CFLine) with EU-CFLine.

The facility also uses a water based adhesive, SIMALFA 4558, for repair of cracks and imperfections in some products. The MSDS showed no VOC content for this product.

The RO permit contained a fourth emission unit, EU-Coldcleaner, 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). This emission unit is reflected in the ROP as a flexible group, FG-Coldcleaners.

Per MI-ROP-N7707-2013a special condition 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"x16"). During the inspection, I observed the cover was in place and 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 2015, the facility reported < 5 gallons of solvent usage.

Per MI-ROP-N7707-2013a special condition SOURCE-WIDE CONDITIONS(VI), the facility kept records of individual and aggregate monthly HAP(s) emissions and monthly 12 month rolling time period emissions through November 2015. Per MI-ROP-N7707-2013a special condition SOURCE-WIDE CONDITIONS (I)(1 & 2), the highest monthly 12 month rolling time period combined HAPs emissions occurred in March 2015 at 1.189 tons and below 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 0.976 ton/year for March 2015.

The facility removed the standby 749 brake horsepower diesel fired Caterpillar

emergency generator thus requested to revise the facility's Clean Air Act of 1990, Title V, Renewable Operating Permit (ROP), ROP No. MI-ROP-N7707-2013 and subsequently obtained MI-ROP-N7707-2013a.

Subsequently, the facility bought a new emergency generator, 1474 Brake Horsepower (BHP), diesel fired Caterpillar, compression ignition (CI) reciprocating internal combustion engine (RICE). 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). However, the generator appeared to be subject to 40 CFR 63 Subpart ZZZZ as an area source reciprocating internal combustion engine (RICE) MACT. Subpart ZZZZ referenced the facility to 40 CFR 60 Subpart IIII, New Source Performance Standard (NSPS) for compression ignition internal combustion engine. As an emergency generator, the facility is not required to submit initial notification. Per facility contact, 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. The non-resetable hour meter recorded 41 and 70 hours on 11/30/2014 and 12/15/2015 respectively showing less than 50 hours of operating time within one year time frame. Records showed bi-weekly generator inspection, general PM conducted 01/28/2015 including filter and oil change, etc...

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

NAME

Jim Ji

DATE

1/27/2016

SUPERVISOR

CJE

