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MANILA

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

P055329227

FACILITY: WINDSOR MACHINE & STAMPING US LTD		SRN / ID: P0553
LOCATION: 26655 NORTHLINE ROAD, TAYLOR		DISTRICT: Detroit
CITY: TAYLOR		COUNTY: WAYNE
CONTACT: Mike Moran , Plant Manager		ACTIVITY DATE: 04/23/2015
STAFF: Todd Zynda	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: 2015 Targeted Inspection		
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Targeted Inspection

INSPECTED BY: Todd Zynda, AQD

PERSONNEL PRESENT: Michael Moran, Plant Manager; Leo Buk, EHS Manager

FACILITY PHONE NUMBER: (734) 941-7320

FACILITY FAX NUMBER: (734) 941-6208

FACILITY WEBSITE: windsormachine.com

FACILITY BACKGROUND

Windsor Machine and Stamping Ltd. (Windsor), an automotive component manufacturer, is located in an 80,000 square foot (ft²) facility at 26655 Northline Road, Taylor, Michigan. The facility is bordered by industrial and commercial property to the west and east. Residential property is located to the north and south. The nearest residential properties is located approximately 400 feet to the northwest.

The facility has the capability to operate, for nearly 24 hours a day, seven days a week, and operates as such depending on customer needs. Windsor currently has 248 employees.

Windsor was issued permit to install (PTI) 151-14 on November 7, 2014 for the operation of a reaction injection molding (RIM) line. PTI 151-14 is a Title V Opt-Out permit by limiting volatile organic compound (VOC) emissions to less than 100 tons. The facility is also considered a synthetic minor for hazardous air pollutants (HAPs) because PTI 151-14 limits HAP emissions to less than 10 tons per year on an individual HAP basis and less than 25 tons per year on an aggregate HAP basis.

PROCESS OVERVIEW

The facility operates a RIM Line used for making foam head rests for automotive applications. The RIM line consists of a series of 24 carriers with 41 tools with up to 2 molds per carrier, arranged on a circular carousel. There are four stations on the carousel. At the first station, a mold release agent is manually applied and sometimes a paste wax is manually applied. Particulate emissions are controlled by filters. At the second station, a mold release agent is sprayed into the mold using a robotic arm in a partially enclosed booth. At the third station, foam components (polyol and methylene diisocyanate [MDI]) are mixed together under high pressure in a mix head and then injected in to the mold using a robot. The mold is then closed automatically and the reacted foam material expands in the mold forming the head rest. The mold line is heated by electricity to 125 to 130 degrees Fahrenheit (°F). At the fourth station, the mold is opened and the part is removed.

The facility also operates machining and welding equipment for the manufacture of metal head rest parts. The facility operates five steel drawing lines, thirteen robotic welding stations, bending and forming stations, and five headrest assembly areas. These additional manufacturing areas are exempt from PTI requirements.

COMPLAINT/COMPLIANCE HISTORY

There have been no complaints for this facility.

There are no previous inspections for this facility on file.

OUTSTANDING CONSENT ORDERS

None

OUTSTANDING VIOLATION NOTICES

None

INSPECTION NARRATIVE

On April 23, 2015 the Michigan Department of Environmental Quality (MDEQ) Air Quality Division (AQD) inspector, Mr. Todd Zynda, conducted a level 2 unannounced inspection of Windsor at 26655 Northline Road, Taylor, Michigan. During the inspection, Mr. Mike Moran, Plant Manager, and Mr. Leo Buk, EHS Manager, provided information and a tour of facility operations relating to air quality permits. The inspection was conducted to determine the facility's compliance with the Natural Resources and Environmental Protection Act (NREPA), Act 451, Part 55, and PTI 151-14.

At 10:30 AM, AQD arrived onsite and performed outside observations. No visible emissions or odors were observed at the facility. At 10:35 AM AQD entered the facility, stated the purpose for the inspection, and was greeted by Mr. Buk. During the opening meeting the facility operations and PTI conditions were discussed. Mr. Buk was new to the position at Windsor (approximately three weeks) and was getting up to speed on PTI requirements. After a brief review of record keeping requirements, Mr. Moran joined for a tour/inspection of the facility.

The inspection began with observation of the steel drawing machines. The steel is drawn to specified gauge and then cut for bending. Emissions from the steel drawing machines and metal cutting machines are released to the general in-plant environment.

Following observation of the steel drawing machines, the robotic bending and forming stations, along with the robotic welding stations were observed. Any emission from the bending and forming stations is released to the general in-plant environment. Each robotic welding station is vented to outside ambient air through its own individual stack at roof level. The robotic welding is completed in a semi closed booth.

During the inspection, the RIM line was in operation and was observed. A description of the RIM line operation is found above under Process Overview. During the inspection, the manual application of the mold release was conducted using a hand held sprayer. According the operator of the RIM line, the exhaust filters are changed out weekly. At the time of the inspection the filters were in place. The RIM line is cleaned and maintenance is performed on Fridays or Saturdays. According the operator, the paste wax is applied on an as needed basis, but is usually applied at minimum of once per week. During the inspection it appeared that all waste material associated with the RIM line was stored in closed containers. According to Mr. Moran and Mr. Buk, the facility has changed mold release agent and paste wax. The new mold release agent has a lower VOC content, and therefore reduces the VOC emissions associated with the RIM line. Mr. Moran also described the configuration of the proposed second RIM line. While the design has not been completed, it is proposed that the second line will use the same exhaust stack as the current line. Duct work will be reconfigured so that emissions from both lines can be controlled by one exhaust system. The installation of the second line will require an addition onto the existing building.

The facility also operates a cold cleaner. During the inspection, the cold cleaner was observed to have its lid closed and to have proper operating procedures posted. The cold cleaner was approximately 2 feet by 3 feet (air/vapor interface less than 10 square feet). The material safety data sheet for the cold cleaner material was requested.

Finally, the 5 assembly cells were observed. At each cell, the foam headrest is combined with the metal framing and is packaged for shipment. Emissions are not generated at these locations.

Following the inspection, a discussion was held regarding the facility installing a second RIM line. Mr. Moran stated that Windsor has hired a consultant (Ms. Jillian Koebbe, Air & Water Compliance Group, LLC) who has been evaluating the impacts of adding the second RIM line and to evaluate the change in emissions due to the change in mold release agent and paste wax. Mr. Moran stated that AQD should contact the consultant directly to request the records required to demonstrate compliance with PTI 151-14 and to discuss future permitting needs.

On April 27, 2014 a phone call was held with Ms. Koebbe. Ms. Koebbe stated that Windsor will be submitting a PTI application for the installation of the second RIM line, and to demonstrate impacts of the use of the new mold

release agent and paste wax, along with modeling changes due to the change in configuration of the building. Ms. Koebbe stated that she will be providing the requested records on behalf of Windsor to demonstrate compliance with PTI 151-14. The requested records were received on May 4, 2015. The most current Safety Data Sheets (SDS) for the mold release and paste wax used were provided on May 8 and May 21, 2015. Correspondence is provided in Attachment A.

APPLICABLE RULES/PERMIT CONDITIONS

PTI 151-14

PTI 151-14 was issued on November 21, 2014. The Special Conditions (SC) are listed as appropriate. For brevity, permit conditions and the language of federal and state rules have been paraphrased.

EUHRLine

SC I.1. IN COMPLIANCE. 12-month rolling VOC emissions shall not exceed 73.7 tons per year (tpy). The highest 12-monthly rolling VOC emission since PTI 151-14 was issued is 39.32 tpy (January 2015). Prior to that, the highest 12-month rolling VOC emission was 45.98 tpy, which occurred during August 2014, and prompted the company to obtain a PTI. The company calculates VOC emissions from mold release and paste wax emissions. 12-month rolling VOC emission calculations utilize original material safety data sheet (MSDS) volatility ranges for both the mold release agents and paste waxes. Additional information provided on May 8, 2015 and May 21, 2015 contain the most current volatility percentages for paste waxes and mold release agents. While the change in volatility percentages will change 12-month rolling VOC emissions, it is not expected that new calculations will result in an exceedance of the 12-month rolling VOC limit. It is recommended that the company revise spreadsheet records to reflect the current volatility percentages for mold release agents and paste waxes as defined in most up to date SDS.

SC II. 1 and SC VI. 2. IN COMPLIANCE. VOC content of spray mold release shall not exceed 6.3 lb/gal (minus water) as applied. The facility has used two mold release agents (PU11166 and PU11402). Both mold release agents do not contain any water and are applied as received. The MSDS for both mold release agents were provided in the May 4, 2015 submittal. The facility calculates the VOC content based on the bulk density and volatility rating. The most recent SDS for PU11402 was provided on May 8, 2015 and indicates a volatility rating of 95.45 percent. The calculated VOC content of both mold release agents is less than 6.3 lb/gal (minus water).

Product	Bulk Density (#/gallon)	Volatility	VOC Content (#/gal)
PU11166	6.26	90 to 100 %	6.26 (assuming 100% volatility)
PU11402	6.51	95.45%	6.21

SC II. 2 and SC VI. 2. IN COMPLIANCE. VOC content of the paste wax shall not exceed 5.3 lb/gal (minus water) as applied. The facility has used two paste waxes (White and Red Paste Wax). Both paste waxes do not contain any water and are applied as received. Similar to the mold release agents, the VOC content is calculated using the bulk density and the volatility rating. The most recent SDS for the red paste wax was provided on May 8, 2015 and indicates a volatility rating of 64 percent. The most recent SDS for the white paste wax was provided on May 21, 2015 and indicates a volatility rating of 76.4 percent. The calculated VOC content of both paste waxes is less than 5.3 lb/gal (minus water).

Product	Specific Gravity	Bulk Density (#/gal)	Volatility	VOC Content (#/gal)
White Paste Wax (Rikeizai H-179K-1)	0.78	6.51	76.45%	4.97
Red Paste Wax (MP-10007)	0.78	6.51	64%	4.16

SC III. 1. IN COMPLIANCE. All waste material shall be captured and stored in closed containers. During the inspection it appeared that all waste material was captured properly and were stored in closed containers.

SC III. 2. IN COMPLIANCE. Spent filters shall be disposed of in a manner that minimizes the introduction of air

contaminants. During the inspection, the disposal of spent filters was not observed. However, the area surrounding the RIM line and waste material area was well maintained indicating that spent filter are properly handled.

SC III. 3. **IN COMPLIANCE.** VOC and/or HAP containing material shall be used in a manner to minimize the generation of fugitive emissions. During the inspection VOC and/or HAP containing material appeared to be handled in a way to minimize fugitive emissions.

SC IV 1. **IN COMPLIANCE.** Exhaust filters are installed, maintained, and operated in a satisfactory manner. During the inspection filters were in place and appeared to be properly maintained.

SC IV. 2. **IN COMPLIANCE.** EU-HRLINE shall be equipped and maintained with electrostatic spray guns, HVLP applicators or comparable technology. During the inspection, the spray guns met this requirement.

SC VI. 3. **IN COMPLIANCE.** Shall maintain the following information on a monthly basis: gallons with water of each VOC containing material, VOC content (minus water and with water) of each material, VOC emission calculations per calendar month, VOC mass emission calculations (12-month rolling). The facility maintains the above listed information as documented in the May 4, 2015 submittal. The mold release agents and waste waxes used do not contain water. The facility appears to be properly tracking VOC emissions on a monthly and 12-month rolling basis.

SC VIII.1. **IN COMPLIANCE.** Stack for RIM line (SV-HRLLine-01) has a maximum diameter of 21 inches, and a minimum height of 35 feet. During the inspection measurements of the stack were not collected. The stack appears to be in compliance based on visual estimation.

SC IX. 1. **UNKNOWN.** Shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutant (NESHAP) as specified in 40 CFR Subpart OOOOOO for the Flexible Polyurethane Foam Production and Fabrication Industry. AQD currently is not the delegated authority for this regulation. Therefore, Subpart OOOOOO was not evaluated.

FG-Facility

SC I. 1. and 2 SC VI. 2. d and e. **IN COMPLIANCE.** Hazardous Air Pollutant (HAP) emissions limited to less than 9.0 tons per 12-month rolling time period for each individual HAP and 22.5 tons per 12-month time period for combined HAPs. The highest 12-month rolling of total HAPs was 7.59 E-2 tons and occurred during March 2015. The 7.59 E-2 tons is significantly less than 22.5 tons for total HAPs and 9 tons for individual HAPs.

SC V. 1. **IN COMPLIANCE.** Shall determine the HAP content of any material as received and as applied, using manufacturer's formulation data. The HAP content is determined by manufacturer formulation data. Since the formulations are confidential, the facility conservatively reports the threshold levels of each HAP in the formulation. The facility claims that the thresholds are considerably higher than actual concentrations of each HAP

SC VI. 2 a, b and c. **IN COMPLIANCE.** Shall keep the following information on a calendar month basis: gallons or pounds of each HAP containing material, gallons or pounds of HAP material reclaimed (if applicable), and HAP content of each HAP containing material used. The facility maintains the above information as demonstrated in May 4, 2015 submittal.

Permit to Install Exempt Equipment

Steel Wire Drawing Machines and Bending/Forming Machines

The steel wire drawing machines are exempt from permit to install (PTI) requirements under the following Rule.

R336.1285(l)(i): "Permit to install does not apply to...equipment and any exhaust system collector exclusively serving equipment used exclusively for bending, forming, expanding, rolling, forging, pressing, drawing, stamping, spinning, or extruding either hot or cold metals."

Robotic Welding Stations

The robotic welding stations at the facility are exempt from PTI requirements under the following Rule.

R. 336.1285(i): "The requirement to obtain a PTI does not apply to..brazing, soldering, welding, or plasma

coating equipment".

Metal Cutting Machines

The above listed equipment is exempt from PTI requirement under the following Rule.

R336.1285(l)(vi)(B): "The requirement to obtain a PTI does not apply to.. equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, , sanding, planning, buffing, etc...metal.. and has emissions that are released only into the general in-plant environment.

Cold Cleaner

The cold cleaner at the facility is exempt from PTI requirements under the following Rule.

R336.1281(h): "The Requirement of R 336.1201(1) to obtain a permit to install does not apply to.. Cold cleaners that have an air/vapor interface of not more than 10 square feet."

The facility provided the cold cleaner solvent MSDS in the May 4, 2014 submittal. The cold cleaner is not heated during use and has a Reid Vapor Pressure of less than 0.1 psia. During the inspection the cold cleaner is in compliance with applicable requirements of Michigan Rule 707.

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS:

Not applicable. All lots are paved.

FINAL COMPLIANCE DETERMINATION:

At this time, this facility appears to be in compliance with PTI 151-14 and federal and state regulations. The company plans to submit a new PTI application for the installation of the second RIM line and to clarify the use of the new mold release agent and paste wax. It is recommended that the company update their spreadsheets used for tracking emissions to reflect the most up to date volatility percentages for paste waxes and mold release agents used.

NAME 

DATE 5/21/15 SUPERVISOR JK