DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

N127632929

FACILITY: WEBASTO SUNROOFS INC		**SRN / ID:** N1276
LOCATION: 2700 PRODUCT DR, ROCHESTER HLS		**DISTRICT:** Southeast Michigan
CITY: ROCHESTER HLS		**COUNTY:** OAKLAND
CONTACT: Sachin Shivashankar , HSE Manager		**ACTIVITY DATE:** 12/21/2015
STAFF: Francis Lim	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

On December 21, 2015, I conducted an inspection at Webasto Roof Systems, Inc. located at 2700 Product Drive, Rochester Hills. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Rules and conditions of Permit-to-Install No. 84-05. Mr. Sachin Shivashankar is the new Health, Safety, and Environmental Manager of Webasto Roof Systems. Mr. Tom Stangelwicz, Assembly Manager assisted during the inspection. Since Sachin is relatively new to his position, he requested a meeting to discuss the recordkeeping requirements of the facility.

Webasto is an OEM moonroof manufacturer. Manufacturing is done at 2700 Product Drive. Facility operates with 2 shifts, 5 days a week.

Facility operates an R & D facility at another building adjacent to the manufacturing building. Equipment at the R & D facility includes an environmental chamber (simulate extreme weather conditions), vibration testing (shakers), water testing (leak testing). I did not notice any significant source of air emissions at the R & D facility.

Facility currently operates 4 moonroof glass assembly lines, Line G1, G3, G4, and G5. In the robotic work cell for the glass assembly line, a robot applies both a clear and black primer on the glass periphery so that the adhesive can stick properly to the glass. The clear primer is actually a cleaner but also serves to etch the glass. Another robot applies the urethane based adhesive.

Line G1 (older technology) uses a disposable felt to apply the clear and black primer. The disposable felt is cut off and discarded after each use (clear or black primer application) and disposed as hazardous waste. The applicator tip is purged with a small amount of MEK after each application. The purge system is a "closed loop", where a very small amount of MEK from a closed fresh MEK tank is used to purge the black primer and deposited in a second closed used MEK tank.

Line G3 uses a felt tape that rotates after each application cycle, to apply the clear and black primer. The applicator tip is purged with MEK after each application cycle. The purge system also has a closed loop purge system similar to Line 1.

Line G4 and G5 also use a felt tape that rotates after each application cycle to apply the clear and black primer. The applicator tip is purged with MEK after each application cycle. But instead of a closed loop, the used MEK is deposited in an open container.

During the off-shift when there is no production, the black primer is recirculated in the line to prevent buildup and hardening of the black primer in the lines. The used MEK is not reused for purging. All used MEK is disposed of as hazardous waste. Note that the facility reports all MEK used in the purging as VOC emissions even though majority of the MEK purge solvent is actually recycled and not emitted at the facility.

After the glass leaves the robotic work cell, a metallic frame and rubber seal is manually installed on the glass. Urethane adhesive is used. In some applications, an adhesion promoter is used before the adhesive is applied. Usage of the adhesion promoter is very low.

Butyl sealant is applied to the front rails and the end caps of the sunroof assembly frame. The butyl sealant is applied to prevent water leaks in the moonroof module. Butyl sealant contains heptane. Facility also uses a solvent free sealant (Tero Stat 962). This sealant is heated prior to application.

The rest of the assembly process consists of putting together the glass, sunshade, motor, module and other components.

Facility does not manufacture the sunshade. This is subcontracted out to Mexico. For quality control, facility supervises closely the sunshade manufacturing operations.

Prior to packaging, the moonroof glass is cleaned using ethanol dispensed from small bottles. Facility also use premoistened

wipes for cleaning. This is included in the VOC/HAP emissions. Usage is low.

Permit-to-Install No. 84-05 is for the W1-G1 (now G1) glass line, FG-W2 (now G3) glass line, and SRX (now gone) glass line. Facility claims G4 and G5 glass lines are each exempt under Rule 290.

Material usage is logged. The urethane adhesive and butyl sealant contain a small amount of VOC. The facility also uses a solvent free Butyl sealant. This adhesive is heated prior to application.

Special Cond 1.1a. Limit for Line G1 glass line is 13.0 tpy VOC as determined each month based on a rolling 12-month period. Facility calculates emissions monthly. For the 12-month period ending December 2015, 12-month rolling emissions are 4.56 tons VOC for Line G1 and Line G3 combined.

Special Cond 1.2. All waste materials are stored in closed containers and disposed of in an acceptable manner.

Special Cond 1.3. VOC content is determined using formulation data, as allowed in permit.

Special Cond 1.4. All required calculations are completed monthly.

Special Cond 1.5. Facility maintains current listing of chemical composition of primer, adhesive, and sealant using MSD and Technical data Sheets from manufacturer.

Special Cond 1.6. Facility keeps the following information on a monthly basis: usage of clear primer, black primer, MEK, ethanol, urethane adhesive, and butyl sealant; VOC mass emissions per month; and VOC mass emissions per 12-month rolling time period.

Special Cond 1.7. Exhaust stack for Line G1 is as specified in permit condition.

Special Cond 2.1a. Limit for Line G3 glass line is 14.7 tpy as determined each month based on a rolling 12-month period. Facility calculates emissions monthly. For the 12-month period ending December 2015, 12-month rolling emissions are 4.56 tons VOC for line G1 and Line G3 combined.

Special Cond 2.2. All waste materials are stored in closed containers and disposed of in an acceptable manner.

Special Cond 2.3. VOC content is determined using formulation data, as allowed in permit.

Special Cond 2.4. All required calculations are completed monthly.

Special Cond 2.5. Facility maintains current listing of chemical composition of primer, adhesive sealant using MSD and Technical data Sheets from manufacturer.

Special Cond 2.6. Facility keeps the following information on a monthly basis: usage of clear primer, black primer, MEK, ethanol, urethane adhesive, and butyl sealant; VOC mass emissions per month; and VOC mass emissions per 12-month rolling time period.

Special Cond 2.7. Exhaust stack for Line G3 is as specified in permit condition.

Special Cond 3.1a and Special Cond 3.2a. Facility-wide individual HAP limit is 9.0 tpy and facility-wide aggregate HAP limit is 22.5 tpy. Although facility actually keeps individual HAP monthly and yearly individual HAP emissions, total HAP emissions is even lower than the individual HAP limit. For the 12-month period ending February 2015, 12-month rolling total HAPs emissions are 2.98 tons. This includes HAPs from all operations including glass lines G1 and G3 and exempt glass lines G4 and G5.

Special Cond 3.2. HAP content is determined using formulation data, as allowed in permit.

Special Cond 3.3. All required calculations are completed monthly.

Special Cond 3.4. Facility keeps the following information on a monthly basis: material usage records; HAP content of each HAP containing material; HAP individual and aggregate mass emissions per month; and HAP individual and aggregate mass emissions per 12-month rolling time period.

NOTE: This facility conducts due diligence in calculating emissions. A few minor issues were noted. The emissions for line G1 and G3 were combined instead of separating it. However for purposes of determining compliance, the combined calculated emissions are lower than Line GI and Line G3 individual limits. In determining the monthly emissions, Sachin used totals for the six-month period and divided by 6. Sachin was informed of the recordkeeping issues noted. It was followed up by email.

Facility submitted Rule 290 calculations for G4 and G5. These two lines produce the panoramic moonroof, with each module containing a front and rear glass panel. Since these lines do not use a heptane based butyl sealant, emissions are lower. Reported emissions from both G4 and G5 were combined. I noted that with the combined emissions calculation, facility reported 0.52 tons VOC emissions from August to December, slightly over the 1000 pounds per month limit for each emission unit. Sachin was informed that G4 and G5 are separate emission units and emission calculations should be separated.

NAME _____ DATE 02-04-14 SUPERVISOR CJE