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

N379646659

FACILITY: MOON ROOF CORP OF AMERICA		**SRN / ID:** N3796
LOCATION: 28117 GROESBECK, ROSEVILLE		**DISTRICT:** Southeast Michigan
CITY: ROSEVILLE		**COUNTY:** MACOMB
CONTACT: Michael Spencer , Plant Manager		**ACTIVITY DATE:** 10/02/2018
STAFF: Adam Bognar	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On Tuesday, October 2, 2018, Michigan Department of Environmental Quality-Air Quality Division (MDEQ-AQD) staff, I, Adam Bognar, conducted an unannounced scheduled inspection of Moon Roof Corporation (MRC), located at 28117 Groesbeck, Roseville, MI 48066. The purpose of this inspection was to determine the facility's compliance status 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 Permit to Install 132-93.

I arrived at the facility at around 10 am. I met with Mr. Michael Spencer, Plant Manager. I identified myself, provided credentials, and stated the purpose of the inspection. Mr. Spencer gave me a tour of the facility.

Moon Roof Corporation manufactures plastic automotive bodywork using Reaction Injection Molding (RIM) and standard injection molding. Most of these parts are supplied to collision shops as replacement parts for damaged automobiles. Automobile manufacturers must make all parts of an automobile available to the consumer for a period of 10 years after the manufacturing date of the vehicle. MRC, among other things, is one of the many companies that produce these replacement parts. There approximately 100 employees working at MRC.

PTI 132-93: Enamel Coating Booth
Permit to Install 132-93 was issued on May 8, 1993 for one 8' x 7'x 6' paint spray booth. This booth is used to enamel automotive body work after injection molding. The enamel is a two-part urethane consisting of hexamethylene diisocyanate (catalyst) and n-butyl acetate/cyclohexanone based flat black enamel. A reducer is also used to thin the mixture. The enameled parts enter a curing oven after being coated in this mixture.

Safety Data Sheets for the catalyst, enamel, and reducer are attached. Also attached is the most recent purchase of material. The attached purchase order represents the amount of paint purchased every 6-8 weeks. Mr. Spencer estimates that total coating usage is less than 100 gallons per month.

Special Condition 15: Restricts VOC emission rate from the paint booth to 7.5 lbs per hour and 3.8 tons per year. Based on the purchase records provided, the total amount of coating purchased every 6-8 weeks is 52 gallons. This includes 25 gallons of reducer, 25 gallons of enamel, and 2 gallons of catalyst. If it is assumed that this purchase is made every 6 weeks, then approximately 9 purchases of this size will be made annually for a total of 468 gallons. Assuming a VOC density of 7.5 lbs/gallon, this usage would indicate a potential VOC emission rate of 1.8 tons per year.

The VOC emission rate will likely be less than 1.8 tons per year in actual application. These coating materials are not 100% VOC. Additionally, much of the VOC content will polymerize and become part of the solid enamel. It is more difficult to evaluate compliance with the hourly emission rate. I informed Mr. Spencer that his coating usage needs to be less than 1 gallon per hour at all times to comply with this condition. This process appears to meet the emission limits of this condition.

Special Condition 16: States that there shall be no visible emissions from the booth. I did not notice any visible emissions during my inspection.

Special Condition 17: Requires MRC to keep records of the volume of coating used in this booth and the VOC content of any coating used. Mr. Spencer was able to estimate his coating usage by providing me with a recent purchase record. I informed Mr. Spencer that he needs to document the actual amount of coating used going forward and that usage records need to be kept for at least two years. The Safety Data Sheets provided to me indicate the VOC content of the enamel components.

Special Condition 18: States that the coating booth shall not be operated unless the dry exhaust filters are in place and operating properly. MRC uses a single large filter sheet for their exhaust filter. The filter was in place during my inspection. I noticed that there was a small spot where the filter was not fully covering the exhaust

port. I instructed Mr. Spencer to make sure that the filter is fit tightly on the exhaust port such that there are no filter gaps between the booth and the outdoors. Mr. Spencer agreed to be more attentive in keeping the filter functioning properly.

Special Condition 19: Specifies stack requirements. I did not verify stack parameters during this inspection. Exhaust gases appeared to be discharged unobstructed upwards to the ambient air.

Injection Molding

There are two active reaction injection molding (RIM) machines (closed mold). These machines were installed in 1993 along with the paint booth. Mr. Spencer stated that automotive industry is moving away from reaction injection molding and moving towards standard injection molding due to the increasing cost of RIM raw materials and other favorable characteristics of standard injection molding. As a result, several other RIM machines have been decommissioned over the years. These RIM machines appear to be exempt from Rule 201 requirements pursuant to Rule 286 (2)(e).

In the last several years MRC has installed and commenced operation of four plastic injection molding machines. One of these machines is quite large and is capable of delivering 3,000 tons of clamping force. Feed components can include thermoplastic olefin (TPO), thermoplastic polyurethane (TPU), acrylonitrile butadiene styrene (ABS), polypropylene, and nylon. These injection molding machines appear to be exempt from Rule 201 requirements pursuant to Rule 286 (2)(b).

Compliance Determination

This facility appears to be in 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); and Michigan Department of Environmental Quality-Air Quality Division (MDEQ-AQD) Administrative Rules.

NAME Adam Bogos DATE 10/15/2018 SUPERVISOR SK