

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

N694450303

<b>FACILITY:</b> Pregis	<b>SRN / ID:</b> N6944
<b>LOCATION:</b> 2700 Wills Street, MARYSVILLE	<b>DISTRICT:</b> Southeast Michigan
<b>CITY:</b> MARYSVILLE	<b>COUNTY:</b> SAINT CLAIR
<b>CONTACT:</b> Marsha Hicks , Environmental Health and Safety Coordinator	<b>ACTIVITY DATE:</b> 08/02/2019
<b>STAFF:</b> Kaitlyn Leffert	<b>COMPLIANCE STATUS:</b> Compliance
	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> FY2019 Scheduled Inspection. Pregis appears to be in compliance with the conditions of its permit. Since the last inspection of the facility, a new pyrolytic oven has been installed, which appears to exempt. Additional follow-up may be needed to confirm that this equipment is exempt.	
<b>RESOLVED COMPLAINTS:</b>	

On August 2<sup>nd</sup>, I conducted a scheduled inspection of Pregis Marysville, located at 2700 Wills Street, Marysville, Michigan. Pregis Marysville is permitted to operate four extruders used for manufacturing polyethylene foam products, as well as two reclaim extruder units used to recycle foam. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the administrative rules; and Renewable Operating Permit (ROP) Number MI-ROP-N6944-2017.

I arrived at the site around 9:00am and met Marsha Hicks, Environmental Health and Safety Coordinator. John Von Zellen, Maintenance Manager and Environmental Supervisor was also present for the inspection. We first went over the required recordkeeping and then did a facility walk-through.

Pregis is permitted to operate four extruders for polyethylene and other polymer sheet and profile extrusion, as well as two reclaim extruders used to recycle scarp foam. All emission units are covered by one flexible unit: FG-FACILITY.

### Recordkeeping

Per S.C. V.1, Pregis is required to perform smoke tests at least once every six months in order to confirm that air is not escaping the non-fugitive enclosure through natural draft openings. I reviewed smoke test records and confirmed that they were completed on a schedule of every six months. The smoke tests are done at all nine natural draft openings in the building. The results from the tests indicated that negative pressure is being adequately maintained throughout the non-fugitive area. A copy of the smoke test results from the test done on January 7, 2019 is attached.

S.C. VI.2 requires Pregis to maintain records of VOC emission calculations, both in pounds per 8 hours and on a 12-month rolling emission rate. During the inspection, Ms. Hicks and Mr. Von Zellen had numerous binders of emission records, organized by type of record and year. I reviewed emission calculation records for 2019 thus far. A monthly emission summary, which includes 12-month rolling emissions calculations, is attached to this report. The twelve-month rolling average as of June 2019 was 124.3 tons per year. This is below the permitted VOC emission limit of 178.0 tpy (S.C. I.1).

Per S.C. VI.4, the 8-hr emission rate should be based on the rolling hourly emission rate determined each hour. A copy of the daily emission report for July 31<sup>st</sup>, with hourly emission rates, is attached. Based on the records provided by the facility, the 8-hr emission rate is under the permitted limit of 476 lb/8-hr (S.C. I.2). On July 31<sup>st</sup>, the highest rolling 8-hr emission rate was 250 lb/8-hr period.

S.C. VI.5 requires that Pregis keep records of the amount of isobutane blowing agent used in the four extruders on a daily, monthly, and 12-month rolling period basis. During my inspection, records of isobutane usage were readily available. The attached emission summary shows monthly isobutane usage in pounds (isobutane is denoted as C4 in the record).

S.C. VI.6 requires the facility to maintain records of daily, monthly, quarterly, semi-annual, and annual inspection of the control and monitoring system. All records were available on the day of the inspection. Attached are copies of daily and annual maintenance checks of the monitoring system. The provided records indicate that the monitoring system is operating properly, without any significant issues.

During the inspection, I was also provided a copy of a VOC Check List, which is used to track VOC readings and operations of the equipment. This checklist is not required by the permit conditions, but is a record used by the facility to ensure that the emissions monitor, ionization control, and operation of the extruder lines are all being regularly checked for proper operation. Readings are typically made 3-4 times per day.

### **Facility Inspection**

Pregis operates four extruders, which are used to produce polyethylene foam products. The foam products manufactured by Pregis are used for a variety of purposes, including foam cushioning underneath flooring and packaging for electronics. Depending on the customer and end use of the foam product, the foam materials can be produced at various thicknesses and densities. The extruder lines all have varying capacities. Two extruders have a capacity of 500 lb/hour, one has a 600 lb/hour capacity, and the other has a 1,400 lb/hour capacity.

All four extruder lines were operating on the day of my inspection. Plastic pellets are melted and mixed with isobutane, the blowing agent. The plastic mixture is then sent down the barrel under pressure to create the desired final properties in the foam product. As the mixture is pushed out of the extruder, the blowing agent expands, resulting in the formation of foam. The foam is then cut into sheets, rolled, and stored in the building. Depending on the thickness and density of the foam, the foam products are left in the room to off-gas before they can be shipped out to the customer. The amount of time spent off-gassing varies based on the properties of the foam, but may take a few hours up to a few days.

Scrap foam that is left over from the production process is sent to the reclaim units. The foam is re-melted, extruded through a die, and cut into plastic pellets. The pellets are instantly cooled in water and then sent to a dryer to remove remaining moisture. Following this process, the pellets can be re-used as feedstock in the foam production process. The isobutane in the foam is released during this process, resulting in VOC emissions during the reclamation process.

VOC emissions are generated during the production process and during off-gassing of foam stored in the building. The production area and spaces where foam is stored are sealed under negative pressure to ensure that fugitive emissions do not escape into ambient air. S.C. IV.2 requires that negative pressure is adequality maintained in the non-fugitive enclosure. Based on my inspection of the building and natural draft openings, as well as the smoke test results reviewed during records review, the facility appears to be complying with this condition.

VOC emissions in the non-fugitive area are controlled through an ionization system, which is required to be installed, maintained and operated in a satisfactory manner per S.C. V.1. The system is installed and operating, and the facility maintains logs of maintenance activities on the control system.

During the inspection, I also observed the continuous VOC emission monitor. S.C. IV. 3 requires Pregis to install, calibrate, maintain and operate a device to monitor and record VOC emissions on a continuous basis. The facility checks the monitoring system multiple times a day to ensure that the monitor is still running and to record any notes on changes in operation. The facility also regularly maintenances the monitoring system. During my inspection, the monitor readout showed that the current emissions were 213.5 ppm and 35.2 lbs/hr.

S.C. III.2 requires that the flow rate through the east and west exhaust fan systems is maintained at the same flow rate measured during the most recent compliance test. I asked about the exhaust flow rate in the building and how it is maintained at the same rate as during the compliance test. I was informed that the exhaust flow rate is set by the controls and never adjusted, so it should always be steady at the same rate.

### **Additional Testing and Reporting Requirements**

S.C. V.2 requires the facility to verify VOC emission rates upon request from the District Supervisor. The Department did not request such testing. However, the recent RATA performed on July 10, 2019 verified VOC emission rates from the facility.

S.C. V.3a requires Pregis to conduct a Relative Accuracy Test Audit (RATA) once every eight calendar quarters. The most recent RATA test was conducted on July 10. The RATA limit is 20% relative accuracy. The final test report found that the flow rate had 10.5% RA, VOC (ppm) had 4.7% RA, and VOC (lb/hr) had 11.0% RA. Therefore, all parameters are within the 20% limit.

S.C. V.3b requires Cylinder Gas Audit (CGA) to be conducted in three of the four calendar quarters, but in no more than seven calendar quarters in a row. CGA calibration was last done on June 27, 2019. A copy of the calibration report from the last CGA calibration is attached. This was also submitted with the Excess Emission

report submitted on August 1, 2019. Based on the recent CGA calibration and information supplied in reports submitted by the facility, Pregis appears to be complying with S.C. V.3b.

**Pyrolytic Oven: PTI Applicability**

During a previous visit, AQD staff identified that an unpermitted pyrolytic oven that vents to ambient air had been installed at the facility. The oven is a Nordson BKG JCP 1724 Jet Cleaner. Based on the maintenance manual supplied by the facility, the Jet Cleaner utilizes heat and vacuum to remove thermoplastic material from metal parts. The metal parts are heated in an oxygen deprived environment, where the polymer is melted and collected in a trap at the bottom of the oven. Some polymer is vaporized into VOC emissions. The oven is equipped with a catalytic oxidizer, which the VOC emissions pass through. Following the catalytic control, the exhaust is composed of primarily water vapor and carbon dioxide.

During my inspection, the oven was not in operation. The facility informed that the oven is run on an as needed basis, which is typically every two to three months. The facility does not have any information on estimated emissions, but they said that type of oven should have primarily water vapor emissions.

Based on information supplied by the facility during the inspection, the oven appears to be exempt per Rule 291 (2) due the fact that expected emissions are minimal. In order for the oven to qualify for this exemption, the facility must maintain records identifying the quality, nature, and quantity of air contaminant emissions.

**Conclusion**

Pregis appears to be in compliance with all conditions of ROP-N6944-2017. The newly installed Pyrolytic oven appears to be exempt per Rule 291. Follow-up with the company regarding what is required under the Rule 291 exemption will be necessary to ensure they have adequate records to demonstrate the equipment is exempt.

NAME  DATE 9/26/19 SUPERVISOR SK