DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

N694471060

FACILITY: Pregis		**SRN / ID:** N6944
LOCATION: 2700 Wills Street, MARYSVILLE		**DISTRICT:** Warren
CITY: MARYSVILLE		**COUNTY:** SAINT CLAIR
CONTACT: Marc Cobb , EHS Specialist		**ACTIVITY DATE:** 02/01/2024
STAFF: Noshin Khan	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: scheduled, on-site inspection		
RESOLVED COMPLAINTS:		

On Thursday, February 1, 2024, I, Noshin Khan, Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) staff, performed a scheduled, on -site inspection of Pregis located at 2700 Wills Street, Marysville, Michigan 48040 (SRN: N6944). The purpose of the inspection was to determine the facility's compliance status with the requirements of the federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 Public Act 451, as amended (Act 451); the AQD administrative rules, and the conditions of Renewable Operating Permit (ROP) Number MI-ROP-N6944-2022.

I arrived at the facility at 10:30AM and met with Marc Cobb, EHS Specialist, Colin Ferres, Plant Manager, and Tetra Tech consultant Marianne Gutknecht. Pregis produces a variety of foam products, primarily for protective packaging. I asked if there have been any changes in processes since the previous inspection in 2023 and Colin said there were no changes. Colin also said that the facility operates 24 hours a day, 7 days a week, and has 83 employees.

The facility has 4 lines through which polyethylene pellets are melted, injected with isobutane as a blowing agent, and pushed out through pressurized barrels (extruders) to form final foam products. Lines 1 and 2 share an extruder. The facility operates 1 material reclaim line that melts, extrudes, and cuts leftover foam back into polyethylene pellets. There were previously 2 reclaim lines—both were decommissioned and one replacement was installed in the summer of 2023 according to Colin.

The facility has an Ionization Control System (ICS) to control the isobutane emissions released in the manufacturing process. The ICS is composed of ionization tubes which generate positive and negative ions which are dispersed through ventilation supply ducts (eco-ducts) into the production and reclaim rooms. The ions reduce isobutane molecules to carbon dioxide and water. The production and reclaim rooms act as a reaction chamber for the ICS and meet the requirements for a non-fugitive enclosure. The ICS relies on negative building pressure into the non-fugitive enclosure to ensure isobutane capture.

After the pre-inspection meeting, Colin and Marc led us on a facility walkthrough. We first entered a storage/warehouse area where foam bundles are stored. These bundles are moved here from the production/reclaim room (where the ICS operates) after about 3-7 days, per Colin. He informed me that internal testing on each type of foam material is done to determine how long each needs to air-out in the ICS room so that isobutane emissions are properly controlled and not emitted in the warehouse zone.

Next, we entered the production room, where I observed the eco-ducts associated with the ICS along the ceiling. I observed the reclaim line, which was operating during the walkthrough. I also observed the area where a second reclaim line was previously located and observed that all equipment has been cleared.

We walked to the extrusion lines and Colin pointed out production lines 1 through 4. All 3 extruders were operating during the inspection. Foam comes out of each extruder as one continuous sheet and leads into cutting, punching, and rolling stations. Once the foam is rolled into bundles, each bundle is marked with colored tape that indicates properties of the foam including the density, thickness, and type of material. The bundles are stored along the sides of the production area in stacks.

Next to the extrusion lines I observed the central LEL (lower explosive limit) monitor that flashes red and automatically shuts down production if the LEL exceeds 60%. I observed blowers along the sides of the room to promote air flow and dispersion of ions from the ICS for isobutane control.

In a room adjacent to the production area I observed the continuous emissions monitoring system (CEMS) which takes continuous VOC emissions readings. I observed a reading of 53.9 lb VOC/hr and 327.3 ppm during the inspection. Facility staff record readings each hour in a physical log which ensures that air flow can be adjusted based on the VOC reading.

I also observed the pyrolysis oven which is located in the CEMS room. The oven was previously determined to be exempt from permit requirements per Rule 291. Marc provided additional records after the inspection including a manufacturer description of the oven and a usage log since the oven is not used regularly. The oven is used to clean extruder parts. According to the manufacturer description, the oven uses heat and vacuum to remove material from metal parts. According to the log, the oven was used 14 times in 2023, and twice so far in 2024.

During the walkthrough I did not observe any large stationary boilers, emergency generators, or parts washers, and Colin said there were none at the facility.

ROP Compliance Evaluation and Records Review

Source-Wide Conditions

Emission Limits:

I.1: The facility is subject to a VOC emission limit of 178.0 tpy based on a 12-month rolling time period as determined at the end of each calendar month.

The facility provided calculations for 12-month rolling VOC emissions (in compliance with recordkeeping condition VI.2.b) for each month from April 2023 through January 2024. The highest 12-month total VOC emissions was 134.3 tons per year as calculated in May 2023, which is below the limit specified.

I.2: The facility is subject to a VOC emission limit of 476 lb/8-hr based on a 8-hr rolling time period as determined at the end of each hour.

The facility provided spreadsheets tracking the 8-hr rolling VOC emissions calculated each hour from April 2023 through January 2024, in compliance with recordkeeping condition VI.2.a. Several days show 8-hr limit exceedances in April, May, and June 2023. These exceedances were previously reported and a violation was sent to the company on June 26, 2023. The facility attributed the exceedances to high outside temperatures. In response

to the violation, staff coordinated processing of low density PVC materials for high temperature days and updated the malfunction abatement plan (MAP). The changes in the MAP are discussed in the next section. If the facility complies with the emission limit during the summer of 2024, the violation may be considered resolved.

Process/Operational Restrictions:

III.1: The facility provided a copy of its MAP, which outlines items including daily, monthly, quarterly, and semi-annual, and annual maintenance and inspection procedures and meets the requirements of this condition. The MAP was updated in July 2023 in response the emissions exceedances and violation discussed above. The updated MAP includes a "VOC Reduction Checklist" requiring that staff check and record the VOC reading each hour and alert shift leads if levels are greater than 50 lb/hr for 2 hours. The checklist also includes procedures for storing foam bundles to ensure proper airflow and so that the ICS can effectively control emissions.

During the pre-inspection meeting, Marc showed me logs of all maintenance and inspection activities performed in accordance with the MAP and in compliance with S.C. VI.6. Copies of these logs are maintained electronically.

III.2: This condition requires that the east and west exhaust fan systems are maintained such that the individual exhaust fan flow rate is the same as the flow rate measured during the most recent compliance test. The exhaust fan flow rate shall be maintained between 22,500 and 24,500 scfm.

The flow rate is verified during Relative Accuracy Test Audits (RATAs), and according to staff the fans are operated at the same flow rate measured during the tests, in compliance with this condition. Marc provided a copy of the results from the most recent RATA performed in July 2023. The combined flow rate through both exhausts ranged from 23,045 scfm to 24,738 scfm over the 10 runs performed during the RATA, with an average of 24,050 scfm. Based on this average, the fans are operating within the specified limit.

Design/Equipment Parameters:

IV.1: Based on observations during the inspection and maintenance records provided, the facility operates with the ionization control system installed, maintained, and operated in a satisfactory manner as specified in the malfunction abatement/preventative maintenance plan, and complies with this condition.

IV.2: This condition requires that the permittee shall not operate any portion of FGFACILITY unless the non-fugitive enclosure is installed, maintained, and operated in a satisfactory manner. During my inspection I observed that roll-up bay doors were operating properly and other doors leading out of the production area are kept closed. Marc also provided smoke test evaluation records for March 2023 and August 2023 which indicate that all natural draft openings (NDOs) passed smoke testing. Based on this information the facility is operating in compliance with the condition.

A violation was sent to the facility on February 3, 2023, for a failed smoke test at one of the two roll-up bay doors in December 2022. The facility patched this door shortly after the

incident and subsequent smoke tests show that the non-fugitive enclosure has been maintained properly. This violation is considered resolved.

IV.3: During the inspection I observed that the facility installed, calibrates, maintains, and operates in a satisfactory manner a CEMS to monitor and record the VOC emissions from FGFACILITY on a continuous basis, in compliance with this condition.

IV.4: This condition requires that the permittee installs and operates the Compliance Assurance Monitoring System (CAMS) system to meet the timelines, requirements and reporting detailed in Appendix 9 and uses the CAMS data to assure compliance with the VOC emission limits in SC I.1 and 2.

The emissions records provided by the facility use data from the CEMS to calculate 8-hour average VOC emissions and 12-month rolling emissions to evaluate compliance with S.C. I.1 and I.2, as required by this condition. The requirements in Appendix 9 also include performance of quality assurance procedures according to the methods stated in S.C. V.4. This condition requires RATAs to be performed at least once every eight calendar quarters and Cylinder Gas Audits (CGAs) conducted in three of four calendar quarters. Pregis completed a RATA in July 2023 (within 8 calendar quarters of the previous one conducted in July 2021). Marc provided CGA records showing that audits were conducted in January and August 2023, and January 2024. The facility is in compliance with this condition.

Testing/Sampling:

V.1: This condition requires that a smoke test be performed at least once every six months to verify that the direction of air flow at each natural draft opening (NDO) is into the non-fugitive enclosure. The facility provided records (in compliance with S.C. VI.3) showing that smoke tests were performed and passed on March 29, 2023, and August 14, 2023, indicating compliance with this condition.

V.2 and V.3: Based on AQD records, the department has not required testing to verify VOC emission rates since the last inspection.

Monitoring/Recordkeeping:

VI.5: The facility provided records from April 2023 onwards tracking the use of blowing agent (isobutane) in the extruders on a daily, monthly, and 12-month rolling time period basis, as required by this condition. In October 2023, the facility used 149,992 pounds of isobutane. The permit does not include a material limit for isobutane.

Reporting:

VII.1-VII.4, VII.6: The facility has submitted timely quarterly, semiannual, and annual reports as required by the conditions under this section. The facility has also submitted timely notifications for discovery of abnormal conditions and/or malfunctions of the CAMS.

Based on my observations during the inspection and review of the records provided, the facility is operating in compliance with the above rules and regulations.

NAME Nadia Khan DATE 03/14/2024 SUPERVISOR K. Kelly