

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

N529865674

FACILITY: ARVRON INC		SRN / ID: N5296
LOCATION: 4720 CLAY AVE SW, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Doug Heyboer , President		ACTIVITY DATE: 12/06/2022
STAFF: April Lazzaro	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Unannounced, scheduled inspection.		
RESOLVED COMPLAINTS:		

Air Quality Division (AQD) staff, April Lazzaro conducted an unannounced scheduled inspection of Arvron Inc., located at 4720 Clay Ave SW, Grand Rapids. The purpose of this inspection was to determine the facility's compliance with state and federal air pollution regulations as well as Opt-out Permit to Install (PTI) No. 264-98. Accompanying AQD staff on the inspection was Doug Heyboer, President.

FACILITY DESCRIPTION

Arvron, Inc. is a polystyrene foam manufacturing and recycling facility. The facility operations are covered pursuant to Opt-out PTI No. 238-94B. Equipment on-site consists of one emergency generator, storage bins for pre-puff beads, one Hirsch Model expandable polystyrene (EPS) pre-expander, two vacuum block molds, finishing area, heated storage for block curing and two foam compression/recycling machines. The old pre-expander has been removed and while the permit lists three (3) vacuum block molds there are only two (2). Emissions generated consist of n-pentane, which is a volatile organic compound (VOC).

In 2016 the facility received a permit to install for a new EPS bead pre-expander with a regenerative thermal oxidizer (RTO) to control volatile organic compound (n-pentane) emissions. The installation and proper operation of this control device has led to a 66.5% reduction in volatile organic compound emissions at the facility.

COMPLIANCE EVALUATION

EU-Engine1

This emission unit covers one small natural gas fired reciprocating emergency generator engine subject to 40 CFR Part 60 Subpart JJJJ and 40 CFR Part 63 Subpart ZZZZ. This is a certified engine and therefore no testing is required. The unit is equipped with a non-resettable hours meter and all information is tracked on a clipboard tacked to the wall. This was observed and was up-to-date. It currently has 82.6 hours and the facility conducts a monthly test to ensure reliability.

FG-EPS

This flexible group includes all equipment associated with the EPS bead processing operations as described above.

Emission Limits

Emissions of n-pentane are limited to 457.5 pounds per eight-hour shift. The current records are maintained on a daily basis, and Arvron actually operates 10-12 hours a day. Emissions for the 10-12 hours period remain below the 457.5 pounds and demonstrate compliance. However, if emissions go above the limit using this method of recordkeeping, Arvron will need to report in 8-hour periods to determine compliance at that time.

Process/Operational Restrictions

The permit requires that the RTO maintain a minimum VOC destruction efficiency of 95%. The facility conducted stack testing in 2017 and found the destruction efficiency was 98.4% which indicates compliance.

Design/Equipment Parameters

Observation of the RTO control panel and a discussion with Mr. Heyboer regarding the overall reliability of the unit took place. All emission units are connected to the RTO as indicated in the permit, and the unit continues to be very reliable. Arvron continues to have the manufacturer in to conduct an inspection on an annual basis. Mr. Heyboer confirmed that any recommended work is conducted.

The permit allows for a few scenarios for compliance with the RTO combustion chamber temperature requirements. It requires that the RTO temperature is maintained no lower than the lowest of the following: temperature during the last compliant stack test, 1,400°F, manufacturer's recommended temperature for achieving 95% destruction efficiency and a temperature approved by the AQD District Supervisor. The instantaneous temperature at the time of the inspection was 1,520°F and the unit was in energy savings mode which indicates it is operating purely on process gas. As such, it is compliance with the permit requirement of a temperature minimum of 1,400°F.

Monitoring/Recordkeeping

All monitoring and recordkeeping requirements are being met, and the emissions spreadsheet is attached. Upon review of the 2022 spreadsheet, it was noted that the 2021 bead sampling data had not been correctly entered for the first 7 months of the year. A corrected version of the spreadsheet was requested and received. The updates to the spreadsheet did not impact the facility compliance status. Further review of the spreadsheet did not identify any other issues with emissions or calculations.

Reporting

The reporting requirement is a one-time requirement and has been met.

Stack/Vent Restrictions

The RTO stack was measured using a Nikon Forestry Pro II Rangefinder and found to be compliant at 32' 2" in height.

FGFACILITY

This flexible group limits facility-wide emissions of VOC and hazardous air pollutants (HAP) below major source thresholds.

Emission limits/Material Limits

VOC emissions are limited to less than 90 tons per 12-month rolling time period. Reported VOC emissions for the 12-month period ending October 2022 were 32.5 tons.

The facility reports that the only HAP emissions generated at the facility are from the combustion of natural gas and as such are minimal. Total HAP reported for the facility for the 12-month period ending October 2022 were 59.0 pounds.

The flexible group also limits material processed in pre-expanders to less than 30,000,000 lbs per 12-month rolling time period. Reported material processed for the 12-month period ending October 2022 was 10,513,800 pounds of beads.

These values indicate compliance with the permit limits.

Testing/Sampling

The most recent VOC and n-pentane content test was requested and found to have been conducted in August 2021. No testing was conducted in 2022, and testing is scheduled for 2023. Mr. Heyboer indicated that there were some issues with scheduling of the testing due to the COVID-19 pandemic, however that timing is unrelated to the lack of testing in 2022. As such, a Violation Notice will be issued for failure to conduct testing in 2022. According to information provided by the company, testing for 2023 has been scheduled.

Monitoring/Recordkeeping

All monitoring and recordkeeping requirements are being met; however the company has not been submitting bead pentane testing results to the AQD as required.

The permit requires that all n-pentane testing results are required to be submitted to the AQD within 30 days of receipt of the results. During the previous inspection conducted in 2019, the company was reminded of this requirement, however no results have been received for subsequent tests. As such, a Violation Notice will be issued.

CONCLUSION

Arvron, Inc. was in non-compliance at the time of the inspection.

NAME April Lazzaro

DATE 01/11/2023

SUPERVISOR 