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

B502265870

FACILITY: Muskegon Composites (dba GMI Composites, Inc.)		**SRN / ID:** B5022
LOCATION: 1355 W SHERMAN BLVD, MUSKEGON		**DISTRICT:** Grand Rapids
CITY: MUSKEGON		**COUNTY:** MUSKEGON
CONTACT: Ted Misze , Process Engineer		**ACTIVITY DATE:** 12/01/2022
STAFF: Scott Evans	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: On-site inspection to assess compliance with permits and other rules and regulations.		
RESOLVED COMPLAINTS:		

Introduction

On December 1, 2022, Department of Environment, Great Lakes, and Energy Air Quality Division (AQD) staff member Scott Evans (SE) conducted an on-site inspection of the GMI Composites (DBA Muskegon Composites) located at 1355 West Sherman Blvd. in Muskegon, Michigan, to assess compliance with all air quality rules and regulations. Muskegon Composites (MC) is a fiberglass products manufacturer. Production processes including injection and compression molding, pultrusion, and filament winding are utilized at this facility for the manufacturing of products such as gutter and sewer covers. This facility is a Title V opt-out facility for hazardous air pollutants (HAPS) with one active permit to install (PTI): PTI No. 183-07D.

Upon arrival at the facility, SE conducted a perimeter observation of the facility. There were no visible emissions (VEs), or odors present around the outside of the facility. SE then entered the facility and was greeted by Process Engineer Ted Misze, Engineering Manager Tim Johnson, and Facility Manager Jacquelyn Klopp. After a brief discussion of the purpose of the visit, an inspection of the facility was conducted, during which all process floors, maintenance areas, and storage areas were visited.

PTI No. 183-07D

PTI No. 183-07D is a modified permit that was approved on December 9, 2019. It includes special conditions for seven emission units (EU):

- EU-SMC/BMC
- EU-FILAMENT
- EU-PULTRUSION
- EU-RTM
- EU-MOLDRELEASE
- EU-PORTBLURETHANE
- EU-RIM

This PTI also includes special conditions for the flexible group FGFACILITY.

<u>EU-SMC/BMC</u>

This EU consists of seven compression molding machines and three injection molding machines. During the inspection all units were observed, and no additional machines had been installed.

This EU has one emission limit within the permit, which is shown in the table below. Recorded maximum values and compliance assessments were determined using the provided records discussed further below.

Pollutant	Limit	Time Period / Operating Scenario	Recorded Maximum	Compliant?
VOC	26.5 tpy	12-month rolling time period as determined at the end of each calendar month	0.60 tpy	Yes

The facility is required to maintain the following records regarding this EU:

- Amount of each material used.
- VOC content of each material.
- Monthly VOC emission calculations.
- 12-Month rolling annual VOC emission calculations.
- Chemical composition information of each utilized material.

During the inspection it was observed that the above records were maintained on site. Copies of material usage and VOC emissions data were provided to the AQD remotely at a later date for detailed analysis. These records were used to assess compliance with emission limits as shown in the table above. Copies are included with this report.

EU-FILAMENT

This EU includes one resin bath and two winding mandrels. During the inspection all equipment was present and no new equipment had been installed.

This EU has one emission limit within the permit, which is shown in the table below. Recorded maximum values and compliance assessments were determined using the provided records discussed further below.

Pollutant	Limit	Time Period / Operating Scenario	Recorded Maximum	Compliant?
VOC	2.0 tpy	12-month rolling time period as determined at the end of each calendar month	0 tpy	Yes

This EU also has a material limit that requires the styrene content of used resins in the EU not exceed 34% by weight. Compliance with this requirement was conducted through review of records as discussed below.

The facility is required to keep the following records for this EU:

- Amount of each material used.
- Styrene content of each material used.
- MDI content of each material, as applicable.
- VOC content of each material.
- Monthly VOC emission calculations.
- 12-Month rolling annual VOC emission calculations.

- Chemical composition information of each utilized material.

During the inspection it was observed that the above records were maintained on site. Copies of material usage and VOC emissions data were provided to the AQD remotely at a later date for detailed analysis. These records were used to assess compliance with emission limits as shown in the table above. Copies are included with this report. MSDSs for materials were available on site and reviewed. Copies were also provided for review and are included with this report along with copies of emissions data. These documents verified compliance with styrene content limits described above.

This EU has a stack requirement that exhaust must be released through a stack that is no fewer than 18 feet above ground level and no more than 18 inches in diameter. During the inspection the stack was not measured for safety concerns, but it was confirmed that the stack was present and appeared to be compliant with the requirements.

EU-PULTRUSION

This EU includes a resin bath, pultrusion machine, heated die, and cutting station to produce glass filament strands. During the inspection all equipment was present and no new equipment had been installed.

This EU has one emission limit within the permit, which is shown in the table below. Recorded maximum values and compliance assessments were determined using the provided records discussed further below.

Pollutant	Limit	Time Period / Operating Scenario	Recorded Maximum	Compliant?
VOC	4.0 tpy	12-month rolling time period as determined at the end of each calendar month	0.16 tpy	Yes

This EU also has a material limit that requires the styrene content of used resins in the EU not exceed 44% by weight. Compliance with this requirement was conducted through review of records as discussed below.

The facility is required to keep the following records for this EU:

- Amount of each material used.
- Styrene content of each material used.
- VOC content of each material.
- Monthly VOC emission calculations.
- 12-Month rolling annual VOC emission calculations.
- Chemical composition information of each utilized material.

During the inspection it was observed that the above records were maintained on site. Copies of material usage and VOC emissions data were provided to the AQD remotely at a later date for detailed analysis. These records were used to assess compliance with emission limits as shown in the table above. Copies are included with this report. MSDSs for materials were available on site

and reviewed. Copies were also provided for review and are included with this report along with copies of emissions data. These documents verified compliance with styrene content limits described above.

EU-RTM

This EU consists of seven resin transfer molding machines. During the inspection all equipment was present and no new equipment had been installed.

This EU has one emission limit within the permit, which is shown in the table below. Recorded maximum values and compliance assessments were determined using the provided records discussed further below.

Pollutant	Limit	Time Period / Operating Scenario	Recorded Maximum	Compliant?
VOC	5.5 tpy	12-month rolling time period as determined at the end of each calendar month	0.86 tpy	Yes

This EU also has a material limit that requires the styrene content of used resins in the EU not exceed 44% by weight. Compliance with this requirement was conducted through review of records as discussed below.

The facility is required to keep the following records for this EU:

- Amount of each material used.
- Styrene content of each material used.
- VOC content of each material.
- Monthly VOC emission calculations.
- 12-Month rolling annual VOC emission calculations.
- Chemical composition information of each utilized material.

During the inspection it was observed that the above records were maintained on site. Copies of material usage and VOC emissions data were provided to the AQD remotely at a later date for detailed analysis. These records were used to assess compliance with emission limits as shown in the table above. Copies are included with this report. MSDSs for materials were available on site and reviewed. Copies were also provided for review and are included with this report along with copies of emissions data. These documents verified compliance with styrene content limits described above.

EU-MOLDRELEASE

This EU covers mold release materials used throughout various molding operations. During the inspection all equipment was present and no new equipment had been installed.

This EU has one emission limit within the permit, which is shown in the table below. Recorded maximum values and compliance assessments were determined using the provided records discussed further below.

Pollutant	Limit	Time Period / Operating Scenario	Recorded Maximum	Compliant?
VOC	1.0 tpy	12-month rolling time period as determined at the end of each calendar month	0.24 tpy	YES

This EU also has a material limit that requires no more than 285 gallons of mold release materials be used per 12-month rolling annual period. Provided records showed that the annual usage from December 2021 through November 2022 reached 83.23 gallons used, which is compliant with the limit. Compliance with this requirement was conducted through review of records as discussed below.

The facility is required to keep the following records for this EU:

- Amount of each material used.
- VOC content of each material.
- Monthly VOC emission calculations.
- 12-Month rolling annual VOC emission calculations.
- Chemical composition information of each utilized material.

During the inspection it was observed that the above records were maintained on site. Copies of material usage and VOC emissions data were provided to the AQD remotely at a later date for detailed analysis. These records were used to assess compliance with emission limits as shown in the table above. These records also confirmed compliance with the above material limit. Copies are included with this report.

EU-PORTBLURTHANE

This EU consists of one mobile castable urethane work cell. During the inspection it was discussed and confirmed that these operations are no longer in operation at this facility.

This EU has one emission limit within the permit, which is shown in the table below. All emissions from this operation are 0 as the process is no longer in operation.

Pollutant	Limit	Time Period / Operating Scenario	Recorded Maximum	Compliant?
VOC	0.012 lb/yr	12-month rolling time period as determined at the end of each calendar month	0 lb/yr	Yes

The facility is required to keep the following records for this EU:

- Amount of each material used.
- MDI content for each material as applicable.
- Volume of displaced air for each part made.
- Process temperature (in kelvin) for each part made.
- Vapor pressure of MDI (mmHg) at process temperature for each part made.
- K_{MDI} factor for each part made.
- VOC content of each material.
- Monthly VOC emission calculations.

- 12-Month rolling annual VOC emission calculations.
- Chemical composition information of each utilized material.

During the inspection it was demonstrated that the facility representatives are aware of the requirements for this process should they resume operation of it in the future. At this time, all records are not relevant and any emissions data totals 0 emission release.

EU-RIM

This EU consists of one reaction injection molding machine with four mixheads. During the inspection all equipment was present and no new equipment had been installed.

This EU has one emission limit within the permit, which is shown in the table below. Recorded maximum values and compliance assessments were determined using the provided records discussed further below.

Pollutant	Limit	Time Period / Operating Scenario	Recorded Maximum	Compliant?
VOC	100 lbs/yr	12-month rolling time period as determined at the end of each calendar month	37.20 lbs/yr	Yes

The facility is required to keep the following records for this EU:

- Amount of each material used.
- MDI content for each material as applicable.
- Volume of displaced air for each part made.
- Process temperature (in kelvin) for each part made.
- Vapor pressure of MDI (mmHg) at process temperature for each part made.
- K_{MDI} factor for each part made.
- VOC content of each material.
- Monthly VOC emission calculations.
- 12-Month rolling annual VOC emission calculations.
- Chemical composition information of each utilized material.

During the inspection it was observed that the above records were maintained on site. Copies of material usage and VOC emissions data were provided to the AQD remotely at a later date for detailed analysis. These records were used to assess compliance with emission limits as shown in the table above. These records also include air displacement, process temperature, vapor pressure of MDI, and K_{MDI} factor records. Copies are included with this report. MSDSs were available and reviewed on site to confirm MDI content of each material. Copies were also provided for review and are included with this report.

FGFACILITY

The facility has the following emission limits applied to it. Recorded maximum values and compliance assessments were determined using the provided records discussed further below.

Pollutant	Limit	Time Period / Operating Scenario	Recorded Maximum	Compliant?
Individual HAPs	<9.0 tpy	12-month rolling time period as determined at the end of each calendar month	Styrene 0.86 tpy	Yes
Aggregate HAPs	<22.5 tpy	12-month rolling time period as determined at the end of each calendar month	0.87 tpy	Yes
Styrene (CAS No. 100-42-5)	5.9 tpy	12-month rolling time period as determined at the end of each calendar month	0.86 tpy	Yes

This facility has one operational restriction which requires that all waste materials shall be captured and stored in closed containers to be disposed of in an acceptable manner. During the inspection it was observed that waste is stored in closed containers and removed by a contracted waste removal company.

This facility has one testing requirement that states all HAP content of all materials shall be determined by using manufacturer data, and that this shall be verified independently if required by the AQD. At this time the facility is using manufacturer data, as was discussed with them during the inspection, and it is not felt by the AQD that testing is necessary.

The facility is required to keep the following records for facility-wide material usages:

- Monthly HAP containing material Usage.
- Monthly HAP containing material reclaimed.
- HAP content of materials used.
- Monthly individual and aggregate HAP emissions.
- 12-month rolling annual individual and aggregate HAP emissions.
- Monthly styrene containing material Usage.
- Monthly styrene containing material reclaimed.
- Styrene content of materials used.
- Monthly styrene emissions.
- 12-month rolling annual styrene emissions.

During the inspection it was observed that the above records were maintained on site. Copies of material usage, HAP emissions data, and styrene emissions data were provided to the AQD remotely at a later date for detailed analysis. These records were used to assess compliance with emission limits as shown in the table above. Of all individual HAP data provided, Styrene was the largest source of HAP emissions. This is reflected in the table above. Copies of these records are included with this report. MSDSs were available and reviewed on site to confirm HAP and Styrene content of each material. Copies were also provided for review and are included with this report along with copies of emissions data.

Exemptions

This facility has one natural gas-fired boiler on site rated at 1.2 mmBTUs. This unit is exempt from air permitting requirements by Rule 282(2)(b)(i) as it is less than 50 mmBTUs. This unit is exempt from New Source Performance Standard 40 CFR Part 60 Subpart Dc as it is less than 10 mmBTUs.

This unit is also exempt from National Emission Standards for Hazardous Air Pollutants 40 CFR Part 63 Subpart JJJJJJ as it is a natural gas-fired unit.

The facility has many pieces of finishing equipment for products such as buffing and grinding equipment that either releases emission to the in-facility environment or to one of multiple small dust collection units. This equipment is all exempt from air permitting requirements by Rules 285(2)(l)(vi)(B) and 285(2)(l)(vi)(C).

During the last inspection conducted in 2018, three new pieces of equipment were identified: two protrusion machines and one compression machine. These pieces of equipment are exempt from air permitting requirements by Rules 286(2)(a) and 286(2)(b). Emissions for these machines were included with provided emissions for the above permitted equipment and have not resulted in any exceedances of emission limits.

The facility has one parts cleaner that is less than 10 ft^2 in surface area. The lid was observed as closed during the inspection. This is exempt from air permitting requirements by Rule 281(2)(h).

MAERS

This facility submitted emissions data to the Michigan Air Emissions Reporting System (MAERS) on time and complete in 2022 for the 2021 reporting system. A copy of the MAERS report is included with this report.

Conclusion

At the conclusion of this inspection, the facility appeared to be compliant with all requirements of PTI No. 183-07D and all other applicable air quality rules and regulations.

NAME Scott Evans DATE 12/28/2022 SUPERVISOR HH