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

B502247443

FACILITY: Muskegon Composites, Inc dba GMI Composites, Inc.		**SRN / ID:** B5022
LOCATION: 1355 W SHERMAN BLVD, MUSKEGON		**DISTRICT:** Grand Rapids
CITY: MUSKEGON		**COUNTY:** MUSKEGON
CONTACT: Jacquelyn Klopp , Facility Manager		**ACTIVITY DATE:** 11/27/2018
STAFF: Chris Robinson	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: FY'19 on-site inspection to determine the facility's compliance status with PTI No. 183-07C and any other applicable air quality rules and regulations.		
RESOLVED COMPLAINTS:		

AQD staff, Chris Robinson (CR), arrived at Muskegon Composites, Inc. (dba GMI Composites, Inc.) located at 1355 West Sherman Boulevard, Muskegon, Michigan on November 27, 2018 at approximately 9:50 am to conduct an unannounced scheduled inspection. CR met with Ms. Jacquelyn Klopp, Facility Manager, Mr. Tim Johnson, Engineering Manager and Mr. Ted Misze, Process Engineer, announcing intent to conduct an inspection to determine the facility's current compliance status with respect to Permit to Install (PTI) No. 183-07C and any other applicable air quality rules and regulations. CR presented AQD identification. No odors or visible emissions were observed during this inspection.

FACILITY DESCRIPTION

Muskegon Composites Inc. (MC) is a manufacturer of reinforced fiberglass products. The facility has several different production areas including molding (resin transfer molding, injection molding, and compression molding), pultrusion, and filament winding. This facility employs approximately 35 employees, and operates two (2) shifts, four (4) days per week.

COMPLIANCE EVALUATION

A potential to emit (PTE) demonstration was provided in 2007 indicating that the facility had a PTE of over 10 tons of styrene per year, which exceeds the Title V threshold for a single HAP, which is 10 tpy. At that time, GMI chose to opt out of Title V by accepting federally enforceable limits, limiting actual emissions to below Title V thresholds for Hap's. MC is not subject to any federal regulations at this time, including 40 CFR Part 60 subpart WWWW for reinforced plastics. This rule only applies to major sources of HAPs.

1) PTI No. 183-07C

The following equipment is covered under PTI No. 183-07C:

Emission Unit	Description
EU-SMC/BMC	Seven compression molding machines and three injection molding machines.
EU-FILAMENT	Filament winding area, including one resin bath and two winding mandrels.
EU-PULTRUSION	Glass strands are pulled through a resin bath and strung through the pultrusion machine. The coated glass strand(s) are pulled through a heated die and are then cut to proper length.
EU-RTM	Seven resin transfer molding (RTM) machines.
EU-MOLDRELEASE	Mold release materials used throughout the molding operations.
EU-PORTBLURETHANE	One mobile castable urethane work cell to be used throughout the facility; primarily in the compression molding and RTM areas of the facility. This unit has emissions which are vented to the general in-plant environment.
EU-RIM	One resin injection molding (RIM) machine with two mix heads for molding of polyurethane. This unit has emissions which are vented to the general in-plant environment.

Mr. Johnson indicated that all records are kept on file for at least five years and MC maintains a current list and Safety Data Sheets (SDS) of all materials used, including the chemical composition and weight percent of each component. SDS's are included in **Attachment A**. The emission units listed above are subject to the emission limits and/or material use limits specified in the tables below. The following records were provided (**Attachment B).** Emissions data and material usages are summarized in the table below.

- Monthly amount of each material used.
- Monthly VOC content (including styrene) of each material, as applicable.
- Styrene content of each material.
- Monthly MDI content of each material, as applicable.
- Monthly and annual VOC mass emission calculations.

PTI Emission Limits and Actual Emission Rates for November 2017 through October 2018					
Pollutant	**Limit**	**Time Period**	**Equipment**	**Calculated Emissions**	**Within Limit (Yes/No)**
VOC	26.5 tpy	12-month rolling	EU-SMC/BMC	0.50 tons	Yes
	2.0 tpy		EU-FILAMENT	0.09 tons	Yes
	4.0 tpy		EU-PULTRUSION	0.20 tons	Yes
	5.5 tpy		EU-RTM	0.95 tons	Yes
	1.0 tpy		EU-MOLDRELEASE	0.15 tons	Yes
	0.012 lb/yr		EU-PORTBLURETHANE	See Discussion Below	
	2 lb/yr		EU-RIM	0.0435 lb	Yes
Individual HAP	< 9.0 tpy		FG-FACILITY	2,178.6 lbs (1.0893 tons) Styrene	Yes
Aggregate HAPs	< 22.5 tpy			2,181.4 lbs (1.0907 tons)	Yes
Styrene	5.9 tpy			1.0893 tons	Yes

PTI Material Usage Limits and Actual Usages For November 2017 through October 2018					
Material	**Limit**	**Time Period**	**Emission Unit**	**Max Usage/Content**	**Within Limit (Yes/No)**
styrene content of any resin(s)	34.0%	–	EU-FILAMENT	31%	Yes
	44.0%	–	EU-PULTRUSION	41.96%	Yes
	44.0%	–	EU-RTM	43.61%	Yes
mold release	285 gallons	12-month rolling	EU-MOLDRELEASE	90 gallons (722 lbs used / a density of 8.023lb/gal)	Yes

Based on discussions with Mr. Misze and Mr. Johnson, process equipment for EU-PORTBLURETHANE has not operated since 2014 and steps have been taken to completely remove this equipment from the facility.

Special Condition EU-FILAMENT VIII.1 requires a maximum stack diameter of 18-inches and a minimum height of 18-feet above ground. Stack dimensions were not specifically measured but were observed during the inspection and visually appeared to meet these requirements.

MC is subject to Source-wide (FG-FACILTIY) emission limits presented in the table above. In addition, Special Condition FG-FACILITY III.1 requires the facility to *"capture and store all waste in closed containers and to dispose of that waste material in an acceptable manner that complies with all applicable state and federal rules and regulations"*. Per discussions and observations, waste material is stored in drums. Mr. Misze indicated that Solid waste is landfilled while the non-solid material is disposed of by a hazardous waste facility. All containers were observed to be closed during this inspection.

As required by Special Condition FG-FACILITY V.1, which was confirmed by Mr. Misze, MC uses manufacturer formulation data to determine the HAP contents of materials applied. The DEQ is not requiring verification testing using EPA Test Method 311 as allowed by this special condition.

The following additional records were provided and are also included in **Attachments B**.

- Monthly Gallons or pounds of each HAP and Styrene containing material used and reclaimed.
- Monthly HAP and Styrene content of each HAP and Styrene containing material used.
- Monthly and annual emission calculations for Individual and aggregate HAP's and Styrene.

2) Exemptions

MC has one (1) 1,200 MBH natural gas fired-only boiler. The 1,200 MBH rating equates to a heat rating of 1.2 MMBTU's/hr (1 MBH = 1,000 BTU's), which is exempt from Rule 201 permitting under Rule 282(2)(b)(i) for "*fuel-burning equipment used for indirect heating with a rated heat input capacity of not more than 50 MMBtu's per hour*". In addition, this boiler is too small (<10MMBtu/hr) to be subject to New Source Performance Standard (NSPS) Subpart DC (40CFR, Part 60, Subpart DC) for "*Small Industrial-Commercial-Institutional Steam Generating Units*" and the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart JJJJJJ (40CFR, Part 63, Subpart JJJJJJ) for "*Industrial, Commercial, and Institutional Boilers Area Source*" does not apply to natural gas fired-only boilers.

MC also has routing, buffing, grinding, and deflashing areas, where the molded products are finished. These areas are exempt from Rule 201 permitting under Rule 285(2)(l)(vi)(B) and Rule 285(2)(l)(vi)(C), respectively. These areas are either vented into one of several dust collection units located throughout the facility that are exhausted to the general in-plant environment or vented through a baghouse located outside to ambient air. The baghouse and dust collection units all appeared to be properly maintained and operated.

Since the previous inspection conducted on March 17, 2016, MC has added two new protrusion machines and one compression machine. All of the machines were installed around the same time, therefore considered to be one project. Based on provided records (**Attachment B**) EU-Protrusion and EU-SMC/BMC had a total, which includes the new and old machines, of 1,368.8 lb of VOC's (998.8+396.9) in the last year, which is well under the significance level of 40 tpy. Therefore, these machines are considered to be exempt from Rule 201 permitting requirements under Rule 286(2)(a) for Plastic Protrusion and Rule 286(2)(b) for Plastic Compression.

The facility does not have any emergency generators, but there is one small cold cleaner with an air/vapor interface of less than 10 square feet, which is exempt from Rule 201 permitting under Rule 281(2)(h).

MC uses Rule 290 for its Thermoclean process, which had been a permitted process. During a PTI Modification, MC decided to utilize Rule 290 instead, therefore this process was removed from the PTI. This process was originally named after the material used, which was "Thermoclean". Although the process name remains, the facility now only uses Acrastrip 600. Emissions are calculated based on materials purchased and it's assumed that 100% of the materials purchased is emitted. Materials are only purchased when needed and no more than one drum per month. Based on this information and assuming carcinogenic emissions with an ITSL > 0.04 µg/m3, the highest emitted chemical, in one drum of Acrastrip, is emitted at 10.39 lbs/month, which is less than the limit allowed by Rule 290 of 20 lbs/month for uncontrolled processes. Rule 290 emission records are being maintained (**Attachment B**).

Rule 290 is also being utilized for the Baule machine, which is used for casting polyurethane parts. MC is adequately maintaining records of the materials used and MDI content of each material used, and properly using industry guidance for the KMDI factor, vapor pressure, and process temperature for which each part is made. Emission calculations are included in **Attachment B**. October 2018 MDI emissions were 0.00029 lbs, which is less than the limit allowed by Rule 290 of 20 lbs/month for uncontrolled processes.

3) MAERS

Emissions data for 2017 was submitted to MAERS on time and complete with no issues noted. A copy of MC's 2017 MAERS report is included in **Attachment C** and summarized below.

Pollutant	Amount (lb)
VOC	8,077.52
Acetone	912.50
Styrene	4,006.80

COMPLIANCE DETERMINATION

Based on observations and discussions during the onsite inspection and a records review, Muskegon Composites Inc. (dba GMI Composites Inc.) appears to be in compliance with the requirements of PTI No. 183-07C and other applicable air rules and regulations.

Attachments
A - Safety Data Sheets (CD)
B - Emission Calculations and Material Usage Records
C - 2017 MAERS Report

NAME _____ DATE 1/3/2019 SUPERVISOR _____