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

B620223861

FACILITY: E-T-M Enterprises, Inc.		**SRN / ID:** B6202
LOCATION: 920 N. Clinton St., GRAND LEDGE		**DISTRICT:** Lansing
CITY: GRAND LEDGE		**COUNTY:** EATON
CONTACT: Pam Kelly , HR & Environmental		**ACTIVITY DATE:** 11/15/2013
STAFF: Brian Culham	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Inspect plant for first time. Prepare for ROP renewal application.		
RESOLVED COMPLAINTS:		

Pam Kelly - HR & Environmental – PamKelly@etmenterprises
Jack Brockhaus - Technical Service Director – JackBrockhaus@etmenterprises

This is a Full Compliance Evaluation. The inspection was scheduled as requested by Pam Kelley, the plant contact, in preparation of completing a Renewable Operating Permit (ROP) application. I had met with P. Kelley in a pre-application meeting to explain the application and renewal process on September 11, 1013. This was the first time that I had been to the plant.

It is my understanding that ETM has a few non-contiguous properties in the Grand Ledge area. This ETM facility is located on the north edge of Grand Ledge about 1 mile south of the Clinton-Eaton county line. The Grand River flows east to west about 1 mile south of the plant. A residential area shares the property line immediately to the south of the plant and another area exists about 1000' to the west. An industrial park is to the northeast. The remaining area to the north is agricultural land.

ETM molds large fiberglass parts for the truck, construction, and agricultural vehicle industries. Most of the components are for cab and hood type applications. The types of molding used to create the fiberglass components include:

1. Cold Press Molding (90%+ of the total volume)
2. Sheet Molding Compound (SMC)
3. Resin Transfer Molding

Gel-Coats may be used in the molding process. Trimming and finishing operations are used post-mold to remove unwanted materials, or to create holes or ports in some of the parts. A primer coat and a finish coat may be applied to some of the parts. Adhesive bonding may also be required during subassembly.

Because ETM has a facility wide permit restriction on plant wide volatile organic compound (VOC) emissions, it is considered a Synthetic Minor Source for VOC Title V purposes. For the remaining criteria pollutants, ETM is considered to be a Minor Source. Potential Hazardous Air Pollutant (HAP) emissions of styrene are expected to be greater than 10 tons per year. This makes ETM a Major Source of HAP emissions and the reason a ROP is required for this facility.

ETM is not presently a Prevention of Serious Deterioration (PSD) subject source. On August 7, 2003 an initial notification for 40 CFR 63 Subpart WWWW was submitted to the Air Quality Division. ETM also has 40 CFR 63 Subpart PPPP requirements as part of their ROP.

I arrived at 8:30 as scheduled. No Visible Emissions were noted from the outside of the plant. I did not experience any styrene odors until after I entered the plant. I met with Pam Kelly, the HR & Environmental Manager and Jack Brockhaus, the Technical Service Director. They both accompanied me during my inspection.

No.	Emission Unit or Flexible Group	Description	Permit Number or Exemption	Comp. Status
1	EUFLINERBOOTH	Freightliner Plastic Part Coating Line	MI-ROP-B6202-2009	C
2	EUBONDING	Adhesive Bonding or Gluing.	MI-ROP-B6202-2009	C
3	FGPRESSANDMIXING	20 Hydraulic Fiberglass Presses, 2 Barrel Mixers, 2500 Pound Batch Tank	MI-ROP-B6202-2009	C
4	EU001TANKS	2-6,000 gal. Tanks storing Styrene Resin	MI-ROP-B6202-2009 Rule 284(i)	

5	EUVARTM	Resin Transfer Molding		C
6	EU001BAKEOVEN	Mold Curing Oven	MI-ROP-B6202-2009 Rule 282(a)	
7	FGCUTANDTRIM	9 Water Jet Cutters	Rule 285(l)(vi)	C
8	FGSANDGRINDROUT	Mechanical Router w/ Torrit control		

1 EUFLINERBOOTH

Fiberglass Freight Liner Truck parts are painted in this process. It is a tunnel type coating line utilizing spray technology with an external paint preparation area. Application, flash, and curing areas are all included in the tunnel. The curing is done at low temperature. Fabric filters were installed in the paint booth. No coating application was occurring during the inspection.

P. Kelley showed me the floor sheets used to track coating use. She collects the data sheets and enters the data into a spread sheet application prepared by a consultant. The spreadsheet calculates emissions. Samples of records and several MSDS were submitted to me following the inspection. I determined the following values from the records.

Paint Booth emissions as determined from submitted records.					
laterial/Pollutant	Time period	Unit	Period	Actual	Limit
VOC	Daily Average	lbs/hour	November 09, 2013	3.62	63.3
VOC	Monthly	tons/month	November, 2013	0.2	8.0
VOC	12-month rolling	tons/year	12-month end Nov. 2013	3.5	85.0

I also checked the manufactures formulation data of the 2 component Dupont Conductive Dark Grey Primer and activator for VOC content. The mix ratio of the two components is 4:1. The value that I calculated was 3.49 #VOC/gallon as applied minus water and/or exempt solvents. The permit limit is 4.8 on a daily average. It is my understanding that this is the highest volume coating in use at this plant.

EUFLINERBOOTH is also subject to 40 CFR 63 subpart PPPP. ETM is currently choosing to comply with a 0.16 lb. HAP per lb. coating solid emission rate. I checked the formulation data for the Conductive Dark Grey Primer above and determined the following (see equation 1 at the end of the report) .

2. EUBONDING

Some sub-assembly of fiberglass parts is required at the plant. In some cases an adhesive is required to bond two parts together. I identified a paste type applicator and a curing jig. Records of the adhesive use are being maintained. Emission from adhesive use is included in the compliance check for 40 CFR 63 subpart PPPP.

3., 4., & 5. FGPRESSANDMIXING, EU001TANKS, & EUVARTM

The primary method of forming a fiberglass part is by adding a fiber sheet and a catalyzed polyester resin mix into a mold. A hydraulic press squeezes the two halves of the mold together. This is called a cold mold process and is responsible for 90% + of the resin use at ETM.

Two 6,000 gallon tanks are used to store bulk polyester resin. The tanks are contained in a building adjacent to the processing area in the main plant. Pumps meter the flow to the mix floor.

The ROP identifies the tanks as a separate emission unit, but does not contain any specific restrictions for them. The 2009 renewal application states that the tanks are not externally vented and are exempted from Rule 201 by Rule 284(i). The tanks were installed in 1984; prior to the determination that styrene is a carcinogen. It is my opinion that that tanks were part of the original permit to install processes for the entire mixing and fiberglass pressing operation.

The AOC polyester resin stored in the tanks is 33.8 % styrene less than the 40% low styrene required by the permit.

A spray Gel-Coat is used in many of the molds. Records of Gel-Coat use are being maintained. The Gel-Coat by AOC contains 32.5 % styrene by weight. For 2013 about 9,300 pounds of styrene has been applied. It appears that the records assume all Gel-Coat styrene is lost to atmosphere. The recordkeeping format required by the ROP does not appear to require the styrene content from the Gel-Coat when determining compliance with the

short term styrene limit. I added an average value for Gel-Coat for the month of November to the lbs/hr value in the matrix below. Compliance is still being met when the Gel-Coat Styrene is added in.

A MACT subpart WWWW compliance report was re-submitted in September. The original was submitted in July and dated 7-11-13. The report indicated compliance.

EUBATCHMIXER and EUBARRELMIXERS(2) are used to prepare premixes for the final resin application. A hopper holds powder and is filled from 50 lb. bags.

Catalyzed Resin is carried in buckets (charges) to any of 20 hydraulic mold presses. Gel-Coat may be used in some of the molds. I did not see excessive numbers of prepared charges setting on the plant floor.

Records of hours of operation and resin use are being maintained. VOC calculations for cleanup material use are also being recorded. The following were estimated by me from records submitted by P. Kelly.

Mold emissions as determined from submitted records.					
Material/Pollutant	Time period	Unit	Period	Actual	Limit
Polyester Resin	Daily Average	Lbs/hr.	November 26, 2013	938	1,500
Polyester Resin	Daily	Lbs/day	November 26, 2013	7500	28,000
Clean-up VOC	Daily Average	Lbs/hour	November 26, 2013	2.8	16.5
Styrene	Daily Average	Lbs/hr.	November 26, 2013	9.5	10.5
Styrene	12-month rolling	tons/year	12-month end Nov. 2013	8.8	26.3
Clean-up VOC	12-month rolling	tons/year	12-month end Nov. 2013	1.72	17.4

A small Resin Transfer Molding process, referred to as VARTM, is used for small run production or prototype development. The equipment was servicing two molds during my inspection. The mold cost is less for this process but the production rate is slow. Resin use is also maintained for these molds. The resin is pumped to the mold, which reduces loss to the in plant environment.

6. EU001BAKEOVEN

The plant creates, maintains, and stores molds used to form the fiberglass parts. Some molds are cured in a natural gas fired batch oven. The oven was not in operation during my inspection. It is used intermittently. J. Brockhaus estimated that the oven averages about 12 hours of use per month. The oven is exempted by Rule 282.

7. FGCUTANDTRIM

I saw water jet cutting and was told by J. Brockhaus that ETM had 9 of these units installed. The emissions are all inside the in plant environment. Cutting of a plastic substrate is exempt from Rule 201 by Rule 285 (l)(vi).

8. FGSANDGRINDROUT

On the east end of the plant an area was walled off for sanding and grinding operations necessary to finish the molded parts. The equipment I identified during the inspection was each equipped with particulate control equipment that vented back into the general in plant environment. I did not identify any equipment that discharged to ambient air.

A mechanical router was installed on the south side of the plant and was connected to a Torrit cartridge control that was installed outside. I examined the cartridge control and noticed that the exhaust was vented back into the in plant environment.

I left the facility at 11:00 am.

$$0.14\ lb.\ HAP\ per\ lb.solid = \frac{6.6\%\ HAP\ by\ wt.* 9.22\ \frac{lb}{gal}\ coating\ density}{53.84\%\ solids\ by\ wt.* 9.22\ \frac{lb}{gal}\ coating\ density}$$

Image 1(Equation #1) : Equation referenced in text.

NAME [signature] DATE 12-13-2013 SUPERVISOR [signature]