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

B620232546

FACILITY: E-T-M Enterprises, Inc.		**SRN / ID:** B6202
LOCATION: 920 N. Clinton St., GRAND LEDGE		**DISTRICT:** Lansing
CITY: GRAND LEDGE		**COUNTY:** EATON
CONTACT: Ron Clewley , Quality Manager		**ACTIVITY DATE:** 12/15/2015
STAFF: Nathaniel Hude	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: 2 violations was sent due to only 1 of 3 dust collectors were operating for EUROUTING when work was being performed and for insufficient emission factor being used for FGPRESSANDMIXING.		
RESOLVED COMPLAINTS:		

Inspection Report
B6202- ETM Enterprises
920 N. Clinton Street
Grand Ledge, MI Inspection Date: 12/15/15 Part 1 and 1/7/16 Part 2

Facility Contacts:
Ron Clewley- Quality Manager/Environmental, 517-627-8461 ext 1257, ron.clewley@etmenterprises.com
Jack Brockhaus- Technical Services Director, 517-925-1103, jack.brockhaus@etmenterprises.com
Harley Barcroft- Maintenance Leader

MDEQ AQD Personnel:
Nathan Hude – 517-284-6779, huden@michigan.gov

Facility Description:
ETM is a Major Source for HAP (styrene) emissions and has an Source Wide Opt-Out limit of 99tpy for VOCs.

ETM is located on the north end of Grand Ledge. Residential areas are located to the south and west of the facility with some homes to the north. To the north and north east of the facility is mainly industrial area. ETM employs approx. 87 people and operates Monday through Fridays with an occasional Saturday. The production shift hours are 6:00am – 2:30pm.

The company is a manufacturer of fiberglass products. Examples of the product list is John Deere cooling fan shrouding and semi-truck roof air guards created using injection molds. Glass sheets are layered into a mold and resin is then injected into the mold and allowed to cure.

PPE required for the facility: steel toed boots, hardhat (in certain areas), eye protection, and ear protection (in certain areas).

Applicable Regulations:
PTI 50-15, PTI 551-77, MI-ROP-B6202-2015
40CFR63 PPPP Surface Coating of Plastic Parts and Products
40CFR63 WWWW Reinforced Plastic Composites Production

Previous Inspections:
11/15/13- Brian Culham, no issues identified
6/30/11- Brad Myott, no issues identified
9/18/09- Brad Myott, no issues identified

Previous Violations:
none

Recent Complaints (within 2 years):
none

Number of Violations Found During this Inspection:

2 violations; listed below as numbers 1 and 7 in "Key Concerns". Further detail is provided in the Emission Unit (EU) write-ups.

Inspection Key Concerns:

1. EUROUTING has three dust collectors listed in the description. Upon inspection, only one of the three was operating, the two not in operation were turned on at this point. ETM was informed a violation would be written regarding the lack of use of the dust collectors during the out brief.
2. There is some confusion on FGSANDGRINDROUT. One of the EU's has been removed from the facility and it is unclear amongst ETM personnel which of the remaining is EU is which according to the permit (all conditions are the same). On 1/7/15 it was found that EUSANDBOOTH was the EU removed.
3. PTI 551-77 equipment appears to have been removed. I requested ETM to submit a request to void the permit based on their belief that the equipment is no longer installed.
4. EUFLINERBOOTH lists eight stacks identified as SV001-SV008. I found that only four stacks were still present and per Jack, ETM sold the booth with the other four stacks to Demmer Corporation. This should be edited in the next ROP renewal to remove SV005-SV008, the stacks are not associated with this unit.
5. Although not required by the ROP, a magnehelic gauge installed on the furthest west stack of EUFLINERBOOTH was inoperative. Due to the ROP not requiring the gauge, this will not be written up as a violation, but shall be noted.
6. Currently, the equipment listed in PTI 50-15 are not included in MAERS, on the 1/7/16 visit, this was discussed and ETM personnel are aware that it needs to be added and reported.
7. FGPRESSANDMIXING in the ROP lists an emission factor (EF) of 0.007 in Appendix 7. The calculation is the amount of resin used * 0.007 = amount of styrene emitted. I believe this EF to be incorrect due to the fact that it equates to lesser emissions that that of a closed vacuum mold emission factor. This needs to be corrected to an acceptable EF based on the most recent research or using AP42. This will be written up as a violation in efforts to correct the recorded emissions using a more acceptable EF in accordance with SC VI 5 states to use calculations in Appendix 7.
8. FGPRESSANDMIXING clean-up solvent on emission tracking sheet is not manually entered. It is auto calculated using a factor of 333.33. The calculation is lbs polyester resin used / 333.33 = lbs of VOC emitted from clean-up solvent. This is actually a tracked limit in the ROP special condition VI. 3, yet an estimate based on amount of solvent ordered shows that the factor used overestimates; thus the emissions reported is greater than actual. This will not be written as a violation, yet ETM will be advised to correct the recording from an estimate to actual use with 100% VOCs emitted.

MAERS Reporting
ETM reports to MAERS and is a Category II site.
ETM is a Major Source of HAPs for Styrene.

MAERS Emission Unit List
EU012- Sanding Booth and Dust Collectors (FGSANDGRINDROUT)
EU014- 20 Hydraulic Molding Presses, two 300 pound barrel mixers, and a 2500 pound batch mixer (FGPRESSSANDMIXING)
EU016- Bldg 106 Prime paint system, solvent wipe / tack off, spray booth, flash and oven; 178-80A (FGPLANT1PAINTING)

MAERS to ROP Association
EU016 is EUFLINERBOOTH; MAERS has the stacks labeled as SV005, SV006, SV007, and SV008, the ROP has SV001-SV008

Inspection Summary
Due to the complexity of the site, this inspection was conducted over the course of two separate days; 12/15/15 and 1/7/16.

On 12/15/15 I arrived onsite at 10:40am, upon entering the parking lot, I did not see any VE's or detect any odors. I went through the front door and was greeted by an individual who called Ron. Ron stated he would meet us half way through the plant so we began walking through the plant floor. Upon entering the plant floor, I could smell styrene. We met Ron where I walked to his office with him after introducing myself. Ron informed me that he had just recently taken over the environmental position in addition to his duties as Quality Manager; his predecessor had retired within the last year.

We reviewed the Inspection Brochure and went over the intent of the inspection. I provided Ron with a copy of the Boiler MACT card and a printed copy of 40CFR63 DDDDD. We spoke about the boiler MACT for some time, I informed him

that I was unsure on what portions of the regulation applied, but would help try to figure it out once I had more information about the boiler. We discussed the permits and limits associated with the facility. Ron showed me spreadsheets that he uses to track emissions based on resin and gelcoat amounts used. This was tracked by hand written records of the workers on the floor; Ron would then retrieve the records and check resin, gelcoat, and cleanup solvent order amounts (to ensure accuracy) followed by entering the data into the spreadsheet for monthly and rolling 12 month emission calculations. He was unable to print these sheets due to ne twork issues (but later provided them to me prior to my departing). At this point, we were ready to perform the walk through of the facility. Due to the time, we decided to break for lunch and perform the walkthrough thereafter.

I arrived back at the facility at 1225 and went to Ron's office. Ron provided me with his emission spreadsheets and called Jack Brockhaus and the maintenance manager to help with the inspection.

Information gained on the 1/7/16 portion of the inspection is written in italics to determine the difference in the dates the info was received. My 1/7/16 arrival was at 9am, I drove the neighborhood to the south of the facility and did not detect any odors. When driving up to the facility I did not detect any odors or see any VE's. Once entering the facility, I could smell styrene / VOC odor, but not outside. I met Ron in his office. A majority of the inspection was conducted there reviewing MSDS and his extensive emission calculations.

SOURCE WIDE CONDITIONS (ROP)
The source wide conditions for ETM is listed on page 12 of the ROP. This limits the facility to a 12 month rolling limit of 99.0 tons/year of VOC. I confirmed this via records check and found the November 2014 to November 2015 actual emissions per ETM records to be 10.25 tons / year. I asked why they accepted a limit so high when they're actuals are so low, the response was that at one time they were probably close to this limit and had three different shifts but production has slowed.
(this figure may change due to discrepancies found in the record keeping requirements and the charts listed in Appendix 7 as detailed later in this report. It is believed that even if the calculations are incorrect, ETM will still be below the 99.0 tpy limit)

BOILER (not listed as an EU in ROP or MAERS, exempt from 40CFR63 DDDDD)
On the 12/15/15 inspection, based on the information received I initially thought that the boiler was subject to DDDDD- it is not based on definition. The boiler is used to heat two rooms; the resin tank room and the cooling tower room in the winter months. They use the boiler approx. 5-6 months out of the year according to Ron, so it does not qualify as "Limited Use" which is less than 10% per the boiler MACT. The boiler is rated for 195,000 MMBtu max input and was installed in 2005 (before 6/4/2010) thus is an "existing" boiler.

Ron informed me that he had a boiler service company look at the boiler and perform the annual service conducted as required by LARA regs. At the same time, the inspector was to ensure compliance with DDDDD due to our original belief that the boiler was subject to the MACT. The inspector pointed out that since the boiler is <120 gallons, < 1.6MMBtu, it meets the exemption definition of a "Hot Water Heater" per the exemptions list in 63.7491(d) and the definition in 63.7575, specifically Hot Water Boiler because it does not produce steam.

RESIN TANKS (not listed as an EU in ROP or MAERS, exempt from permitting)
The resin tank room has two tanks that are 6000 gallons in capacity. These tanks are labeled as A-West and B-East. The tanks hold resin that feeds the FGPRESSANDMIXING line. These tanks were once listed in the ROP, but have since been removed due to exemption under R284(i).

FGFIBERGLASS (PTI 50-15)
This line is labeled as VARTM on facility records and is located on the most north-east side of the facility.
EURTM- The line is in the open atmosphere and has numerous hose drop points for vacuum molding (I estimate 30 drops), the number capable of being in use is dependent upon the size of the product being produced. During the inspection, they were set up for 2 molds and they took up the space of approx. 10 hose drop points. I observed the resin injection of one mold; as the resin goes in, the vacuum assists in even distribution to cover the fiberglass and once the mold is filled the vacuum turned off and the mold is allowed to cure. Based on information found in the permit evaluation, VOC/Styrene emissions are less than 0.02%.
EUCLEANUP- is for the use of air to purge resin out of the lines followed by acetone for the EUTRM line.
EUMIXER- is a resin mixer used to add calcium carbonate (powdered lime) for the EUTRM line. The lime is used to improve cosmetics by allowing less shrinkage and reduce the amount of resin used thus reduce part production cost.
EUADHESIVE- is an acrylic adhesive used to adhere fiberglass to fiberglass. The purpose of this is for the main part produced on EURTM to have re-enforced areas for common breaking points, anchor points or attachment points on the product; they basically glue on a double layer of fiberglass which may include a hook, ring, or hole for bolts and screws for it to attach to something else.

EUGELCOAT- is for the application of gelcoat which is This is sprayed on by hand and can be done so in the open or in a ventilated booth (approx. 12 ft. x 12 ft.). The booth is used for larger products and has filters to catch any PM; the filters were installed (per IV.1.) and clean; they are changed out at the operator's discretion. I observed the application of gelcoat in the booth. The booth does not have a door, so you could smell the styrene from the gelcoat depending on which way the operator was spraying. Unified Emission Factors for Open Molding of Composites, July 23, 2001 provides styrene emission rates per ton of gelcoat and resin applied. During the evaluation of information for PTI 50-15 a note was included that stated use of "Gelcoat Application" over "Gelcoat Controlled Spray Application" because there is no way to verify compliance with the controlled spray procedure. This document is easily found on the internet when the name is placed in a search engine.This unit / operation is a closed mold, yet it is not under vacuum like PTI 50-15 (FGFIBERGLASS). Literature found by my research and in the permit application for 50-15 states that emissions from molding under vacuum are less than regular closed molds. Using the 0.007 EF, I have found that this EF estimates emissions at a lesser rate than the emissions from the vacuum mold; this is the opposite of what it should be. The EF for the vacuum molds is styrene content of resin * 0.02. Using a styrene content of 40% as allowed in FGPRESSANDMIXING, demonstrates my concern using this factor when comparing the two separate calculations:

The current PTI limits the use of styrene in the gelcoats used to 35.0% per a specific name brand gelcoat. ETM has entered a contract to produce a product that requires the use of gelcoat containing 42.0% styrene named "Gelcoat Series 56". I advised ETM not to use the 42% gelcoat until the PTI is amended. They want to start production asap.

EUROUTING (FGSANDGRINDROUT, ROP)
There was confusion amongst ETM personnel as to which Emission Unit (EU) this was under the Functional Group (FG). It was believed by ETM staff that this unit was EUGRINDING, but was later determined by the Emission Unit Summary Table that this unit was EUROUTING due to the description including 3 dust collectors.

This unit is located on the far east end of the building. This is a booth that is approximately 60 feet long by 25 feet wide with openings on the shorter ends. It has approx. 6 stations on each side for individuals to sand fiberglass parts by mechanical hand sanders. The employees were wearing dust masks with cartridges as they worked. Three dust collectors service the booth and pull air by ventilation on the booths sides. We walked along the outside wall to look at the ventilation controls; from the north end of the buildings east wall the dust collectors are labeled as 3, 2 in the middle and 1 on the far south end. All have magnehelic gauges. The maintenance manager stated that he services the collectors when they reach 3.5 or higher; number 3 was at 4.0, number 2 was off and when turned on read 1.2 and number 3 was off but read 1.8 when tuned on; normal readings on magnehelic for maintenance checks is 1.0-3.5 per Harley. I informed the three of them that the dust collectors are required to be on and maintained for grinding operations within the booth and that they were in violation by operating with them off. We then went outside to inspect the dust collectors. I found that 1 and 2 are vented to the atmosphere and 3 is vented back into the building. This is different than the description in the last inspection conducted on 11/15/13 which stated all were vented back into the building. All three dust collectors collect dust into a 55 gallon drums. This collection method requires manual care of the dust and manual monitoring to identify when the drum is full. All dust collectors looked to be in good condition and no VE's were observed from the exhaust stacks of 1 and 2.

Maintenance records were requested on 1/7 and via email that day to ensure compliance with VI.1.

There is not a requirement to monitor the magnehelic gauge installed on the dust collection device. I informed Ron and Jack that it would be in the best interest of ETM to monitor and record the readings on a daily basis to show routine maintenance checks.

EUFLINERBOOTH (ROP)
This unit is located on the south east end of the building neat EUROUTING and the equipment listed in 50-15. The booth is a tunnel that has a floor mounted chain on edge system. Application, flash, and curing areas are all included in the tunnel. The curing is can be completed by air dry (<194°F by definition) and by high bake (>194°F). The natural gas oven was being operated at 220-280°F that day. Fabric filters line the paint area floor where the air intake is located below floor grating. The air intakes are located on the roof of the booth. No coating application was occurring during the inspection but there were parts moving through the curing area.

Permit condition III.1. requires that exhaust filters are in place and operating properly, I confirmed this by walking into the booth; condition VI.4. requires maintaining a daily log of the filters condition, I confirmed that the operator was complying; this is done by recording on the daily paint usage sheet.

The ROP lists eight stacks identified as SV001-SV008 for EUFLINERBOOTH. I found that only four stacks were still present and per Jack, ETM sold a separate booth with the other four stacks to Demmer Corporation. Theses stacks are

associated with a unit listed in the 2004 ROP identified as EGVOLVOBOOTH. This should be edited in the next ROP renewal to remove SV005-SV008. Of the four stacks still installed, all four fans were operating. A magnehelic gauge on the operation panel that is connected to the furthest west stack was inoperative; the ROP does not require this gauge, but shall be noted.

I confirmed records were kept per the conditions under VI.1, 2, 3, and 5. I received "Daily Paint Usage VOC Calculation Report"; this document has some of the items required in Appendix 7 of the permit. This included the details for the earlier stated conditions and also had the some of the emission calculations. The VOC lbs/hr limit is 63.3 and the computed was 0.35, well below the limit. The other calculations were pulled from the "November 2015 Summary Data" sheet; the tons/month VOC calculations range from 0.15 – 0.282, well below the 8 tpm limit and the 12 month rolling tpy calculated to be 2.42 with a limit of 85 tpy.

I confirmed the material limits as well. For the most part, all of the parts are using high bake coatings. The oven is set for 210-220°F. I found that all were in compliance other than a "Non Flexible Primer" named "Standox (Light Crème) (Provost)". It is mixed at a 4:1 ratio paint:hardener. The paint VOC is 4.0 and the hardener is 4.3, this equates to a lbs VOC/GAC of 4.06 which is over the 3.5 lbs, but this is on a daily average basis. ETM has only used 0.75 gallons of this paint since the ROP issuance; 0.25 gallon in April 2015, 0.25 gallon in October 2015, and 0.25 gallons in November 2015.

EUGRINDING (FGSANDGRINDROUT, ROP)
This unit is located on the south side middle of the building. The unit was not operating upon my inspection. It consists of a robotic sander/router that is programmable as required for the part being produced. The dust is controlled by a dust collector labeled as Dust Collector #4 which is located just outside the building and collects dust into a 55 gallon drum. This collection method requires manual care of the dust and manual monitoring to identify when the drum is full. The dust collector looked to be in good condition. Normal readings on magnehelic for maintenance checks is 1.0-3.5 per Harley.

Maintenance records were requested on 1/7 and via email that day to ensure compliance with VI.1. I received the records via email later that day on 1/7 and they seem to be satisfactory with the condition.

This dust collector is vented back into the general in-plant environment. This device may be exempt per R336.1285(l)(vi).

There is not a requirement to monitor the magnehelic gauge installed on the dust collection device. I informed Ron and Jack that it would be in the best interest of ETM to monitor and record the readings on a daily basis to show routine maintenance checks.

EUSANDBOOTH (FGSANDGRINDROUT, ROP)
This equipment has been dismantled and was not inspect able, the dust collector is stored in the parking lot. There is a possibility that the equipment will be used again.

FGPRESSANDMIXING
This operation is at the west end of the facility. This is a closed mold process that uses Sheet Molding Compound (SMC) and Bulk Molding Compound (BMC); the definitions for these can be found in 40CFR63 WWWW. From what I could tell, all of the monitoring and recordkeeping requirements of the ROP mimic WWWW. I received a copy of the records for this unit showing information for November 2015 and the rolling 12 month data. The emission limit calculations are as follows:

Pollutant	Limit	Calculated Emission
VOC	16.5 lbs/hr from Clean up Solvent	2.23
VOC	17.4 tpy from Clean up Solvent	1.69
Styrene	10.5 lbs/hr daily avg	5.2**
Styrene	26.3 tpy 12 mra	4.3**

**These calculations are using an emission factor of 0.007. This EF is found in the ROP Appendix 7. I am concerned that this EF is incorrect due to the following reasons:

1. Using 50-15 EF:

40% styrene in resin * 0.02 * 106950 lbs resin used = 855.6 lbs styrene

2. Using App 7 EF:

106950 lbs resin used * 0.007 = 748.7 lbs styrene

I informed Jack and Ron of my concern during our 1/7 meeting. I told them that although this EF of 0.007 is in their ROP, I did not believe it was correct and that they needed to look into a more proper EF.

The material limits of the ROP were also checked via records check. The following material limits were as follows:

Material	Limit	Usage
Polyester resin	1500lbs/hr daily avg	1013 (Nov 5, 2015) 8 hr day max 12,000
Polyester resin	28,000 lbs/day	8100 (Nov 5, 2015)
Polyester resin	7,500,000 lbs/yr	not on form received, believed well below

I also found that the calculations on daily / monthly records for the VOC from clean-up solvent used was auto-calculated. It is using a calculation of lbs polyester resin used / 333.33 to calculate the lbs of VOC emitted from clean up. Since this is actually a tracked limit in the ROP, the estimate is not sufficient and the reported number must be from actual usage, this constitutes a violation of ROP condition VI. 3 which require recordkeeping for tracking emissions of VOC from clean-up solvents.
The solvent being used for FGPRESSANDMIXING is called "S-0280 Super Flush". Jack provided me with an MSDS for the solvent. It is 100% VOC and no HAPs and 8.883lbs/gallon. I requested the purchase history and was provided an email to Ron from Michael Buter shortly after asking; this showed that from 11/7/2014 to 7/24/2015 3 drums were ordered. If the drums were 55 gallons in size, this equates to 1,465.7 lbs or 0.73 tons for this period which is less than half of the recorded VOC emissions.

SC III 2 requires compliance with Tables 1-5 of 40CFR63 WWWW. Table 1 is regarding requirements for "open molding and centrifugal", ETM is all closed molding and thus this table does not apply. Table 2 is regarding compliance dates which are complete. Table 3 is regarding requirements for "open molding and centrifugal", ETM is all closed molding and thus this table does not apply. Table 4 is regarding "work practice standards", although I did not see the line operating, I was able to confirm compliance with many aspects of this table by questioning ETMs techniques. Table 5 is an alternate to the 95% HAP reduction requirement option, which does not apply to ETM.

FGMACTPPPP
Emission units covered under this section of the ROP are EUFLINERBOOTH and EUBONDING. ETM has a spreadsheet that is used to track and compute the organic HAP limit which is 0.16 lbs/lbs of solid coating over a 12 month rolling period; the November computation was 0.10 lbs/lbs of solid coating. The limit also mimics the PPPP limit of 0.16 in 63.4490(a)(1). ETM complies with the ROP and PPPP via "emission rate without control", thus the material limits table does not apply because it is using the "compliant material option". ETM uses a cleanup solvent called AMLAC C-1 which has 3 HAPs; Benzene, methyl- (toluene) CAS 108-88-3, Xylenes (o-, m-, p- isomers) CAS 1330-20-7, and methyl isobutyl ketone (MIBK) CAS 108-10-1. The remaining permit and PPPP requirements consist of recordkeeping and reporting which are being met by ETM. I did request supporting documentation of compliance to be included with their semi-annual statement of compliance. The most recent report was received on 8/4/15 for Jan-Jun and the next has to be signed or postmarked by Jan 31, 2016.

OUTBRIEF(s)
During the 12/15 out brief, I informed Ron and Jack that I would be sending them a violation for the EUROUTING inoperative dust collectors. I provided Ron with a copy of PTI 551-77, and asked him to confirm that the equipment had been removed and if so to request a permit void. *During a phone conversation with Ron on 1/15, I informed him that they would be receiving a violation regarding the emission factor being used for FGPRESSANDMIXING.*

NAME _____ DATE 1/20/16 SUPERVISOR _____