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

N571628487

FACILITY: MRM INDUSTRIES INC		SRN / ID: N5716
LOCATION: 1655 INDUSTRIAL DR, OWOSSO		DISTRICT: Lansing
CITY: OWOSSO		COUNTY: SHIAWASSEE
CONTACT: Deborah Mahan , Office Manager		ACTIVITY DATE: 01/26/2015
STAFF: Brian Culham	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: This was a scheduled inspection and will complete a Full Compliance Evaluation (FCE).		
RESOLVED COMPLAINTS:		

Deborah L. Mahan, Office Manager, 989-723-7443,deb@mrmindustries.com

This was a scheduled inspection and will complete a Full Compliance Evaluation (FCE). I contacted D. Mahan and announced the inspection early that same morning. The inspection was announced because it was the first time that I had been at the location and wanted to meet with the person responsible for environmental issues.

MRM is located on the southeast side of the City of Owosso about one third of the way to Corruna. The source is in a small industrial park on the south side of the railtracks. The area to the south is primarily agricultural and recreational with some residence. The area about one half mile to the north is mixed residential and commercial. Baker College campus is about 1 mile to the east.

MRM Industries produces custom fiberglass plastic parts. The permit characterizes the operations as Fiberglass Reinforced Plastic or FRP. The FRP processes at MRM are predominantly Resin Transfer Molding (RTM). Their marketable products include pickup bed liners, truck trailer wind deflectors, meteorological station housing components, and architectural door skins.

MRM has obtained an opt-out permit which limits its Potential to Emit (PTE) to below the thresholds of the Renewable Operating Permit (ROP) program as defined in Title V of the Clean Air Act Amendments (CAAA). This facility is a "minor source" of all criteria pollutants and also classified as a "synthetic minor source" for Hazardous Air Pollutants (HAP). Because it is not considered a Title V "major source" this facility is not required to have an ROP and is not subject to 40 CFR Part 63 Subpart WWWW, the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Reinforced Plastic Composites Production.

MRM reports to MAERs.

I arrived at 1:15 pm. I did not detect any visible emissions or odors as I entered the source. Weather conditions were sunny and 20° F, with winds out of the northeast, at 0-5 miles per hour. I met with Deb Mahan, Office Manager.

No.	Emission Unit or Flexible Group	Description	Permit Number or Exemption	Comp. Status
1	EUGelcoat	1 Gelcoat Spray Booth with mat/panel filters	195-95C	C
2	FGRTM	6 Resin Transfer molding (RTM) machines	191-95C	C
3	FGGrinding	2 Grinding/Sanding booths with mat filters.	191-95C	C
4	FGFinishing	Sanding/grinding on tables with downdraft particulate filtration	Rule 285(l)(vi)(B)	C
5	EUPaintBooth	Paint spray booth with mat/panel filters	Rule 287(c)	C

Records

D. Mahan provided me with records of their monthly and yearly recordkeeping to view.
D. Mahan tracks all incoming resins, catalysts, and solvents related to air emissions with a monthly purchase report. Although not identified as such on the record sheets, values are reported in pounds. When the materials are used, she tracks date, product, amount, and hours of operation. She also cross-references values, by doing a physical inventory of materials. Records include the required calculations to determine emissions of acetone, styrene, total VOCs, and total HAPs on a 12-month rolling time period. At the end of each month, she generates summary reports. I received copies of summary reports (attached) for file submittal.

1. EUGelcoat - a Gelcoat Spray Booth with mat/panel filters.

The gelcoat booth was not running at the time of the inspection. The overspray particulate filters were in place and in good condition. In an area outside the booth, repairs were being made to a mold. A tooling gelcoat was being applied by hand over an existing mold. D. Mahan explained that the parts created by the mold had allowed for a gap when the parts were installed, and the work being done on the mold would rectify this deficiency.

The tooling repair process I observed did not involve a spray application. A special "Tooling Gelcoat" is used when creating or repairing a mold or "tool". For ordinary gelcoats, the permit limits styrene monomer content to 40.0%. For tooling gelcoats, the styrene monomer content is limited to 45.0%.

The tooling gelcoat and emissions are reported separately from regular gelcoat. The November 2014 emissions report showed that tooling gelcoat emitted less than 1% of total styrene from all gelcoats. I did not identify any gelcoat in the records that had styrene content over 40%.

2. FGRTM - Six RTM machines

Out of the 7 permitted RTM processes only 6 were identified on site. Each day, the throughput and hours of operation of each RTM are documented. They also track each single part that is produced. The recordkeeping which D. Mahan submitted for their November 2014 VOC report (attached for reference) shows that RTM no. 1 ran every day and is responsible for over half of the resin use.

Gelcoat and/or a fiberglass mat are placed on the inside of a mold. The back half of the mold is then attached. Resin is prepared in batches and mixes with the catalyst as it is applied through pumps. The resin is pumped under high pressure, into the mold. Relief holes are located around the mold, and as the mold fills with resin, the excess material weeps from those holes. When all the holes are weeping, the mold is full and pumping ceases. Excess resin is collected in paper cups and allowed to harden prior to disposal. Acetone is used to purge the lines. The waste acetone is collected in a closed bucket and recycled through a waste service.

There was no indication that any of the RTM machines were heated.

Styrene monomer content in resins is limited to a maximum of 47.0% by permit. At present only 5 resins are in use, the highest at 39% styrene. According to D. Mahan the catalyst added to the resin is methyl ethyl ketone (MEK). MEK was an EPA listed HAP, but on December 19, 2005 the Environmental Protection Agency removed methyl ethyl ketone (MEK) from the list of hazardous air pollutants. I later learned that the catalyst being used by MRM is not MEK, but methyl ethyl ketone peroxide (MEKP), which is also not a listed HAP.

3. FGGrinding – 2 Grinding Booths

Neither of their two fiberglass grinding booths was operating during the inspection. The filters were in place and in good condition.

4. FGFinishing – various stations including tables with downdraft particulate filtration and 1 water jet cutting tool.

On the east side of the plant they have a water jet cutting tool and finishing areas where parts are trimmed, cut, ground, sanded, or repaired.

There were several small finishing stations for the FRP parts. Most were slotted tables equipped with downdraft to draw particulate matter into filtration systems. All units exhausted into the in-plant environment. There is also a portable dust collection unit that can be wheeled throughout the plant to provide additional dust control as needed. A CNC water jet is used for cutting parts or for removing voids from parts.

5. EUPaintBooth - Paint spray booth with mat/panel filters

For their Rule 287(c) exempt paint booth paint purchase records are maintained on a monthly basis.

Their paint booth was not in use at the time of the inspection. It had mat/panel filters which appeared to be in good shape. The booth exhausts to the outside air. In the course of an entire year, they only use about 20 to 50 gallons of paint. In the last 12 months they have used 16 gallons. This is well below the 200 gallons of coatings per month which are allowed by Rule 287(c).

6. FGFRP– All FRP air emission units

Volatile Organic Compound (VOC) from FRP processes is limited by permit to 13.65 tons per year (tpy) on a monthly 12-month rolling basis. Records indicated that 1.83 tpy were emitted for the 12-month period ending November.

Acetone emission rate from all purge and cleanup is limited to 35.1 tpy. Records indicated that 3.7 tpy were emitted for the 12-month period ending November.

The total styrene emission rate from the gelcoat spraybooth and the RTM machines is limited to 7.8 lbs/hr and 9 tpy. For the 12-month rolling total for the time period ending with November 2014, total styrene emissions were 1.6 lbs/hr average, and 1.8 tpy.

For Hazardous Air Pollutants (HAPs), the permit limits individual HAPs to less than 9.0 tpy and total HAPs to less than 13.65 tpy. For the 12-month rolling total for the time period ending with November 2014, the total HAP emissions were 1.8 TPY for an individual HAP (styrene), and 1.8 tpy for all HAPs (styrene plus toluene).

I did not identify any violations during my inspection and subsequent record review.

NAME _____ DATE 2.9.2015 SUPERVISOR _____