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

N505641464

FACILITY: Magna Mirrors Corporation - Newaygo		**SRN / ID:** N5056
LOCATION: 700 S. Park Dr., NEWAYGO		**DISTRICT:** Grand Rapids
CITY: NEWAYGO		**COUNTY:** NEWAYGO
CONTACT: Heather Ashby , Environmental Health and Safety Supervisor		**ACTIVITY DATE:** 09/08/2017
STAFF: Adam Shaffer	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Scheduled, unannounced inspection.		
RESOLVED COMPLAINTS:		

Air Quality Division (AQD) staff Adam Shaffer (AS) arrived at the facility the morning of September 8, 2017 to conduct an unannounced, scheduled inspection. The purpose of this inspection was to determine compliance with applicable air quality rules and regulations.

Prior to the inspection, Magna Mirrors Corporation – Newaygo's (MM) file was reviewed to determine if any additional federal regulations/requirements were applicable to the facility. The facility took hazardous air pollutant (HAP) emission limitations in 2006 prior to the first compliance date of 40 CFR Part 63 Subpart MMMM and Subpart PPPP to avoid the applicability of these standards. No additional federal requirements were identified prior to the site inspection.

Prior to entering the facility, odor and visible emission observations were completed. What appeared to be steam was observed coming from the rooftop and a slight plastic odor was observed to the south of the facility. Additionally, a woody odor was identified several times surrounding the facility; however, this can be attributed to an adjacent parcel.

AQD staff initially met with Ms. Heather Ashby, Environmental Health and Safety Supervisor. Throughout the remaining portions of the inspection Ms. Deb Bolema, Paint Manager, and Mr. Loren Ulrey, Assistant Paint Manager, joined the tour/discussions and provided information regarding site operations. The purpose of the inspection was briefly discussed and included a facility walk through and final discussion at the end of the inspection.

Facility Description

MM manufactures and coats plastic automotive parts ranging from automobile mirrors to door handles. Though the site is permitted to coat metal automotive parts, all parts manufactured and coated at the facility are plastic. MM is in operation under Title V Permit No. ROP-N5056-2016 and is a major source of volatile organic compounds (VOCs).

Compliance Evaluation

Prior to the site inspection, semiannual and annual ROP compliance reports which are submitted by MM identifying any deviations per Part A General Conditions 19-24 of MI-ROP-N5056-2016 were reviewed since the last inspection in 2014. Three previous deviations were identified in the first semiannual compliance report for 2016. No further action was necessary for the three previous deviations. Multiple excursions were identified in the 2016 compliance reports and in the 2017 first semiannual compliance report. This was discussed at length with MM staff. During the discussion, MM staff explained how in past operations parts in the coating process would fall into the water curtain draining system and get caught. This would affect the air flow within the capture systems. Grates to prevent this were installed on March 18, 2017. Based on the lack of reported excursions identified for the capture system following the installation of the grates, AQD staff AS concluded the matter resolved at this time. No additional items of note were identified in the previous deviation reports.

Source Wide Conditions

MM is subject to source wide individual and aggregate HAP emission limitations of less than 10.0 tons per year (tpy) and less than 25 tpy respectively per a 12-month rolling time period. Records provided by Ms. Ashby show that as of July 2017 the 12-month rolling totals of all aggregate HAPs are 9.23 tpy. Each individual HAP total for July 2017 was reviewed and well within the permitted limit for individual HAPs. Previous months back to July 2016 were reviewed. Per Special Condition (SC) V.1, to determine HAP content, MM shall use Manufacturer's Formulation Data Sheets. Records for several materials were requested and reviewed. Based on the records reviewed, MM appears to be in compliance with permitted limits for the months reviewed. After reviewing the

remaining records, MM appears to be keeping track of all usage rates, HAP contents, and individual/aggregate monthly and 12-month rolling total emissions.

EUWETCOAT

This emission unit consists of one conveyorized line of automatic robots with electrostatic and HVLP applicators used for the surface coating of plastic parts. The line consists of an aqueous wash line, drying oven, a prime coat spray booth, and an uncontrolled prime bake oven. Emissions from the prime coat spray booth are controlled via a capture system that leads to the Regenerative Thermal oxidizer (RTO) No. 2. Once the parts pass through this part of the process they then proceed through one base coat spray booth and one clear coat spray booth, each with recirculating air flow with a portion of return air exhausting to RTO No. 1, and a final uncontrolled bake oven. All three spray booths utilize a downdraft water wash particulate control.

This emission unit is subject to several emission limits for pollutants that are listed below.

- Volatile Organic Compounds (VOCs) – This pollutant is subject to a 130 tpy limit based on a 12-month rolling time period. As of July 2017, the 12-month rolling total of VOCs was 109.89 tpy. Previous months reviewed back to July 2016 were requested and reviewed. During a conference call on September 26, 2017 between AQD staff AS, MM staff and the environmental consultant for MM, it was concluded that when calculating the VOCs from paint waste to be subtracted from total monthly emissions, an average lb/gal VOC value is used. This has the potential to underestimate VOC emissions. However, after further review of previous emission records, it was concluded by AQD staff AS that with a conservative lb/gal value used, MM appears to still be within 12-month rolling totals of VOC emissions for all months reviewed. MM will in the future need to utilize a different method to more accurately identify paint waste VOC emissions. Additionally, MM shall maintain records of density and VOC contents in pounds per gallon minus water and exempt solvents as applied for all coatings, and density/VOC content of any conductive prep solution, diluents or reducers. Based on records reviewed, MM is adequately keeping track of densities and VOC contents for all coatings, conductive prep solutions, diluents and/or reducers.

- Acetone (CAS # 67-64-1) – This pollutant is subject to a 13.6 tpy limit based on a 12-month rolling time period. As of July 2017, the 12-month rolling total for Acetone (CAS # 67-64-1) emissions was 1.66 tpy which is well within the limit. Records of 12-month rolling totals were reviewed back to July 2016 and concluded to be within permitted limits. Based on the records reviewed MM is adequately keeping track of monthly and 12-month rolling total Acetone (CAS # 67-64-1) emissions.

- Dibasic Ester (CAS # 95481-62-2) – This pollutant is subject to a 3,390 pound per year (ppy) limit based on a 12-month rolling time period for the prime coat spray booth and prime bake oven. Additionally, this emission rate is determined based on the sum of dimethyl glutarate, dimethyl succinate, and dimethyl adipate emissions. MM must also determine the dibasic ester (CAS # 95481-62-2) content for each material as received. As of July 2017, the 12-month rolling total for Dibasic Ester (CAS # 95481-62-2) emissions was 490.45 ppy which is within the permitted limit. Records were reviewed back to July 2016. Based on the records reviewed MM is adequately keeping track of usages, contents, monthly and 12-month rolling total Dibasic Ester (CAS # 95481-62-2) emissions.

- Dibasic Ester (CAS # 95481-62-2) – This pollutant is subject to an 1,891 ppy limit based on a 12-month rolling time period for the base coat spray booth, clear coat spray booth, and final bake oven. Additionally, this emission rate is determined based on the sum of dimethyl glutarate, dimethyl succinate, and dimethyl adipate emissions. MM must also determine the dibasic ester (CAS # 95481-62-2) content for each material as received. As of July 2017, the 12-month rolling total for Dibasic Ester (CAS # 95481-62-2) was 1,139.84 ppy which is within the permitted limit. Records were reviewed back to July 2016. Based on the records reviewed MM is adequately keeping track of usages, contents, monthly and 12-month rolling total Dibasic Ester (CAS # 95481-62-2) emissions.

- Cumene (CAS # 98-82-8) - This pollutant is subject to a 3,258 ppy limit based on a 12-month rolling time period for the prime coat spray booth and prime bake oven. MM must also determine the Cumene (CAS # 98-82-8) content for each material as received. As of July 2017, the 12-month rolling total for Cumene (CAS # 98-82-8) was 111.13 ppy which is within the permitted limit. Records were reviewed back to July 2016. Based on the records reviewed MM is adequately keeping track of usages, contents, monthly and 12-month rolling total Cumene (CAS # 98-82-8) emissions.

- Cumene (CAS # 98-82-8) - This pollutant is subject to a 3,587 ppy limit based on a 12-month rolling time period for the base coat spray booth, clear coat spray booth, and final bake oven. MM must also determine the Cumene (CAS # 98-82-8) content for each material as received. As of July 2017, the 12-month rolling total for Cumene (CAS # 98-82-8) was 193.6 ppy which is within the permitted limit. Records were reviewed back to July 2016. Based on the records reviewed MM is keeping adequate track of usages, contents, monthly and 12-month rolling total Cumene (CAS # 98-82-8) emissions.

- Ethylbenzene (CAS # 100-41-4) – This pollutant is subject to a 9,986 ppy limit based on a 12-month rolling time period for the prime coat spray booth and prime bake oven. MM must also determine the ethylbenzene (CAS # 100-41-4) content for each material as received. As of July 2017, the 12-month rolling total for Ethylbenzene (CAS # 100-41-4) was 18.1 ppy which is within the permitted limit. Records were reviewed back to July 2016. Based on the records reviewed MM is keeping adequate track of usages, contents, monthly and 12-month rolling total Ethylbenzene (CAS # 100-41-4) emissions.

- Ethylbenzene (CAS # 100-41-4) – This pollutant is subject to a 10,014 ppy limit based on a 12-month rolling time period for the base coat spray booth, clear coat spray booth, and final bake oven. MM must also determine the ethylbenzene (CAS # 100-41-4) content for each material as received. As of July 2017, the 12-month rolling total for Ethylbenzene (CAS # 100-41-4) was 1,610.6 ppy which is within the permitted limit. Records were reviewed back to July 2016. Based on the records reviewed MM is keeping adequate track of usages, content, monthly and 12-month rolling total Ethylbenzene (CAS # 100-41-4) emissions.

The remaining emission limits for EUWETCOAT are listed below and were verified to be in compliance from the most recent testing event in October / November 2011 for the destruction efficiency of RTO No. 1 & No. 2. The results for RTO No. 1 and RTO No. 2 identified a destruction efficiency of at least 95%. During the 2011 stack testing, smoke tube observations were competed to verify a negative pressure for each spray booth. In an email dated May 10, 2011 between AQD Permit Staff and AQD Technical Programs Unit Staff, it was concluded that an assumed 80% capture efficiency can be made if twice per shift smoke tube tests are completed to verify a negative pressure for each booth. MM completes a smoke tube test every two hours of operation. This is part of the FGCAMPLAN and will be discussed later in this report.

Pollutant	Limit	Time Period / Operating Scenario	Equipment
VOC and Acetone Combined	5.2 pound per hour (pph)	Test Protocol	EUWETCOAT Thermal Oxidizer No. 1 Outlet
Formaldehyde (CAS # 50-00-0)	1.37 pph	Test Protocol	EUWETCOAT
Basecoat Uncontrolled Total Formaldehyde Content	0.63 percent by weight	Test Protocol	EUWETCOAT
Clearcoat Uncontrolled Total Formaldehyde Content	0.39 percent by weight	Test Protocol	EUWETCOAT
Primer Uncontrolled Total Formaldehyde Content	0.70 percent by weight	Test Protocol	EUWETCOAT
Dibasic Ester* (CAS # 95481-62-2)	0.78 pph	Test Protocol	EUWETCOAT
Cumene (CAS # 98-82-8)	0.40 pph	Test Protocol	EUWETCOAT
Ethyl Benzene	2.96 pph	Test Protocol	EUWETCOAT

* = Dibasic Ester emission rate shall be determined based on the sum of dimethyl glutarate, dimethyl succinate, and dimethyl adipate emissions.

EUWETCOAT is subject to several material limit usage rates for the melamine resin and free formaldehyde (CAS # 50-00-0). For the primer containing melamine resin, this emission unit is subject to a limit of 46,043 gallons per year based on a 12-month rolling time period. Additionally, the maximum melamine resin content for each material used is limited to 34.15 percent weight and the maximum free formaldehyde content for each material used is limited to 0.1 percent weight. As of July 2017, the 12-month rolling total was 34,840 gallons which is within the permitted limit. Additionally, the melamine resin content and free formaldehyde content for each material used in the prime coating process were at or below their respective permitted limits. Previous months back to July 2016 were reviewed. Based on the records reviewed MM appears to be in compliance and is keeping track of monthly/12-month rolling total usages and melamine resin/free formaldehyde contents.

For the base coat containing melamine resin, EUWETCOAT is subject to a limit of 53,296 gallons per year based on a 12-month rolling time period. Additionally, the maximum melamine resin content for each material used is limited to 30.00 percent weight and the maximum free formaldehyde content for each material used is limited to 0.1 percent weight. As of July 2017, the 12-month rolling total was 30,354 gallons which is within the permitted limit. Additionally, the melamine resin content and free formaldehyde content for each material used in the base coating process were at or below their respective permitted limits. Previous months back to July 2016 were reviewed. One basecoat material in February 2017 was noted to have a melamine resin content at 33.20 % and 0.6 gallons were used during the month. This material hasn't been in use since then and no additional issues were identified from the remaining records. After further review, MM was concluded to overall be within compliance and is keeping track of monthly/12-month rolling total usages and melamine resin/free formaldehyde contents.

For the clear coat containing melamine resin, EUWETCOAT is subject to a limit of 55,859 gallons per year based on a 12-month rolling time period. Additionally, the maximum melamine resin content for each material used is limited to 16.78 percent weight and the maximum free formaldehyde content for each material used is limited to 0.1 percent weight. As of July 2017, the 12-month rolling total was 35,374 gallons which is within the permitted limit. Additionally, the melamine resin content and free formaldehyde content for each material used in the clear coating process were at or below their respective permitted limits. Previous months back to July 2016 were reviewed. Based on the records reviewed MM is in compliance and is keeping track of monthly/12-month rolling total usages and melamine resin/free formaldehyde contents.

During the inspection the base coat, prime coat and clear coat booths were observed in operation. The prime coat operations are controlled by RTO No. 1 and the base coat / clear coat operations are controlled by RTO No. 2. Emissions from EUWETCOAT and EUCLEANUP/PURGE are subject to Compliance Assurance Monitoring (CAM) and are included in FGCAMPLAN of MI-ROP-N5056-2016.

During the inspection both RTOs and the associated capture systems were observed in operation. To maintain satisfactory operation of RTO No. 1 and No. 2 a minimum temperature of 1400°F for the combustion chamber must be maintained. At the time of the inspection the temperatures for RTO No. 1 and No. 2 were 1485°F and 1641°F respectively. Satisfactory operation of the capture systems for each spray booth is to maintain a negative pressure. Daily inspection records for September 7 and 8, 2017 were reviewed and showed that the capture systems were operating with a negative pressure, and smoke tube testing was completed at least twice per shift as required by the CAM Plan. Select daily inspection reports identifying RTO temperatures and pressures for the capture systems were reviewed back to September 2016. Based on the records reviewed, MM appears to be in compliance. During the inspection thermocouples and instantaneous LCD temperature monitors were observed in operation for each RTO. Per the CAM Plan, inspections of the capture system and/or RTO are to be completed on a twice per shift, monthly, semiannually, and annual basis. Select maintenance records were requested and reviewed. Based on the records review, MM appears to be adequately following the CAM Plan. Each respective booth's water wash control system was observed to be used during coating operations. All three booths utilize electrostatic applicators and test caps were available for pressure testing.

EUWETCOAT is subject to an operating time limit of 8,000 hours per a 12-month rolling time period. As of July 2017, the 12-month rolling total operation hours was 5,559 hours which is well within the permitted limit. Previous 12-month rolling totals of hours of operation were reviewed back to July 2016. Records reviewed for each month were well within the permitted limits. Based on the records reviewed, MM is keeping adequate track of monthly and 12-month rolling totals of hours of operations for their coating lines.

Per SC.V.1 MM shall use Facility Mix Sheets supported by Manufacturer's Specification Sheets to determine VOC content for all coatings, conductive prep solution, reducer, cleanup and purge solvents. Select records were requested and reviewed compared to records provided and deemed acceptable.

Per SC.V.3 MM shall complete destruction efficiency testing for RTO No. 1 and RTO No. 2 within five years from the issuance of the ROP. The MI-ROP-N5056-2016 was issued on June 16, 2016 and MM has not completed testing for each RTO at this time.

Based on records reviewed MM appears to be keeping track of daily usage rates, the amount of waste paint captured and the amount of waste disposed of.

No land use changes were identified for this facility since the last inspection in 2014.

Six stacks are listed in association with this emission unit. Though the exact dimensions were not measured, they appeared to be consistent with MI-ROP-N5056-2016.

A copy of the Malfunction Abatement Plan (MAP), dated August 26, 2015 was submitted to AQD during the recent renewal of MM's ROP. Select dates of maintenance records were requested from MM and reviewed. In a conference call on September 26, 2017 between MM staff, AQD staff and the MM environmental consultant, it was verified that all inspection items in the MAP are identified in the inspection reports provided. Reviewing the inspection reports, it appears that the MAP is overall being followed, though some areas were not entirely filled. After further review, it was concluded that MM appears to be complying with their MAP.

EUCLEANUP/PURGE

This emission unit is for all purge and cleanup solvents in the paint kitchen, paint recirculation lines, paint booth line and applicator purge, and paint booth cleanup. Emissions from each of the three spray booths are controlled by RTO No. 1 and RTO No. 2.

This emission unit is subject to an hourly VOC emission limit of 11.25 pounds per hour (pph) based on a calendar month average. Additionally, there is a 12-month rolling total VOC emission limit of 22.5 tpy for this emission unit. For the month of July 2017, the hourly VOC emission limit was 0.39 pph. Additionally, the 12-month rolling total for VOCs was 3.34 tpy. Records for previous months were reviewed back to July 2016. Based on the records reviewed, MM is well within their permitted limits for hourly and 12-month rolling total VOC emissions. Per SC.VI.1.b-c MM must keep track of the amounts of each cleanup and purge solvent used and amounts of any cleanup and purge solvents captured (reclaimed). During a conference call on September 26, 2017 between AQD staff SS, MM staff and the consultant for MM, it was stated that 100% purge used is collected and there is no reclaim. Records were requested and reviewed back to July 2016. Based on the records reviewed, MM appears to be adequately keeping track of all solvent usage and collection for this emission unit.

During the site inspection, all waste materials were properly captured and/or stored in closed containers. All VOC containing materials including coatings, reducers, solvents and thinners observed were stored in properly enclosed containers. All waste is shipped off site for disposal. Gun box purge containers were observed in each booth for each automated robotic spray machine. As stated by MM staff, purging is done for each gun tip per color change. Emissions from the gun tip purge containers were verified to be controlled by RTO No. 1 and RTO No. 2. Two stacks are listed in association with this flexible group. Though the exact dimensions were not measured, they appeared to be consistent with MI-ROP-N5056-2016.

The Kitchen Mix area was observed during the inspection. Four bulk purge tanks ranging in size from 650 – 700 gallons were observed in this area. Additionally, four waste holding tanks of approximately 549 gallons in size as stated by MM staff, though this was never verified, were observed. These tanks are used for waste storage from the kitchen area and spray booths. Large numbers of paints and other materials used for process operations were observed in this area.

As stated previously, MM appears to be complying with their MAP.

FGRULE287(c)

During a conference call between AQD staff, MM staff and the environmental consultant for MM on September 12, 2017, it was identified that no emission units located at the MM facility fall under this flexible group at this time.

FGRULE290

During a conference call between AQD staff, MM staff and the environmental consultant for MM on September 12, 2017, it was identified that no emission units located at the MM facility fall under this flexible group at this time.

FGCOLDCLEANERS

Approximately five cold cleaners were observed throughout the facility. MM's own cold cleaner operating procedure labels were observed adjacent to each cold cleaner which was concluded to be acceptable by AQD staff. Four cold cleaners utilize a low VOC purge and the fifth cold cleaner uses mineral spirits. No solvent utilized for each cold cleaner is heated. The company stated all five cold cleaners are exempt per Rule 281(2)(h). The five cold cleaners appear to meet this exemption.

Additional Observations

- Approximately 68 – 72 plastic injection molding machines, ranging in size from 110 – 750-tons, were observed on site. Approximately 13 resin silos that can hold 60,000-80,000 lbs of raw resin material were observed along the exterior portions of the facility. Additionally, large numbers of dryers were observed to dry off the resin material prior to being sent to the molding machines. All resin equipment observed on site appears to be exempt per Rule 286(2)(b).

- Racks prior to being used during the coating process are burned off site.

- One 6.1 MmBtu/hr natural gas boiler that was constructed in 1994 and one 4.18 MmBtu/hr natural gas boiler that was constructed in 1992 was observed on site. The two boilers were concluded to not be subject to New Source Performance Standards (NSPS) Subpart Dc due to size. The two boilers appear to be exempt per Rule 282(2)(b)(i).

- Several pieces of equipment used by plant maintenance were observed such as a drill press and a shear metal machine which appear to be exempt per Rule 285(2)(l)(vi)(B).

- A metal bending machine was observed that appears to be exempt per Rule 285(l)(i).

- A storage area of used and new oil containers was observed on site.

- The waste water system on site was observed. The entire waste water treatment system is 30,000 – 35,000 gallons. The entire process of collecting wastewater from each curtain wash particulate control used for the coating lines was discussed at length with MM staff. The system is drained twice a year to refill with fresh water. Following treatment all waste collected is considered nonhazardous waste that is sent off site for removal.

Conclusion

A final discussion was completed with AQD staff and MM staff. Based on the review of the records provided and the facility walk through, MM is in compliance with MI-ROP-N5056-2016 and all applicable air quality rules and regulations.

NAME Adam F. Heft DATE 09/28/17 SUPERVISOR