

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection

N505668302

FACILITY: Magna Mirrors North America		SRN / ID: N5056
LOCATION: 700 South Industrial Drive, NEWAYGO		DISTRICT: Grand Rapids
CITY: NEWAYGO		COUNTY: NEWAYGO
CONTACT: James Whitaker, EHS Supervisor		ACTIVITY DATE: 06/01/2023
STAFF: Scott Evans	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: On Site inspection to assess compliance with air quality rules and regulations.		
RESOLVED COMPLAINTS:		

### Introduction

On June 1, 2023, State of Michigan Department of Environment, Great Lakes, and Energy Air Quality Division (AQD) staff member Scott Evans (SE) conducted an on-site inspection of the Magna Mirrors facility located at 700 South Industrial Dr. in Newaygo, Michigan, to assess compliance with the conditions of Renewable Operating Permit (ROP) No. MI-ROP-N5056-2021 and all other applicable air quality rules and regulations. Magna Mirrors is an automotive parts coating facility. Though the facility primarily coats plastic parts, it is also capable and permitted to coat metal parts as well. Manufactured components include mirrors and door handles.

Upon arrival at the facility, SE observed the facility exterior for evidence of visible emissions (VEs) and odors. There were no detectable odors or VEs at the time of this inspection. SE then entered the facility and was greeted by facility staff James Whitaker. A brief discussion informed facility staff of the purpose of the day's visit and a walking inspection of the facility was conducted in which all process areas were inspected. This facility is subject to National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 Subpart M and 40 CFR Part 63 Subpart P.

### MI-ROP-N5056-2021

This ROP was reviewed and finalized in 2021. The conditions of this permit are organized into Source-Wide Conditions, Four Emission Units (EU), and two Flexible Groups (FG). The EUs and FGs are labeled as follows:

- EUWETCOAT
- EUCLEANUP/PURGE
- EUPARTWASH
- EUGENERATOR
- FGCAMPLAN
- FGCOLDCLEANERS

### Source-Wide Conditions

These conditions are for all process equipment including equipment covered by other permits, grandfathered equipment, and exempt equipment. Pollution control equipment includes two regenerative thermal oxidizers (RTO) that control emissions from the prime-coat, base coat, and clear-coat processes, cleanup processes from within these booths. All equipment was observed and appeared to be in properly maintained and operable condition.

The facility has two emissions limits as follows:

Pollutant	Limit	Time Period/ Operating Scenario	Recorded Maximum	In Compliance? (Yes/No)

Pollutant	Limit	Time Period/ Operating Scenario	Recorded Maximum	In Compliance? (Yes/No)
1. Each Individual HAP	Less than 10.0 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Xylene 1.95 tpy	Yes
2. Aggregate HAPs	Less than 25.0 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	6.59 tpy	Yes

The compliance determinations shown in the right-most column above were made upon review of provided records, which are discussed below.

There is one testing requirement which states that the facility is required to use manufacturer formulation data to determine the HAP content of all used materials. The facility was able to demonstrate on-site that this information is maintained and used for record-keeping purposes, which demonstrates compliance with this requirement.

The facility is required to maintain the following monthly records:

- Gallons or Pounds of HAP containing material used.
- Gallons or Pounds of HAP containing material reclaimed (if any).
- HAP content of all materials used.
- Individual and Aggregate HAP emissions for each calendar month.
- Individual and Aggregate HAP emissions for each 12-month rolling time period.

It was requested of the facility to provide SE with digital copies of these records for a detailed, off-site review. These records were provided on June 13, 2023, for the time period of June of 2022 through May of 2023. A copy of these records is included with this report. Review of these records found them to be compliant with the recordkeeping requirements and confirmed compliance with emission limits as demonstrated in the table above.

The facility is required to submit semiannual and annual deviation reports. The most recent reports were both submitted on February 23, 2023. There were no reported deviations on the semiannual report. One deviation was noted on the annual report, which occurred in the previous semi-annual period. This deviation related to improper reporting of material usage. This deviation was identified and corrected. As demonstrated in the most recent semiannual report, the deviation is not ongoing. While multiple other EUs and FGs include similar semiannual and annual reporting, all reporting requirements are covered by the same submitted documentation. Therefore, these requirements will not be discussed again in this report for brevity.

#### EUWETCOAT

This EU includes the following equipment:

- Conveyorized coating line with robotic electrostatic and HVLP applicators
- Aqueous Wash Line
- Drying Oven
- Three spray booths (Prime, Base, and Clear coat) with downdraft water wash systems
- Two bake ovens

- Two RTOs – RTO 1 for base and clear coats and RTO 2 for prime coat
- Water wash particulate control

During the inspection, all equipment appeared to be maintained and operated as required.

This EU has the following emission limits:

Pollutant	Limit	Time Period/ Operating Scenario	Recorded Maximum (If Applicable)	In Compliance? (Yes/No)
1. VOC	130.0 tpy	Based on a 12-month rolling time period as determined at the end of each calendar month	87.35 tpy	Yes
2. VOC and Acetone Combined	5.2 pph	Hourly	NA	Yes, by RTO operational parameters
3. Acetone [CAS # 67-64-1]	13.6 tpy	Based on a 12-month rolling time period as determined at the end of each calendar month	0.34 tpy	Yes
4. Formaldehyde [CAS # 50-00-0]	1.37 pph	Hourly	NA	Yes, by RTO operational parameters
5. Basecoat Uncontrolled Total Formaldehyde Content	0.63 percent by weight	Instantaneous	NA	Yes, by material data.
6. Clearcoat Uncontrolled Total Formaldehyde Content	0.39 percent by weight	Instantaneous	NA	Yes, by material data.
7. Primer Uncontrolled Total Formaldehyde Content	0.70 percent by weight	Instantaneous	NA	Yes, by material data.
8. Dibasic Ester* [CAS # 95481-62-2]	0.78 pph	Hourly	NA	Yes, by RTO operational parameters
9. Cumene [CAS # 98-82-8]	0.40 pph	Hourly	NA	Yes, by RTO operational parameters
10. Ethyl Benzene [CAS # 100-41-4]	2.96 pph	Pounds per hour	NA	Yes, by RTO operational parameters
11. Prime Coat Dibasic Ester* [CAS # 95481-62-2]	3,390 ppy	Based on a 12-month rolling time period as determined at the end of each calendar month	72.81 ppy	Yes
12. Base Coat Dibasic Ester* [CAS # 95481-62-2]	1,891 ppy	Based on a 12-month rolling time period as determined at the end of each calendar month	872.83 ppy	Yes
13. Prime Coat Cumene [CAS # 98-82-8]	3,258 ppy	Based on a 12-month rolling time period as determined at the end of each calendar month	146.3 ppy	Yes
14. Base Coat Cumene [CAS # 98-82-8]	3,587 ppy	Based on a 12-month rolling time period as determined at the end of each calendar month	108.5 ppy	Yes

Pollutant	Limit	Time Period/ Operating Scenario	Recorded Maximum (If Applicable)	In Compliance? (Yes/No)
15. Prime Coat Ethyl Benzene [CAS # 100-41-4]	9,986 ppy	Based on a 12-month rolling time period as determined at the end of each calendar month	60.6 ppy	Yes
16. Base Coat Ethyl Benzene [CAS # 100-41-4]	10,014 ppy	Based on a 12-month rolling time period as determined at the end of each calendar month	944.4 ppy	Yes

The compliance determinations identified in the right-most column of the above table were made with the use of records and other documentation discussed below.

This EU has the following material limits:

Material	Limit	Time Period/ Operating Scenario	Maximum Melamine Resin Content (wt %)	Maximum Free Formaldehyde Content (wt %)	Gallons Used (Maximum Recorded)	In Compliance? (Yes/No)
Primer containing melamine resin	46,043 (gallons per year)	Based on a 12-month rolling time period as determined at the end of each calendar month	Limit: 34.15 Recorded: 31.1	Limit: 0.1 Recorded: 0.1	36,979 lbs.	Yes
Basecoat containing melamine resin	53,296 (gallons per year)	Based on a 12-month rolling time period as determined at the end of each calendar month	Limit: 30.00 Recorded: 28.9	Limit: 0.1 Recorded: 0.1	31,998 lbs.	Yes
Clearcoat containing melamine resin	55,859 (gallons per year)	Based on a 12-month rolling time period as determined at the end of each calendar month	Limit: 16.78 Recorded: 16.78	Limit: 0.1 Recorded: 0.1	28,765 lbs.	Yes

The compliance determinations identified in the right-most column of the above table were made with the use of records and other documentation discussed below.

This EU may only operate if the two RTOs are maintained and operated properly. During the inspection, the equipment could be seen to be operating as required. The facility must confirm that the RTOs maintain VOC destruction efficiencies of 95% and overall capture efficiencies over all three spray booths of 80%. In 2021, after the approval of the ROP, the facility conducted stack testing. The results of the stack test confirmed proper capture and destruction efficiencies of the units for compliance with the above pph emission limits. These RTOs must maintain temperatures of 1400°F to operate the coating line. During the inspection the RTO temperatures were 1671°F and 1462°F and records discussed below demonstrated proper operation of the units. As required, the booths were equipped with electrostatic spray nozzles and water wash control systems that were operational during the inspection. The facility is also only allowed to operate the EU for a total of

8000 hours during any 12-month rolling time period. Records demonstrate compliance with this requirement as well.

This EU is required to follow the following Testing and Sampling requirements:

- Facility must determine Daily and Monthly VOC emissions, the VOC content, water and exempt solvent content, density of any coating, conductive prep solution, reducer, cleanup and purge solvent, as applied shall be tested using Method 24.
- The most recent Facility Mix Sheet and Manufacturer's Specification Sheet shall be kept on site and be available for all "in Use" and stand-by coating batches, or within 10 business days from when new coatings are put into use.
- The permittee shall verify the destruction efficiency of each RTO (RTO Nos. 1 and 2) by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved EPA Method.
- The permittee shall verify the destruction efficiency emission rates from each RTO (RTO Nos. 1 and 2) at a minimum, every five years from the date of the last test.
- The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 7 days before testing of the time and place performance tests will be conducted.

Stack testing was conducted in 2021, satisfying the timeline requirements for testing as well as AQD notification requirements. The results of the stack test appeared to adequately verify destruction and capture efficiencies of the RTOs as required both within these stack testing requirements as well as within the operational restrictions. The facility also was able to provide records demonstrating compliance with the mix sheet and VOC emissions requirements. These records are discussed in more detail below.

The facility is required to maintain the following records to demonstrate compliance:

- The permittee shall monitor and record the temperature in the combustion chamber of each RTO individually with a continuous temperature monitor
- For the entire line:
  - VOC and Acetone emission rates per 12-month rolling period.
  - Density and VOC content of all coatings.
  - The density and VOC content of any conductive prep solution, diluents, or reducers.
  - Daily usage of each coating, catalyst, conductive prep solution, dilutant, and reducer.
  - Daily, monthly, and 12-month rolling hours of operation.
  - Waste paint capture and disposal.
- For each coating (using appropriate determination methods and accounting for RTO operation):
  - Facility Mix Sheets.
  - VOC content.
- Monthly maintenance of:
  - Free formaldehyde content of each coating.
  - Melamine Resin content for each coating.
  - Monthly and 12-month rolling annual coating usage for coatings containing melamine resin.

- Monthly maintenance of:
  - The monthly and annual coating usage totals for each dibasic ester [CAS # 95481-62-2], cumene [CAS # 98-82-8], and ethyl benzene [CAS # 100-41-4] containing material, determined on an as received basis.
  - The dibasic ester [CAS # 95481-62-2] content, cumene [CAS # 98-82-8] content, or ethyl benzene [CAS # 100-41-4] content of a coating shall be determined from the manufacturer's current material safety data sheet, environmental data sheets, and/or formulation data, on an as received basis. Dibasic ester content shall be determined from the sum of the dimethyl glutarate [CAS # 1119-40-0], dimethyl succinate [CAS # 106-65-0], and dimethyl adipate [CAS # 627-93-0] content of a coating based on the manufacturer's current material safety data sheet, environmental data sheets, and/or formulation data.
  - Dibasic ester [CAS # 95481-62-2], cumene [CAS # 98-82-8], and ethyl benzene [CAS # 100-41-4] mass emission calculations determining the monthly emission rate of each contaminant in pounds per calendar month.
  - Dibasic ester [CAS # 95481-62-2], cumene [CAS # 98-82-8], and ethyl benzene [CAS # 100-41-4] mass emission calculations determining the annual emission rate in pounds per 12-month rolling time period of each contaminant as determined at the end of each calendar month.

Copies of all records were requested for the period of June 2022 through May 2023 for off-site review. Copies of these records are included with this report. All required records were included in acceptable format. These records were used to make the emission and material limit compliance determinations within the two above tables regarding the emission and material limits for this EU. Maintenance logs and mix sheets were also received and appeared to demonstrate proper maintenance of spray booth and applicator equipment as well as all control equipment.

This EU has six stacks associated with it. During the inspection, the stacks were not measured directly for safety reasons. However, observation of the stacks appeared to confirm that the stacks have not been altered since the last inspection and appear compliant with height and diameter requirements.

This EU is required to have an active and up to date Malfunction Abatement Plan (MAP). A copy of the current MAP is maintained with the AQD. It was confirmed with the facility that the MAP with AQD records is the current MAP that is utilized by the facility.

#### EUCLEANUP/PURGE

This EU includes VOC emissions from the use of purge and cleanup solvents in the paint kitchen, paint recirculation lines, paint booth line and applicator purge, and paint booth cleanup. The emissions released within each of the three paint spray booths associated with this EU are controlled by RTO No. 1 and RTO No. 2.

This EU has the following emission limits:

Pollutant	Limit	Time Period/ Operating Scenario	Recorded Maximum	In Compliance? (Yes/No)
1. VOC	11.25 pounds per hour <sup>2</sup>	Based on a calendar month averaging time period	2.62 lbs./hr	Yes

Pollutant	Limit	Time Period/ Operating Scenario	Recorded Maximum	In Compliance? (Yes/No)
2. VOC	22.5 tons per year <sup>2</sup>	Based on a 12-month rolling time period as determined at the end of each calendar month	1.47 tpy	Yes

The compliance determinations identified in the right-most column of the above table were made with the use of records and other documentation discussed below.

This EU has the following process/operational restrictions:

- All waste shall be captured and stored in closed containers.
- All VOC containing materials shall be handled to minimize fugitive emissions.

During the inspection all waste materials were seen to be captured and contained in closed containers, where they were stored for removal from the facility. All materials were stored within closed containers unless being used. This demonstrated compliance with the requirements.

This EU has one design parameter, which requires that the EU not be operated unless all booth purge emissions be captured by the associated RTOs. During the inspection it could be seen that the RTOs were installed and operational, as discussed elsewhere in this report. This demonstrates compliance with this requirement.

This EU has the following recordkeeping requirements:

- Monthly VOC records as follows:
  - Monthly VOC emission rates.
  - 12-Month Rolling Annual VOC emission rates.
  - Gallons of cleanup and purge solvents used.
  - Gallons of cleanup and purge solvents reclaimed.
- VOC content of each purge and cleanup solvent.

Records were requested from the facility, which were provided to the AQD on June 13, 2023, for the time period of June of 2022 through May of 2023. These records were reviewed and were used to make the compliance assessments with emission limits seen in the table above. Copies of the records are included with this report.

This EU has two stacks associated with it. During the inspection, the stacks were not measured directly for safety reasons. However, observation of the stacks appeared to confirm that the stacks have not been altered since the last inspection and appear compliant with height and diameter requirements.

#### EUGENERATOR

This EU includes one 464 HP (250 kilowatts (kW)) diesel-fuel fired emergency generator engine with a model year of 2011 or later, and a displacement of 8.9 liters / cylinder. The engine used in this generator set complies with Tier 3 emissions limit of USEPA New Source Performance Standards (NSPS) for stationary emergency engines under the provisions of 40 CFR Part 60, Subpart IIII.

This EU has the following emission limits:

Pollutant	Limit	Time Period/ Operating Scenario
1. NMHC+NOx	4.0 g/HP-Hr	Hourly
2. CO	3.5 g/HP-Hr	Hourly
3. PM	0.20 g/HP-Hr	Hourly

Review of specifications submitted during ROP review as well as observations made during the inspection of the generator confirmed that it operates within these parameters when proper procedures of operation are followed.

This EU has one material limit, which specifies that only diesel fuel with a maximum sulfur content of 15 ppm may be used to run the engine. Fuel records provided demonstrated compliance with this requirement and are discussed further below.

This EU has the following process and operational restrictions:

- The EU may only be run for 100 hours per calendar year for maintenance and testing purposes.
- The EU may be operated for up to 50 hours per year for non-emergency purposes.
- This EU must comply with the following NSPS 40 CFR Part 60, Subpart IIII requirements:
  - Must maintain the equipment following manufacturer specifications.
  - Only change emission-related settings as permitted by manufacturer.
  - Meet the requirements as specified in 40 CFR 89, 94 and/or 1068, as applicable.
- If the permittee completes modifications or changes to the certified engine that makes the engine operate in a non-certified manner, the permittee shall keep a maintenance plan for EUGENERATOR and shall, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions.

During the inspection it was confirmed that the facility has not modified the engine and that they follow manufacturer instructions for operation of the unit. They are also in compliance with applicable NSPS requirements. The facility only operates the generator for the sake of routine operational testing and there were no instances of the generator running for the sake of facility operation since the last inspection. This demonstrates compliance with the requirements.

This EU is required to have a non-resettable hour meter installed to track operational hours. This meter was intact and functional during the inspection. Operational records matched the hour meter, demonstrating proper compliance when reviewed on site.

The facility is required to perform performance testing if they choose to install and operate the EU outside of the manufacturer specified instructions. During the inspection it was discussed that the facility only operates the engine as specified by the manufacturer. No testing is required at this time.

The facility is required to keep the following records for this EU:



- Manufacturer certification documentation.
- Records demonstrating adherence to manufacturer instructions for emission related operations.
- Hours of EU operation both monthly and on a 12-month rolling time period schedule.
- Fuel supplier certification or sample test data for each delivery of fuel used.

These records were reviewed on site and confirmed compliance with all above requirements. These documents also demonstrated that the facility continues to follow manufacturer requirements for the EU.

This EU has a reporting requirement that requires performance test be submitted to the AQD. No performance tests have been required or performed since the occurrence of the last inspection; therefore, no reporting has been required. All other reporting requirements have either been discussed previously in this report or are not applicable.

This EU is required to adhere to the requirements of NSPS 40 CFR Part 60 Subparts A & III. Demonstration of the above conditions in the ROP demonstrate compliance with these requirements. This EU is also required to adhere to the requirements of NESHAP 40 CFR Part 63 Subparts A & ZZZZ. The requirements amount to the following:

- Changing oil and filters annually.
- Inspecting spark plugs, valves, and other components annually.

This was discussed with the facility, and it was confirmed that regular inspections occur for the unit as part of the testing and maintenance procedures. The facility appears compliant with these requirements.

#### FGCAMPLAN

This FG includes the equipment within EUWETCOAT and EUCLEANUP/PURGE and the associated RTOs, which are subject to 40 CFR Part 64 Compliance Air Monitoring (CAM).

This FG has the following two design parameters:

- Both RTOs must have a thermocouple installed in the combustion chambers to monitor operational temperatures.
- Both RTOs must have an instantaneous LCD temperature monitor installed.

During the inspection, LCD monitoring screens were observed and operational, demonstrating compliance with both requirements.

This FG has the following monitoring and recordkeeping requirements:

- Temperatures must be monitored continually at 15-minute intervals or shorter.
- Air flow must be monitored through smoke tube testing conducted twice per shift.
- Solvent retention must be monitored through fan motor frequency of each RTO being monitored twice per shift.
- Thermocouples must be calibrated according to manufacturer specifications or once per year.

- Semiannual external inspections of the RTOs must be conducted.
- Annual internal inspections of the RTOs must be conducted.
- Monthly inspections of valves, piping, control valves, motors, and linkages as well as monthly lubricating of damper and fan bearings must be conducted.
- If any excursion (defined in the ROP) or exceedance occurs, the facility must return the FG to normal operation as soon as possible and while minimizing emissions.
- All monitoring and recordkeeping requirements must be followed at all times for operational determination, though some provisions for repairs and quality assurance operations are provided.
- Monitoring equipment must be maintained properly.
- Records of monitoring and any corrective actions must be maintained.

These recordkeeping requirements were discussed with the facility. The facility reports any excursions, exceedances, and downtime instances annually in accordance with reporting requirements discussed below. The most recent reports were submitted on February 23, 2023. No excursions, exceedances, or downtime instances were reported. Additionally there were no observed instances or evidences of excursions, exceedances, or downtimes when reviewing provided records.

As mentioned, the facility is required to report semiannual summaries of the above recordkeeping requirements. The most recent reports were submitted on time and showed no deviations for the past reporting year.

The facility is required to report to the AQD any emission limit failure that does not have an associated excursion or exceedance description so that the CAM plan may be modified appropriately. No instances were recorded in the time since the last inspection and so no modification of the CAM plan is required at this time.

#### FGCOLDCLEANERS

This FG includes EUPARTWASH.

This FG has one material limit that states that the facility shall not use cleaning solvents containing more than five percent by weight of the following halogenated compounds: methylene chloride, perchloroethylene, trichloroethylene, 1,1,1 trichloroethane, carbon tetrachloride, chloroform, or any combination thereof. This was discussed and it was confirmed that none of the above materials are used in the cold cleaners on site.

This FG has process restrictions that state all cleaned parts shall be drained for 15 seconds or until dripping ceases, and that manufacturer recommended maintenance shall be conducted on each unit. This was discussed and all procedures appear to meet these outlined requirements.

This FG has the following design parameters:

- Cold cleaner must have a surface area of less than 10 ft<sup>2</sup> or only be used to clean metal parts with emissions released into the in-plant area.
- Cleaners must have a device for draining parts.
- All cleaners must have covers that are closed when not in use.

There are other requirements specified for if the used solvents have high psia levels or are agitated or heated. None of these apply to the solvents used at this facility as unheated mineral spirits are used. The facility was compliant with all other requirements during the inspection.

This FG has the following recordkeeping requirements:

- For each new cold cleaner in which the solvent is heated, the solvent temperature shall be monitored and recorded at least once each calendar week during routine operating conditions.
- The permittee shall maintain the following information on file for each cold cleaner:
  - A serial number, model number, or other unique identifier for each cold cleaner.
  - The date the unit was installed, manufactured or that it commenced operation.
  - The air/vapor interface area for any unit claimed to be exempt under Rule 281(2)(h).
  - The applicable Rule 201 exemption.
  - The Reid vapor pressure of each solvent used.
  - If applicable, the option chosen to comply with Rule 707(2).
- Written procedures shall be maintained for each cold cleaner.

There is also a requirement regarding evaporation of waste in open containers, but this is not applicable as all waste is in closed containers at the facility. All other requirements are met as each cleaner is labeled with procedures posted nearby.

#### Exempt Equipment

This facility operates approximately 70 plastic injection mold machines. Resin storage containers and driers that are associated with these molding machines are also present. These units are exempt from air permitting requirements under Rule 286(2)(b).

The facility has two boilers on site of heat inputs ~4 MMBtu and ~5 MMBtu. Both boilers are exempt from air permitting requirements under Rule 282(2)(b)(i) as they are natural gas fired and less than 50 MMBtu. These boilers are exempt from NSPS 40 CFR Part 60 Subpart Dc as they are less than 10 MMBtu. Both boilers are exempt from NESHAP 40 CFR Part 63 Subpart JJJJJ as the facility is a synthetic minor source for HAPs (Area Source) and the boilers are both gas-fired units.

#### Conclusion

At the conclusion of the inspection the facility appeared to be compliant with all requirements in ROP No. MI-ROP-N5056-2021 and all other applicable air quality rules and regulations.

NAME Scott Evans

DATE 7/25/2023

SUPERVISOR 