

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

N622657120

FACILITY: Brembo North America, Inc.		SRN / ID: N6226
LOCATION: 29991 M 60 EAST, HOMER		DISTRICT: Kalamazoo
CITY: HOMER		COUNTY: CALHOUN
CONTACT: Jessy Conard , Corporate HSE Manager		ACTIVITY DATE: 02/23/2021
STAFF: Amanda Chapel	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Brembo Foundry Records Review and On-Site Inspection		
RESOLVED COMPLAINTS:		

### Records Review

On February 2, 2021 Air Quality Division's (AQD) Amanda Chapel (staff) received the records for the Brembo Foundry as required by PTI 199-14C. Due to the ongoing COVID-19 pandemic, to help ensure safety and social distancing protocols, the Department of Environment, Great Lakes, and Energy (EGLE) has authorized inspectors to do virtual records reviews as part of a full compliance inspection at a facility. Records for the Disc Plant were requested and reviewed in November but due to guidance from DHHS and the spike in COVID-19 cases, the inspection was postponed. The records review is being done virtually and will be part of the full compliance inspection for Brembo located in Homer, Michigan.

### EUFINISHING

Finishing includes the grinding and shot blasting of cooled iron castings. The emissions from finishing are controlled by the Finishing Baghouse. Emission unit contains PM, PM10, and PM2.5 emission limits that are both hourly and 12-month rolling limits and a visible emission opacity limit. The month with the highest 12-month rolling PM/10/2.5 emissions was February 2020. According to records, the facility emitted 11.31 tpy PM, 1.13 tpy PM10, and 0.11 tpy PM2.5 on a 12-month rolling basis. All these emissions are below the allowed limits in the permit.

There is a limit of 160,000 tpy on a 12-month rolling basis of metal shipped. According to records, the highest month of metal shipped for 12-months rolling was also February with 95,010 tpy.

Every baghouse at the facility is equipped with an opacity monitor. Records from the opacity monitors were sent. The facility uses this data to correlate the readings from the monitor with stack test results to determine a range of acceptable readings from the monitors. High numbers result in maintenance or a work order to correct the issue.

Facility provided the excel records documenting the daily opacity readings from EUFINISHING daily, while operational. There were no visible emissions observed or recorded.

The facility appears to be in compliance with requirements in EUFINISHING.

### EUNATGAS

Emission unit contains natural gas fired processes, building heat, and the operation of the RTO. Natural gas usage is limited to 192 MMSCF/year on a 12-month rolling basis. The facility is tracking both monthly and 12-month rolling usage. The month with the highest usage both monthly and on a 12-month rolling basis is January 2021 with a rolling total of 117 MMSCF/year.

The facility appears to be in compliance with requirements in EUNATGAS.

#### EUCOREMIX

Emission unit consist of core production and storage which includes the mixing of core sand with resins and other additives. The emissions from EUCOREMIX are vented internally. Emissions are limited to 13.0 tpy on a 12-month rolling time period and core sand usage to 40,000 tpy on a 12-month rolling time period. The facility is keeping both monthly and 12-month rolling emissions. The month with the highest VOC emissions and core sand usage was February 2020. VOC emissions were 5.87 tpy and core sand usage was 18,064 tpy on a 12-month rolling basis.

The facility appears to be in compliance with requirements in EUCOREMIX.

#### EUCOREMAKING

Core making includes curing the formed core sand mixture using dimethylisopropylamine (DMIPA), a non-HAP amine catalyst. There are three core making machines in EUCOREMAKING. The emissions from EUCOREMAKING are controlled by an acid scrubber. Material limits in the emission unit are core sand and catalyst usage which are limited to 40,000 tpy and 22.2 tpy on a 12-month rolling basis respectively. Similar to the other emission units, EUCOREMAKING has the highest usages in February 2020. Core sand used was 18,064 tpy.

The facility also sent over records for the scrubber operation. To reduce the amount of records sent to review, the facility sent over sensor data from the last Wednesday in every month in 2020 except April as the facility was shut down due to COVID restrictions. The records include Probe 1 and Probe 2, dual pH probes which are installed for redundancy in the system, the differential pressure in inches of water, system pump flow rate in gallons per minute (GPM), and notification which of the three core machines were running at the time. The data is taken in 5-minute intervals but monitored continuously. The system is interlocked to shut down the core machines in the event a sensor falls outside of the approved operating range.

Records for the scrubber were reviewed. The pH remained below 4.5 unless noted in the records. If the probe noted that the pH was out of range, corrective action was noted. On March 18, 2020 probe 2 showed two errors. Once the probe was cleaned and the second error, the probe was replaced. An error was noted on November 18, 2020 with the circulation flow (GPM). Records show that all core machines were stopped during this time.

The scrubber is inspected daily, monthly, quarterly, and semi-annually. Daily checks verify that the blower and water pump are operational and records the pH, circulation, differential pressure, system reservoir level, and any comments. Monthly inspections include checking the mist eliminator for contamination, spray pattern, packed bed for proper drainage, and the physical integrity of the scrubber and duct work. Quarterly inspections include inspecting the fan, sheaves, bearing and motor lubrication, and v-belt for wear and tear and replace if necessary, packed bed for signs of damage, structural integrity, chemical damage, clogging, duct work, and blower all for signs of damage or wear and tear. The semi-annual inspection includes inspecting the pad mist eliminator and accessing the scrubber through the catwalk to inspect the top and bottom of the mist separator.

The facility provided an SDS for the DMIPA catalyst, ISO-FAST 705 Catalyst, used at the facility. This is the only catalyst used on site.

The facility appears to be in compliance with requirements in EUCOREMAKING.

#### FGMELTING

This flexible group includes scrap handling, pouring into molds, and 4 electric induction melting furnaces. The four melting furnaces are controlled by a common baghouse. Flexible group contains PM, PM10, and PM2.5 emission limits that are both hourly and 12-month rolling limits. The flexible group also contains a 160,000 tpy metal charged limit, 757 tons per day metal charged limit, and a 0.09% chromium 6 by weight limit.

Facility records show that the highest month and 12-month rolling emissions were in January 2020 for all pollutants with emission limits. The 12-month rolling emissions were 0.31 tpy PM, 0.31 tpy PM10, and 0.24 tpy PM2.5, all of which are well below permitted limits. February had the highest 12-month rolling metal charged with 132,774 tpy which is below the 160,000 tpy 12-month rolling limit.

The facility has a material limit of 757 tons per day of metal charged. The facility provided daily metal tons charged records to show compliance with this condition. The highest metal charged per day was in November 2020 with 754 tons of metal charged. The metal charged per day varies between 100 tons and 754 tons with the majority of days falling into the 500-600 tons per day range.

The facility provided records of the quarterly hexavalent chromium analysis results. The permit limits the chromium 6 content to 0.09% chromium by weight. The results showed the highest percent by weight was 0.04% which meets the limit of 0.09% in the permit.

The facility appears to be in compliance with requirements in FGMELTING.

#### FGPOURCOOL

This flexible group includes the pouring and cooling operations at the facility. The emission units in this flexible group are controlled by a common baghouse and RTO. Pollutants that have emission limits within this flexible group are PM, PM10, PM2.5, CO, and VOC. The facility reported the highest monthly emissions in January 2020 and highest 12-month rolling totals in January and February 2020. Emissions for the pollutants are as follows: 0.0 tpy PM, 0.04 tpy PM10, 0.0 tpy PM2.5, 2.20 tpy CO, and 0.35 tpy VOC on a 12-month rolling basis. All of these are well below the permitted limits.

The facility also provided records for the last Wednesday in every month for the continuous temperature monitoring in the RTO. The temperature monitoring is continuous but for the compression of records, the information was consolidated into 5-minute intervals. A temperature was recorded for both chamber A and B in the RTO. An audible alarm is set to go off if the RTO temperature drops below 1,400F.

Destruction efficiency (DE) testing was last completed in 2018 where the facility chose to show compliance with the pph VOC emission rate instead of DE. The result was 2.84 pph compared to the 3.37 pph limit. The facility will test either DE or VOC emission rates this year in 2021.

The facility appears to be in compliance with all requirements in FGPOURCOOL.

#### **FGSANDHNDLG**

This flexible group includes the shakeout activities and the sand handling activities at the facility. The shakeout and sand handling activities are controlled by a common baghouse. Pollutants that have emission limits within this flexible group are PM, PM10, and PM2.5 along with a limit on mold and core sand usage on 12-month rolling basis. The facility reported the highest monthly emissions in January 2020 and highest 12-month rolling totals in January and February 2020. Emissions for the pollutants are as follows: 3.49 tpy PM, 3.78 tpy PM10, 3.29 PM2.5 and 1,136,744 tpy of mold and core sand on a 12-month rolling time period basis. All these emissions and usage are well below the permitted limits.

The facility appears to be in compliance with all requirements contained in FGSANDHNDLNG.

#### **FGMACTEEEE**

The affected source is a new iron and steel foundry, that is (or is part of) a major source of hazardous air pollutant (HAP) emissions. The regulations cover emissions from metal melting furnaces, scrap preheaters, new pouring areas, pouring stations, new automated conveyor and new pallet cooling lines, new automated shakeout lines, and fugitive emissions from foundry operations. Emission units that are affected by this condition are EUINDUCTION1, EUINDUCTION2, EUINDUCTION3, EUINDUCTION4, EUPOURING, EUCOOLING, and EUSHAKEOUT.

Each affected emission unit has a dedicated O&M plan, MAP, or integrated which were updated and submitted to the department on October 26, 2020. Plans for the facility are Acid Scrubber MAP, Pouring and Cooling Baghouse Integrated Plan, Melt Shop Baghouse Integrated Plan, Finish Baghouse MAP, and Sand System MAP.

CEMS data was submitted by the company to show compliance with the CEMs requirements. Note: the CEMs system is not certified by EGLE due to the lack to DAHS onsite. EGLE and the facility are working together to remedy this and a new CEMs should be installed at the facility by summer 2021. CEMs readings are recording the VOHAP concentrations every ten seconds which are then processed into 3-hour averages, as required by the MACT. Records show that the 3-hour VOHAP limits were met during most of the reporting period. The highest CEMs reading on the most recent day sent was 5.712. On May 27<sup>th</sup>, 2020, a pump failed in the sand system CEMs causing the readings to exceed to limit. This was determined to be a CEMs malfunction and not an emission exceedance. This was reported in the quarterly CEMs downtime report. Since this was not an emissions exceedance and was reported to EGLE previously, no VN will be sent for this.

Visual emissions readings are done every 6 months by an outside vendor to comply with the visual emissions requirements in this flexible group. Records were submitted showing VE readings completed in May and October 2020. In May, the highest VE recorded was 7.9%. In October the highest reading recorded was 0%.

The binder for core making does contain a small amount of methanol. Our binder agent is a two-part chemical mixture and one of the parts does contain a small amount of methanol. The two chemicals are called Biocure 705 and Biocure 305. Biocure 705 contains 0.21 % methanol (SDS

states < 0.3%, actual verified from mfg) and Biocure 305 does not contain any methanol. Since the process is not a warm furan box mold or warm furan core mold system, it is allowed to contain methanol. The definition in MACT 5E confirms that the requirement to not contain methanol only applies to the above listed binder systems.

There has not been any additional testing to show compliance with PM limits since the last major stack testing event in 2018 which was used to establish the emission rates for the revised PTI. This will be part of the comprehensive testing planned for the year 2021. Because this is an ongoing issue for which the facility was previously cited and is working toward compliance, there will be no additional VNs issued.

## FGENGINES

Flexible group contains five emergency engines of various sizes for power generation and fire suppression.

Records submitted by the facility show that sulfur content is <15 ppm, C-Tane level is 48, and aromatic level is 25%. Diesel used on site is No. 2 D – S15.

The facility provided records of the generator certifications and the emergency generator, generators for the fire pumps, and emergency cooling water pumps have the information on a tag on the actual generator. There are two identical engine fire pumps and emergency cooling pumps on site that have identical information. Engines appear to meet specifications contained within the permit.

The facility provided records showing generator, fire pump, and emergency cooling pump hours of operation and if the operation was emergency or maintenance on a 24-hour, monthly, and 12-month rolling basis. Total annual hours for the generator was 20.85 hours. In June, the generator ran 4.6 hours for due to a power failure in the building. The average time run for planned maintenance was 0.9 hours. Fire pump 1 ran for a total of 94.2 hours and fire pump 2 for 67.8 hours. Emergency cooling pump 1 ran for 45.8 hours and emergency cooling pump 2 ran for 72 hours.

The emergency generator has an annual inspection by outside expert and internal inspections are done on a schedule and as needed. Fire pumps and emergency cooling water pump engines all have weekly internal PMs completed and documented. Records were provided to verify the maintenance was completed. All parameters that are checked are listed and documented on the PM form. PM numbers are listed on the logs and the facility can pull each PM record if needed.

The facility appears to be in compliance with all applicable records requirements contained within PTI No. 199-14C.

## On-Site Inspection

On Tuesday February 23, 2021, Air Quality Division's (AQD) Amanda Chapel (staff) completed the in-person inspection of the Brembo Foundry and Disc Plant located at 29991 M-60 Homer, Calhoun County, Michigan. This was an announced inspection under the COVID-19 guidance issued by the state. Per the guidance, masks were worn at all times, social distancing was maintained when possible, and no records were reviewed on site to reduce exposure time. The

site records were reviewed previously. The walk-through inspection was completed to ensure the facility is following all conditions contained within MI-ROP-N6226-2015a and PTI No. 199-14C.

The foundry is one of two entities that constitute a single major stationary source that also includes the brake disc coating operation owned by Brembo North America, Inc. The foundry produces brake rotor castings for the adjacent coating operation. Stemming from previously cited exceedances, a consent order was signed by Brembo on August 21, 2019. The foundry is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries per 40 CFR Part 63, Subpart EEEEE. The foundry operations are currently covered in PTI No. 199-14C which was updated in February, 2020. The facility will be rolling this permit into Section 2 of the ROP during this renewal period.

I arrived on site about 9:30 am. Mr. Jessy Conard, Senior Manager EHS and Ms. Vivian Rowles, EHS Manager met me at the Foundry Plant. I filled out a health screen questionnaire and completed a temperature check before entering the facility. A list of emissions units and parameters to verify was provided before the inspection and a plan was developed to walk through the facility to try and reduce the amount of contact with employees. For this reason, the notes below are not in order of how we walked through the plant but are in order of process at the facility.

When the foundry walkthrough started, the mold line and finishing process was down due to a malfunction. This was confirmed by the control board which is set up on the wall in the office which showed these processes being down and the number of molds made was about 50% of the projected number of molds possible. Mr. Conard and Ms. Rowles said this has been a problem that has been happening more frequently recently. When this happens, the lines are shut down, but the pollution control continues to run in anticipation of restarting. If a piece of pollution control equipment goes down, the system is interlocked to stop all operations and the process is halted until the pollution control is up and running.

Scrap is brought into the building in carts on tracks which are loaded by magnet. The furnaces are loaded by the carts and the metal is melted. The furnace is tapped approximately four times until the loading process begins again. Once a furnace is tapped, the crucible is moved via forklift to the slag area where the slag is skimmed off the top and disposed of. The cleaned metal is moved again to the molding area. The molten is poured into black sand molds, via robot, then sent through the cooling conveyors. If cores are used in the molds, those are manufactured in the core making area.

Currently, workers place cores into the molds but the facility is moving to have that automated. People will load the cores onto conveyors and robots will pick up the cores and place them into the molds. All loading stations should be automated within the spring of 2021. Once through the cooling conveyors, the cores go through the sand shakeout area to the finishing area where they are ground and sorted. This area is also going to become more automated with a sorting area that is done via robot. This was in the process of being assembled during the walkthrough as well and should be done by spring or summer 2021.

#### FGMELTING

This was operational by the time we reached the equipment and viewed from the skybox. This includes the four induction melting furnaces controlled by a common baghouse. When the plant is experiencing a shutdown, the melting is paused and all molten is held in the furnaces until the process is running again. There is no scrap stored outside but all inside and covered. The scrap that is stored outside is painted and is being recycled at Omni-sources and not used in the Brembo process.

The large two-cell baghouse is monitored with a SCADA system monitors operational parameters while the system is operating. At the time of the inspection bag leak detection (BLD) was reading 16%, flow was 95,000 CFM, the differential pressures were 5.74" and 4.7", and inlet temperatures were 116 and outlet temperatures were 113. The baghouse pulses to shake down particulate from the bags to ensure continued capture.

#### FGPOURCOOL

This process was not operational during the walkthrough by the time we reached the equipment. It consists of the pouring and cooling operations which are controlled with an RTO and baghouse. There were no visible emissions seen from the stacks during the inspection. Bag leak detection read 10%, differential pressure was 4.15", and flow was 64,000 CFM. For the RTO, the chamber temperatures were 1528 and 1501F. The RTO is auto-calibrated every 160 hours. There are daily inspections done as well as manual calibrations, if necessary.

The CEMs was alarming and two technicians were working on addressing the issue. They explained it was a flame alarm indicating there was a small flame in the unit. Ms. Rowles explained that this would go on the CEMs downtime report which is submitted quarterly. The CEMs was reading 0.05 during this period. She also explained that the system is interlocked with the mold line. The line will not run unless the pollution control equipment is operational.

#### FGSANDHNDLNG

This process includes the shakeout activities and the sand handling activities at the facility. These activities are controlled by a common baghouse. The baghouse has two cells which have pressure drops which were 5.1" and 5.67" during the inspection and the flow was 160,000 CFM. The BLD was reading 1% and the CEMs installed at the facility was reading 2.17 ppmvd.

The facility receives sand deliveries daily.

#### EUFINISHING

This process includes the grinding and shot blasting of cooled iron castings which are controlled by a baghouse. This process was down during the inspection and Mr. Conard said they were doing rework as it can run independently of the other processes. No visible emissions were seen during the inspection. BLD was 13%, the pressure drop was 7.02", and the flow read 41,000 CFM. By the finishing baghouse, there were employees seen sweeping the area to keep it clear of dust. Mr. Conard said a third party is contracted to the sweeping at the facility. Since the process was down, the area appeared dustier than normal.

#### FGENGINES

There are five emergency engines on site, two 177 kW (3.3 MMBtu/hr) diesel fired emergency cooling pumps, two 55 kW (1.1 MMBtu.hr) diesel fire pumps which were added to the newest version of PTI 199-14C and are subject to 40 CFR Part 60, Subpart IIII, and one Cummins 1250 kW (1661 HP) emergency generator. All engines has an EPA sticker certifying the emissions were compliant with federal emission standards at the time of manufacture.

The Cummins emergency generator has a January 2016 manufacture date and is equipped with a non-resettable hours meter which read 101.7 hours during the inspection. Crystal Flash supplies the facility with ultra-low sulfur diesel fuel. Cummins also has a service contract to inspect and maintain the engine.

The two diesel-fired emergency cooling pumps and two diesel fire pumps are all from Clarke. The maintenance for the pumps is contracted to a third party. There is weekly testing for 30-minutes to ensure operation. The fire pumps go through additional quarterly testing. The hours meter readings are as follows: Engine2 229.3 hours, Engine3 395.3 hours, Engine4 402.5 hours, and Engine 5 152.6 hours.

#### EUCOREMIX/EUCOREMAKING

The core mix production includes mixing core sand with resins and other additives. Each core machine has a dedicated resin area. Core making includes curing the formed core sand using a non-HAP amine catalyst. There are three core making machines and two were running during the inspection. EUCOREMAKING is controlled by an acid scrubber.

The scrubber is equipped with two pH sensors that act as a redundant control for the scrubber. The pH sensors were reading 2.26 and 2.55 during the inspection. Differential pressure was 3.7 and the pump flow was 321 GPM. There is a monthly PM completed to test that the interlock system is working. The facility sends the pH higher than the trigger number to shut off the machines.

#### Exempt Equipment

The facility has two cold cleaners on site. They are identical Safety Kleen models with an automatic lid. This was closed and not in use at the time of the inspection. There was a DEQ sticker about proper cold cleaner use on the device in a visible location. Safety Kleen is contracted to maintain the cleaners once every three months.

After the walk through, we went back to the main office area for a quick debrief before heading over the disc plant. The facility appears to be in compliance with all applicable requirements contained within PTI No. 199-14C and all other applicable state and federal air quality rules.

NAME *Amber Clapp*

DATE 3/4/21

SUPERVISOR *RK 3/8/21*

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

N622656565

FACILITY: Brembo North America, Inc.		SRN / ID: N6226
LOCATION: 29991 M 60 EAST, HOMER		DISTRICT: Kalamazoo
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CONTACT: Jessy Conard , Corporate HSE Manager		ACTIVITY DATE: 02/23/2021
STAFF: Amanda Chapel	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

On November 17, 2020 Air Quality Division's (AQD) Amanda Chapel (staff) received the records for the Brembo Disc Plant as required by MI-ROP-N6226-2015a. Due to the ongoing COVID-19 pandemic, to help ensure safety and social distancing protocols, the Department of Environment, Great Lakes, and Energy (EGLE) has authorized inspectors to do virtual records reviews as part of a full compliance inspection at a facility. The records were requested as part of a planned transfer efficiency observation and testing to be performed on December 1 and 2, 2020. This testing observation and associated inspection have been postponed at this time due to guidance issued by DHHS. The records review is being done virtually and will be part of the full compliance inspection for Brembo located in Homer, Michigan.

#### FG-GEOMET

This flexible group contains EU-GeoMet-01 and EU-GeoMet-02 lines. VOCs are limited to 2,000 pounds per month per line and 10 tpy each line on a 12-month rolling time period. The facility provided a copy of the compliance binder that has been developed to ensure compliance with the permit.

The GeoMet paint SDS is located in Appendix B-3. The VOC content of the paint is 0.88 lb/gal including water and 3.00 lbs/gal without water. The HAP content is 3.7% and solids content is 16.4%. According to records submitted, the highest emitting month was September 2020 on GeoMet-02 with GeoMet 360 paint having 191.62 gallons used. Overall, the highest VOC emissions were 474 lbs/month on GeoMet-02.

Facility submitted additional records on December 2, 2020. The facility is keeping 12-month rolling totals in cells totaling the 12-month VOC emissions by tons/year. These are updated monthly and added to the appropriate tab in the compliance binder. This is done for all emission units. Based on records submitted, the facility is below the 12-month rolling VOC emissions limit.

The facility appears to be in compliance with the emission limits and recordkeeping requirements needed to show compliance.

#### FG-BMG

This flexible group consists of seven automotive metal surface coating lines, EU-GeoMet-03, EU-Black, EU-Magni-01, EU-Magni-02, EU-Magni-03, EU-Magni-04, and EU-Magni-05. VOCs are limited to 6.0 tpy on a 12-month rolling time period for each EU of FG-BMG and 42.0 tpy for FG-BMG on a 12-month rolling time period. There is also a material limit of 3.5 lb/gal (minus water) as applied.

Records show that the GeoMet line runs GeoMet 1102 paint, the Magni lines run Magni paint, and Magni-05 runs both Magni and Zinc paint. Gallons of paint used, per line and per paint type, are tracked monthly. The highest monthly VOC emissions across all lines combined was August 2020 with 1.143 tons/month of VOC. The highest single month emission of VOC was on Magni-03 using Magni paint in August with 0.2955 tons/month.

Based on records submitted, the facility is below the 12-month rolling VOC emissions limit.

Method 24 testing data was submitted for compliance with the testing requirement contained in FG-BMG. Testing results showed that one test was above the allowed material limit and one test was below the allowed material limit. In a conversation with the facility, when the first number came back too high it was resubmitted to the lab for new results. According to the facility, the lab was including an exempt chemical not VOC but not water. The newer Method 24 data will be considered accurate at this time.

Records provided show that the VOC content, minus water, for GeoMet 1102 paint is 3.00 lb/gal, Magni paint is 3.0 lb/gal, and Method 24 data shows that the VOC content, minus water and exempt compounds, for the Zinc paint is 3.78 lb/gal. The facility appears to have stopped running zinc paint on Magni-05 in July 2020.

The facility states that they believe the Method 24 VOC-exempt result is strongly based on how well mixed the sample of zinc paint submitted to the lab is. All zinc paint run on the lines is the same zinc paint. Method 24 results show ranges of VOC-exempt between non-detect (ND) and 3.78 lb/gallon of VOC. Of the 11 samples submitted, some of which were duplicates of the same paint, 9 samples are below the 3.5 lbs VOC/gallon and 2 samples are above. Since the facility sprayed a minimal amount of zinc paint on the Magni lines and haven't sprayed zinc since June, no VN will be written for this at this time. Should the facility begin spraying zinc paint on the Magni lines again, they need to ensure it meets the permitted material limit. The facility states they are discontinuing zinc paint at the facility and this shouldn't be an issue, moving forward.

#### FG-Zinc

This flexible group consists of six automotive metal surface coating lines, EU-Zinc-01, EU-Zinc-02, EU-Zinc-03, EU-Zinc-04, EU-Zinc-05, and EU-Zinc-06. VOCs are limited to 15 tpy on a 12-month rolling time period for each EU of FG-Zinc and 62.6 tpy on a 12-month rolling time period for FG-Zinc. Ethylbenzene is limited to 4.68 tpy on a 12-month rolling basis for FG-Zinc as well. The material limit is 11.0 lbs/gal of applied coating solids per day for each EU in FG-Zinc.

The facility most recently completed transfer efficiency testing on December 1 and 2, 2020. Lines tested were EU-Zinc-03 and EU-Zinc-05. For each line, 2 different part types and 10 of each part were tested and weighed in the lab. A Method 24 sample is taken with this testing. The testing was only completed on two lines as the facility is in the process of stopping painting with zinc paint and will be only using two lines.

Appendix B-4 and B-5 contain information about the Worwag zinc paint including volatile organic components and HAP content. Appendix B-5 is the Method 24 results for the Zinc paint from 2/2018. The facility provided Method 24 results shows that the paint contains 3.78 pounds per gallon of VOCs (minus water).

The facility is tracking paint usage, in gallons per month, by line by paint. Highest paint usage is Zinc-02 which is using Magni paint. Usage was 217.03 gallons in January 2020. Highest usage of Zinc paint was on Zinc-03 in October 2020 at 154.66 gallons. Monthly VOC emissions are also being tracked by paint and by line. The months with the highest emissions, by line and by paint, correspond to the months the most paint was used. 12-month rolling emissions show the facility is meeting the permitted limits of VOC.

The zinc paint used at the facility also contains ethylbenzene from which emissions are calculated. The ethylbenzene content is listed as 0.21 lbs/gallon. Monthly ethylbenzene emissions are calculated with the most recent highest monthly emissions are in October 2020 with 0.0197 tons. Emissions from the last 12 months were 0.17 tpy of ethylbenzene which is well below the permitted amount of 4.68 tpy.

The facility also provided examples of the daily gallon applied coating solids (GACS) calculations being done for October 2020. Records provided by the facility show the highest GACS calculated during the month of October 2020 were on EU-Zinc-03 on October 1 and October 14 at 7.48 GACS. This is below the permitted 11.0 GACS limit in the permit.

#### FG-COATINGLINES

This flexible group consists of fifteen automotive metal surface coating lines. The overall VOC emission limit is 62.6 tpy on a 12-month rolling basis.

According to the records submitted, the 12-month rolling VOC total ending in October 2020 was 19.57 tpy VOC. This is totaled up across the fifteen permitted lines and paint type, Geomet, Magni, and Zinc. This is well below the permitted amount of 62.6 tpy VOC.

12-month rolling VOC emissions are tracked, monthly, like the other 12-month rolling VOC totals. The facility appears to be at about 1/3 of their allotted VOC emissions and is in compliance with the permitted limits.

#### FG-MACT MMMM

This flexible group applies to each new, reconstructed, and existing affected source that engages in surface coating of miscellaneous metal products as defined in 40 CFR Part 63, Subpart MMMM. Emission limits are 2.6 lbs/gal of coating solids of Organic HAP on a 12-month rolling basis for each existing, general use coating. Material limits state that each thinner and/or additive and each cleaning material contain no organic HAPs.

The facility submitted a copy of the most recent MACT MMMM compliance report submitted to EGLE in July 2020. Per the submission, the facility is using all compliant coatings to show compliance with MACT MMMM. The limit is 2.6 lb HAP per gallon of solids. GeoMet 1102 is the closest to the limit at 2.55 lb HAP/gal coating solids. The facility appears to be in compliance with requirements contained in this section of the permit.

#### FG-COLDCLEANERS

This flexible group covers all cold cleaners at the facility. The facility provided an SDS from SafetyKleen showing the liquid in the cold cleaners is 100% distillates, containing none of the

listed banned chemicals. Further information provided indicates the Reid vapor pressure is 0.02 psia.

#### Exempt Equipment

##### EU-Magni-06

The facility submitted additional records showing that the contents of Magni C40 paint, run on Magni-06 (Line 57) meet the requirements of Rule 290. The facility has documented that the Magni paint contains no TACs with an ITSL <2.0 micrograms/meter cubed.

The facility still needs to be tracking monthly usage of paint to show continued compliance with Rule 290. The records submitted show that the facility can use, at most, 384.62 gallons/month, to continue to be in compliance with Rule 290. However, this is not how the exemption is written and still requires the monthly recordkeeping showing compliance with the exemption.

The facility should update the recordkeeping for this section to reflect the monthly requirements written into the exemption.

##### Rust Inhibitor

The facility provided purchase records of rust inhibitor RP526. The records show there was a purchase of 10 gallons of rust inhibitor in February and another purchase of 10 gallons in September. While the records should be kept in usage amounts, because the purchase amount is well below the allowed 200 gallons per month limit, the facility is in compliance with the Rule 287 (2)(c) exemption.

The facility appears to be in compliance with requirements contained within the ROP. The facility does need to update recordkeeping for Magni-06 line to reflect requirements contained within the Rule 290 exemption.

On Tuesday February 23, 2021, Air Quality Division's (AQD) Amanda Chapel (staff) completed the in-person inspection of the Brembo Foundry and Disc Plant located at 29991 M-60 Homer, Calhoun County, Michigan. This was an announced inspection under the COVID-19 guidance issued by the state. Per the guidance, masks were worn at all times, social distancing was maintained when possible, and no records were reviewed on site to reduce exposure time. The site records were reviewed previously. The walk-through inspection was completed to ensure the facility is following all conditions contained within MI-ROP-N6226-2015a and PTI No. 199-14C.

The disc plant is one of two entities that constitute a single major stationary source that also includes the foundry operation owned by Brembo North America, Inc. The disc plant coats brake rotor castings for the adjacent foundry operation. The disc plant is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for surface coating of miscellaneous metal parts and products, 40 CFR Part 63, Subpart M. The disc plant is covered by the renewable operating permit (ROP) MI-ROP-N6226-2015a.

I arrived at the disc plant at about 12:15 pm. Mr. Jessy Conard and Ms. Vivian Rowles walked over from the foundry and Mr. Ryan Birch, Mr. Rob Jenkins Paint Engineer, and Ms. Emalee Metzner also joined us for the inspection. I filled out a health screening questionnaire, completed a temperature check, and watched a 10-minute safety video before entering the facility. A list of emission units and parameters to verify was provided before the inspection and a plan was developed to walk through the facility to try and reduce the amount of contact with employees. For this reason, the notes below are not in order of how we walked through the plant.

#### FG-GEOMET

This flexible group contains two automotive metal surface coating lines. During the inspection, EUGeoMet01 (Line 50) was running and EUGeoMet02 (Line 55) was not running. Both of these lines are capable of running GeoMet paint and Magni paint. These paints are tracked separately in the recordkeeping. During the inspection, line 01 was spraying Magni paint and line 02 was set up to spray GeoMet paint. GeoMet paint requires hot parts and cold paint, allowing it only to be sprayed on specific paint lines.

All paint lines throughout the facility are equipped with Turbo Spray HVLP M300 guns. All paint lines have two barrels next to the lines, one contains the spent filters for the line and one is for the waste cleanup solvents and associated materials. These are both kept with lids closed and only opened to dispose of the waste materials. Mr. Jenkins opened a filter barrel to show that the whole filter is placed inside the barrel and the lid replaced. This is the same on all the paint lines throughout the facility.

All paint lines throughout the facility are equipped with scales for paint weight. Totes of paint are filled from one large batch of paint so multiple totes can contain paint from the same batch. Totes of paint are placed onto the scales and the initial weight is recorded. At the end of the shift, the end weight in paint is recorded. The difference in weight is the amount of paint used each day. Some paint lines are equipped with multiple scales if the line is capable of spraying more than one paint type.

The filters are changed daily. Each line is equipped with a magnihelic gauge to show the proper pressure is being drawn through the filters. If they are not properly installed or are dirty, the magnihelic will indicate an issue. Additionally, a maintenance staff walks around daily to check the filters on all lines are properly installed. Filters appeared to be installed properly and had some paint overspray collected on them but were functioning in the proper range.

#### FG-BMG

This flexible group contains seven automotive metal surface coating lines. During the inspection, lines EU-GeoMet03 (Line 56), EU-Magni03 (Line 63), EU-Magni04 (Line 64), and EU-Magni05 (Line 66) were all running. Lines EU-Magni01 (Line 61) and EU-Magni02 (Line 62) were not running. Line EU-Black, which is included in the ROP with this flexible group, has been removed from the facility.

All waste container lids were closed, and filters appeared to be installed and operating correctly. These lines all contain the same HVLP guns as discussed above. Mr. Jenkins said that the lines use about 7 gallons of paint a day.

EU-Magni06 (Line 57) runs under exemption Rule 290. This stems from a VN written during the last inspection in 2018. The facility recently switched from using Rule 287(2)(c) to using Rule 290 to show that the paint line is exempt from permitting. In order to maintain compliance with the exemption, the facility needs to track monthly emissions from the line showing they meet the 500 lbs/month for non-toxic chemicals and less than 20 lbs/month for more toxic chemicals. The facility calculated a maximum amount of paint they can use on the line and still meet emissions limits. However, the exemption still requires monthly emissions tracking. The facility should update recordkeeping to comply with the requirements contained in Rule 290. No VN will be written for this at this time but the facility was informed of the need for the change.

#### FG-Zinc

This flexible group contains six automotive metal surface coating lines. According to the facility only EU-Zinc03 (Line 60) and EU-Zinc05 (Line 45) spray zinc paint anymore. All the other lines spray Magni paint. During the inspection, lines EU-Zinc04 (Line 65) and EU-Zinc05 (Line 45) were running. EU-Zinc01 (Line 1), EU-Zinc02 (Line 58), and EU-Zinc03 (Line 60) were not running.

Since the facility only runs Zinc paint on 2 lines, the required transfer efficiency testing was only performed on two lines. The facility completed this testing in January 2021 and showed compliance with the transfer efficiency requirements.

All waste container lids were closed, and filters appeared to be installed and operating correctly. These lines all contain the same HVLP guns as discussed above. EU-Zinc03 switched between painting with Zinc and Magni paint. EU-Zinc05 is the only dedicated Zinc paint line at the facility.

There was continued discussion about the facility's switch of painting lines from the existing spindle technology to a spindleless technology. This technology has robots that pick up the part and bring it over to the spray guns. These guns are stationary, and the robot moves the part to coat it evenly. These are then cured and placed back on a conveyor. EU-Zinc01 is currently being converted to this spindleless technology.

A process cannot simultaneously exempt and in an existing, active PTI. For this reason, the to-be-converted paint lines would need to be removed from a PTI by going back through the NSR process to have it removed from the flexible grouping in order to use Rule 287(2)(c). One of the exemptions, Rule 285(2)(c)(iii), designed to be used for already permitted equipment is the "meaningful change" exemptions. This rule states that "changes in a process or process equipment that do not involve installing, constructing, or reconstructing an emission unit and that involve a meaningful change in the quality and nature or a meaningful increase in the quantity of the emission of an air contaminant resulting from any of the following: Changes in a

process or process equipment to the extent that such changes do not alter the quality and nature, or increase the quantity, of the emission of the air contaminant beyond the level which has been described in and allowed by an approved permit to install, permit to operate, or order of the department".

In order to change the technology from the current, permitted technology to the spindleless technology, they need to submit a demonstration that the change in paint line technology will not alter the quality and nature or increase the quantity of the emission of the air contaminant beyond the level which has been described in and allowed by an approved permit to install. The facility needs to submit a determination showing that the facility meets the definition contained in Rule 285(2)(c)(iii) in order to show that the change will not result in a meaningful change.

#### Emergency Engine

The facility has one emergency diesel fire pump on site. This was installed as exempt under Rule 285(2)(g) but it is subject to 40 CFR Part 63 Subpart ZZZZ and should be included in the current ROP renewal. The engine is a Cummins 6BTA5.9-F1 engine with a horsepower rating of 208. The current hours meter was 392.4 hours. It goes through weekly testing of 30 minutes. Cummins services the engine annually. The oil filter read 7-10-2020 and 384 hours.

#### Exempt Lines 10 and 11

There is one spindleless line installed on site, line 11, that is currently operational. Another line, line 10, is slated to be installed in July 2021. Line 11 is currently operating under exemption Rule 287(2)(c) using less than 200 gallons of paint, minus water, per month.

There was discussion on site if these two lines are considered one project and need to be evaluated as such. The lines will have begun construction within 18 months of each other. The facility said they are looking at running both lines under the one exemption, using only 200 gallons of coating, minus water, per month between the two lines. This would alleviate any issues with the installation of the lines. Further discussion needs to be had by EGLE and the facility regarding these two lines.

#### Cold Cleaners

The facility has two cold cleaners on site. They are both Safety Kleen brand located by the Magni coating lines. Safety Kleen is contracted to do the maintenance every 2 weeks. At the time of the inspection, the lids were closed, and neither were in use.

The facility appears to be in compliance with requirements contained within the ROP. The facility does need to update recordkeeping for Magni-06 line to reflect requirements contained within the Rule 290 exemption. The facility also needs to submit a demonstration that the change from the current paint lines to spindleless technology meets the meaningful change exemption in Rule 285(2)(c)(iii).

NAME  DATE 3/5/21 SUPERVISOR RIL 3/5/21