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

A390061491

FACILITY: Martin Marietta Magnesia Specialties, LLC		**SRN / ID:** A3900
LOCATION: 1800 Eastlake Rd., MANISTEE		**DISTRICT:** Cadillac
CITY: MANISTEE		**COUNTY:** MANISTEE
CONTACT: Zac Chisholm , Manager of Technical Services		**ACTIVITY DATE:** 12/09/2021
STAFF: Kurt Childs	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: 2022 FCE		
RESOLVED COMPLAINTS:		

2022 Full Compliance Evaluation (FCE), Site Inspection and Records Review

FCE conducted by AQD Staff Kurt Childs to determine compliance with Renewable Operating Permit (ROP) No. MI-ROP-A3900-2021. The current ROP was issued on September 13, 2021. A Partial Compliance Evaluation (PCE) of FGPERICLASEPLNT was conducted on 11/09/2021 and was addressed in a separate activity report. Records review for FGPERICLASEPLNT is included with the records review for this FCE. The final FCE inspection was conducted on 12/9/21, Mr. Zac Chisolm accompanied me during the inspection.

Martin Marietta manufactures magnesium oxide and magnesium hydroxide products for use in various industrial applications. Magnesium hydroxide is manufactured in the "Hydrate" area by an exothermic reaction of natural brine and dolomitic lime in separate reactor systems. In A, B, and C reactor systems, brine and dolomitic lime are reacted in initial or primary reactor vessels which then overflow by gravity to secondary vessels for additional reaction. In the third reactor system filtrate from the drum filters is used to hydrate the dolomitic lime prior to reacting it with brine in a single reactor vessel. Overflow of the slurries from each of the reactor systems flows through a series of settling basins (a thickener and a clarifier) where magnesium oxide settles. The slurry from the thickener's underflow is pumped to vacuum drum filters, where it is washed and dewatered. Slurry is pumped to storage tanks prior to being transferred to either the #3 rotary kiln (#3 Packhouse area) or Herreshoff furnaces and shaft kilns in FGPERICLASEPLANT, depending on the type of product desired.

A rotary kiln and multi-hearth Herreshoff furnaces are used to remove free and molecularly bound water from magnesium hydroxide to form different grades of magnesium oxide. Some of the magnesium oxide is processed further in vertical "shaft" kilns to generate periclase for use in refractory brick.

There are many material handling, transfer, storage, packaging, and loading operations located throughout the plant (primarily in the Packhouse areas), that have Particulate Matter emissions that are controlled by many individual dust collectors.

The Martin Marietta Magnesia Specialties plant operates 24 hrs. per day and 7 days per week although not all processes or equipment are always operating. At the time of the inspection the weather was overcast with light snow at 28 degrees F and 10-15 mph S winds. There were no visible emissions or odors from any of the stacks as observed from both off-site and throughout the inspection.

I requested records of control equipment operational data following the inspection. Records of differential pressure and visible emissions are maintained for each air pollution control devices each shift. I requested records for random dates each month for the previous 12 month rolling time-period.

SOURCE-WIDE CONDITIONS

Emission Limits – There are no source-wide emission limits associated with this facility; therefore, this section is not applicable.

Material Limits - There are no source-wide material limits associated with this facility; therefore, this section is not applicable.

Process/Operational Restrictions – Martin Marietta is required to implement and maintain a malfunction abatement plan (MAP) for the facility. The most recent version of the MAP was submitted August 26, 2021 and was approved on September 22, 2021.

The facility provided records of preventive maintenance (PM) performed on emission units and control devices and demonstrated the facility is complying with the PM portion of the MAP.

Design/Equipment Parameters - There are no source-wide design or equipment parameters associated with this facility; therefore, this section is not applicable.

Testing/Sampling - There are no source-wide testing or sampling requirements associated with this facility; therefore, this section is not applicable.

Monitoring/Recordkeeping - There are no source-wide monitoring or recordkeeping requirements associated with this facility; therefore, this section is not applicable.

Reporting – Annual certification of compliance and semiannual deviation reports pursuant to the ROP were previously reviewed and documented.

Stack/Vent Restrictions - There are no source-wide stack or vent restrictions associated with this facility; therefore, this section is not applicable.

Other Requirements – Martin Marietta is required to maintain and implement a fugitive emissions control plan for the facility. The most recent plan was submitted April 29, 2021 and was approved on May 4, 2021 and requires that fugitive dust control activities will be recorded. Records of fugitive dust abatement activities were recorded, as stated in the fugitive dust plan. Plant roadways have been paved and dust suppression (brine) is no longer applied on roads. A contractor has historically been hired to sweep paved roadways and records of sweeping are maintained (copy attached). This year's records indicate Martin Marietta has lost its regular contractor due to staff shortages and is having difficulty finding a replacement but is working on the problem.

FGLIMESYSTEM

Lime Unloading material handling operation in the Hydrate Area (brine and dolime reactors) consisting of seven conveyors and three elevators. Emissions are vented to material handling dust collectors associated with each reactor. Emission units include EUC-LIME, EUUPPERLIME, EUMIDDLELIME, EUBOTTOMLIME, EUB-REACTOR. Dust collectors include 25-0873, 25-1050, 25-1051, 25777777, and 25133855 for control. Note: EULU-SYSTEM was removed from the ROP as it was redundant with FGLIMESYSTEM.

Emission Limits – Particulate emissions from the emission unit are limited to 0.0095 pounds per 1,000 pounds of dry exhaust gases. EUC-LIME also has a 5% visible emission limit. The methods used for demonstrating compliance with the emission limit are non-certified visible emissions observations and monitoring and recording

the differential pressures across the baghouses. AQD staff did not observe any visible emissions from the baghouses at the time of the inspection. The differential pressures were observed for operating baghouse nos. 25-1050 @ 7", 25-1051@ 6.5", and 25133855 @ 3.5" respectively. The observed differential pressures were within the ranges listed in the MAP.

Material Limits – There are no material limits associated with this emission unit; therefore; this section is not applicable.

Process/Operational Restrictions – Each baghouse is required to be installed and operating properly. Proper operation is maintaining the differential pressures within the ranges specified in the MAP. Staff review of records and semiannual deviation reports indicate each baghouse has operated within the acceptable ranges for the previous 12 months. Additionally, each of the dust collectors in FGLIMESYSTEM had the bags replaced in 2021.

Design/Equipment Parameters – Conditions of the ROP require that each baghouse be equipped with a differential pressure gauge. AQD staff observed the gauges operating at the time of the inspection.

Testing/Sampling – Non-certified visible emission checks are required to be performed once per operating day. The requested records indicate no visible emissions were observed.

Monitoring/Recordkeeping – Records of the baghouse differential pressures were made available to AQD staff upon request (attached).

Reporting – Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions – Baghouses 25-1050 and 25-1051 have stack parameter restrictions but were not observed during the inspection.

Other Requirements – The permittee shall not substitute any raw materials for those described in the permit application which would result in an appreciable change in the quality or any appreciable increase in the quantity of the emissions of an air contaminant. There have not been any changes to the raw materials processed by FGLIMESYSTEM.

EUHCLTANK

A 20,000-gallon tank located in the Hydrate Area which stores hydrochloric acid for use to acidify wash water and various effluent brine to prevent precipitation of magnesium hydroxide or calcium carbonate within the system. HCL emissions from the emission unit are controlled by a packed-bed wet fume scrubber.

Emission Limits – There are no emission limits associated with this emission unit; therefore, this section is not applicable.

Material Limits – There are no material limits associated with this emission unit; therefore, this section is not applicable.

Process/Operational Restrictions – The scrubber is required to be installed and operating properly. Proper operation is maintaining the differential pressure within the range specified in the MAP and maintaining a minimum flow rate of 1.5 gallons per minute. At the time of the inspection the scrubber differential pressure was 3.34 " and the flow rate was 5.5 gpm. Staff review of records and semiannual deviation

reports indicate the scrubber has generally operated within the acceptable differential pressure ranges specified in the MAP for the previous 12 months and the minimum liquid flow rate has been maintained.

Design/Equipment Parameters – As per the requirements of the ROP, the scrubber was equipped with a liquid flow meter and differential pressure gauge. These parameters are displayed on a readout near the tanks and monitored in the control room.

Testing/Sampling – There are no testing requirements associated with this emission unit; therefore, this section is not applicable.

Monitoring/Recordkeeping – Records of scrubbing liquid flow rate and differential pressure across the scrubber demonstrates the operational parameters are monitored and recorded.

Reporting – Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions – The stack appeared to be constructed in accordance with the 6" maximum diameter and 40' minimum height requirements.

Other Requirements – There are no other requirements associated with this emission unit; therefore, this section is not applicable.

EUANIMAG

Material handling operation located in the #4 Packhouse consisting of the Animag load out station. The emission unit is controlled by two pulse jet baghouse (25-0832 and 25-0929). The emission unit was not operating at the time of the inspection.

Emission limits – Particulate emissions are limited to 0.1 pound per 1,000 pounds of dry exhaust gases and visible emissions are limited to 10 percent opacity based on a six-minute average. The methods used for demonstrating compliance with the emission limits are non-certified visible emissions observations and monitoring and recording the differential pressures across the baghouses.

Material Limits – There are no material limits associated with this emission unit; therefore, this section is not applicable.

Process/Operational Restrictions - Each baghouse is required to be installed and operating properly. Proper operation is maintaining the differential pressures within the ranges specified in the MAP. Staff review of records and semiannual deviation reports indicate each baghouse has operated within the acceptable ranges for the previous 12 months.

Design/Equipment Parameters – Conditions of the ROP require that each baghouse be equipped with a differential pressure gauge, which they are.

Testing/Sampling – Non-certified visible emission checks are required to be performed once per operating day. In the event that visible emissions are observed, a USEPA Method 9 observation by a certified reader is required to be performed and results are to be recorded and corrective action taken. No visible emissions readings were observed during the inspection or noted on the reports submitted for the days selected for review. Semiannual deviation reports did not indicate any deviations.

Monitoring/Recordkeeping – Records of the baghouse differential pressures were made available to AQD staff upon request (attached).

Reporting – Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions – There are no stack or vent restrictions associated with this emission unit; therefore, this section is not applicable.

Other Requirements – There are no other requirements associated with this emission unit; therefore, this section is not applicable.

EUN2SMILL

Material handling operation in the #4 Packhouse consisting of one Raymond mill. Particulate emissions are controlled by one pulse jet baghouse (25-0887). The emission unit was not operating at the time of the inspection.

Emission limits – Particulate emissions are limited to 0.1 pound per 1,000 pounds of dry exhaust gases. The methods used for demonstrating compliance with the emission limits are non-certified visible emissions observations and monitoring and recording the differential pressure across the baghouse.

Material Limits – There are no material limits associated with this emission unit; therefore, this section is not applicable.

Process/Operational Restrictions – The baghouse is required to be installed and operating properly. Proper operation is maintaining the differential pressure within the 2 -13 inch range specified in the MAP. Records and semiannual deviation reports indicate the baghouse has operated between 2 and 5 inches when the process is running, which is within the acceptable range of 2 - 13 inches.

Design/Equipment Parameters – Conditions of the ROP require that the baghouse be equipped with a differential pressure gauge, which it is.

Testing/Sampling – Non-certified visible emission checks are required to be performed once per operating day. No visible emissions have been present during operation based on a review of records submitted and semiannual deviation reports.

Monitoring/Recordkeeping – Records of the baghouse differential pressure taken once per shift were made available to AQD staff upon request (attached).

Reporting – Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions – There are no stack or vent restrictions associated with this emission unit; therefore, this section is not applicable.

Other Requirements – There are no other requirements associated with this emission unit; therefore, this section is not applicable.

EURK3

EURK3 is located north of the #3 Packhouse and is used to remove free and chemically bound water from the magnesium oxide slurry to produce a dry MgO product referred to as Prill. Rotary kiln No. 3 is currently fired with natural gas. petroleum coke has not been used since 2014 and coal has not been used either.

Particulate emissions from the rotary kiln are controlled by an electrostatic precipitator (ESP).

Emission Limits – Sulfur dioxide emissions are limited to 2.4 pounds per million Btu heat input when firing coal. The limit is not applicable at this time due to firing only on natural gas.

Particulate matter emissions are limited to 0.13 pounds per 1,000 pounds of dry exhaust gases. Stack testing performed on 11/13/2018 resulted in particulate emissions of 0.0089 lbs per 1,000 pounds of exhaust gasses on a dry basis. PM emissions were also reported as 0.76 lbs/hour. Testing was performed when firing on natural gas.

Material Limits – Coke fuel is limited to 5 percent sulfur by weight. There is currently no coke fuel located on-site.

Process/Operational Restrictions – The rotary kiln is not allowed to operate unless four of the ESP fields are operating at a minimum of 50 percent power or three fields as 100 percent power. At the time of the inspection the kiln was operating with four ESP fields functioning, the ESP readings were as follows:

Electrostatic Precipitator DV3ESP

Field	Voltage (100-480)	Primary Current	Spark Rate (0-60)
SI	202	75	0
SO	240	97	0
NI	215	116	0
NO	171	112	0

The operating parameters that were observed were representative with normal operation and concurred with reported operating ranges.

Design/Equipment Parameters – There are no design or equipment parameters associated with this emission unit; therefore, this section is not applicable.

Testing/Sampling – As mentioned previously, stack testing was performed in November 2018 for particulate matter. Stack testing for sulfur dioxide is unnecessary at this time since the facility is not firing coal. The next PM emission test is due by November 13, 2023.

No visible emissions were present at the time of the inspection or were reported in the semiannual deviation reports.

Monitoring/Recordkeeping – Monitoring and recording of coal usage and sulfur dioxide emissions is unnecessary as the rotary kiln is currently not fired on solid fuels.

Records of the ESP sparking rate and voltage are recorded and maintained (attached). The reported data shows normal operation of four ESP sections but the report is divided between "3 North" and "3 South" with two ESP sections each. Records for four of the selected days indicated the ESP status was "on" but showed the voltages as 0. I requested that Mr. Chisolm investigate and he informed me that the kiln was not operating on those days. The recordkeeping anomaly is that the "status" should have been entered as "off".

Reporting – Annual certifications of compliance, semiannual deviation reports, and CAM reports were previously reviewed and documented.

Stack/Vent Restrictions – The stack appeared to be constructed in accordance with the parameters listed in the ROP.

Other Requirements – As per the ROP requirements, no other fuels have been substituted for the fuels listed in the permit.

Based upon review of the submitted CAM reports, there were no incidents of excursions, exceedances or monitor downtime in 2021. Changes to the CAM plan are not necessary at this time.

FGPERICLASEPLNT

FGPERICLASEPLNT was reviewed during the previous partial compliance evaluation on 11/09/2021 (see activity report CA A390060777).

Additional monitoring records were provided for FGPERICLASEPLNT (attached) and were reviewed during this FCE. Records included operating variables for the three Herreshoff furnaces and two shaft kilns. Records were also provided for the operation of the shaft kilns in control device by-pass condition.

Records of Herreshoff electrostatic precipitator (ESP) operating variables indicated that the ESPs operated within their normal ranges with no visible emissions observed.

Records of the shaft kiln cyclone differential pressure and visible emissions indicated that the control devices operated within their normal ranges with no visible emissions observed.

Records of shaft kiln by-pass operation for 2021 were provided and include a chart for each day a by-pass occurred broken down by shift. The records also include the reason for by-pass, which is generally to heat up the kilns for production. There were 33 days in 2021 when by-pass conditions occurred.

FGDRYER&MILL

There was some confusion over what and where this equipment is located. We inspected the magnesium dryer building that is adjacent to the reactor slurry thickener tanks, but observed that the stack parameters do not match those in FGDRYER&MILL. Mr. Chisolm said they may be for the dryer in the periclase plant. This appears to be the case based on PTI 97-70 which was for one dryer and mill. The PTI does not specify the location, but the PTI stack parameters appear to match those of the dryer located in the periclase plant. This equipment was not reviewed during this FCE due to the confusion. The equipment we did review was EUDMNORTHDRYERBH and EUDMSOUTHMILLBH which are included in FGR290 (exempt equipment).

FGDRYERMILL includes an air swept dryer (EUDRYMAGDRYER) that has two natural gas burners with a maximum heat input of 9 MMBtu/hr. each and EUDRYMAGMILL, a proprietary milling system. Particulate emissions are controlled by two MAC fabric filter systems 25-1111, and 25-2222 (also identified in the ROP as 168MCF572-425 and 55MCF80).

Emission Limits – Particulate matter emissions and particulate matter less than 10 microns in diameter (PM-10) emissions are limited to 0.01 pounds per 1,000 pounds of exhaust gases and 0.9 pounds per hour, respectively. Visible emissions are limited to 5% opacity based on a six-minute average. The methods used for demonstrating compliance with the emission limits are non-certified visible emissions observations and monitoring and recording the differential pressures across the fabric filters.

Records submitted by the company indicate the fabric filters operated within the 1"-12" range specified in the MAP and no visible emissions were observed during the previous 12 months.

Material Limits – There are no material limits associated with this flexible group; therefore, this section is not applicable.

Process/Operational Restrictions - The fabric filters are required to be installed and operating properly. Proper operation is maintaining the differential pressures within the ranges specified in the MAP. AQD review of records and semiannual deviation reports indicate the baghouse has operated within the acceptable ranges during the previous 12 months.

Design/Equipment Parameters - Conditions of the ROP require that the fabric filters to be equipped with a differential pressure gauge which was confirmed during previous inspections.

Testing/Sampling - Non-certified visible emission checks are required to be performed once per operating day. In the event that visible emissions are observed, a USEPA Method 9 observation by a certified reader is required to be performed and results are to be recorded and corrective action taken. No visible emissions have been present based on a review of records submitted and semiannual deviation reports.

Monitoring/Recordkeeping - Records of the fabric filter system differential pressures are maintained.

Reporting - Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions – The stacks appeared to be constructed in accordance with the parameters listed in the ROP.

Other Requirements – There are no other requirements associated with this flexible group; therefore, this section is not applicable.

FGGROUP-A

FG-GROUP-A consists of material handling operations located throughout the facility and groups emission units due to similar emission limits not by operational relationships. As a result, it is difficult to inspect the facility specifically for this Flex Group. Many of the processes are packaging and loading operations that do not

operate at all times. FG-GROUP-A now includes equipment that was added through PTI 190-16 including: two crushers, eight mills, 22 feed hoppers, 26 conveyors, 10 screens, two pneumatic transfer systems, 24 elevators, 34 storage bins, six loadouts, unloading equipment, and three baggers. Pollution control equipment for particulate matter emissions covered by this Flex Group consists of 33 baghouses. The dust collectors in FG-GROUP-A that were operating were observed at the time of the inspection appeared to be operating properly with differential pressures within the 1-11 inch range specified in the MAP. No visible emissions were observed from any of the stacks or vents in this Flex Group.

One anomaly was identified in the ROP and investigated during the inspection. Stack parameters for dust collector 25-0881(24" max diameter, 33.8' minimum height) are specified in FGGROUP-A but dust collector 25-0881 does not appear in the list of pollution control equipment for FGGROUP-A. Dust collector 25-0881 is listed in the pollution control equipment for FGGROUP-D and stack parameters of 24" max diameter and 138' min height are specified.

During the inspection Mr. Chisolm and I searched to identify 25-0881 and the associated process. The collector is located on the upper floors of the #4 packhouse and is identified as the "Hard Burn Collector Reclaim" it shares a large stack with the "Light Burn Charge Bin" collector 25-0879, which is listed in the Equipment descriptions of the ROP, but not in table FGGROUP-D where it should be. The Emission Unit Description in the ROP for EUADDITIVE-DC (in FGGROUP-D) states: "Material handling operation consisting of: one bin, two feed hoppers, and one elevator. Air emissions are controlled by Pulse Jet baghouse 25-0881, which shares a common stack with 25-0879."

Following the inspection, I requested that Mr. Chisolm follow up to determine if the processes and dust collectors are properly identified in the ROP. He confirmed that 25-0881 used to be part of a separate system and was moved to hard burn where it currently is, and sharing a stack with 25-0879.

I also reviewed each of the pertinent PTI's. PTI 957-78A appears to be the source of the stack parameters and identifies the associated equipment as EUADDITIVE. PTI 957-78A was for a change to the production equipment that is controlled by the baghouse.

PTI 957-78A was issued to modify the "additive" (Additive elevator and feed bin system) dust collector 25-0881.This modification added the following process equipment and the 24" x 138' stack parameters:

Light Burn magnesia bagger, Light Burn magnesia bagger, Hard Burn magnesia reclaim hopper, elevator, and bin.

As a result of this review, baghouse 85-0881and it's stack parameters should be deleted from FGGROUP-A. Also, 25-0879 should be added to the PC Equipment in FGGROUP-D. These changes should be considered typographical errors and corrected through a submittal by Martin Marietta of a "Simple Administrative Amendment: under rule 216(1)(a) since they are errors and do not alter the intent of any condition.

Emission Limits - Particulate matter emissions from each emission unit is limited to 0.0095 pounds per 1,000 pounds of dry exhaust gas and visible emissions is limited to 5 percent opacity based on a six-minute average. The methods used for

demonstrating compliance with the limits are non-certified visible emissions observations and monitoring and recording the differential pressures across the baghouses. AQD staff did not observe any visible emissions from the baghouses at the time of the inspection. The differential pressures across baghouses in which the emission units were operating were within the ranges listed in the MAP.

Material Limits – There are no material limits associated with this flexible group; therefore, this section is not applicable.

Process/Operational Restrictions - The baghouses are required to be installed and operating properly. Proper operation is maintaining the differential pressures within the ranges specified in the MAP. Staff review of records and semiannual deviation reports indicate the baghouses have operated within the acceptable range for the previous 12 months with the following exceptions:

Equipment ID	Date	DP Out of Range	Visible Emissions Observed	Corrective Action Taken	Comments
25-1033	12/10/20	0”	No	Yes	Did not reoccur
25-1074	12/10/20	0”	No	Yes	Did not reoccur
25-1068	4/26/21	1.75”	No	No	Operating range 2”-8”
	5/3/21	1.5”	No	No	Record provided for 6/8/21 shows DP back in Range
	10/5/21	0.75”	No	No	New operating Range Established (1”-6”). DP returned to normal in November record.

Design/Equipment Parameters - Conditions of the ROP require that the baghouses be equipped with differential pressure gauges, those observed were so equipped.

Testing/Sampling - Non-certified visible emission checks are required to be performed once per operating day. In the event that visible emissions are observed, a USEPA Method 9 observation by a certified reader is required to be performed and results are to be recorded and corrective action taken. The 2021 1st Semi-Annual Deviation report indicated several instances of visible emissions from specific baghouses including those in the above table. Issues identified were worn bags or dislodged cartridges. Dislodged cartridges appeared to be the cause for reoccurring problems with 25-1068, a problem that was resolved by double gasketing the cartridges in that dust collector.

Monitoring/Recordkeeping - Records of the baghouse differential pressures were made available to AQD staff upon request (attached).

Reporting - Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions – The stacks listed in the ROP that were observed appeared to be constructed in accordance with the parameters of the ROP, with the exception noted above regarding SV25-0881 which should not be associated with this FG.

Other Requirements – There are no other requirements associated with this flexible group; therefore, this section is not applicable.

FG2+3PACKHS

FG2+3PACKHS consists of material handling equipment in the #2 and 3 Packhouses such as Gyradisc, screens, feed hoppers, belt conveyors, elevators, storage bins and silos, and loading and unloading equipment. Particulate matter emissions are controlled by two baghouses (25-0892 and 25123822).

Emission Limits – Particulate matter emissions are limited to 0.01 pounds per 1,000 pounds of exhaust gases and 0.054 pounds per hour, respectively. Visible emissions are limited to 0% opacity based on a six-minute average. The methods used for demonstrating compliance with the emission limits are non-certified visible emissions observations and monitoring and recording the differential pressures across the baghouses. Records submitted by the company indicate the fabric filters operated within the range specified in the MAP and no visible emissions were observed during the previous 12 months. AQD staff did not observe any visible emissions at the time of the inspection.

Material Limits – There are no material limits associated with this flexible group; therefore, this section is not applicable.

Process/Operational Restrictions - The fabric filters are required to be installed and operating properly. Proper operation is maintaining the differential pressures within the ranges specified in the MAP. Staff review of records and semiannual deviation reports indicate each baghouse has operated within the acceptable ranges for the previous 12 months.

Design/Equipment Parameters - Conditions of the ROP require that the fabric filters to be equipped with a differential pressure gauge which they were.

Testing/Sampling - Non-certified visible emission checks are required to be performed once per operating day. In the event that visible emissions are observed, a USEPA Method 9 observation by a certified reading is required to be performed and results are to be recorded and corrective action taken. No visible emissions have

been present based on a review of records submitted and semiannual deviation reports.

Monitoring/Recordkeeping - Records of the fabric filter system differential pressures were made available to AQD staff upon request (attached).

Reporting - Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions – There are no stack or vent restrictions associated with this flexible group; therefore, this section is not applicable.

Other Requirements – There are no other requirements associated with this flexible group; therefore, this section is not applicable.

FGGROUP-B

FG-GROUP-B includes material handling equipment in the #2 and #3 packhouse area and the #4 packhouse area, consisting of two screens, one feed hopper, five conveyors, six storage bins and silos, and one load out spout. Particulate emissions from the flexible group are controlled by two baghouses (25-0890 and 25-1020). The emission units were not operating at the time of the inspection.

Emission Limits – Particulate matter emissions from each emission unit are limited to 0.01 pounds per 1,000 pounds of exhaust gases. The methods used for demonstrating compliance with the emission limits are non-certified visible emissions observations and monitoring and recording the differential pressures across the baghouses. Records submitted by the company indicate the fabric filters operated within the range specified in the MAP and no visible emissions were observed during the previous 12 months.

Material Limits – There are no material limits associated with this flexible group; therefore, this section is not applicable.

Process/Operational Restrictions - The fabric filters are required to be installed and operating properly. Proper operation is maintaining the differential pressures within the ranges specified in the MAP. Staff review of records and semiannual deviation reports indicate the baghouse has operated within the acceptable ranges for the previous 12 months.

Design/Equipment Parameters - Conditions of the ROP require that the fabric filters to be equipped with a differential pressure gauge.

Testing/Sampling - Non-certified visible emission checks are required to be performed once per operating day. In the event that visible emissions are observed, a USEPA Method 9 observation by a certified reader is required to be performed and results are to be recorded and corrective action taken. No visible emissions have been present based on a review of records submitted and semiannual deviation reports.

Monitoring/Recordkeeping - Records of the fabric filter system differential pressures were made available to AQD staff upon request (attached).

Reporting - Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions – There are no stack or vent restrictions associated with this flexible group; therefore, this section is not applicable.

Other Requirements – There are no other requirements associated with this flexible group; therefore, this section is not applicable.

FGGROUP-C

FG-GROUP-C is comprised of material handling operations scattered across #2 and #3 Packhouses and the Periclase area consisting of 67 conveyors, 13 weigh belts, 11 elevators, four mills, 16 bins, one mixer, two bagger/sackers, five feed hoppers, two screens, one packer, and 13 chutes. Particulate emissions from the emission units are controlled by five baghouses (25-0709, 25-0808, 25-0706, 25-0707, 25-0799).

Emission limits – Particulate emissions are limited to 0.10 pound per 1,000 pounds of dry exhaust gases. The methods used for demonstrating compliance with the emission limits are non-certified visible emissions observations and monitoring and recording the differential pressures across the baghouses.

Material Limits – There are no material limits associated with this flexible group; therefore, this section is not applicable.

Process/Operational Restrictions - Each baghouse is required to be installed and operating properly. Proper operation is maintaining the differential pressures within the ranges specified in the MAP. Staff reviewed the dust collectors during the inspection of records and semiannual deviation reports which indicate each of the baghouses have operated within the acceptable ranges for the previous 12 months.

Design/Equipment Parameters – Conditions of the ROP require that each baghouse be equipped with a differential pressure gauge.

Testing/Sampling – Non-certified visible emission checks are required to be performed once per operating day. In the event that visible emissions are observed, a USEPA Method 9 observation by a certified reader is required to be performed and results are to be recorded and corrective action taken. No visible emissions have been present based on a review of records submitted and semiannual deviation reports.

Monitoring/Recordkeeping – Records of the baghouse differential pressures were made available to AQD staff upon request (attached).

Reporting – Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions – There are no stack or vent restrictions associated with this flexible group; therefore, this section is not applicable.

Other Requirements – There are no other requirements associated with this flexible group; therefore, this section is not applicable

FGGROUP-D

FG-GROUP-D consists of material handling equipment in the #4 Packhouse that includes one bin, one load out spout, additive silos, and a rail car unloading station. Three baghouses are used to control particulate matter emissions (25-0881, 25-0880, 25-0879 (identified in the ROP but not listed in FGGROUP-D)). 25-0881 and 25-0879

were operating at the time of the inspection. As discussed in FGGROUP-A, 25-0881 and 25-0879 share a stack. See the discussion of this equipment in FGGROUP-A.

Emission limits – Particulate emissions are limited to 0.0095 pound per 1,000 pounds of dry exhaust gases and visible emissions are limited to 10 percent opacity based on a six-minute average. The methods used for demonstrating compliance with the emission limits are non-certified visible emissions observations and monitoring and recording the differential pressures across the baghouses.

Material Limits – There are no material limits associated with this flexible group; therefore, this section is not applicable.

Process/Operational Restrictions - Each baghouse is required to be installed and operating properly. Proper operation is maintaining the differential pressures within the ranges specified in the MAP. Staff review of records and semiannual deviation reports indicate each baghouses have operated within the acceptable ranges for the previous 12 months.

Design/Equipment Parameters – Conditions of the ROP require that each baghouse be equipped with a differential pressure gauge which they are.

Testing/Sampling – Non-certified visible emission checks are required to be performed once per operating day. In the event that visible emissions are observed, a USEPA Method 9 observation by a certified reader is required to be performed and results are to be recorded and corrective action taken. No visible emissions have been present based on a review of records submitted and semiannual deviation reports.

Monitoring/Recordkeeping – Records of the baghouse differential pressures are maintained and were made available to AQD staff upon request (attached).

Reporting – Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions – SV25-0881STK has required stack parameters of 24" max diameter and 138' min height. The stack is shared with dust collector 25-0879 and appears to meet these parameters.

Other Requirements – There are no other requirements associated with this flexible group; therefore, this section is not applicable.

FGRULE290

This flexible group is comprised of emission units that are exempt from the requirements of Rule 201 pursuant to Rules 278 and 290. The emission units in this flexible group are listed below and emit particulate matter that is controlled by baghouses.

EU#3COKESILOBVDC,

EUDDAYBINDC,

EUDMBAGGINGDC,

EUDMNORTHDRYERBH,

EUDMSOUTYHDRYERBH,

EUDMSOUTHMILLBH,

EUDMSTURTEVANTMI,

EULBBAGGERDC,

EUSPECCALC-A,

EUSPECCALC-B,

EUSPECCALC-C,

EUSPECMILL,

EUSPECPKGDC,

EUPOWDERBLENDERDC.

Emission Limits – Particulate matter emissions are limited to 500 pound per month per 336.1290(2)(a)((ii). Records provided by the facility (attached) indicate emissions from each emission unit are in compliance with the emission limit. In fact, records show the highest emissions were 320 pounds per month.

Material Limits – There are no material limits associated with this flexible group; therefore, this section is not applicable.

Process/Operational Restrictions – The special condition in this section explains that the provisions of Rule 290 apply to each emission unit that is operating pursuant to Rule 290.

Design/Equipment Parameters – There are no design or equipment parameters associated with this flexible group; therefore, this section is not applicable.

Testing/Sampling - There are no design or equipment parameters associated with this flexible group; therefore, this section is not applicable.

Monitoring/Recordkeeping – Records, including a description of the emission unit and particulate emissions, were available to AQD staff upon request (attached). Records were determined in compliance with the conditions of the ROP.

Reporting - Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions - There are no stack or vent restrictions associated with this flexible group; therefore, this section is not applicable.

Other Requirements – There are no other requirements associated with this flexible group; therefore, this section is not applicable.

FGCOLDCLEANERS

Cold cleaners that are exempt from Rule 201 pursuant to Rule 278 and 281(h) or Rule 285(r)(iv). There are currently four cold cleaners at the facility subject to the requirements of this flexible group table.

Emission Limits – There are no emission limits associated with this flexible group; therefore, this section is not applicable.

Material Limits – The cleaning solvents used are not allowed to contain more than five percent of halogenated compounds. Material safety data sheets previously obtained by the AQD demonstrated the cleaning solvent is mineral spirits and does not contain any halogenated compounds.

Process/Operational Restrictions – Cold cleaners are being maintained with the lids closed.

The cold cleaners are leased and serviced by a contractor which performs the routine maintenance on the equipment.

Design/Equipment Parameters – The air/vapor interface of each cold cleaner is less than ten square feet and emissions are released to the general in-plant environment. Covers are installed on each cold cleaner and written instructions require the covers to be closed when the units are not in use. The Reid vapor pressure of the solvent is less than 0.3 psi and the solvent are not agitated or heated.

Testing/Sampling – There are no testing or sampling requirements associated with this flexible group; therefore, this section is not applicable.

Monitoring/Recordkeeping – Information regarding each cold cleaner (including the installation date, serial number, applicable Rule 201 exemption, and air/vapor interface) was available upon request (attached).

Reporting - Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions - There are no stack or vent restrictions associated with this flexible group; therefore, this section is not applicable.

Other Requirements – There are no other requirements associated with this flexible group; therefore, this section is not applicable.

FG-MACTZZZZ

The flexible group consists of nine stationary reciprocating internal combustion engines located at an area source of hazardous air pollutant (HAP) emissions pursuant to 40 CFR 63 Subpart ZZZZ. Martin Marietta is considered an area source of air emissions as its potential to emit is less than 10 tons per year individual HAPs and less than 25 tons per year for aggregate HAPs. There are two fire pump engines that were reviewed during the inspection and seven various emergency generator engines. One of these engines is currently being replaced by an electric powered turbine pump which may eventually replace both fire pump engines. Most of the engines are diesel fired. Two are natural gas fired and one runs on gasoline. There are no applicable emission or material limits. Operation for maintenance and readiness testing is limited to 100 hours per year. The engines are equipped with hour meters. There were no reports of deviations in the 2021 semi-annual deviation reports.

CONCLUSION

Records that were requested and reviewed are attached to this report in three separate documents; *A3900 2022 FCE Records Request Data 2021*, *A3900 2022 FCE Records Rule 290 Dust collectors 2021*, *A3900 2022 FCE Records Shaft Kiln Bypass Stack operation,* plus an equipment ID table that I generated *A3900 2022 FCE Equipment ID Table.*

Based on the site inspection and review of records and reporting, AQD staff has determined the facility to be in compliance with ROP No. MI-ROP-A3900-2021 and the Michigan Air Pollution Control Rules at this time.

NAME _____ DATE _____ SUPERVISOR _____ 2022.04.21 08:57:21 -04'00'