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

A390043451

FACILITY: Martin Marietta Magnesia Specialties, LLC		**SRN / ID:** A3900
LOCATION: 1800 Eastlake Rd., MANISTEE		**DISTRICT:** Cadillac
CITY: MANISTEE		**COUNTY:** MANISTEE
CONTACT: Robert Gutowski , Manager of Engineering Services		**ACTIVITY DATE:** 02/07/2018
STAFF: Kurt Childs	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: 2018 FCE		
RESOLVED COMPLAINTS:		

2018 Full Compliance Evaluation (FCE), Site Inspection and Records Review

FCE conducted by AQD Staff Kurt Childs and Chance Collins to determine compliance with Renewable Operating Permit (ROP) No. MI-ROP-A3900-2015a. Mr. Robert Gutowski, Director of Engineering Services, accompanied staff 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. I D 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 the Periclase plant, 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 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 13 degrees F and calm winds. Various steam plumes were visible from off site but there were no pollutant visible emissions or odors.

AQD staff requested records of control equipment operational data. 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. Cadillac District Office files indicate the most recent version of the MAP was submitted with the ROP renewal application in 2014. No revisions to the MAP have been made since.

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

been conducted on all of the ESPs and inspection of the No. 3 Rotary Kiln ESP was conducted by an outside contractor and a report provided (attached).

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 with the 2014 ROP application and requires 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 been hired to sweep paved roadways.

EULU-SYSTEM

Lime Unloading material handling operation in the Hydrate Area consisting of seven conveyors and three elevators. All emissions are vented to two pulse-jet baghouses (25-1050 and 25-1051) for control.

Emission Limits – Particulate emissions from the emission unit are limited to 0.0095 pounds per 1,000 pounds of dry exhaust gases. 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 across baghouse nos. 25-1050 and 25-1051 were 1 inches W.G. and 8 inches W.G., 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.

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

Testing/Sampling – Non-certified visible emission checks are required to be performed once per operating day. 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 – There are no stack or vent restrictions associated with this emission unit; therefore, this section is not applicable.

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

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. Staff review of records and semiannual deviation reports indicate the scrubber has operated within the acceptable range specified in the MAP for the previous 12 months and the minimum liquid flow rate has been maintained. At the time of the inspection the differential pressure was 0.01 inches W.G. and the liquid flow rate was 4.0 gallons per minute.

Design/Equipment Parameters – As per the requirements of the ROP, the scrubber was equipped with a liquid flow meter and differential pressure gauge.

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 maximum diameter and 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 it is.

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 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, but the dust collector was running with a dp of 2.2"

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 range specified in the MAP. Staff observations and semiannual deviation reports indicate the baghouse has operated within the acceptable range for the previous 12 months.

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

Monitoring/Recordkeeping – Records of the baghouse differential pressure 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 in probably 20 years according to Mr. Gutowski. 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 in 2013 resulted in particulate emissions of 0.02 pounds per 1,000 pounds of dry exhaust gases. 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. Note: The control panels for the ESP are not installed in a manner that is representative of the air flow through the ESP. There are four sections south inlet, south outlet, north inlet, north outlet. However, when facing the control panels, they are arranged from left to right NI, NO, SO, SI. With this in mind, at the time of the inspection, the ESP readings were as follows:

Electrostatic Precipitator DV3ESP

Field	Voltage (100-480)	Primary Current	Spark Rate (0-60)
SI	239	59	11
SO	161	30	31
NI	208	85	10
NO	163	93	0

The operating parameters that were observed were within the voltage and spark rate operating requirements for the ESP.

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 December 2013 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 December 5, 2018.

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.

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, exceedences or monitor downtime in 2017. Changes to the CAM plan are not necessary at this time.

FG-PERICLASEPLNT

FGPERICLASEPLNT is a separate production area located on the "hill". It includes three Herreshoff furnaces and two shaft kilns with coolers. Emissions from the flexible group are controlled by three ESPs (HF-ESP1, HF-ESP2, HF-ESP3). Emissions from each shaft kiln are controlled by two separate cyclones.

Emission Limits – Emission limits apply to particular combinations of Herreshoffs, shaft kilns and ESPs. These operating scenarios differ somewhat from how M-M is allowed to operate based on compliance testing. This issue was discussed in detail in Activity Report A390039511. The operating scenarios that have been validated as in compliance with the emission limits through stack testing conducted in 2013, 2014 and 2016 include:

1. EUHERRFURN1 with HF-ESP1.
2. EUHERRFURN2 with EUSHAFTKILN2 and HF-ESP2.
3. EUHERRFURN3 with HF-ESP3.
4. EUHERRFUR3 and EUSHAFTKILN2 and/or EUSHAFTKILN3 with HF-ESP3.

At the time of the inspection, the above operating scenarios that were being used included 1., 2. (SK2 not in use), 3. and 4. (SK2 not used).

Particulate emissions from Herreshoff Furnace No. 1 and EUSHAFTKILN3 are limited to 0.20 pounds per 1,000 pounds of exhaust gases. Stack testing in 2014 indicates particulate emissions from the emission units were 0.15 pounds per 1,000 pounds of exhaust gases.

Particulate matter emissions from Herreshoff Furnace No. 2, EUSHAFTKILN2, and EUSHAFTKILN3 are limited to 0.20 pounds per 1,000 pounds of exhaust gases. Stack testing in 2016 indicates particulate emissions from the emission units were 0.02 pounds per 1,000 pounds of exhaust gases.

Particulate matter emissions from Herreshoff Furnace No. 3, EUSHAFTKILN2, and EUSHAFTKILN3 are limited to 0.055 pounds per 1,000 pounds of exhaust gases Stack testing in 2013 indicates particulate matters were 0.051 pounds per 1,000 pounds of exhaust gases.

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

Process/Operational Restrictions – The emission units are not allowed to operate unless their associated ESP is installed and operating properly. Proper operation includes operating the ESP in automatic mode and monitoring and recording any corrective action taken if the ESP is placed in manual mode. Records indicate the ESPs have operated properly.

At the time of the inspection the ESP readings were as follows:

Electrostatic Precipitator HF-ESP1

Field	Voltage (100-480)	Primary Current	Spark Rate (0-60)
A	246	88	0
B	207	88	0
C	217	88	0

Electrostatic Precipitator HF-ESP2

Field	Voltage (100-480)	Primary Current	Spark Rate (0-60)
A	288	130	0
B	232	130	0

C	176	130	0

Electrostatic Precipitator HF-ESP3

Field	Voltage (100-480)	Primary Current	Spark Rate (0-60)
A	234	140	9
B	224	207	0
C	213	207	0
D	204	194	0
E	192	123	0
F	187	105	0

These operating parameters were within the ranges established for proper operation.
The cyclones associated with the flexible group are required to operate within the differential pressure ranges specified in the MAP. At the time of the inspection only SK3 was operating and the cyclone dp was 4.2" which was within the specified operating range of 1"– 8".

There are bypass stacks on EUSHAFTKILN2 and EUSHAFTKILN3. According to Mr. Gutowski, shaft kiln exhaust only bypasses the Herreshoff ESPs when shaft kiln production is down, and the shaft kiln is being heated up for operations or being shut down. Records of ESP bypass were provided following the inspection and are attached.

Design/Equipment Parameters – The duct from EUHERRFUR3 to HF-ESP2 inside diameter is not allowed to exceed 24 inches. This requirement was not evaluated during the inspection however, there appeared to be no modifications to the duct.

As indicated above the shaft kiln cyclones are equipped with differential pressure gauges.

Continuous opacity monitoring systems (COMS) were installed at the exhaust points of HF-ESP1 and 2 and were operating at the time of the inspection.

Testing/Sampling – All required stack testing is current based on testing conducted in 2013, 2014 and 2016. Updated stack testing for EUHERRFURN3 is due by 12-5-2018 based on the last test.

Monitoring/Recordkeeping – COMS-recorded opacity is used as an indicator of proper operation of the HF-ESP1 and HF-ESP2 in addition to demonstrating compliance Rule 301. The appropriate range of opacity which defines proper operation of each ESP is 20 percent opacity. For CAM purposes, an excursion is defined as 2 consecutive one-hour block average opacity values greater than 12 percent. Semiannual EER and CAM reports submitted by the facility indicate excess emissions from EUHERRFURN2 occurred during the 2nd quarter of 2017 and corrective actions were initiated. Excess emissions continued in the 3rd quarter but dropped in September. Mr. Gutowski contacted AQD staff and discussed the corrective actions. Excess emissions in the 4th quarter were back to normal at 0.0246% of source operating time. This issue is discussed in detail in the quarterly EER reports and AQD staff reviews.

The spark rate and voltage of each ESP is used for determining proper function. Records submitted by the facility, semiannual deviation reports, and CAM reports indicate each ESP has operated properly and no excursions of the monitored parameters have occurred except those noted in the report above.

Reporting – All semiannual deviation reports, annual certifications of compliance, CAM reports, and quarterly excess emission reports were previously submitted in a timely manner and reviewed by the AQD.

Stack/Vent Restrictions – The stack for ESP No. 3 appeared to be constructed in accordance with the parameters listed in the ROP.

Other Requirements – Based upon the review of records, AQD staff does not feel that the CAM plan needs to be modified.

FGDRYER&MILL

FGDRYER&MILL is located in the Periclase plant and include 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).

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. At the time of the inspection dp readings were:

25-1111: 1.5"

25-2222: 2.2"

Both readings are within the MAP specified range of 1"-12".

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. AQD observations and 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 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 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.

FG-GROUP-A

FG-GROUP-A consists of material handling operations located throughout the facility and appears to group 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. PTI 190-16 was issued on 1/27/17 for the installation of a new MgO transfer system and associated dust collection which is covered by FG-GROUP-A. An ROP modification has been submitted and is being processed to incorporate PTI 190-16 into the ROP. 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. Several of the dust collectors in FG-GROUP-A were observed at the time of the inspection and were operating properly.

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.

Design/Equipment Parameters - Conditions of the ROP require that the baghouses be equipped with differential pressure gauges.

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 – The stacks listed in the ROP appeared to be constructed in accordance with the parameters of the ROP.

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. The differential pressure across baghouse 25-0892 was 1.5" The observed differential pressure was within the range specified in the MAP. A new cartridge type dust collector (25-1069) was also observed in this area operating at 9". This dust collector serves the periclase loadout process. In follow-up to the inspection Mr. Gutowski stated that 25-1069 is the old dust collector number and it was replaced in 2012 under PTI 173-11 by the current dust collector (actual equipment number 25123822 above) which was mislabeled with the old number, also the new dust collector is supposed to be a bag and cage type collector not a cartridge unit. The observed DP reading of 9" was within the operating range of 1"-11" specified for this unit.

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.

FG-GROUP-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.

FG-GROUP-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 four of the five dust collectors during the inspection of records and semiannual deviation reports indicate each baghouses have operated within the acceptable ranges for the previous 12 months with the exception of EU2 DUSTEX and EU3 DUSTEX on 12/22/2017. Maintenance records show the problems were corrected and operation returned to normal.

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

FG-GROUP-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). 25-0879 and 25-0880 were not operating at the time of the inspection, 25-0881 was not observed two other dust collectors identified as the Hard Burn Charge Bin and the Hard Burn Bin were operating at 1" dp and 1.5" dp respectively.

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 – 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.

FGLIMESYSTEM

Material handling operations located in the Hydrate Area for dolomitic lime processes. The flexible group consists of seven conveyors, three elevators, and two silos. Four baghouses are identified in the ROP to control particulate emissions from the emission units (25-1050, 25-1051, B-System, Bottom Lime). 25-1050, 25-1051 are the same dust collectors that are referred to in EU-LUSYSTEM and should be removed from this Flex Group or delete EU-LU SYSTEM during the next ROP renewal.

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. No visible emissions were observed by AQD staff 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 - Each baghouse is required to be installed and operating properly. Proper operation is maintaining the differential pressures within the ranges specified in the MAP. MAP

may need updating. 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 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 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 have been 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.

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,
EUDMSOUTHMILLBH,
EUDMSTURTEVANTMI,
EULBBAGGERDC,
EUSPECCALC-A,
EUSPECCALC-B,
EUSPECCALC-C,
EUSPECMILL,
EUSPECPKGDC,
EUPOWDERBLENDERDC.

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

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 – Several cold cleaners were observed during the plant inspection and were 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 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. AQD has not been delegated authority to enforce 40 CFR 63 Subpart ZZZZ and staff has not evaluated M-M's compliance with the regulation.

CONCLUSION

Based on the site inspection and review of records and reporting, It appears this stationary source is in compliance with ROP No. MI-ROP-A3900-2015a and the Air Pollution Control Rules at this time.

NAME _____ DATE 2-28-18 SUPERVISOR SN