

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

A390062640

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| 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: 04/20/2022 |
| STAFF: Kurt Childs | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MAJOR |
| SUBJECT: PTI APP-2021-0339 Site Review. | | |
| RESOLVED COMPLAINTS: | | |

On 4/20/22 I conducted a site visit at Martin Marietta for the purpose of gathering information pertinent to the review of draft permit conditions for a new MgO drying and milling process at the source. Permit to Install Application APP-2021-0339 is for a process nearly identical to an existing process (and process equipment) at the source identified in the ROP as FG-DRYER&MILL. I met with Mr. Zac Chisolm and Ms. Lindsay Jensen of Martin Marietta to discuss the process and review the existing equipment and new process location.

The new process, tentatively identified as FG-D4DRYMAG, will be located in a new separate building that is adjacent to the existing periclase plant structure. The new building will be alongside the northeast side of the building and will contain all of the equipment for the new process.

FG-DRYER&MILL is located within the periclase plant building in an area that formerly housed the #1 shaft kiln. This process was installed pursuant to PTI 97-07 in 2007. The process manufactures a grade of MgO that is combined with stearic acid to produce a material that is used as a flame retardant in molded plastic parts.

The current process, and the proposed process, both utilize one fabric filter control device on the dryer exhaust and one on the mill exhaust. Under normal operation the mill exhaust is routed back to the mill and to the dryer for the purpose of heat recovery. Though the mill control device has the capability to discharge to the atmosphere, normal operation is to recycle the air.

At the time of my visit the process was not operating as the dryer and the mill were down for significant planned maintenance. Although I was not able to see the equipment in operation, I was able to view the internal workings of the process equipment as well as the equipment locations within the plant and the associated ductwork.

The dryer consists of two separate but integral pieces of equipment and associated ductwork. A large burner barrel uses a gas fire burner to heat a large volume of air that is blown into the second piece of equipment, the dryer. MgO slurry is also introduced into the dryer where it is mixed to contact the hot air and drive off moisture. The exhaust from the dryer passes through a large baghouse that serves to collect the dried product and filter the exhaust air. The dryer baghouse is equipped with a differential pressure monitor and a particulate monitor/bag leak detection system.

Dried product is discharged from the dryer baghouse and sent to the mill where it is mixed with stearic acid that is conveyed from a separate location in the periclase plant. The temperature of the process at the mixer can be controlled by the introduction of heated air from the dryer baghouse or ambient air from within the plant. Valves controlling the airflow are automated, the mill control device bypass

stack is manually operated. Use of the bypass stack is rare and generally only required when there are problems with the process or product.

The dryer exhaust discharges out a 142' tall stack on the south side of the periclase plant building. The mill bypass exhaust is a horizontal vent on the same side and near the dryer stack. FG-D4DRYMAG will have a similar stack/vent arrangement located within, and adjacent to the new building. Finished product is pneumatically conveyed and stored in one of the existing silos on the south side of the periclase plant, as will be the case for the product from FG-D4DRYMAG.

Based on my meeting and review of the site and process it appears that the location for the new process is entirely appropriate. The new process will have adequate monitoring similar to the existing process including baghouse differential pressure, visible emissions, and documentation of any mill baghouse stack bypass operation. The existing process FG-DRYER&MILL has not been a source of compliance or complaint issues in the past.

NAME 

DATE _____

SUPERVISOR _____