

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

B719269013

FACILITY: Billerud Quinnesec LLC		SRN / ID: B7192
LOCATION: W-6791 US HIGHWAY 2, QUINNESEC		DISTRICT: Marquette
CITY: QUINNESEC		COUNTY: DICKINSON
CONTACT: Terri Rose (Specialty Minerals) , Plant Assistant		ACTIVITY DATE: 09/15/2023
STAFF: Michael Conklin	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Targeted inspection for Section 2 of ROP at Specialty Minerals for FY 23.		
RESOLVED COMPLAINTS:		

Facility: Specialty Minerals (B7192)

Location: W-6791 US Highway 2, Quinnesec, Dickinson County, Michigan 49876

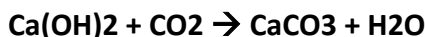
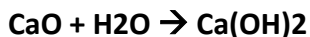
Contact: Terri Rose, Plant Assistant, 906-396-2032

Facility Description

Specialty Minerals (SM) is a segment of Minerals Technologies Inc. that produces and sells precipitated calcium carbonate (PCC). The paper group of SM manufactures PCC at paper mills, as well as at regional merchant plants. The PCC provides brightness, bulk, porosity, and smoothness to papers. SMI operates process equipment at Billerud Quinnesec, LLC – Quinnesec Mill (Billerud Quinnesec) to produce PCC as part of the paper making process for Billerud Quinnesec. Equipment at the plant includes a carbonator system and lime silos. The process uses exhaust gases from the Waste Fuel Boiler, Lime Kiln, or Package Boiler as a CO₂ source for PCC production.

Process Description

Water is added to lime to form calcium hydroxide (hydrated lime or slake). The addition of carbon dioxide and slaked lime produces calcium carbonate and water. Since the calcium carbonate is insoluble in water, it precipitates out.



Compliance History

There have been no violations at the facility since the last inspection that occurred in 2021.

Regulatory Analysis

SM is included as the second section of Billerud Quinnesec and is thus subject to MI-ROP-B7192-2020b, Section 2 – Specialty Minerals (Michigan) Inc.

Inspection

An on-site inspection was performed on 09/15/2023 to determine SM's compliance with MI-ROP-B7192-2020b. The contact for the facility is Terri Rose, Plant Assistant. EU2550-2 Carbonator System and EU2551-2 PCC Lime Silos were the emission units inspected at the source. At the time of the inspection, the plant was operating and producing PCC.

EU2550-2 Carbonator System

Exhaust gases from the wood refuse boiler, package boiler, or lime kiln is used to generate precipitated calcium carbonate. Emissions are controlled by a demister on each carbonator. There are a total of three carbonators that exhaust out a single stack.

Emission Limits

The carbonator system contains emission limits of PM, NO_x, SO₂, CO, VOC, and TRS Compounds. Compliance with these emission limits is demonstrated through performance testing and performing weekly non-certified visible opacity observations.

Process/Operational Restrictions

The venture scrubber followed by the packed column scrubber was observed connected to the main inlet duct before the carbonator system. The demisters were observed connected to the three carbonators downstream before the main stack. Only PCC is manufactured at the plant. At the time of the inspection, carbonator #1 had a capacity of 9,600 gallons, carbonator #2 was at 10,800 gallons, and carbonator #3 was at 11,000 gallons. The percent of CO₂ being supplied from the Lime Kiln was 18.4%. No visible emissions were observed from the carbonator system.

Testing/Sampling

Performance testing is required every five years for NO_x, CO, and VOC emission rates. Testing last occurred on 5/5/2022 and the emission rates passed for their respected emission limits. Testing is next required by 05/05/2027.

Monitoring/Recordkeeping

SM is required to perform and record weekly non-certified visible opacity observations as an indicator of proper operation of the scrubbers and demisters. Records were provided of weekly visible emission checks for months of April and July 2023. The spreadsheet notes the date, time, if operating, if visible emissions are present, and weather conditions at the time. A review of the records provided show visible emission checks are occurring during operation and that there were no visible emissions detected.

Reporting

A review of the first semiannual compliance report for 2023 states there were no deviations from EU2550-2.

EU2551-2 PCC Lime Silos

This emission unit consists of two lime silos with a baghouse for control. Lime is used in the precipitated calcium carbonate process and stored prior to use. Exhaust gases from the wood refuse boiler or package boiler are used to generate precipitated calcium carbonate (PCC).

Emission Limits

The Lime Silos contain PM emission limits. Compliance with these emission limits is demonstrated through performing and recording weekly non-certified visible opacity observations as an indicator of proper operation of the fabric filter collector.

Process/Operational Restrictions

At the time of the inspection, the lime silos were not being loaded. A fabric filter collector was observed at the top of the lime silos. No visible emissions were observed.

Monitoring/Recordkeeping

SM is required to perform and record weekly non-certified visible opacity observations as an indicator of proper operation of the fabric filter collector. Records were provided of weekly visible emission checks for months of April and July 2023. The spreadsheet notes the date, time, if operating, if visible emissions are present, and weather conditions at the time. A review of the records provided show visible emission checks are occurring during operation and that there were no visible emissions detected.

Reporting

A review of the first semiannual compliance report for 2023 states there were no deviations from EU2551-2.

Compliance

Based on the inspection performed and records reviewed, Specialty Minerals Inc appears to be in compliance with MI-ROP-B7192-2020b.

NAME Michael Kline

DATE 9-18-2023

SUPERVISOR Michael Kline