

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

B147743700

FACILITY: Holcim (US) Inc. d/b/a Lafarge Alpena Plant		SRN / ID: B1477
LOCATION: 1435 Ford Avenue, ALPENA		DISTRICT: Cadillac
CITY: ALPENA		COUNTY: ALPENA
CONTACT: Travis Weide , Area Environmental & Public Affairs Manager		ACTIVITY DATE: 03/14/2018
STAFF: Kurt Childs	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: 2018 FCE, PCE #1. Source Wide, FG QUARRY, FG RAW MAT, FG RAW MILL SYS.		
RESOLVED COMPLAINTS:		

B1477 Holcim (US) Inc. d/b/a Lafarge Alpena

First 2018 Partial Compliance Evaluation (PCE): Site inspection and records review of Source-Wide Requirements, FG QUARRY, FG RAW MAT, and FG RAW MILL SYS for MI-ROP-B1477-2012c

Introduction

This activity report covers the first PCE for the 2018 Full Compliance Evaluation of the Holcim (US) Inc. d/b/a Lafarge Alpena (Lafarge Alpena) Cement Plant. Emission groups covered by this PCE are; Source-Wide Requirements (fugitive dust plan), FG Quarry – Quarry operations including EUPRIMARYCRUSH – the primary rock crusher, EU SECONDCRUSH – the secondary rock crusher, conveyors and storage piles; FG RAW MAT – raw materials including limestone, sand , bauxite, Bell shale, gypsum) and alternate raw materials (slag, iron, shale, flyash, CKD) handling and storage; and FG RAW MILL SYS – EU RAW MILL 14 and EU RAW MILL 15 grinding, mixing, drying and storage of raw materials.

This PCE was conducted on March 14, 2018 with Mr. Travis Weide and Mr. Brian Joyce of Lafarge. Weather at the time of the inspection was scattered clouds, temperature around 30 degrees F with winds from the West at around 10 mph. During the first quarter of 2018 (January – March) the annual turnaround plant maintenance was taking place. At the time of the inspection EU RAW MILL 14 was not running due to maintenance. I observed bags being removed from the main baghouse. EU RAW MILL 15 was operating intermittently. FG KG6 (Kilns 22 and 23) also were not operating due to maintenance activities but were not the subject of this PCE.

SOURCE-WIDE REQUIREMENTS

The Source-Wide Conditions section of the ROP contains the requirement to have and follow a Fugitive Dust Plan (FDP). Lafarge Alpena has an approved FDP that was updated in 2017. Areas of the plan covered by the FDP include: roadways, plant yard, primary crusher, secondary crusher, material storage piles, material handling operations. Prior to and during the inspection I observed the roadways (including quarry) and plant yard areas as well as material storage piles. During the inspection of FGQUARRY the primary and secondary crushers and storage piles were observed. Truck traffic on the quarry roads was raising some visible emissions. The roads were partially covered in snow, some areas were wet, and some were dry. Similar conditions existed on roads throughout the plant yard. The primary crusher was operating, and some visible emissions were present at the drop point from the conveyor to the storage pile however, visible emissions were minimal when assessed at the footprint of the pile. The secondary crusher was not processing material during our time in the quarry. Various storage piles and material handling operations were observed including the fuel piles. No visible emissions were observed.

FG QUARRY

FG QUARRY is the source of the primary raw materials for the cement manufacturing process. The quarry is located adjacent to the cement plant and is mined by drilling, blasting and hauling. FG QUARRY is a source of fugitive dust emissions and is also the location of the primary and secondary crushers which are equipped with water spray bars, foam dust suppressant systems, and a baghouse on the secondary crusher for particulate matter control. At the time of the inspection trucks were being loaded in the quarry and the primary crusher was operating. As previously stated, some visible emissions were present from the primary crusher conveyor drop point but not from the footprint of the pile where official visible emission readings are taken, and the secondary crusher was not processing material.

The secondary crusher is equipped with a baghouse that has differential pressure remotely monitored by the plant data acquisition system. This system provides instantaneous readings as well as generating 30 day rolling averages. At the time of the inspection the secondary crusher was not processing material, but the baghouse was running with a differential pressure of 2.5 kpa.

Dust suppressant foam systems are present on both the primary crusher stockpile tail end conveyor and the secondary crusher and are used as necessary.

I. FG QUARRY EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Emissions observed during inspection	Emissions from Source Recordkeeping / Testing
1. Visible Emissions (VE)	20% opacity	Six-minute average	EU QUARRY FUG	Normal quarry traffic raised some dust estimated at less than 20% with durations less than six minutes.	NA
2. VE See Jerry Avery's letter of 5/31/05. 886-93, 15 were superseded by Avery's letter.	15% opacity	Six-minute average	At the footprint of the Primary Crusher stock pile	Some visible emissions at conveyor drop point but minimal VE at footprint of pile.	NA
3. VE 165-03, I.I. Quarry 786-89A, 15	5% opacity	Six-minute average	Secondary crusher belt conveyors (11-061, 11-063, 11-064, 11-065, 11-066, 11-067, 11-069, 11-070, 11-071, 11-035), Secondary crusher stock piles Upper Bench and Lower Bench	Not operating at the time of the inspection.	NA

4. VE NSPS 000	10% opacity	Six-minute average	Primary Crusher,	No VE as observed at the footprint of the pile.	NA
5. VE 165-03, I.3. Quarry; NSPS 60, 000	7% opacity ²	Six-minute average	Secondary crusher (11-002)	Not operating at the time of the inspection.	NA
6. VE 165-03, I.2. Quarry	Zero ^{2b}	Six-minute average	Secondary crusher building, including vents on secondary crusher building	Not operating at the time of the inspection.	NA
7. PM 165-03, I.4. Quarry; NSPS 000	0.022 gr/dscf ²		Secondary crusher (11-002)	Dust collector differential pressure 2.5kPa	See attachments, dp limit is 2.49 kPa. High dp due to plugged bags scheduled for replacement.

II. FG QUARRY Material Limits

1. Raw material production is limited to 6,600,000 tons per year. This is demonstrated by records of the amount of material processed by EU SECONDCRUSH. These records are maintained and used in the annual air emissions report (MAERS). The 2017 MAERS report indicates the throughput was 3,166,362 tons.

III. FG QUARRY Process/Operational Limits

1. Water sprays and foam suppressants were not in use at the time of the inspection, the baghouse did appear to be operating properly. There were no significant fugitive dust issues.

2 and 4. An approved O&M/MAP is on file at the AQD District Office. The plan indicates the proper range of operation for differential pressure on the baghouse is 0.01 kPa to 2.49 kPa. At the time of the inspection the baghouse was running at 2.5 kPa. Records provided for 2018 indicate that the differential pressure was operating around 0.6 kPa until around January 26th when the dp increased to 2.5 kPa and it has remained in this range since.

3. An approved fugitive dust plan is on file at the AQD District Office that covers the quarry and addresses visible emissions from the stock piles, conveyors and transfer points.

IV. FG QUARRY Design Parameters

1. The secondary crusher baghouse is not equipped with a “gauge” to measure differential pressure but this parameter is measured electronically and monitored remotely.

V. FG QUARRY Testing

There are no testing requirements.

VI. FG QUARRY Monitoring/Recordkeeping

1. Preventative maintenance records were requested on 3/14/18. Records of baghouse filter bag replacement including the secondary baghouse were provided on 3/30/18 (copy attached). The secondary baghouse is scheduled for bag replacement in May 2018.

PM activities are tracked based on a work order system. Examples of individual work orders with specific PM procedures were not requested.

2. Records of raw material throughput are also maintained. As indicated above, records (also used in MAERS reporting) indicate compliance with the material use limit.

3. The secondary crusher baghouse differential pressure is monitored and recorded continuously on the plant data acquisition system.

4. Monthly records of dust suppressant usage were requested at the time of the inspection and were provided on 3/30/2018 (attached). The records show the monthly usage of dust suppressant on the primary crusher and the secondary crusher in 2017. The secondary dust suppressant records only indicate usage in April 2017. Additional information provided by Lafarge states that the usage data was not being recorded in the data acquisition system and that corrective actions have been initiated.

VII. FG QUARRY Reporting

1. – 4. Standard ROP reporting requirements and test plan reporting. No testing during the review period. ROP reporting was reviewed as it was received.

VIII. FG QUARRY Stack/Vent Restrictions

There are no stack/vent restrictions.

IX. FG QUARRY Other

1. Standard requirement to comply with 40 CFR, Part 60, Subpart 000.

FG RAW MAT

FG RAW MAT includes processes spread out across the plant; raw materials transported by covered conveyor from the quarry to the raw Mill, the flyash dome and day bin, which are loaded by rail, and alternate raw materials stored in the ARM building and transported by enclosed conveyor to the raw mill. We observed the dust collectors on the fly ash handling system and there were no visible emissions. FG RAW MAT also includes a dust collector on the ARM building discharge conveyor transfer. This dust collector discharges back inside the building.

I. FG RAW MAT EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Emissions observed during inspection	Emissions from Source Recordkeeping / Testing
1. VE	Zero ²		EU ARM STOR BLDG (Storage building 18-921)	Not operating at the time of the inspection.	
2. VE	10% opacity	Six-minute average	This limit applies to each of the following: Storage bins, Conveying system, Transfer points, Bulk loading or unloading	0%	0% from Lafarge Alpena Records. (attached)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Emissions observed during inspection	Emissions from Source Recordkeeping / Testing
3. PM-10	0.02 grain per actual cubic foot of exhaust gas ²		<p>EU ARM FLY ASH</p> <p>(This limit applies to each of the following:</p> <p>Fly ash rail car unloading 17-018, Fly ash receiver bin 17-040,</p> <p>Fly ash dome 17-100,</p> <p>Fly ash day bin 17-200,</p> <p>Fly ash gravity conveyors 17-315 and 17-415)</p>	<p>No visible emissions.</p> <p>Compliance demonstrated by maintenance and implementation of an approved MAP.</p>	NA

II. FG RAW MAT Material Limits

NA

III. FG RAW MAT Process/Operational Limits

1. All dust collectors appeared to be operating properly based on my observations at the time of the inspection. There were no visible emissions from the dust collector vents.

2. An approved O&M/MAP is on file at the AQD District Office. The plan was updated in 2017.

IV. FG RAW MAT Design Parameters

NA

V. FG RAW MAT Testing

NA

VI. FG RAW MAT Monitoring/Recordkeeping

1. Preventative maintenance records include a list of the PM activities undertaken for each of the Flexible Groups individual work orders detail the specific PM procedures.

2 and 3. During the inspection I requested a sampling of records of visible emissions monitoring which were provided and are attached. Visible emissions monitoring occurs on a daily basis and includes each dust collector stack Vent. No visible emissions were detected in documents that were sampled.

VII. FG RAW MAT Reporting

1. – 4. Standard ROP reporting requirements and test plan reporting. No testing during the review period. ROP reporting was reviewed as it was received.

5. No notification of a change in land use for property classified as industrial or as a public roadway has been received.

VIII. FG RAW MAT Stack/Vent Restrictions

Compliance with stack/vent parameters was not evaluated during this PCE. Vents appear to meet the specified parameters and no changes have been made.

IX. FG RAW MAT Other

NA

FG RAW MILL SYS

FG RAW MILL SYS includes two mills EURAW MILL 14 and EU RAW MILL 15. They are identical raw material mixing and grinding mills with 14 located in the west half of the building and 15 located in the east half. The stacks cross over so the stack for 14 (SV20-270) exits on the east side and the stack for 15 (SV21-270) exits on the west side. Each process includes a ball mill, cyclones, separators, air slides, screws, elevators, pumps, storage silos, roller press, hammer mill, gas furnace/raw material dryer, storage bins, static separator, and conveyor belts. Dust collectors serve the screws, hammer mill, furnace, ball mill, and air slides. The FG RAW MILL stacks are visible from outside the building and raw mill CEMS data and throughput are available in the control room. At the time of the inspection EU RAW MILL 14 was down for maintenance and I observed old bags being removed by crane on the west side of the raw mill plant.

I. FG RAW MILL SYS EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Emissions observed during inspection	Emissions from Source Recordkeeping / Testing
1. VE	10% opacity ²	Six-minute average	FG RAW MILL SYS	No visible emissions were observed.	0% from daily Method 22 VE observations. (Attached)
1. PM	0.03 pounds per 1,000 pounds of exhaust gases ²	Test Protocol	EU RAW MILL 14 (from the stack on dust collector 20-270); EU RAW MILL 15 (from the stack on dust collector 21-270)	NA	2016 stack test 0.01 lbs/1000.
2. PM	27.51 pounds per hour ²	Test Protocol	EU RAW MILL 14 (from the stack on dust collector 20-270); EU RAW MILL 15 (from the stack on dust collector 21-270)	NA	2016 stack test 2.14 lbs/hr.
3. PM	120.2 tons per year ²	12-month rolling time period as determined at the end of each calendar month	FG RAW MILL SYS	NA	0.008 pounds per 1,000 pounds of exhaust gases 0.01 pounds per 1,000 pounds of exhaust gases From 2016 stack test.

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Emissions observed during inspection	Emissions from Source Recordkeeping / Testing
4. PM	0.03 pounds per 1,000 pounds of exhaust gases ²	Test Protocol	EU RAW MILL 14 (from the stack on dust collector 20-270); EU RAW MILL 15 (from the stack on dust collector 21-270)	NA	See above.
5. PM	27.51 pounds per hour ²	Test Protocol	EU RAW MILL 14 (from the stack on dust collector 20-270); EU RAW MILL 15 (from the stack on dust collector 21-270)	NA	EU RAW MILL 14 = 2.1 pph EU RAW MILL 15 = 1.77 pph 2016 stack test.
6. PM	120.2 tons per year ²	12-month rolling time period as determined at the end of each calendar month	FG RAW MILL SYS	NA	13.69 tons per year. See attached spreadsheet.
8. SO ₂	0.0147 pound per ton of raw material processed ²	Test Protocol	FG RAW MILL SYS	NA	0.0002 lbs./ton per Raw Mill 14 and 15 spreadsheet
9. THC	24 ppmv on a dry basis, corrected to 19 percent oxygen. ^{3, a, b}	During normal operation. Based on a 30 day rolling average	FG RAW MILL SYS	1hr. avg. = 1 ppmv 4hr. avg. = 1 ppmv 12hr. avg. = 1 ppmv	THC CEMS
10. THC	24 ppmv on a dry basis ^{3, a, b}	During startup and shutdown. Based on a 7 day rolling average	FG RAW MILL SYS	NA	NA

II. FG RAW MILL SYS Material Limits

1. The Raw and alternate raw material usage is limited to 5,600,000 tons per year. The throughput for 2017 was 3,191,028 tons.

III. FG RAW MILL SYS Process/Operational Limits

1. An approved O&M/MAP is on file at the AQD District Office and was updated in 2017.
2. All dust collectors appeared to be operating properly based on my observations at the time of the inspection. There were no visible emissions from the dust collector vents.
3. Natural gas is the only fuel used in the FG RAW MILL SYS furnaces.
4. THC CEMS are installed and operating.

IV. FG RAW MILL SYS Design Parameters

NA

V. FG RAW MILL SYS Testing

1. PM emissions test on Main Baghouses is required once every five years and was last performed in 2016. The 2016 test results indicated compliance as follows:

Test	Limit (at time of testing)	Raw Mill 14	Raw Mill 15
PM	0.15 lbs/1000 lbs exhaust gas	0.01 lbs/1000 lbs exhaust gas	0.01 lbs/1000 lbs exhaust gas
	27.51 lbs/hr.	2.14 lbs/hr.	1.77 lbs/hr.

2. SO2 emissions test on Main Baghouses is required once every five years and was last performed in 2016. The 2016 test results indicated compliance as follows:

Test	Limit (at time of testing)	Raw Mill 14	Raw Mill 15
SO2	0.0147 lbs/ton of raw material processed	0.001 lbs/ton	0.001 lbs/ton

4. PC MACT (63.1349(b)(2)) Method 9 Opacity test applies to the main baghouses on EU RAW MILL 14 and EURAW MILL 15 (20-270, 21-270). Following the inspection, the attached records were provided indicating that the Method 9 tests were completed, and the opacity was in compliance with the visible emission limits (there was 0% opacity). VE readings are taken by staff during daily inspections and PCMACT opacity monitoring (non-certified) is conducted.

VI. FG RAW MILL SYS Monitoring/Recordkeeping

1 and 2. A sample of records of visible emissions monitoring were provided and are attached. Visible emissions monitoring has taken place on a daily basis for each of the dust collector stack/vents in FG RAW MILL SYS. No visible emissions were detected in the sample documents.

3. and 4. PM and SO2 Monthly and 12-month rolling average emission records are available in the main baghouse (20-270, 21-270) spreadsheet. A copy is attached, and compliance is demonstrated as indicated in the emission limit compliance table above.

5. THC emissions are continuously monitored by the THC CEMS. THC emissions from EU RAW MILL 15 were observed during the inspection and indicated compliance with the 24 ppmv limit though on a short-term basis, the ROP limit is based on a 30-day average.

6. Preventative maintenance records include a list of the PM activities undertaken for each of the Flexible Groups individual work orders detail the specific PM procedures.

7. Raw material throughputs are monitored, and as indicated above, demonstrate the throughput is below the material use limit.

8. Records of PM and PM10 emission rates were requested on 3/14/2018 and provided on 3/30/2018. As indicated in the emission limit compliance table above, the records demonstrate compliance with the PM and PM10 emission limits.

VII. FG RAW MILL SYS Reporting

1. – 4. Standard ROP reporting requirements and test plan reporting. No testing during the review period. ROP reporting was reviewed as it was received.

5. and 6. THC CEMS quality assurance and excess emission reporting are submitted quarterly and have been reviewed as they have been received with no significant problems noted.

7. PC MACT Semi-annual Summary reports including failures to comply with the O&M Plan have been submitted and reviewed as they were received. The reports were complete, timely and certified. No excess emissions, malfunctions, exceedances, or O&M problems reported.

VIII. FG RAW MILL SYS Stack/Vent Restrictions

NA

IX. FG RAW MILL SYS Other


1. and 2. Require compliance with PC MACT emission limits and all PC MACT requirements.

PCE Summary

This PCE addresses compliance with MI-ROP-B1477-2012c for the Source-Wide Conditions and Flexible Groups FG QUARRY, FG RAW MAT and FG RAW MILL SYS. A site inspection was conducted as well as a records review to determine compliance with these requirements. As a result of this PCE it appears that the emission units, control devices, and monitoring equipment for Source Wide Conditions, FG QUARRY, FG RAW MAT and FG RAW MILL SYS are operating in compliance with most of the ROP requirements with the exception of:

FG QUARRY, records of secondary crusher dust suppressant usage were not collected for most of 2017. The company has implemented corrective actions to ensure the usage data is recorded moving forward including having the quarry managers verify data collection on a quarterly basis.

FG QUARRY, secondary crusher baghouse differential pressure was slightly out of range at the time of the inspection and for the past three months according to the records provided by Lafarge Alpena. I have requested a review of this issue and updates to the MAP as necessary.

NAME  DATE 4-23-18 SUPERVISOR 