

PC MACT Operations and Maintenance Plan FG FINISH MILLS

**Sources: EU: BALL MILL 13, BALL MILL 14, BALL MILL 15, BALL MILL 19,
BALL MILL 20, BALL MILL 21**

1.0 Source Description

The FG FINISH MILLS systems are used to process clinker and gypsum into finished cement products ready for sale and shipping. Its main system component is:

- A finish mill system that includes the upstream clinker and gypsum storage and handling, the finish mills and associated fabric filters.

2.0 System Emission Points and Air Pollution Control Equipment

During FG FINISH MILLS System operations, particulate matter is emitted at several emission points. The system includes a number of fabric filters to collect particulate matter emissions during cement finish mill operations, cement transfer and storage operations, and gypsum handling and storage operations. The following table summarizes system emission points and applicable particulate collection devices, as well as the visual inspection interval (see Section 6.0):

Emission Point #	Description	Air Pollution Control Device	Equipment #	VE Inspection Interval
45-261	Dust collector, air slide conveyor mill #13	Fabric Filter #5	45-261	Daily
45-262	Dust collector, air slide conveyor mill #14	Fabric Filter #2	45-262	Daily
45-264	Dust collector, air slide conveyor mill #15	Fabric Filter #4	45-264	Daily
41-506	Dust collector, screw belt conv., finish mill feed tanks	Fabric Filter	41-506	Monthly
49-269	Dust collector, finish mill #19	Fabric Filter	49-269	Daily
49-270	Dust collector, air slide conv. sep, finish mill #19	Fabric Filter	49-270	Daily
43-265	Dust collector, FM #20 to FM #19, finish mill #20	Fabric Filter	43-265	Daily
43-269	Dust collector, mill discharge vent, mill #20	Fabric Filter	43-269	Daily
43-270	Dust collector, air slide conv., finish mill #20	Fabric Filter	43-270	Daily
43-271	Dust collector, roller press, finish mill #20	Fabric Filter	43-271	Daily
43-272	Dust collector, bucket el. Conv. H.E. sep	Fabric Filter	43-272	Daily
43-290	Dust collector, #19 flake system vent	Fabric Filter	43-290	Monthly

Emission Point #	Description	Air Pollution Control Device	Equipment #	VE Inspection Interval
44-269	Dust collector, mill discharge vent, finish mill #21	Fabric Filter	44-269	Daily
44-270	Dust collector, air slide conv., finish mill #21	Fabric Filter	44-270	Daily
44-272	Dust collector, roller press, finish mill #21	Fabric Filter	44-272	Daily
44-271	Dust collector, bucket elevator cnvyr, finish mill #21	Fabric Filter	44-271	Daily
47-267	Dust collector, FM reclaim system, finish mills	Fabric Filter	47-267	Monthly

3.0 Applicable Emission Limit

The emission limit applicable to the FG FINISH MILLS System is visible emissions must not exceed 10 percent opacity (40 CFR 63.1347 and 63.1348).

4.0 Operator Procedures for Minimizing Visible Emissions from the FG FINISH MILLS System during Normal FG FINISH MILLS System Operations

FG FINISH MILLS System operations are performed in accordance with the Lafarge Standard Operating Procedure (SOP) documents for Finish Mills. Applicable SOPs include the following:

- Finish Mill 19 – Normal Operation
- Finish Mill 20 – Normal Operation
- Finish Mill 21 – Normal Operation

These procedures are kept in the plant’s Environmental Department system. The SOPs discuss how the plant shall be operated, and are used for job-specific training. The tasks necessary to ensure proper operation of the FG FINISH MILLS System with minimum emissions are also included within the SOPs.

5.0 Preventive Maintenance

Preventative maintenance work orders are maintained on the Plant’s Windows-based electronic maintenance management system, MAXIMO. Maintenance Department technicians perform preventative maintenance (PM) tasks on the FG FINISH MILLS System equipment, including:

Equipment #	Equipment Name
Finish Mills Nos. 13 through 15 Activities to Stacks	
45-261	Dust collector, air slide conveyor mill #13
45-103	Air slide
45-262	Dust collector, air slide conveyor mill #14
45-104	Air slide
45-264	Dust collector, air slide conveyor mill #15
45-105	Air slide
Finish Mills Nos. 19, 20, 21/Feed Tanks/Reclaim	
41-506	Dust collector, screw belt conv., finish mill feed tanks
41-207	Belt conveyor
41-208	Belt conveyor
41-212	Belt conveyor
41-478	Belt conveyor
41-479	Belt conveyor
49-269	Dust collector, finish mill #19
49-049	Finish mill
49-270	Dust collector, air slide conv. sep, finish mill #19
49-089	Separator
43-265	Dust collector, FM #20 to FM #19, finish mill #20
43-269	Dust collector, mill discharge vent, mill #20
43-050	Finish mill
43-270	Dust collector, air slide conv., finish mill #20
43-090	Separator
43-271	Dust collector, roller press, finish mill #20
43-040	Roller press
43-070	Bucket elevator
43-071	Bucket elevator
43-272	Dust collector, bucket el. Conv. H.E. sep
43-251	Weigh belt
44-269	Dust collector, mill discharge vent, finish mill #21
44-050	Finish mill
44-270	Dust collector, air slide conv., finish mill #21
44-090	Separator
44-272	Dust collector, roller press, finish mill #21
44-040	Roller press
44-271	Dust collector, bucket elevator cnvyr, finish mill #21
44-070	Bucket elevator
44-071	Bucket elevator
47-267	Dust collector, FM reclaim system, finish mills

The FG FINISH MILLS System PM schedule is maintained on MAXIMO. The PM schedules and the PM task lists for equipment in the Finish Mill and Storage/Loading System are based upon past experience with similar equipment and upon the manufacturer's documentation.

When conducting PM activities, maintenance technicians use checklists from the MAXIMO database that list PM tasks, steps, and instructions. The technician completes the PM checklist and returns the form to the Maintenance Planner, who verifies completion of the checklist and logs the completed checklist into MAXIMO. Electronic verification of the completed checklist is maintained in the MAXIMO database for a minimum of five years following completion of the PM.

6.0 Monitoring Requirements

The FG FINISH MILLS System fabric filters emissions are monitored for opacity using the Methods described below.

6.1 *Periodic Method 22 Visible Emissions Monitoring Requirements*

The FG FINISH MILLS System must be tested for visible emissions once each day using the procedures described in USEPA Method 22 – Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares. Totally enclosed transfer points are exempt from this requirement. However, partially enclosed transfer points should be monitored by using this method on whatever building or enclosure surrounds the transfer location. The Method 22 tests will be conducted by trained observers while the FG FINISH MILLS System is in operation. The Shift Coordinator will schedule the Method 22 testing. Copies of the Method 22 procedures, Field Data Worksheets, and equipment needed to conduct the tests (stopwatch, etc.) will be maintained in the Environmental Department.

As noted in the Method 22 procedures, observers will take care to perform the test from the proper location relative to the source and the sun, as well as to avoid degraded visibility of emissions caused by improper background contrast, ambient lighting, and observer position relative to lighting and wind.

During the Method 22 test, the observer should determine the presence or absence of visible emissions at points above or beyond the fabric filter exhaust vents or transfer point. The duration of the Method 22 tests will be 10 minutes. Upon completion of the test, the observer will record the results on the Method 22 Field Data Worksheet, and submit the worksheet to the Production Coordinator, who will forward the results to the Environmental Department. The Environmental Department will maintain the Method 22 records for a period of 5 years.

If visible emissions are noted during a daily Method 22 test, a Method 9 test consisting of five 6-minute averages of opacity readings for that stack must be conducted within 1 hour. The observer will also initiate proper corrective actions within one hour by submitting a maintenance work order request to the MAXIMO maintenance control system.

Note: If monthly Method 22 tests indicate no visible emissions for six consecutive monthly tests, the test frequency may be reduced to once every six months. If no visible emissions are detected on the next six-month test, the test frequency may be reduced to once per year. Any time visible emissions are detected by these Method 22 tests, monthly testing must be resumed [40 CFR 63.1350(a)(4)(ii) & (iii)].

6.2 *Periodic Method 9 Opacity Tests*

Whenever visible emissions are observed during a Method 22 test of the FG FINISH MILLS System emissions sources, an opacity test using the procedures described in USEPA Method 9 – Visual Determination of the Opacity of Emissions from Stationary Sources must be performed to determine if the applicable opacity limit is being exceeded. If visible emissions were observed during a 10-minute Method 22 test, the Method 9 test must be conducted within 1 hour.

The Environmental Manager (or a designated representative) will ensure that trained and certified Method 9 observers are available each day the Method 22 testing is conducted on the FG FINISH MILLS Systems. Copies of the Method 9 procedures, Field Data Worksheets, and equipment needed to conduct the tests will be maintained in the Environmental Department.

As noted in the Method 9 procedures, observers will take care to perform the test from the proper location relative to the source and the sun, as well as to avoid degraded visibility of emissions caused by improper background contrast, ambient lighting, and observer position relative to lighting and wind.

During the Method 9 test, the observer should determine the opacity of visible emissions plume at points above or beyond the fabric filter exhaust vents and stacks. The Method 9 test must include five 6-minute averages of opacity. Upon completion of the test, the observer will record the results on the Method 9 Field Data Worksheet, and submit the worksheet to the Environmental Department. The Environmental Department will maintain the Method 9 records for a period of 5 years.

The observer will notify the Environmental Manager (or a designated representative) and initiate corrective action immediately if the Method 9 test indicates the opacity limit has been exceeded.

7.0 *Periodic Review and Update of this Operations and Maintenance Plan*

The Environmental Manager (or a designated representative) will review this FG FINISH MILLS System Operations and Maintenance Plan once per year for adequacy and currency.

Documentation of the annual review or update will be retained in Environmental Department files for five years.

8.0 Operations and Maintenance Plan Revision History

<u>Revision</u>	<u>Date</u>	<u>Purpose</u>
1.0	February 2004	Initial plan generation
2.0	June 2008	Production Increase
3.0	October 2011	ROP Renewal