

PC MACT Startup, Shutdown, and Malfunction Plan
Finish Mill and Storage/Loading System
Sources: FG: FINISH MILLS, CMNT STR LOAD

1.0 Source Description

The Finish Mill and Storage/Loading System is used to process clinker and gypsum into finished cement products ready for sale and shipping. Its two main system components are:

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

2.0 System Emission Points and Air Pollution Control Equipment

During Finish Mill and Storage/Loading System operations, particulate matter is emitted at several emission points. The system includes a number of fabric filters to control 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 air pollution control devices (APCDs):

Emission Point #	Description	Air Pollution Control Device	Equipment #
45-261	Dust collector, air slide conveyor mill #13	Fabric Filter #5	45-261
45-262	Dust collector, air slide conveyor mill #14	Fabric Filter #2	45-262
45-264	Dust collector, air slide conveyor mill #15	Fabric Filter #4	45-264
49-269	Dust collector, finish mill #19	Fabric Filter	49-269
49-270	Dust collector, air slide conv. sep, finish mill #19	Fabric Filter	49-270
43-265	Dust collector, FM #20 to FM #19, finish mill #20	Fabric Filter	43-265
43-269	Dust collector, mill discharge vent, mill #20	Fabric Filter	43-269
43-270	Dust collector, air slide conv., finish mill #20	Fabric Filter	43-270
43-271	Dust collector, roller press, finish mill #20	Fabric Filter	43-271
43-272	Dust collector, bucket el. Conv. H.E. sep	Fabric Filter	43-272
43-290	Dust collector, #19 flake system vent	Fabric Filter	43-290
44-269	Dust collector, mill discharge vent, finish mill #21	Fabric Filter	44-269
44-270	Dust collector, air slide conv., finish mill #21	Fabric Filter	44-270
44-272	Dust collector, roller press, finish mill #21	Fabric Filter	44-272
44-271	Dust collector, bucket elevator cnvyr, finish mill #21	Fabric Filter	44-271
46-411	Dust collector, #2 storage pumping area	Fabric Filter #1	46-411
46-412	Dust collector, #3 storage pumping area	Fabric Filter #2	46-412

Emission Point #	Description	Air Pollution Control Device	Equipment #
46-710	Dust collector, silo filler vent, truck/rail loading bldg	Fabric Filter	46-710
46-762	Dust collector, silo filling/unloading, truck/rail loading	Fabric Filter #2	46-762
48-153	Dust collector, silo filling/unloading, #3 storage	Fabric Filter #3	48-153
50-415	Dust collector, silo vents, #4 storage silos	Fabric Filter #5	50-415
50-416	Dust collector, silo vents, #4 storage silos	Fabric Filter #6	50-416
50-417	Dust collector, silo vents, #4 storage silos	Fabric Filter #7	50-417
50-418	Dust collector, silo vents, #4 storage silos	Fabric Filter #8	50-418
50-419	Dust collector, silo vents, #4 storage silos	Fabric Filter #9	50-419
50-420	Dust collector, silo vents, #4 storage silos	Fabric Filter #1	50-420
50-422	Dust collector, silo vents, #4 storage silos	Fabric Filter #1	50-422
50-423	Dust collector, silo vents, #4 storage silos	Fabric Filter #1	50-423
50-424	Dust collector, silo vents, #4 storage silos	Fabric Filter #1	50-424
50-425	Dust collector, silo vents, #4 storage silos	Fabric Filter #1	50-425
50-426	Dust collector, silo vents, #4 storage silos	Fabric Filter	50-426
50-427	Dust collector, silo vents, #4 storage silos	Fabric Filter #17	50-427
50-428	Dust collector, silo vents, #4 storage silos	Fabric Filter #18	50-428
50-721	Dust collector, silo fill/unload, #3 storage silos	Fabric Filter #21	50-721
50-722	Dust collector, silo fill/unload, #3 storage silos	Fabric Filter #22	50-722
DC09	Dust collector, #4 storage rig 1A telescope	Cartridge	DC09
DC10	Dust collector, #4 storage rig 2B telescope	Cartridge	DC10
DC11	Dust collector, #4 storage rig 3C telescope	Cartridge	DC11
DC12	Dust collector, #4 storage rig 4D telescope	Cartridge	DC12
DC13	Dust collector, #4 storage rig 5E telescope	Cartridge	DC13
DC14	Dust collector, #4 storage rig 6F telescope	Cartridge	DC14
DC15	Dust collector, #4 storage rig 7G telescope	Cartridge	DC15
DC16	Dust collector, #4 storage rig 8H telescope	Cartridge	DC16
DC17	Dust collector, #4 storage rig 9I telescope	Cartridge	DC17
DC18	Dust collector, #4 storage rig 10J telescope	Cartridge	DC18
DC19	Dust collector, #4 storage rig 11K telescope	Cartridge	DC19
DC20	Dust collector, #4 storage rig 12L telescope	Cartridge	DC20
DC21	Dust collector, #4 storage rig 13M telescope	Cartridge	DC21
DC22	Dust collector, #4 storage rig 14N telescope	Cartridge	DC22
DC23	Dust collector, #4 storage rig 1A airslide	Cartridge	DC23
DC24	Dust collector, #4 storage rig 2B airslide	Cartridge	DC24
DC25	Dust collector, #4 storage rig 3C airslide	Cartridge	DC25
DC26	Dust collector, #4 storage rig 4D airslide	Cartridge	DC26
DC27	Dust collector, #4 storage rig 5E airslide	Cartridge	DC27
DC28	Dust collector, #4 storage rig 6F airslide	Cartridge	DC28
DC29	Dust collector, #4 storage rig 7G airslide	Cartridge	DC29
DC30	Dust collector, #4 storage rig 8H airslide	Cartridge	DC30
DC31	Dust collector, #4 storage rig 9I airslide	Cartridge	DC31
DC32	Dust collector, #4 storage rig 10J airslide	Cartridge	DC32
DC33	Dust collector, #4 storage rig 11K airslide	Cartridge	DC33
DC34	Dust collector, #4 storage rig 12L airslide	Cartridge	DC34
DC35	Dust collector, #4 storage rig 13M airslide	Cartridge	DC35
DC36	Dust collector, #4 storage rig 14N airslide	Cartridge	DC36

3.0 Applicable Emission Limit

The emission limit applicable to the Finish Mill and Storage/Loading System is that visible emissions must not exceed 10 percent opacity (40 CFR 63.1347 and 63.1348).

4.0 Procedures to be Followed During Cement Production

4.1 Startup

Finish Mill and Storage/Loading System startup occurrences and durations are defined as follows: Startup begins when the first item in the sequential start procedure is initiated. Startup ends when the sequential start procedure is complete and, where applicable, when the system maintains production.

Finish Mill and Storage/Loading System startup procedures are provided in the Lafarge Standard Operating Procedure (SOP) documents for Finish Mill, Cement Transport/Storage, and Truck/Rail Loading. Applicable SOPs include the following:

- #2 Cement Storage Silo Fill System
- #3 Cement Storage Silo Fill System
- #4 Storage Vessel Loading System
- Finish Mill #19
- Finish Mill #20
- Finish Mill #21

These procedures are kept in the Environmental Department, where they are maintained. The SOPs discuss how the plant shall be operated, and are used for job-specific training.

4.2 Shutdown

Finish Mill and Storage/Loading System shutdown occurrences and durations begin when the first item in the sequential stop procedure is initiated, and end when the sequential stop procedure is complete.

Finish Mill and Storage/Loading System shutdown procedures are provided in the Lafarge SOP documents for Finish Mill, Cement Transport/Storage, and Truck/Rail Loading. Applicable SOPs include the following:

- #2 Cement Storage Silo Fill System
- #3 Cement Storage Silo Fill System
- #4 Storage Vessel Loading System
- Finish Mill #19
- Finish Mill #20
- Finish Mill #21

As with the startup procedures, the shutdown procedures are maintained in the Environmental Department. The SOPs include these procedures and are used for job-specific training.

4.3 Malfunction

Operator procedures for responding to malfunctions are detailed in the Lafarge SOP titled Malfunctions Affecting Environmental Systems (AIR). These procedures include the prompt elimination of any excess emissions and proper maintenance of all records.

Potential malfunction event scenarios that could result in excess emissions include the following types of malfunctions:

1. Bag failure (e.g., due to rips/tears, bag blinding due to moisture in gas, timer failure, magnahelic failure, manometer failure);
2. Power failure; and
3. Plugging of air slide screw.

5.0 Recordkeeping

5.1 Startups and Shutdowns

The occurrence and duration of startups and shutdowns of the Finish Mill and Storage/Loading Systems are recorded manually in the logbook in the Shift Coordinator's office and electronically in the Plant Production Database. In the event that startups or shutdowns are not conducted in accordance with this plan, the Environmental Manager (or a designated representative) will be notified within 24 hours to ensure required reporting deadlines are met.

5.2 Malfunctions

For purposes of this plan, malfunctions are defined as sudden, infrequent, and not reasonably preventable failures of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner and that results in excess emissions. The occurrence and duration of each malfunction of the Finish Mill and Storage/Loading Systems and their air pollution control devices are recorded manually and electronically.

To certify that any malfunction events occurring during the shift were responded to in accordance with this plan, the logbook located in the Shift Coordinator's office is reviewed regularly. In the event that malfunctions are not responded to in accordance with this plan, the Shift Coordinator will record all actions inconsistent with the malfunction response procedures specified here, and the Environmental Manager (or a designated representative) will be notified within 24 hours to ensure required reporting deadlines are met.

6.0 Notifications and Reports to Regulators

The Environmental Manager (or a designated representative) will provide verbal notification to the Michigan Department of Environmental Quality (MDEQ) Regional Office within two working days following the occurrence of actions inconsistent with this Finish Mill and Storage/Loading System SSM Plan, followed by written letter within seven working days.

The Environmental Manager (or a designated representative) will document the occurrences of operator actions consistent with this Finish Mill and Storage/Loading System SSM Plan in the Semiannual Compliance Reports submitted to MDEQ.

7.0 Periodic Review and Update of this Startup, Shutdown, and Malfunction Plan

The Environmental Manager (or a designated representative) will review this Finish Mill and Storage/Loading SSM 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. In addition, the Environmental Manager (or a designated representative) will update this plan upon the occurrence of a malfunction event scenario that is not included in this plan. Superseded versions of this plan will also be retained on file in the Environmental Department for a period of five years.

8.0 Startup, Shutdown, and Malfunction Plan Revision History

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