

Operations and Maintenance Plan FG Quarry

Sources: Emission Units: QUARRY FUG, PRIMRYCRUSH, SECONDCRUSH

1.0 Source Description

The FG Quarry is the system of Mining limestone, Primary Crushing, Secondary Crushing and Stockpiling:

- Primary Crushing where raw limestone aggregate is crushed and stockpiled. This system includes a primary crusher, bin, dust suppression system and conveyors.
- Secondary crusher system that gravity feeds primary crushed limestone and crushes the material in the secondary crusher and conveys the material to two secondary stone piles. This system includes a secondary crusher, feed hoppers, dust suppression system and conveyors.

2.0 System Emission Points and Air Pollution Control Equipment

A dust suppression system and one fabric filter to control particulate for these systems. There are also two stone towers utilized at the conveyor drop point to pile at each of the secondary stone piles. The daily differential pressure drop for the Secondary Crusher Dust Collector (11-055) is recorded daily. In 2011, during normal operating conditions, the pressure drop ranged from 0.01 kPa to 2.49 kPa.

3.0 Applicable Emission Limit

The emission limits applicable to the FG Quarry Systems is the following:

- Visible emissions must not exceed 15 percent opacity at the primary crusher stockpile foot print.
- Visible emissions must not exceed 7 percent opacity at the secondary crusher fabric filter (11-055).
- Visible emissions must not exceed 10 percent opacity at the secondary stone tower drop point.

4.0 Operator Procedures for Minimizing Visible Emissions from the FG Quarry Systems during Normal Quarrying Operations

FG Quarry Systems operations are performed in accordance with the Lafarge Standard Operating Procedure (SOP) documents. Applicable SOPs include the following:

- Primary Crusher – Normal Operation
- Secondary Crusher Stock Out – 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 Quarry Systems 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 Coal Handling System equipment, including:

Equipment #	Equipment Name
	Primary Crushing and Conveying System
10-001	Primary Cone Crusher
10-011	Bin
10-021	Vibrating Feeder
10-032	Belt Conveyor
10-048	Compressor
10-049	Dust Suppression System
10-101	Fan #1
10-102	Fan #2
	Secondary Crusher Stock Out System
11-002	Secondary Crusher
11-005	Oil Cooling System
11-006	Lube System
11-013	Magnetic Belt
11-028	Vent Fan
11-031	Feeder
11-032	Feeder
11-033	Feeder
11-045	Water Pump
11-046	Water Pump
11-047	Foamer System
11-048	Foaming Agent Tank
11-049	Water Tank
11-050	Compressor
11-055	Collector
11-056	Collector Fan
11-057	Reverse Air Fan
11-061	Belt
11-063	Belt
11-064	Belt
11-065	Belt
11-066	Belt
11-069	Belt
11-151	Diverter Gate

The FG Quarry Systems PM schedule is maintained on MAXIMO. The PM schedules and the PM task lists for equipment in the FG Quarry Systems 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 Periodic Review and Update of this Operations and Maintenance Plan

The Environmental Manager (or a designated representative) will review this FG Quarry Systems, 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.

7.0 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