1. Purpose

This Standard Operating Proceedure (SOP) describes the procedures which will be followed during a malfunction of equipment subject to 40 CFR 63, Subpart LLL (PC MACT).

2. Applicability

This procedure applies to:

a) All discharge points noted in the PC MACT Startup, Shutdown and Malfunction Plans.

b) The continuous opacity monitoring system (COMS) for Kiln and Cooler Stacks.

c) The systems for monitoring temperature at the inlets to the Kiln Baghouses.

3. Applicable Law

Federal: Title 40, Code of Federal Regulations Part 63, Subpart LLL, National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry.

4. Introduction

The PC MACT requires that the facility maintain Startup, Shutdown and Malfunction Plans (SSMP) for all equipment covered by the regulations and that these plans address malfunctions of air pollution control equipment and of Continuous Monitoring Systems. The SSM plans reference this SOP for the detailed procedures to be followed.

5. Procedure for determination of malfunction on air pollution control equipment and documentation of pertinent details:

5.1.0 COOLERS AND KILN STACKS: Opacity is not to exceed 20% on the kiln stacks and 10% on the clinker cooler stacks.

5.1.1 A malfunction of the dust collectors is 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 result in excess emissions.

5.1.2 If opacity exceeds 20% (10%) for any reason in excess of 1 hour, log all pertinent details.

5.1.3 Supervisor or his qualified designee must check out the problem and log in time, problem and sign log sheet located in the Shift Coordinators Office or log the information in the Daily Env Database located in Plant's Lotus

Notes. This check out should occur immediately when opacity reading over 20% (10%) is observed.

5.1.4 If opacity exceeds the permitting limit of 20% (10%) make a determination within 30 minutes after the check out period if one or more of compartments in the kiln/cooler baghouse should be isolated (removed from service for repair). Log in time of compartment isolation.

5.1.5 When the equipment is released for operation and/or repair completed, a qualified employee will check out prior to acceptance. The supervisor will then log in time and initial acceptance of malfunction correction.

5.1.6 The reason for excess opacity must be logged. The corrective measures taken to alleviate the problem must be identified, including documenting total time of isolation and time the equipment resumed normal operation.

5.2.0 DUST COLLECTORS *(Not including stacks monitored by COMS.)*: Opacity is not to exceed 10% on any dust collector.

5.2.1 A malfunction of the dust collectors is 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 result in excess emissions.

5.2.2 Dust collectors that have visible emissions below the 10% opacity limit should be corrected within 24-hours if possible. If the situation cannot be corrected and/or eliminated within 24-hours one of the following shall be initiated: For collectors that monthly Method 22 observations are required, a six-minute Method 9 observation will be completed per day of operation until the issue is resolved. Collectors on which daily Method 22 observations are performed will follow the requirements of 40 CFR 63.1350 of PCMACT. If the 10% opacity limit is exceeded log all pertinent details.

5.2.3 Visible emissions in excess of 10% opacity on a six-minute average during a Method 9 observation from any collector emission point or vent requires that the piece of equipment and/or collector controls should be put out of service and the problem isolated immediately.

5.3.0 MATERIAL HANDLING AND STORAGE: Opacity limit is 10% for fugitive emissions for from these sources.

5.3.1 A malfunction of material handling and storage equipment is defined as sudden, infrequent, and not reasonably preventable failures of process equipment, or a process to operate in a normal or usual manner and that result in visible emissions.

5.3.2 When visible emissions are identified from material handling and storage equipment, corrective action will be initialized immediately to correct the emissions presence.

6. Procedures for COMS malfunction:

6.1.0. Definition - A malfunction of the COMS is defined as one of the following conditions:

a) The Data Acquisition System fails to collect the required data, or

b) The COMS is out of control as defined in 40CFR63.8(c)(7)(i):

1) The COMS fails a relative accuracy audit, relative accuracy test audit, or linearity test audit; or

2) The COMS CD exceeds two times the limit in the applicable performance specification in the relevant standard.

c) The thermocouples fail the quarterly calibration verification.

6.2.0. When a malfunction is discovered, the Instrumentation Technician will determine the source of the problem and take corrective action.

6.2.1 If it is determined that the problem cannot readily be corrected in house, the Environmental Manager (or a designated representative) will contact the outside service contractor and schedule a service call as soon as practical.

6.3.0 COMS

6.3.1 When the COMS are out of control, the necessary corrective action shall be taken and all necessary tests which indicate that the system is out of control shall be repeated. Corrective action and retesting shall continue until the performance requirements are below the applicable limits.

6.3.2 The beginning of the out-of-control period is the hour a performance check is conducted that indicates an excedance of the performance requirements. The end of the out-of-

control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits.

6.3.3 During the period the COMS are out of control, recorded data shall not be used in data averages and calculations, or to meet any data availability requirement.

6.3.4 All information concerning out-of-control periods, including start and end dates and hours and descriptions of corrective actions taken, shall be recorded by the Instrumentation Supervisor (or a designated representative) and submitted to the Environmental manager within one work day.

6.3.5 The Environmental Manager (or a designated representative) will submit the information to MDEQ in the excess emissions and continuous monitoring system performance report required semiannually.

6.3.6 The following data shall also be maintained:

(1) The nature and cause of any malfunction (if known);

(2) The corrective action taken or preventive measures adopted; and

(3) The nature of the repairs or adjustments to the COMS that was inoperative or out of control.

6.4.0 THERMOCOUPLES:

6.4.1 If the thermocouples fail during operation, they will be replaced with (NIST) calibrated thermocouples.

6.4.2 If the thermocouples fail the quarterly calibration verification, they will be replaced with calibrated thermocouples while they are being recalibrated.

6.4.3 Thermocouples will be calibrated using a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system.

7. Reporting

7.1.1 Reportable 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 result in excess emissions.

7.1.2 Malfunctions conforming to the SSM plan shall be submitted in the semi-annual report.

7.1.3 Malfunctions where efforts to correct the problem are not consistent with the procedures spelled out in the SSM plan; report within 2 working days.

8. Revision

8.1.1 This Malfunction SOP shall be revised if there is an event meeting the characteristics of a malfunction which is not addressed by the plan (40 CFR 63.6(e)(3)(vii).

9. Record Keeping

Records will be kept for a period of 5 years.