

(August 9, 2005)

**PROPOSED RULE 1156 ~~PM₁₀~~ — FURTHER REDUCTIONS OF PARTICULATE EMISSIONS REDUCTIONS
FROM CEMENT MANUFACTURING FACILITIES**

(a) Purpose

The purpose of this rule is to further reduce particulate matter (PM) emissions from cement manufacturing facilities.

(b) Applicability

This rule applies to all operations, and materials handling and transport at a cement manufacturing facility including, but not limited to, kiln and clinker cooler; storage; crushing, drying, screening, milling, conveying, bulk loading and unloading system, internal roadways, materials transport, and track-out.

(c) Definitions

(1) BAG LEAK DETECTION SYSTEM (BLDS) means a system that meets the minimum requirements specified under U.S. EPA 40 CFR Part 63, Subpart LLL, Section 1350 (m) to continuously monitor bag leakage and failure.

(2) CEMENT MANUFACTURING FACILITY means any facility engaged in producing portland cement or associated products, as defined in the Standard Industrial Classification Manual as Industry No. 3141, Portland Cement Manufacturing.

(3) CERTIFIED FILTRATION PRODUCT means filtration products that are certified under the U.S. EPA Environmental Technology Verification program.

(4) CHEMICAL DUST SUPPRESSANT means any non-toxic chemical stabilizer which is used as a treatment material to reduce fugitive dust emissions and its use is not prohibited by any other applicable law and meets all applicable specifications required by any federal, state, or local water agency.

(5) CLINKER means a product from the kiln which is used as a feedstock to make cement.

- (6) CLINKER COOLER means equipment into which clinker product leaving the kiln is placed to be cooled by air supplied by a forced draft or natural draft supply system.
- (7) CONVEYING SYSTEM means a device for transporting materials from one piece of equipment or location to another location within a facility. Conveying systems include, but are not limited to, the following: feeders, belt conveyors, bucket elevators and pneumatic systems.
- (8) CONTINUOUS OPACITY MONITORING SYSTEM (COMS) means a system that meets minimum requirements specified under U.S. EPA 40 CFR Part 60, Appendix B, to continuously monitor opacity.
- (9) CONVEYING SYSTEM TRANSFER POINT means a point where any material including, but not limited to, feed material, fuel, clinker or product, is transferred to or from a conveying system, or between separate parts of a conveying system.
- (10) ~~ENCLOSED COVERED~~ CONVEYOR is a conveyor where the surrounding and the top and side portion of the conveyor are ~~totally enclosed~~ covered by a removable cover to allow routine inspection and maintenance.
- (11) DUST SUPPRESSANTS are water, hygroscopic materials, or chemical stabilizers used as a treatment material to reduce fugitive dust emissions.
- (12) ENCLOSED CONVEYOR is a conveyor where the top, side and bottom portion of the conveyor belt system is totally enclosed except for points of loading and discharge and except for a removable cover to allow routine inspection and maintenance.
- (13) ENCLOSED CRUSHING EQUIPMENT means crushing equipment where the surrounding and top portion of the equipment is enclosed, except for the area ~~for where~~ trucks entering and leaving.
- (14) ENCLOSED SCREENING EQUIPMENT means screening equipment where the top portion of the equipment is enclosed, except for the area where the materials are loaded to the screening equipment.
- (15) ENCLOSED STORAGE PILE means~~is~~ any storage pile that is completely enclosed in a building or structure consisting of a solid roofed and wall~~ed~~ed ~~structure or building surrounding an entire pile.~~
- (16) END OF WORK DAY means the end of a working period that may include one or more work shifts, but no later than 8 p.m.

- (17) EXISTING EQUIPMENT means any equipment, process or operation having an existing valid AQMD permit that was issued prior to (date of adoption).
- (18) FACILITY means any source or group of sources or other air contaminant-emitting activities which are subject to this rule and are located on one or more contiguous properties within the AQMD, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by persons under common control), or an outer continental shelf (OCS) source as determined in 40 CFR Section 55.2. Such above-described groups, if noncontiguous, but connected only by land carrying a pipeline, shall not be considered one facility. Sources or installations involved in crude oil and gas production in Southern California Coastal or OCS Waters and transport of such crude oil and gas in Southern California Coastal or OCS Waters shall be included in the same facility which is under the same ownership or use entitlement as the crude oil and gas production facility on-shore.
- (19) FOG SUPPRESSION SYSTEM means a system that supplies ultra-fine droplets of water or chemical dust suppressant by means of atomization to control dust generated from a primary crusher.
- (20) FINISH MILL means a roll crusher, ball and tube mill or other size reduction equipment used to grind clinker to a fine powder. Gypsum and other materials may be added to and blended with clinker in a finish mill. The finish mill also includes the air separator associated with the finish mill.
- (21) HAUL TRUCK means diesel heavy-duty truck that has a loading capacity equal to or greater than 50 tons.
- (22) KILN means a device, including any associated preheater or precalciner devices that produce clinker by heating limestone and other materials for subsequent production of portland cement.
- (23) OPEN STORAGE PILE is any accumulation of materials which attains a height of three (3) feet or more or a total surface area of one hundred fifty (150) square feet or more. The open pile is defined as inactive when loading and unloading has not occurred, nor is expected to occur, in any 20 consecutive days.
- (24) PAVED ROAD means a road improved by covering with concrete, asphaltic concrete, recycled asphalt, or asphalt. ~~PM₁₀ is particulate matter~~

- ~~with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.~~
- (25) RAW MILL means a ball, ~~and tube mill~~, or vertical roller mill or other size reduction equipment used to grind feed materials to the appropriate size. Moisture may be added or removed from the feed materials during the grinding operation. A raw mill may also include a raw material dryer and/or air separator.
- (26) ROAD means any route with evidence of repeated prior travel by vehicles.
- (27) SILT is any particulate with a particle size less than 75 micrometers in diameter as measured by a No. 200 sieve.
- (28) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.
- (29) STREET SWEEPER is a PM₁₀ street sweeper approved pursuant to Rule 1186 – PM₁₀ Emissions from Paved and Unpaved Roads & Livestock Operations.
- (30) TOP PROCESS PARTICULATE EMITTERS means process equipment, including but not limited to the kiln, clinker cooler, raw mill, and finish mill, vented to air pollution control equipment, that account for 80% of the total process particulate emissions at the facility.
- (31) TRACK-OUT means any material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that has been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.
- (32) WIND FENCE means a system consisting of a stand alone structure supporting a wind fence fabric. The wind fence fabric shall have maximum porosity of 20%.
- (d) Requirements
- The operator shall comply with the following requirements by ~~January 1, 2006~~(6 months after rule adoption) unless otherwise stated.
- (1) Visible Emissions

- (A) The operator of a facility shall not cause or allow the discharge into the atmosphere of visible emissions exceeding 10 percent opacity from any operation at the facility, except open piles, roadways and unpaved areas, using EPA Opacity Test Method 9.
 - (B) For open piles, roadways and other unpaved areas, the operator of a facility shall not cause or allow the discharge into the atmosphere of visible emissions exceeding 20 percent opacity based on an average of 12 consecutive readings; or 50 percent opacity based on 5 individual consecutive readings using SCAQMD Opacity Test Method 9B.
 - (C) The operator of a facility shall not cause or allow any ~~visible~~-dust plume that remains visible exceeding more than 100 feet in any direction from any operations at the facility.
- (2) Loading, Unloading, and Transferring
- (A) The operator shall conduct material loading and unloading to and from trucks, railcars, or other modes of material transportation ~~in through~~ an enclosed ~~structure~~ system that is vented to SCAQMD permitted air pollution control equipment that meets the requirements in paragraph (d)(6) and subparagraph (d)(1)(A) and is operated during loading and unloading activities. In the event the system consists of a building, ~~The enclosed structure~~ building shall have openings with overlapping flaps, sliding doors or other equally effective devices, as approved by the Executive Officer, which shall remain closed, except to allow trucks and railcars to enter and leave.
 - (B) Notwithstanding the requirement in subparagraph (d)(2)(A), loading and unloading of materials from front-end loaders to haul trucks at the quarry area shall be conducted with dust suppressants to meet the requirement in subparagraph (d)(1)(B).
 - ~~(C)~~ B The operator shall ~~enclose~~ cover all conveying systems and enclose all transfer points. All new conveyors installed after (rule adoption date) shall be enclosed. The covered or enclosed structure shall be vented to permitted control equipment that meets the requirements in paragraph (d)(6) and is operated during all conveying activities; and shall have access doors to allow routine inspection and maintenance.

- (~~DE~~) The operator shall apply ~~chemical~~ dust suppressants as necessary during material loading, unloading, and transferring activities, and at conveying system transfer points to dampen and stabilize the materials transported and prevent visible dust emissions generated ~~as necessary~~ to meet the requirement in subparagraph (d)(1)(A).
 - (~~ED~~) The operator shall install and maintain as necessary dust curtains, shrouds, belt scrapers, and gaskets along the belt conveying system to contain dust, prevent spillage and carryback, ~~and provide a dust-tight seal conveying system in order to minimize visible emissions.~~
 - (~~FE~~) The operator shall use appropriate equipment, including, but not limited to, stacker or chute, to minimize the height of materials fall into storage bin, silo, hopper or open stock pile and reduce the amount of dust generated to meet the requirements in paragraphs (d)(1) and (d)(6).
 - (~~GF~~) In lieu of meeting the performance standard in paragraph (d)(6), the operator ~~shall~~ may elect to comply with the performance standard in Table 1.
- (3) Crushing, Screening, Milling and Other Operations
- (A) The operator shall enclose all operations including and not limited to crushing, screening, drying, blending, and milling. The enclosed ~~structures~~system shall be vented to permitted control equipment that meets the requirements in paragraph (d)(6) and subparagraph (d)(1)(A) and is operated during these operations.
 - (B) The primary crusher pursuant to subparagraph (d)(3)(A) shall be enclosed in a building or structure consisting of a solid roof, solid walls on two sides of the building with one side facing in the direction of the prevailing winds, and flaps covering the remaining two sides to allow access for trucks entering and leaving to unload process materials.
 - (C) In lieu of the configuration described in subparagraphs (d)(3)(A) and (d)(3)(B), the operator of the primary crusher installed and operated prior to (date of adoption) may use wind fences in place of a solid roof and walls on three sides, provided that the structure is equipped and operated with a District permitted fog suppression system.

(~~DE~~) The operator shall apply ~~chemical~~-dust suppressants during all operations to dampen and stabilize the materials processed and prevent visible emissions generated, as necessary, to meet the requirements in subparagraph (d)(1)(A).

(~~ED~~) In lieu of meeting the performance standard in paragraph (d)(6), the operator ~~shall~~may elect to comply with the equipment performance standard in Table 1.

(4) Kilns and Clinker Coolers

~~By December 31, 2006, the operator shall not operate the kilns and clinker coolers unless the operator complies with an outlet concentration of 0.0105 grain/dscf PM₁₀, per dry standard cubic feet or 0.05 lb PM₁₀ per ton of clinker produced, or 99.95% overall control efficiency, measured with the approved source tests specified in subdivision (g) by the compliance dates specified in subparagraph (d)(6)(C). For a new installation after (date of adoption), the operator shall meet an outlet concentration of 0.005 grain PM per dry standard cubic feet.~~

(5) Material Storage

(A) ~~The~~An operator ~~shall that~~ stores raw materials and products in a silo, bin or hopper ~~that is shall~~ vented the silo, bin or hopper to an air pollution control device that meets the requirements in subparagraph (d)(1)(A) and paragraph (d)(6). The materials that are stored in a silo, bin and hopper by (date of rule adoption) shall not be stored in an open storage pile.

(B) By December 31, 2006, the operator shall enclose active open piles ~~of materials that do not meet the criteria in paragraph (h)(1) that contain materials with a silt content of more than 5% and where loading and unloading activity occurs at a cumulative rate of more than 50,000 tons per year.~~ The enclosed storage area shall have openings covereding with overlapping flaps, or sliding doors, or other equivalent devices(s) approved by the Executive Officer, which shall remain closed except to allow vehicles to enter or exit. Prior to December 31, 2006, the operator shall comply with the requirements in subparagraph (d)(5)(C).

(C) For the ~~remaining~~active open piles that do not meet the criteria in subparagraph (d)(5)(B), the operator shall comply with one of the

following to meet the requirement of subparagraphs (d)(1)(B) and (d)(1)(C) by (6 months after date of rule adoption):

- (i) Apply chemical dust suppressants to stabilize the entire surface area of the pile, except for areas of the pile that are actively disturbed during loading and unloading activities; ~~and re-apply chemical dust suppressants to stabilize disturbed areas of the piles at the end of each work shift;~~ or
- (ii) Install and maintain a three-sided barrier with at least two feet of visible freeboard from the top of the pile to provide wind sheltering, ~~and maintain~~ surface stabilization of the entire pile~~the open-sided of the pile stabilized~~ in a manner that meets the performance standards of subparagraphs (d)(1)(B) and (d)(1)(C), and store the materials completely inside the three-sided structure at all times; or
- (iii) Install and maintain a three-sided barrier with roof, or wind fences with roof, to provide wind sheltering; maintain the open-side of the pile stabilized in a manner that meets the performance standards of subparagraphs (d)(1)(B) and (d)(1)(C), and store the materials completely inside the three-sided structure at all times; or
- (iv) Install and maintain a tarp over the entire surface area of the pile, except for areas of the pile that are actively disturbed during loading and unloading activities. The tarp shall remain in place and provide cover at all times including periods under high wind conditions where instantaneous wind speeds exceed 25 miles per hour.

(D) By (90 days after rule adoption), the operator shall tarp all inactive storage piles as required under clause (d)(5)(C)(iv). The operator shall keep records to demonstrate status of inactivity.

(E) At the end of each work day in which loading and unloading activities were performed, the operator shall re-apply dust suppressants to stabilize the disturbed surface areas of the pile subject to subparagraphs (d)(5)(C) and (d)(5)(D).

(6) Air Pollution Control Device

- (A) The operator shall install and maintain a baghouse system that meets the following performance standards measured with the approved source test in subdivision (g):
 - (i) an outlet concentration of 0.0105 grain PM per dry standard cubic feet PM₁₀ for equipment installed prior to (date of adoption); or and an outlet concentration of 0.005 grain PM per dry standard cubic feet PM for equipment installed on and after (date of adoption); or
 - (ii) a 99.95% collecting efficiency.
 - (B) The operator shall install and maintain a baghouse ventilation and hood system that meets:
 - (i) a capture efficiency of at least 99.5% measured with the approved source tests in subdivision (g); or
 - (ii) a minimum capture velocity requirement specified in the U.S. Industrial Ventilation Handbook, American Conference of Governmental Industrial Hygienists.
 - (C) The operator shall meet the requirements in subparagraphs (d)(6)(A) and (d)(6)(B) by December 31, 2006 for pulse-jet baghouses, and by December 31, 2007 for other types of baghouses.
- (7) Internal Roadways and Areas
- (A) Unpaved Roadways and Areas
 - (i) For the quarry area, the operator shall apply dust suppressants in sufficient quantity and frequency to stabilize the surface and comply with the opacity limits in paragraph (d)(1).
 - (ii) For haul roads, tThe operator shall apply chemical dust suppressants in sufficient quantity and at least twice a year to stabilize the entire unpaved haul road surface; post signs at the two ends stating that haul trucks shall use these roads unless traveling to the maintenance areas; and enforce the speed limit of 4535 miles per hour or less to comply with the opacity limits in paragraph (d)(1).
 - (iii) For other unpaved roadways and areas, the operator shall apply chemical dust suppressants in sufficient quantity and at least twice a year to stabilize the surface, or apply gravel

pad containing 1-inch or larger washed gravel to a depth of six inches; and enforce a speed limit of 15 miles per hour or less to comply with the opacity limits in paragraph (d)(1).

(B) Paved Roads

The operator shall sweep all internal paved roads ~~with a Rule 1186-certified sweeper~~ at least once a day, or more frequently if necessary, to comply with the opacity limits in paragraph (d)(1). Sweepers purchased or leased after (date of rule adoption) shall be Rule 1186-certified sweepers.

(8) Track-Out ~~Roads~~

(A) The operator shall pave at least 0.25 mile of roads leading to the public roadways and ensure that all trucks use this road exclusively when leaving the facility to prevent track-out of dust to the public roadways and comply with the opacity limits in paragraph (d)(1).

(B) If necessary to comply with the opacity limits in paragraph (d)(1), the operator shall install a rumble grate, truck washer, and wheel washer; and ensure that all trucks go through the rumble grate, truck washer and wheel washer such that the entire circumference of each wheel or truck is cleaned before leaving the facility.

(C) To prevent material spillage from trucks to public roadways and fugitive dust emissions during transport:

(i) The ~~operator and the~~ truck driver shall ensure that cement trucks leaving the facility ~~are fully covered with~~have no accumulation on wheels or external surfaces of trucks; the truck or train operator shall ensure that the cement train/truck hatches are closed, and the. The operator shall provide truck cleaning facilities;

(ii) For open-bed trucks of other materials, ~~the operator and the~~ truck driver shall ensure that the loaded materials are leveled and maintained with at least 6 inches of freeboard. The operator shall stabilize the load by using dust suppressants as necessary to comply with the opacity standard in paragraph (d)(1) unless the driver tarps or sufficiently covers the load before the trucks ~~leaves~~esing the facility; and

(iii) The operator shall post signs at the exits of the facility to ensure compliance with the requirements in this subparagraph.

(D) The operator shall provide the “Fugitive Dust Advisory” flyers prepared by the District to any company doing business with the facility and is subject to the requirements in subparagraph (d)(8)(C) at least once each calendar year.

~~(9) Facility Cleanup~~

~~The operator shall develop and implement rigorous housekeeping procedures that would require prompt removal of any pile of material spillage or carry-back, and application of chemical dust suppressant or other dust control methods to maintain the piles in a stabilized condition and ensure compliance with the opacity standards in paragraph (d)(1) at all times.~~

(e) Monitoring and Source Testing

- (1) For the kilns and, clinker coolers, ~~raw mills and finish mills~~, the operator shall continuously monitor and record ~~the~~ operating parameters including, but not limited to, flue gas flow rates and pressure drops across the baghouses, ~~and record at the frequency specified in the Title V facility permit~~ to monitor baghouse performance and ensure compliance with the opacity limit in subdivisionsubparagraph (d)(1)(A).
- (2) For the top process particulate emitters, the operator shall install, operate, calibrate and maintain a COMS or BLDS to monitor baghouse performance and ensure compliance with the opacity limit in subparagraph (d)(1)(A). In scenario where the operator can demonstrate to the satisfaction of the Executive Officer that it is physically and technological infeasible to install a COMS or BLDS, the operator shall monitor and record other pertinent operating parameters according to the approved Operation and Maintenance Procedure in paragraph (e)(9).
- (3) For other process equipment equipped with air pollution control equipment~~vented to baghouses~~, the operator shall monitor ~~the flue gas flow rates and~~ and record pertinent operating parameters, such as pressure drops, at the frequency specified in the~~according to the approved Operation and Maintenance Procedure in paragraph (e)(9)Title V facility permit~~ to monitor the performance of air pollution control equipment and ensure compliance with the opacity limit in subdivisionsubparagraph (d)(1)(A).

- (4) The operator shall not be required to comply with the monitoring or recording requirements during a malfunction period or a planned routine maintenance period of the monitoring or recording device provided that:
- (A) The malfunction period or the planned routine maintenance period of the monitoring or recording device does not exceed ninety-six (96) consecutive hours;
 - (B) The monitoring or recording device has been either shutdown for a planned routine maintenance or by a mechanical or electrical failure or fire caused by circumstances beyond the operator's control. For the monitoring or recording device of the top process particulate emitters, the operator shall provide a written notification to the Executive Officer at least two calendar weeks in advance of a planned routine maintenance and submit a report to the Executive Officer within ninety-six (96) hours after the monitoring or recording device(s) returns to normal operation. Such written notification and report shall include information as prescribed by the Executive Officer including at a minimum the cause of the shutdown, the time the monitoring or recording device(s) became non-operational, the time or estimated time the monitoring or recording device(s) returned to normal operation, the maintenance performed or corrective and preventive actions taken to prevent future non-operational conditions.
- (5) For the kilns and clinker coolers, the operator shall conduct, at a minimum, an annual compliance source test in accordance with the test methods in subdivision (g) to demonstrate compliance with the emission limit(s) in subdivision (d). The first annual compliance source test in accordance with an approved source test protocol shall be conducted within ninety (90) calendar days after the compliance date specified in subdivision (d). The operator shall submit a source test protocol to the Executive Officer no later than sixty (60) calendar days prior to the proposed test date for the Executive Officer's approval for the first compliance source test. The testing frequency may be reduced to once every 24 calendar months if the two consecutive annual source tests demonstrate compliance with the limits. Upon notification of the Executive Officer, the testing frequency shall be reversed back to annual testing if any subsequent source test fails to demonstrate compliance with the limits. In lieu of annual testing, the operator who elects to use all

certified filtration products in their baghouse shall conduct a compliance test every five years.

- (6) By January 1, 2006, the operator shall provide the Executive Officer a list of the top ~~20% PM10~~-process particulate emitters ~~vented to baghouses~~ and the proposed testing schedule for these equipment. The operator shall conduct compliance source tests and submit test results for these processes every 5 years, with at least two source tests conducted in any calendar year. If there are any changes to the list of equipment to be tested or the testing schedule, the operator shall notify the Executive Officer for approval 60 calendar days before the test date. In lieu of testing every 5 years, the operator who elect to use all certified filtration products in their baghouses shall conduct a compliance test every 7 years.
- (7) During any ~~annual~~-compliance source test, the operator shall monitor and record, at a minimum, all operating data for the selected operating parameters of the control equipment and the process equipment and submit this data with the test report.
- (8) The operator shall submit a complete test report for any compliance source test to the Executive Officer no later than sixty (60) calendar days of completion of the source test.

(9) Operation and Maintenance Procedures

(A) The operator shall develop and implement an Operation and Maintenance Procedure to ensure that the performance of the air pollution control equipment is continuously maintained and operated. The Operation and Maintenance Procedure shall include at a minimum the following:

- (i) operating parameters to be monitored;
- (ii) range of operating levels of each proposed parameter;
- (iii) frequency of monitoring and recording;
- (iv) means or device to be used to measure the operating parameters and the performance requirements for that device; and
- (v) routine maintenance procedures, corrective and preventive actions for the air pollution control equipment and its monitoring and recording devices.

(B) The operator shall develop and implement an Operation and Maintenance Procedure that would require sufficient maintenance of internal roadways and areas, prompt cleanup of any pile of

material spillage or carry-back, and application of chemical dust suppressant or other dust control methods to maintain surface stabilization of the open piles, spillage and carry-back to ensure compliance with the opacity standards in paragraph (d)(1) at all times.

(C) The operator shall submit for approval the Operation and Maintenance Procedures described under subparagraphs (e)(9)(A) and (e)(9)(B) to the Executive Officer within (90 days after rule adoption) and shall pay the appropriate evaluation fee pursuant to Rule 306 – Plan Fees.

(f) Reporting and Recordkeeping

- (1) The operator shall ~~submit an annual emission report by March 1 of each year to the Executive Officer with all supporting documentation and records to~~ report the facility emissions from all process equipment, all vehicle traffic and open storage piles at the facility during the previous calendar year as part of the Annual Emission Report.
- (2) The operator shall maintain all records and information required to demonstrate compliance in a manner approved by the Executive Officer for a period of at least five years and made available to the Executive Officer upon request.
- (3) The operator of a facility shall keep, at a minimum, the following records to demonstrate compliance:
 - (A) Daily records of applying chemical dust suppressants, watering, sweeping and cleaning activities;
 - (B) Daily records of trucks or railcars entering and leaving the facility, type and quantity of ~~the~~ materials imported or exported;
 - (C) Daily processing records of primary crushers, kilns, raw mills, and finish mills, production records of clinkers and cements ~~throughput records of all processes and records of raw materials delivered to the facility at the facility;~~
 - (D) ~~Source~~ Test reports to demonstrate compliance with the emission standards in subdivision (d) including, but not limited to, PM₁₀ ~~10~~ emission rates, silt loadings, moisture content, and opacity readings; and

- (E) Records of equipment start-up, shutdown, malfunction and repair for the air pollution control equipment of the top process particulate emitters.
- (g) ~~Source~~-Test Methods and Calculation
- (1) The operator shall use the following source test methods, as applicable, to determine the PM~~10~~ emission rates and collecting efficiency of the baghouses. All source test methods referenced below shall be the most recent version issued by the respective organization. All test results in units of grains/dscf shall be determined as before the addition of any dilution or air, if present, that was not a part of the stream(s) processed by the device that was tested.
- (A) SCAQMD Source Test Method 1.1 or 1.2 – Velocity and Sample Traverse Points;
- (B) SCAQMD Source Test Method 2.1 or 2.3 – Stack Gas Flow Rate;
- (C) SCAQMD Source Test Method 3.1 – Stack Gas Density;
- (D) SCAQMD Source Test Method 4.1 – Stack Gas Moisture;
- (E) SCAQMD Source Test Method 5.1, 5.2, ~~or~~ and 5.3 - Determination of Particulate Matter Emissions ~~from Stationary Sources Using Heated Probe and Filter;~~
- ~~(F) SCAQMD Source Test Method 5.1, 5.2, and 5.3 modified to use an in-stack PM10 cut cyclone and operated at a constant sampling rate to sample PM10, as specified in U.S. EPA Source Test Method 201A – Determination of PM10 Emissions – Constant Sampling Rate Procedures, 40 CFR Part 51, Appendix M. Analyses and calculations shall be performed according to SCAQMD Source Test Method 5.1, 5.2, and 5.3 including those for the determination of the condensable PM10 portion;~~(G) ~~SCAQMD Source Test Method 10.1 – Carbon Monoxide, Carbon Dioxide and Oxygen;~~
- ~~and(H) SCAQMD Source Test Method 100.1 – Nitrogen Oxides, Sulfur Dioxide, Carbon Monoxide, and Oxygen.~~
- (F) EPA Source Test Method 5 with the impinger analysis may be used in lieu of SCAQMD Source Test Method 5.1, 5.2 ~~and~~ or 5.3.
- (G) EPA Source Test Method 5D with the impinger analysis may be used to measure PM emissions from positive pressure fabric filters.
- (2) Measurement of particulate matter emissions from the cement kiln shall provide for a correction of sulfur dioxide emissions collected in the

particulate matter samples. Any measured gaseous sulfur dioxide emissions shall be excluded from the measurement of particulate matter emissions by subtracting from the mass of material collected in any impingers a mass equivalent to the amount of measured sulfur dioxide emissions based upon sulfuric acid dehydrate as specified in SCAQMD Source Test Methods 5.1, 5.2, or 5.3.

~~The operator may conduct the source test for PM₁₀ emissions using SCAQMD source test methods modified as in subparagraph (g)(1)(F), or may elect to conduct a source test for PM emissions using SCAQMD Source Test Method 5.1, 5.2, and 5.3 simultaneous with the source test for PM₁₀ emissions to determine the ratio of PM₁₀ to PM emissions. Subject to the approval of the Executive Officer following an evaluation of a source test report, the operator may conduct subsequent source tests for PM₁₀ emissions using SCAQMD source test methods for PM and the above determined ratio of PM₁₀ to PM.~~

- (3) Source tests for PM ~~and PM₁₀~~ shall be taken and the average of the samples shall be used to determine the applicable emission rate in accordance with the following requirements:
- (A) Simultaneous duplicate samples shall be obtained unless the operator demonstrates to the satisfaction of the Executive Officer that it is not physically feasible to do so, in which case the operator shall take sequential triplicate samples;
 - (B) All samples must have minimum sampling volume of 120 cubic feet or a minimum PM ~~and PM₁₀~~ catch of 6 milligrams per sample shall be collected;
 - (C) For duplicate samples, the source test shall be deemed invalid if the difference between the two samples is greater than 35% of the average of the two samples in the applicable units specified in subdivision (d) and if the difference between the sample catches normalized to the average sampling volume is greater than 3.5 milligrams. If the source test is deemed invalid, the test shall be repeated; and
 - (D) For triplicate samples, upon approval of the Executive Officer or designee, if the operator can demonstrate that the process conditions, including, but not limited to, the throughput, quantity, type, and quality of all feedstock to the equipment process, and the

emission control equipment conditions have not changed throughout the sequential test period, then the operator may apply the Dixon outlier test at the 95% significance level to check for and discard one outlier, and shall use the average of the two remaining samples to determine PM ~~and PM₁₀~~ emissions.

- (4) The operator shall use EPA approved source test method to determine capture efficiency of the baghouse hood, ventilation and enclosure.
- (5) The operator may use alternative or equivalent source test methods, as defined in U.S. EPA 40 CFR 60.2, if they are approved in writing by the Executive Officer, the California Air Resources Board, and the U.S. Environmental Protection Agency.
- (6) The operator shall use a test lab approved under the SCAQMD Laboratory Approval Program for the source test methods cited in this subdivision if such approved lab exists. If there is no approved lab, then approval shall be granted by the Executive Officer on a case-by-case basis.
- (7) The operator shall use ASTM Methods D-3302, D-4931, or equivalent methods approved by the Executive Officer, the California Air Resources Board and the U.S. EPA to determine material moisture content.
- (8) The operator shall use Appendix C.1, Procedures for Sampling Surface/Bulk Dust Loading, and Appendix C.2, Procedures for Laboratory Analysis of Surface/Bulk Dust Loading Samples, as contained in Compilation of Air Pollutant Emission Factors (AP-42), as published by the U.S. EPA, or equivalent methods as approved by the Executive Officer, the California Air Resources Board and the U.S. EPA to determine the silt loading value.
- (9) The operator shall use the methods specified in the SCAQMD Rule 403 Implementation Handbook to determine threshold friction velocity, and stabilized surface, and EPA Opacity Test Method 9 or SCAQMD Opacity Test Method 9B to determine opacity.
- (10) When more than one source test method or set of source test methods are specified for any testing, the application of these source test methods to a specific set of test conditions is subject to approval by the Executive Officer. In addition, a violation of any requirement of this rule established by any one of the specified source test methods or set of source test methods shall constitute a violation of the rule.

(h) Exemptions

- (1) The operator is exempt from using the test methods in the SCAQMD Rule 403 Implementation Handbook for the demonstration of surface stabilization for open storage piles where 90% of the pile's volume contains materials that are larger than ½ inch, providing such piles meet the performance standards in subparagraphs (d)(1)(B) and (d)(1)(C). Materials that are demonstrated to meet any of the following criteria will be exempt from the requirement of total enclosure for storage pile set forth in subdivision (d): (A) Materials with more than 10% moisture content; or (B) Materials larger than ½ inch sieve.
- (2) The operator is exempt from the use of chemical dust suppressants for internal unpaved roads if:
 - ~~(A) the unpaved roads are located in the quarry area and used in the transportation of raw materials to other processing sites at the facility provided that the operator uses water in sufficient quantity and frequency to stabilize the road surface to meet the opacity standard in subparagraph (d)(1)(B) and notifies the Executive Officer in writing the location of such roadways; or~~
 - ~~(B) the use of applicable chemical dust suppressants on that specific unpaved road violates the rules and/or regulations of the local Water Quality Control Board or other government agency provided the operator uses water in sufficient quantity and frequency to stabilize the road surface and the operator notifies the Executive Officer in writing 30 days prior to the use of water.~~
- (3) ~~Empty h~~Haul trucks are not required to use designated roads for haul trucks if they travel on unpaved roads complying with the requirements in clause (d)(7)(A)(iii).
- (4) The operator shall be exempt from the requirement in ~~subparagraph~~clause (d)(7)(A)(iii) where a road is used less than a monthly average of twice a day by a designated vehicle at a speed limit less than 15 miles per hour.
- ~~(5) The speed limit of 15 miles per hour or less in clause (d)(7)(A)(i) shall be exempt for haul trucks transferring raw materials used in the production of cement from quarry to primary crusher during normal working hours.~~
- (5) Blasting operations shall be exempt from the opacity limit in subparagraph (d)(1)(B).

Table 1
PM₁₀ Emission Factor

Process	PM ₁₀ Emission Factor (lb/ton materials)	
Primary limestone crushing vented to baghouse	0.00051	
<u>Primary limestone screening vented to baghouse</u>	<u>0.00022</u>	
Secondary limestone crushing and screening vented to baghouse	0.000231	
Limestone conveying vented to baghouse	0.0000429	
Raw mill vented to baghouse	0.006	
Raw mill conveyor vented to baghouse	0.0016	
Raw mill weight hopper vented to baghouse	0.0095	
Raw mill air separator vented to baghouse	0.016	
Finish mill vented to baghouse	0.004	
Finish mill conveyor vented to baghouse	0.0012	
Finish mill weight hopper vented to baghouse	0.0047	
Finish mill air separator vented to baghouse	0.014	
Raw material loading and unloading	0.001	
Cement loading and unloading	0.0003	