MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park Avenue Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

PERMIT TO OPERATE

B005362

Operation under this permit must be conducted in compliance with all information included with the initial application, initial permit condition, and conditions contained herein. The equipment must be maintained and kept in good operating condition at all times. This Permit to Operate or copy must be posted on or within 8 meters of equipment. If a copy is posted, the original must be maintained on site, available for inspection at all times.

EXPIRES LAST DAY OF: JUNE 2027

OWNER OF OPERATOR (Co.#1)

CEMEX Construction Materials Pacific LLC
16888 North E Street
Victorville, CA 92392

EQUIPMENT LOCATION (Fac.#5)

CEMEX - Black Mountain Quarry Plant
25220 Black Mountain Quarry Road
Apple Valley, CA 92307

Description:
KILN (Q3) AND CLINKER COOLER SYSTEM consisting of: Coal milling, a pre-heater/pre-calciner kiln, and a clinker cooler assembly. Note that horsepower ratings have been converted to heat input assuming 2550 Btu per horsepower.

EQUIPMENT

Capacity	Equipment Description
0	Kiln Feed System
0	Belt Conveyors
0	Elevator
0	Calibration System
0	Dust Return System
0	Pre-Calciner
0	Pre-Heater
625	Kiln (Q3), which is rated at 625 millions Btu/h input
0	Induced Draft Fan
0	Clinker Cooler (Vent-less)
0	Clinker Cooler Cyclone Separator
0	Clinker Cooler Heat Exchanger

Fee Schedule: 8 (f) Rating: 647950000 Btu SIC: 3241 SCC: 30500606 Location/UTM(Km): 476E/3826N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

CEMEX Construction Materials Pacific LLC
16888 North E Street
Victorville, CA 92392

By: **COPY**
Brad Poiriez
Executive Director

UNOFFICIAL

Capacity	Equipment Description
0	Pan Conveyor
0	Screw Conveyors
0	Feeders
0	Coal Mill (Raymond Mill FCM4 Bin)
0	Primary Air Fan
0	Drag Conveyors
0	Clinker Breakers
0	Clinker Cooler Fans
22.95	Discharge Gate Drives

CONDITIONS:

1. The owner/operator (o/o) shall install, operate and maintain the equipment described on this permit in compliance with all data and specifications submitted with the application under which this permit is issued unless specifically exempted in other conditions herein.
[District Rule 204, 40 CFR 52.220(c)(39)(ii)(B), 40 CFR 70.6(a)(3)(B)]

2. This equipment shall not be operated unless it is vented to the properly functioning baghouses GBH3, HBH25, FBH4 under valid District permit numbers C007368, C007347, C007359.
[District Rule 204, 40 CFR 52.220(c)(39)(ii)(B), 40 CFR 70.6(a)(3)(B)]

3. The sulfur content requirements of Rule 431 shall be complied with through the SOx emissions limits presented below, in accordance with Rule 431(g).
[District Rules 204 and 431, 40 CFR 52.220(c)(39)(ii)(B), 40 CFR 70.6(a)(3)(B)]

4. The emissions from Kiln Q3, on any fuel or mix of fuels, shall not exceed any of the following mass limits in pounds per ton of clinker, calculated on a rolling 30 calendar day average basis and verified by CEMS and CERMS data:
a. NOx - 1.95
b. SOx (as SO2) - 0.35
c. VOC - 0.12
d. TSP (Kiln Stack) - 0.14 (Total PM; Filterable and Condensable)
e. PM - 0.07 (Filterable PM; pursuant to Subpart LLL)
f. CO - 2.9
[Case No. ED CV 07-00223-GW (JCRx) CONSENT DECREE, 40 CFR 63 Subpart LLL]

5. The requirements for oxides of nitrogen above shall not apply during start-up, during the first 36 hours of operation following start-up, or during the 36 hours immediately proceeding shut-down. During those calendar days with hours of start-up and shutdown activity, the total oxides of nitrogen from Q2 and Q3 shall not exceed those described below.
[District Rule 204]

6. The combined NOx emissions from Kilns Q2 and Q3, on any fuel or mix of fuels, shall not exceed 19,314 lbs. per Day of Operation, defined as midnight to midnight.
[Case No. ED CV 07-00223-GW (JCRx) CONSENT DECREE]

7. The combined emissions from all permitted combustion sources, including but not limited to Kilns Q2 and Q3 and Burners on Roll Press 1 and 2, on any fuel or mix of fuels, shall not exceed the following daily (midnight to midnight) limits, calculated on a rolling thirty (30) day arithmetic average basis:
a. NOx - 19,314 lbs (verified by CEMS and CERMS for kiln and Source Test and Production Logs for Roll Press Burners and other combustion sources) on and after October 1, 2009
b. SOx - 4,220 lbs (verified by CEMS and CERMS for kiln and Source Test and Production Logs for Roll Press Burners and other combustion sources)
c. CO - 27,522 lbs (verified by CEMS and CERMS for kiln and Source Test and Production Logs for Roll Press Burners and other

combustion sources)
d. VOC - 2,139 lbs (verified by annual source test and CERMS for kiln and Source Test and Production Logs for Roll Press Burners and other combustion sources)
e. Main Stack TSP - 1,435 lbs (verified by annual source test and CERMS for kiln and Source Test and Production Logs for Roll Press Burners and other combustion sources)
f. Clinker Cooler Stack TSP (Q2 clinker cooler only) - 699 lbs (verified by annual source test and clinker production)
[District Rule 204]

8. The daily emissions for each operating day for kiln Q3 shall be recorded and/or calculated in a manner approved by the District. The data shall be submitted to the District within 30 days of the end of each calendar quarter.

9. The emissions of CO, NOx, SOx and O2 for kiln Q3 shall be monitored using a Continuous Emissions Monitoring System (CEMS). The stack gas volumetric flow rate shall be monitored using a Continuous Emission Rate Monitoring System (CERMS). The stack gas PM shall be monitored using a Continuous Parametric Monitoring System (CPMS). This equipment shall be operated in compliance with a District-approved 40 CFR 60 Appendix F CEMS/CERMS quality assurance and operational protocol.

10. The following are the acceptability testing requirements for the CEMS, CERMS:
a. For SO2 and NOx CEMS - Performance Specification 2 of 40 CFR 60, appendix B;
b. For O2 CEMS - Performance Specification 3 of 40 CFR 60, appendix B;
c. For CO CEMS - Performance Specification 4 of 40 CFR 60, appendix B; and
d. For CERMS - Performance Specification 6 of 40 CFR 60, appendix B.
CEMS and CERMS have the same meaning as in condition 4 above.

11. The o/o shall submit a written report of excess emissions to the District Compliance Supervisor for every calendar quarter. All of these quarterly reports shall be postmarked by the 30 day following the end of the quarter.

12. The o/o shall maintain a current, on-site daily operational log for Kiln Q3 for a minimum of five (5) years, and shall provide the operations log to District, State or Federal personnel on request. The operational log shall, at a minimum, contain the information specified below:
a. Hours of operation, including specific hours in start-up and shutdown;
b. Dates of routine maintenance;
c. Dates of major repairs, replacements and scheduled shut-downs;
d. For each hour: Type of fuel being used, the Btu/h of each fuel, and the percent of total Btu feed for each fuel;
e. Tons of raw material, excluding coal, charged to the kiln;
f. Mass of alternative, engineered and supplemental fuel burned, by type;
g. Tons of clinker produced (this datum shall be calculated by an equation similar to the following, which is used for kiln Q2: Clinker, t/h = kiln feed scale reading x 0.89 x F 1/1.575 ; where 0.89 is the known efficiency of stage 1, F is a correction factor for the actual weight of clinker and 1/1.575 is the conversion factor from ton of feed to ton of clinker all of which will be incorporated into the software for the emissions measurement instrumentation).
h. Daily NOx, SOx, CO, VOC emissions of Kiln Q3 (in units of pounds and pounds per ton of clinker).
i. Missing CEMS data substituted as per 40 CFR 75 Subpart D.

13. The District shall approve of the number, placement, access to, and the material of construction for all sampling ports, lines and permanent probes. The District shall also approve any and all utilities which may be necessary for any and all sample collections and measurements required for compliance demonstrations.

14. This unit may be fueled or fired with coal, natural gas, fuel oil, petroleum coke, alternative fuel, supplemental fuel and engineered fuel (as specifically allowed in these conditions). All emission limitations specified in these conditions apply irrespective of fuel or fuel mixture. A source test is required for each alternative, supplemental, or engineered fuel at the maximum hourly burn rate to ensure continued compliance with 40 CFR 63, Subpart LLL and to quantify toxic emissions for the AB2588 Hot Spots program. This source test is required prior to the introduction of 30,000 tons of each alternative, supplemental or engineered fuel marked with an asterisk (*) in these conditions.

15. This equipment may be fired with alternative, engineered and supplemental fuels. Any use of alternative, engineered or supplemental fuels shall be reflected on the daily log on an individual category basis, including date of use, amount used, rate of use, and cumulative annual use to date. Alternative, engineered and supplemental fuels shall be limited to those materials which can be characterized as not solid waste when combusted non-hazardous secondary materials as defined by 40 CFR section 241.3(b), verified by written certification from the supplier (or the equivalent), and which certification will be retained as part of the log. The following materials and rates are allowed:
a. From Cemex California operations including containers: dust collector bags, absorbents, adsorbents, lubricants, shop rags, used oil filters and LUST remediation sand - as up to 5.5 lb/ton of kiln feed.
b. Tire Derived Fuel (TDF) (including whole and shredded tires with or without the steel belt material (tire fluff)) - as up to 29% of the total Btu kiln feed rate for any hour or 26% on a 24-hour average basis (the TDF may be injected/catapulted into the front end of the kiln, or introduced at the kiln feed shelf via a chute, or suspended in the tertiary air combustor (TAC) in the tertiary air duct (TAD).
c. Plastics* (including polyethylene plastics used in agriculture and silviculture which may include incidental amounts of chlorinated plastics).
d. Biosolids - at up to 9.5 tons per hour (introduced into the kiln pneumatically with fully enclosed ducts or tubing).
e. Cellulosic Biomass Untreated* (including untreated lumber, tree stumps, tree limbs, slash, bark, sawdust, sander dust, wood chip scraps, wood scraps, wood slabs, wood millings, wood shavings and processed pellets made from wood or other forest residue) - as up to 40% of the total Btu kiln feed rate on a 24 hour average basis (injected/catapulted into the front end of the kiln, or introduced at the kiln feed shelf via a chute, or suspended in the TAC in the TAD.
f. Refuse Derived Fuels (RDF) (generated from residential domestic waste and other non-hazardous waste, and including post-recycled paper, cardboard, plastics, and fabrics) - at up to 15 tons per hour (introduced pneumatically with fully enclosed dusts or tubing into the calciner or kiln front end).
g. Horse Bedding* (including wood chips, horse urine and horse manure that is blended with saw dust as needed).
h. Cellulosic Biomass Treated* (including preservative treated wood (which may include treatments such as creosote, copper-chromium-arsenic (CCA), alkaline-copper-quaternary (ACQ)), painted wood, resinated woods (plywood, particle board, medium density fiberboard, oriented strand board, laminated beams, finger-jointed trim and other sheet goods).
i. Roofing Material* (including non-asbestos containing roofing shingles and related roofing materials with the bulk of the incombustible grit material removed).
j. Agricultural Biogenic Materials* (including pistachio shells, almond shells, peanut hulls, rice hulls, corn husks, citrus peels, cotton gin by-products, animal bedding and other similar types of materials).
k. Carpet Derived Fuel* (including shredded new, reject or used carpet materials).
l. Alternative Fuel Mix* (including a blended combination of otherwise allowed materials).
m. Engineered Fuel* (fuel engineered to have targeted, consistent fuel properties such as caloric value, moisture, particle size, ash content and volatility. Controlled through blending of non-hazardous combustible materials or through separation of non-hazardous incombustible materials from combustible materials. Engineered largely from post recycled paper, cardboard, plastics, fabrics, animal meal, automotive manufacturing secondary material, clean-up debris from natural disasters, processed municipal solid waste, paint filter cake, non-infectious hospital materials, pharmaceuticals, cosmetics and confiscated narcotics.
n. Additional Non-Hazardous Alternative Fuels Not Specifically Listed* (non-hazardous alternative fuels not otherwise listed that burn with similar characteristics to the fuels already authorized, do not cause an increase in any regulated pollutant emissions, and do not contain hazardous metals or chlorine in concentrations above those found in the fuels already authorized).

16. The o/o shall perform the following compliance test in accordance with District approved test plan and the MDAQMD Compliance Test Procedural Manual. The following compliance tests are required once every twelve (12) months:
a. VOC (Q3 main kiln stack) as CH4 in ppmvd, lbs/hr and lbs/ton of clinker (measured per USEPA Reference Methods 25A and 18 or the equivalent); and,
b. TSP (Q3 main kiln stack) in mg/m3, lbs/hr and lbs/ton of clinker (measured per USEPA Reference Method 5 and 202, or CARB Method 5)
c. Dioxins/Furans (D/F) tests shall occur at a minimum of once every 30 calendar months from the date of the preceding test; fuel input to Kiln Q3 shall NTE 15 tph [40 CFR 63 Subpart LLL 63.1349]. These tests shall be conducted per USEPA Reference Method 23 of Appendix A to 40 CFR Part 60, the limit is 0.20 ng/dscm (8.7 x10 -11 gr per dscf) toxic equivalency factor (TEQ); results shall be provided in ng per dscm (TEQ).
[Rule 204; 40 CFR 63 Subpart LLL]

The owner/operator must submit a compliance/certification test protocol at least thirty (30) days prior to the compliance/certification test date. The owner/operator must conduct all required compliance/certification tests in accordance with a District-approved test protocol. The owner/operator must notify the District a minimum of ten (10) days prior to the compliance/certification test date so that an observer may be present. The final compliance/certification test results must be submitted to the District within forty-five (45) days of completion of the test. All compliance/certification test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov.

Source testing for alternative, supplemental and engineered fuels shall be performed at the maximum desired hourly feed rate of each

fuel and:
a. Shall include dioxin/furan (and HCl when HCl emissions are not continuously monitored) using EPA method 23 and otherwise pursuant to 40 CFR 63 Subpart LLL.
b. Shall include all other air toxic emissions pursuant to 40 CFR 63 Subpart LLL and/or CARB/EPA test methods for those compounds associated with cement manufacturing per the AB2588 Hot Spots Program.
c. If the results of the source test indicate that there is no increase in air toxic emissions, then no further action is required. If the results of the source test indicate that there is an increase in air toxic emissions, the o/o shall conduct a Prioritization Score analysis pursuant to the most recently approved CAPCOA Facility Prioritization Guidelines, the most recently approved OEHHA Unit Risk Factor for cancer potency factors, and the most recently approved OEHHA Reference Exposure Levels for non-cancer acute and non-cancer chronic factors. If all Prioritization Scores indicate that the Kiln is categorized as Low or Intermediate Priority no further action is required. If the Prioritization Score indicates that the Kiln is categorized High Priority, the o/o shall conduct a Health Risk Assessment pursuant to District Rule 1320 and adhere to the requirements and procedures of that rule.
[District Rule 1302; District Rule 1320; 40 CFR 63 Subpart LLL]

17. The o/o shall comply with good pollution control practices at Kiln Q3 in accordance with 40 CFR 60.11(d) during kiln operation (kiln combustion).
[District Rule 204, 40 CFR 60.11(d)]

18. By January 30 and July 30 of each year, the o/o shall submit a semi-annual report to the District and USEPA for the preceding six months that includes the following (and shall retain on-site and provide to District, State or Federal personnel upon request this information until directed to cease such retention by the above-referenced consent decree):
a. The date on which the Kiln Q3 NOx control technology commenced continuous operation (as defined in the consent decree referenced above), or the status of installation progress including milestone dates, installation problems and implemented or proposed solutions;
b. All CEMS data;
c. Demonstration of compliance with all applicable rolling 30-day average limits;
d. Demonstration of compliance with all daily limits;
e. Status of permit (including FOP) applications and permit modifications;
f. The description of any non-compliance with the above-referenced consent decree, the cause, and remedial steps taken or proposed.

19. The o/o shall introduce sufficient 19% aqueous ammonia as part of a selective non-catalytic reduction (SNCR) system at injection points shown on Cemex Drawings 530-16-02-002 and 530-16-02-003 to ensure compliance with the NOx emission limits specified above.

20. A facility wide Comprehensive Emission Inventory (CEI) for all emitted criteria and toxic air pollutants must be submitted to the District, in a format approved by the District, upon District request.
[District Rule 107(b); H&S Code 39607 & 44341-44342; 40 CFR 51, Subpart A]