

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

January 30, 2004

**NEW SOURCE REVIEW PERMIT TO INSTALL
262-99A**



ISSUED TO
St. Mary's Cement Inc. (U.S.)

LOCATED AT
9333 Dearborn Street
Detroit, Michigan

IN THE COUNTY OF
Wayne

**STATE REGISTRATION NUMBER
B3567**

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Part 5505(1) of Article II, Chapter I, Part 55 (Air Pollution Control) of P.A. 451 of 1994. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

| | |
|---|------------|
| DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: July 9, 2003 | |
| DATE PERMIT TO INSTALL APPROVED: January 30, 2004 | SIGNATURE: |
| DATE PERMIT VOIDED: | SIGNATURE: |
| DATE PERMIT REVOKED: | SIGNATURE: |

Table of Contents

| Section | Page |
|--|-------------|
| Alphabetical Listing of Common Abbreviations/Acronyms..... | 2 |
| General Conditions..... | 3 |
| Emission Unit Identification | 5 |
| Flexible Group Identification | 6 |
| Emission Unit Special Conditions | 6 |
| Flexible Group Special Conditions | 8 |
| Appendices..... | 15 |

Alphabetical Listing of Common Abbreviations/Acronyms used in this Permit to Install.

| Common Acronyms | | Pollutant/Measurement Abbreviations | |
|-----------------|---|-------------------------------------|--|
| AQD | Air Quality Division | °C | Degrees Celsius |
| BACT | Best Available Control Technology | CO | Carbon Monoxide |
| CAA | Clean Air Act | °F | Degrees Fahrenheit |
| CEM | Continuous Emission Monitoring | BTU | British Thermal Unit |
| CFR | Code of Federal Regulations | dscf | Dry standard cubic foot |
| COM | Continuous Opacity Monitoring | dscm | Dry standard cubic meter |
| EPA | Environmental Protection Agency | gr | Grains |
| EU | Emission Unit | Hg | Mercury |
| GACS | Gallon of Applied Coating Solids | hr | Hour |
| GC | General Condition | H ₂ S | Hydrogen Sulfide |
| HAP | Hazardous Air Pollutant | HP | Horsepower |
| HVLP | High Volume Low Pressure * | Lb | Pound |
| ID | Identification | M | Meter |
| LAER | Lowest Achievable Emission Rate | mm | Millimeter |
| MACT | Maximum Achievable Control Technology | MM | Million |
| MAP | Malfunction Abatement Plan | MW | Megawatts |
| MDEQ | Michigan Department of Environmental Quality | NO _x | Oxides of Nitrogen |
| MSDS | Material Safety Data Sheet | PM | Particulate Matter |
| NESHAP | National Emission Standard for Hazardous Air Pollutants | PM10 | Particulate Matter less than 10 microns diameter |
| NSPS | New Source Performance Standards | pph | Pound per hour |
| NSR | New Source Review | ppm | Parts per million |
| PSD | Prevention of Significant Deterioration | ppmv | Parts per million by volume |
| PTE | Permanent Total Enclosure | psia | Pounds per square inch absolute |
| PTI | Permit to Install | psig | Pounds per square inch gauge |
| RACT | Reasonable Available Control Technology | scf | Standard cubic feet |
| SC | Special Condition | sec | Seconds |
| SCR | Selective Catalytic Reduction | SO ₂ | Sulfur Dioxide |
| SRN | State Registration Number | THC | Total Hydrocarbons |
| TAC | Toxic Air Contaminant | tpy | Tons per year |
| VE | Visible Emissions | µg | Microgram |
| | | VOC | Volatile Organic Compounds |
| | | yr | Year |

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

Supplement to Permit No. 262-99A

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, altered, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **[R336.1201(1)]**
2. If the installation, reconstruction, relocation, or alteration of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the person to whom this permit was issued, or the designated authorized agent, shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, PO Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or alteration of the equipment allowed by this Permit to Install. **[R336.1201(4)]**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **[R336.1201(6)(b)]**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **[R336.1201(8), Section 5510 of Act 451, PA 1994]**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R336.1219. The written request shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **[R336.1219]**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **[R336.1901]**
7. The owner or operator of a source, process, or process equipment shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant in excess of standards for more than one hour, or of any air contaminant in excess of standards for more than two hours, as required in this rule, to the District Supervisor, Air Quality Division. The notice shall be provided no later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the District Supervisor within ten days, with the information required in this rule. **[R336.1912]**
8. Approval of this permit does not exempt the person to whom this permit was issued from complying with any future applicable requirements which may be promulgated under Part 55 of Act 451, PA 1994 or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of Act 451, PA 1994, and the rules promulgated thereunder.
11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R336.1301, a person shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R336.1303. **[R336.1301]**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this permit to install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R336.1370(2). **[R336.1370]**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R336.2001 and R336.2003, under any of the conditions listed in R336.2001. **[R336.2001]**

SPECIAL CONDITIONS
Emission Unit Identification

| Emission Unit ID | Emission Unit Description | Stack Identification |
|--|--|--------------------------------|
| EU-001 | Slag Dryer with 60000 acfm Dust Collector | SV-S01 |
| EU-002 | Dry Slag Bin with 4000 acfm Dust Collector | N/A |
| EU-003 | Belt Conveyor with 6000 acfm Dust Collector | N/A |
| EU-004 | Mill Separator #1 with 78000 acfm Dust Collector | SV-S02 |
| EU-005 | #1 Mill with 17600 acfm Dust Collector | SV-S03 |
| EU-006 | Bucket Elevator with 3000 acfm Dust Collector | N/A |
| EU-007 | Pneumatic Pump with 2500 acfm Dust Collector | N/A |
| EU-008 | Packing Silo A with 5000 acfm Dust Collector | SV-S04 |
| EU-009 | Packing Silo B with 5000 acfm Dust Collector | SV-S05 |
| EU-010 | Cement Packer A with 8000 acfm Dust Collector | N/A |
| EU-011 | Cement Packer B with 7000 acfm Dust Collector | N/A |
| EU-012 | Cement Packer C with 7000 acfm Dust Collector | N/A |
| EU-013 | Bulk Silos #1 with 7500 acfm Dust Collector | SV-S06 |
| EU-014 | Bulk Silos #2 with 7500 acfm Dust Collector | SV-S07 |
| EU-015 | Clinker Finish Conveyor #1 with 2400 acfm Dust Collector and 4000 acfm Dust Collector | N/A |
| EU-016 | Clinker Finish Conveyor #2 with 2400 acfm Dust Collector and 4000 acfm Dust Collector | N/A |
| EU-017 | Mill Separator #2 with 20000 acfm Dust Collector | SV-S08 |
| EU-018 | Mill Separator #3 with 20000 acfm Dust Collector | SV-S09 |
| EU-019 | Mill #2 with 14000 acfm Dust Collector | SV-S10 |
| EU-020 | Mill #3 with 17000 acfm Dust Collector | SV-S11 |
| EU-021 | Truck Loading Silo #1 with 2700 acfm Dust Collector | N/A |
| EU-021a | Truck Loading Silo #2 with 2700 acfm Dust Collector | N/A |
| EU-022 | Rail Loading Silo with 2700 acfm Dust Collector | N/A |
| EU-023 | #12 Belt Conveyor with 20000 acfm Dust Collector | N/A |
| EU-024 | Material Transfer Dust Collection with 7000 acfm Dust Collector | N/A |
| EU-025 | Barge Unloading System with 3000 acfm Dust Collector | N/A |
| EU-026 | Barge Unloading System with 12000 acfm Dust Collector | N/A |
| EU-027 | 1.25 MMBTU per hour Hot Water Heater | N/A |
| EU-028 | 2.0 MMBTU per hour Boiler | N/A |
| EU-029 | Silo #25 with Vent Dust Collector | SV-S12 |
| EU-030 | Silo #47 with Vent Dust Collector | SV-S13 |
| EU-031 | Fugitive Dust sources associated with plant roadways and material storage piles at the stationary source | Fugitive |
| EU-032, EU-033, EU-034, EU-035, EU-036, EU-037, EU-038, EU-039 | Eight 0.060 MMBtu per hour Radiant Space Heaters | N/A |
| EU-040 | Silo at Brennan Street with 3500 acfm Dust Collector | SV-S14 |
| EU-041, EU-042, EU-043, EU-044 | Four Silos at Brennan Street each with a 3400 acfm Dust Collector | SV-S15, SV-S16, SV-S17, SV-S18 |

N/A -Indicates the emissions are vented to the indoor atmosphere.

Changes to the equipment described in this table are subject to the requirements of R336.1201, except as allowed by R336.1278 to R336.1290.

Flexible Group Identification

| Flexible Group ID | Emission Units Included in Flexible Group | Stack Identification |
|--------------------------|--|-----------------------------|
| FG-001 | EU-001, EU-002, EU-003, EU-004, EU-005, EU-006, EU-007, EU-008, EU-009, EU-010, EU-011, EU-012, EU-013, EU-014, EU-015, EU-016, EU-017, EU-018, EU-019, EU-020, EU-021, EU-022, EU-023, EU-024, EU-025, EU-026, EU-029, EU-030, EU-040, EU-041, EU-042, EU-043, EU-044 | N/A |
| FG-002 | EU-027, EU-028, EU-032, EU-033, EU-034, EU-035, EU-036, EU-037, EU-038, EU-039 | N/A |
| FG-003 | EU-025, EU-026 | N/A |
| FGFACILITY | All equipment at the facility including equipment covered by other permits, grand-fathered equipment and exempt equipment. | N/A |

The following conditions apply to: EU-001

Material Usage Limits

- 1.1 Permittee shall not exceed a combined 657 billion British thermal units of heat input of natural gas and no. 2 fuel oil combusted through EU-001 per 12-month rolling time period as determined at the end of each calendar month. **[R336.1205(1)(a) and (3)]**
- 1.2 Permittee shall not exceed a 1,542,857 gallons of no. 2 fuel oil combusted in EU-001 per 12-month rolling time period as determined at the end of each calendar month. **[R336.1205(1)(a) and (3)]**
- 1.3 The sulfur content of the no. 2 fuel oil combusted in EU-001 shall not exceed 0.30 percent by weight. **[R336.1205(1)(a) and (3), R336.1402]**

Testing

- 1.4 The heat content and sulfur content determinations for each shipment of no. 2 fuel oil as received for EU-001 shall be performed with test methods and in a manner acceptable to the District Supervisor, Air Quality Division. **[R336.1205(1)(a) and (3), R336.1402]**

Monitoring

- 1.5 The permittee shall monitor, in a satisfactory manner, the natural gas usage for EU-001 on a monthly basis. **[R336.1205(1)(a) and (3)]**
- 1.6 The permittee shall monitor, in a satisfactory manner, the no. 2 fuel oil usage for EU-001 on a monthly basis. **[R336.1205(1)(a) and (3)]**

Recordkeeping/Reporting/Notification

- 1.7 The permittee shall maintain a written record of the combined heat input of natural gas and no. 2 fuel oil combusted in EU-001 for each calendar month and each 12-month rolling time period as determined at the end of each calendar month. Each written record shall be maintained for a period of at least five years and made available to the Air Quality Division upon request. **[R336.1205(1)(a) and (3)]**

- 1.8 The permittee shall maintain a written record of the amount of natural gas combusted in EU-001 for each calendar month and each 12-month rolling time period as determined at the end of each calendar month. Each written record shall be maintained for a period of at least five years and made available to the Air Quality Division upon request. **[R336.1205(1)(a) and (3)]**
- 1.9 The permittee shall maintain a written record of the amount of no. 2 fuel oil combusted in EU-001 for each calendar month and each 12-month rolling time period as determined at the end of each calendar month. Each written record shall be maintained for a period of at least five years and made available to the Air Quality Division upon request. **[R336.1205(1)(a) and (3)]**
- 1.10 The permittee shall maintain a written record of the heat content, percent sulfur by weight and the amount of fuel oil received for each shipment of no. 2 fuel oil received for EU-001. Each written record shall be maintained for a period of at least five years and made available to the Air Quality Division upon request. **[R336.1205(1)(a) and (3), R336.1402]**

The following conditions apply to: EU-031

Emission Limits

| | Pollutant | Equipment | Limit | Time Period | Testing/ Monitoring Method | Applicable Requirement |
|-----|------------------|------------------|--------------|---|---|-----------------------------------|
| 2.1 | PM | EU-031 | 1.0 tpy | 12-month rolling time period as determined at the end of the calendar month | S.C. 2.2, 2.3, 3.7 | R336.1205(1)(a) and (3) |

Visible Emission Limits

- 2.2 Visible emissions from each of the gypsum, limestone, and slag storage piles within EU-031, shall not exceed five (5) percent opacity. **[R 336.1205(1)(a), R 336.1301(1)(c)]**
- 2.3 Visible emissions from all wheel loaders and all truck traffic within EU-031, shall not exceed five (5) percent opacity. **[R 336.1205(1)(a), R 336.1301(1)(c)]**

Recordkeeping/Reporting/Notification

- 2.4 The permittee shall calculate particulate emissions from EU-31 based on the most recent 12-month rolling time period as determined at the end of each calendar month. The particulate emissions from EU-031 shall be calculated using the current U.S. Environmental Protection Agency's Compilation of Air Pollutant Emission Factors (AP-42) or other emission factors approved by the Department such as those used in the Michigan Air Emissions Reporting System (MAERS). A written record of particulate emissions from EU-031 shall be kept on file for a period of at least five years and made available to the Department upon request. **[R336.1205(1)(a) and (3)]**
- 2.5 The permittee shall maintain a written record of the visible emission observations. Each written record shall be maintained for a period of at least five years and made available to the Air Quality Division upon request. **[R336.1205(1)(a) and (3)]**

The following conditions apply to: FG-001

Emission Limits

| | Pollutant | Equipment | Limit | Time Period* | Testing/ Monitoring Method | Applicable Requirement |
|------|------------------|------------------|--|---------------------|---|-----------------------------------|
| 3.1a | NO _x | EU-001 | 37.5 tpy | 12-month rolling | See "Method #1" below | R336.1205(1)(a) and (3) |
| 3.1b | CO | EU-001 | 27.6 tpy | 12-month rolling | See "Method #2" below | R336.1205(1)(a) and (3) |
| 3.1c | PM | EU-001 | 0.0218 pounds per 1000 pounds of dry exhaust gas | Test Protocol | S.C. 3.6 | R336.1331 |
| 3.1d | PM | EU-001 | 0.60 pph | Test Protocol | S.C. 3.6 | R336.1205(1)(a) and (3) |
| 3.1e | PM | EU-002 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1f | PM | EU-002 | 0.17 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1g | PM | EU-003 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1h | PM | EU-003 | 0.26 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1i | PM | EU-004 | 0.0114 pounds per 1000 pounds of dry exhaust gas | Test Protocol | S.C. 3.6 | R336.1331 |
| 3.1j | PM | EU-004 | 0.48 pph | Test Protocol | S.C. 3.6 | R336.1205(1)(a) and (3) |
| 3.1k | PM | EU-005 | 0.0122 pounds per 1000 pounds of dry exhaust gas | Test Protocol | S.C. 3.6 | R336.1331 |
| 3.1l | PM | EU-005 | 0.08 pph | Test Protocol | S.C. 3.6 | R336.1205(1)(a) and (3) |
| 3.1m | PM | EU-006 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1n | PM | EU-006 | 0.13 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1o | PM | EU-007 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1p | PM | EU-007 | 0.11 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1q | PM | EU-008 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |

| | Pollutant | Equipment | Limit | Time Period* | Testing/ Monitoring Method | Applicable Requirement |
|-------|------------------|-----------------------|--|---------------------|---|-----------------------------------|
| 3.1r | PM | EU-008 | 0.49 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1s | PM | EU-009 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1t | PM | EU-009 | 0.49 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1u | PM | EU-010 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1v | PM | EU-010 | 0.69 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1w | PM | EU-011 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1x | PM | EU-011 | 0.69 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1y | PM | EU-012 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1z | PM | EU-012 | 0.49 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1aa | PM | EU-0013 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1ab | PM | EU-013 | 0.74 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1ac | PM | EU-014 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1ad | PM | EU-014 | 0.74 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1ae | PM | EU-015 2400 fpm dc | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1af | PM | EU-015 2400 fpm dc | 0.24 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1ag | PM | EU-015 4000 fpm dc | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1ah | PM | EU-015 4000 fpm dc | 0.99 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1ai | PM | EU-016 2400 fpm dc | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1aj | PM | EU-016 2400 fpm dc | 0.24 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |

| | Pollutant | Equipment | Limit | Time Period* | Testing/ Monitoring Method | Applicable Requirement |
|-------|------------------|-----------------------|--|---------------------|---|-----------------------------------|
| 3.1ak | PM | EU-016 4000 fpm dc | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1al | PM | EU-016 4000 fpm dc | 0.99 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1am | PM | EU-017 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1an | PM | EU-017 | 1.97 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1ao | PM | EU-018 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1ap | PM | EU-018 | 1.97 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1aq | PM | EU-019 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1ar | PM | EU-019 | 1.38 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1as | PM | EU-020 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1at | PM | EU-020 | 1.68 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1au | PM | EU-021 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1av | PM | EU-021 | 0.27 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1aw | PM | EU-022 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1ax | PM | EU-022 | 0.27 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1ay | PM | EU-023 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1az | PM | EU-023 | 1.97 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1ba | PM | EU-024 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1bb | PM | EU-024 | 0.69 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1bc | PM | EU-025 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |

| | Pollutant | Equipment | Limit | Time Period* | Testing/ Monitoring Method | Applicable Requirement |
|-------|------------------|------------------|--|---------------------|---|-----------------------------------|
| 3.1bd | PM | EU-025 | 0.30 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1be | PM | EU-026 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1bf | PM | EU-026 | 1.18 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1bg | PM | EU-029 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1bh | PM | EU-029 | 0.37 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1bi | PM | EU-030 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1bj | PM | EU-030 | 0.37 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1bk | PM | EU-040 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1bl | PM | EU-040 | 0.35pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1bm | PM | EU-041 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1bn | PM | EU-041 | 0.34 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1bo | PM | EU-042 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1bp | PM | EU-042 | 0.34 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1bq | PM | EU-043 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1br | PM | EU-043 | 0.34 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |
| 3.1bs | PM | EU-044 | 0.022 pounds per 1000 pounds of dry exhaust gas | Test Protocol | G.C. 13 | R336.1331 |
| 3.1bt | PM | EU-044 | 0.34 pph | Test Protocol | G.C. 13 | R336.1205(1)(a) and (3) |

| Pollutant | Equipment | Limit | Time Period* | Testing/ Monitoring Method | Applicable Requirement |
|---|-----------|-------|--------------|----------------------------------|------------------------|
| <p>*Time Periods: 12-month rolling shall be determined at the end of each calendar month.</p> <p><u>Method #1 (for NO_x):</u> Limit based on an emission factor of 100 pounds per million cubic feet of natural gas and 20 pounds per thousand gallons of fuel oil, or other emission factor as determined from testing pursuant to General Condition 13, whichever is higher. The permittee shall use the emission factor along with the hours of operation requirement (S.C. 3.7) and fuel use requirements (S.C. 1.8 and 1.9) to determine the 12-month rolling time period rate.</p> <p><u>Method #2 (for CO):</u> Limit based on an emission factor of 84 pounds per million cubic feet of natural gas and 5 pounds per thousand gallons of fuel oil, or other emission factor as determined from testing pursuant to General Condition 13, whichever is higher. The permittee shall use the emission factor along with the hours of operation requirement (S.C. 3.7) and fuel use requirements (S.C. 1.8 and 1.9) to determine the 12-month rolling time period rate.</p> | | | | | |

Visible Emission Limits

3.2 Visible emissions from each emission unit within FG-001 shall not exceed a 6-minute average of 10 percent opacity. [R336.1205(1)(a), R336.1301(1)(c)]

Process/Operational Limits

3.3 The permittee shall limit the hours of operation of FG-001 to not more than the hours listed in Table 1 of Appendix No. 1 per 12-month rolling time period as determined at the end of each calendar month. [R336.1205(1)(a) and (3)]

3.4 The permittee shall not operate FG-001 unless the dust collector associated with the emission unit is installed and operating properly. [R336.1224, R336.1225, R336.1910]

Testing

3.5 Visible emissions observations shall be conducted on a periodic basis. If abnormal visible emissions are observed, a formal Federal Reference Method 9 observation shall be conducted pursuant to 40 CFR 60 Appendix A. [R336.1331(1)(c)]

3.6 Verification of particulate matter (PM) emission rates from EU-001, EU-004, and EU-005 by testing at owner's expense, in accordance with Department requirements, will be required. The permittee must complete the test once within the next 2 years of permit issuance and once every five years thereafter. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. [R336.2001, R336.2003, R336.2004]

Recordkeeping / Reporting / Notification

3.7 The permittee shall maintain a written record of the hours of operation of each emission unit within FG-001 for each calendar month and each 12-month rolling time period as determined at the end of each calendar month. Each written record shall be maintained for a period of at least five years and made available to the Air Quality Division upon request. [R336.1205(1)(a) and (3)]

- 3.8 The permittee shall maintain a written record of the visible emission observations. Each written record shall be maintained for a period of at least five years and made available to the Air Quality Division upon request. [R336.1331]
- 3.9 The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period NOx emission calculation records for FG-001. All records shall be kept on file for a period of at least five years and made available to the Department upon request. [R336.1205(1)(a) and (3)]
- 3.10 The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period CO emission calculation records for FG-001. All records shall be kept on file for a period of at least five years and made available to the Department upon request. [R336.1205(1)(a) and (3)]
- 3.11 The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period PM emission calculation records for FG-001. All records shall be kept on file for a period of at least five years and made available to the Department upon request. [R336.1205(1)(a) and (3)]

Stack/Vent Restrictions

| | Stack & Vent ID | Maximum Diameter (inches) | Minimum Height Above Ground Level (feet) | Applicable Requirement |
|--|----------------------------|----------------------------------|---|-------------------------------|
| 3.12a | SV001 | 60 | 130 | 40 CFR 52.21(c) and (d) |
| 3.12b | SV002 | 72 | 145 | 40 CFR 52.21(c) and (d) |
| 3.12c | SV003 | 18 | 89.5 | 40 CFR 52.21(c) and (d) |
| The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air. Additional text, descriptions, stack/vent conditions, etc. as needed. | | | | |

The following conditions apply to: FG-002

Process/Operational Limits

- 4.1 The permittee shall combust only natural gas in each emission unit within FG-002. [R336.1205(1)(a)]

The following conditions apply to: FG-003

Process/Operational Limits

- 5.1 The maximum combined cement clinker unloading rate from emission units of FG-003 shall not exceed 2200 tons per hour. [R336.1205(1)(a)]

Recordkeeping / Reporting / Notification

- 5.2 The permittee shall maintain a written record of the amount of combined cement clinker received from EU-025 and EU-026. Each written record shall be maintained for a period of at least five years and made available to the Air Quality Division upon request. [R336.1205(1)(a) and (3)]

The following conditions apply to: FGFACILITY

Emission Limits

| | Pollutant | Equipment | Limit | Time Period | Testing/ Monitoring Method | Applicable Requirement |
|------|------------------|------------------|--------------|--|---|-----------------------------------|
| 6.1a | PM ₁₀ | FGFACILITY | 86.7 tpy | 12-month rolling time period as determined at the end of each calendar month | G.C. 13 S.C. 6.2 | R336.1205(1)(a) and (3) |

Recordkeeping / Reporting / Notification

- 6.2 The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period PM emission calculation records for FGFACILITY. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **[R336.1205(1)(a) and (3)]**
- 6.3 The permittee shall implement and maintain a Malfunction Abatement Plan/Preventive Maintenance Program for FGFACILITY as approved by the District Supervisor, Air Quality Division. **[R336.1910, R336.1911, R336.1912]**
- 6.4 The permittee shall implement and maintain a Fugitive Dust Plan for FGFACILITY as approved by the District Supervisor, Air Quality Division. **[R336.1910, R336.1911, R336.1912]**

Appendix No. 1

Table 1: Hours of Operation

| Emission Unit | Hours of Operation |
|----------------------|---------------------------|
| EU-008 | 2500 |
| EU-009 | 2500 |
| EU-010 | 5000 |
| EU-011 | 4000 |
| EU-012 | 4000 |
| EU-013 | 7500 |
| EU-014 | 7500 |
| EU-015 | 8400 |
| EU-016 | 8400 |
| EU-017 | 8400 |
| EU-018 | 8400 |
| EU-019 | 8400 |
| EU-020 | 8400 |
| EU-021 | 3000 |
| EU-021a | 3000 |
| EU-022 | 3000 |
| EU-023 | 8400 |
| EU-024 | 8400 |
| EU-025 | 2000 |
| EU-026 | 2000 |
| EU-029 | 7500 |
| EU-030 | 7500 |