MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION

October 28, 2021

PERMIT TO INSTALL
83-21

ISSUED TO
Holcim (US) Inc., LaFarge Alpena Plant

LOCATED AT
1435 Ford Avenue
Alpena, Michigan 49707

IN THE COUNTY OF
Alpena

STATE REGISTRATION NUMBER
B1477

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. 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: **October 5, 2021**	
DATE PERMIT TO INSTALL APPROVED: **October 28, 2021**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO_2e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H_2S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO_x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO_2	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, 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. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification 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 permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(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 Rule 210 (R 336.1210), 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. **(R 336.1201(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. **(R 336.1201(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 Rule 219 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 Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**

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. **(R 336.1901)**

7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not 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 Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended 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 1994 PA 451, as amended 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 Rule 301, the permittee 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 Rule 303 (R 336.1303). **(R 336.1301)**
    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 Rule 370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EU KILN 19	Kiln 19, an indirect fired rotating kiln. Process Equipment: rotary kiln, storage silo, waste heat recovery co-generating boiler, stack. Control Devices: 1 baghouse, 2 dust collectors, Selective Non-Catalytic Reduction (SNCR), Dry Absorbent Addition (DAA).	01-01-1962 01-01-2008 (indirect firing system), 12-01-2011 (SNCR, DAA)	FG KG5, FG MACT KILNS
EU KILN 20	Kiln 20, an indirect fired rotating kiln. Process Equipment: rotary kiln, storage silo, waste heat recovery co-generating boiler, stack. Control Devices: 1 baghouse, 2 dust collectors, Selective Non-Catalytic Reduction (SNCR), Dry Absorbent Addition (DAA).	01-01-1965, 01-01-2008 (indirect firing system), 12-01-2011 (SNCR, DAA)	FG KG5, FG MACT KILNS
EU KILN 21	Kiln 21, an indirect fired rotating kiln. Process Equipment: rotary kiln, storage silo, waste heat recovery co-generating boiler, stack. Control Devices: 1 baghouse, 2 dust collectors; Selective Non-Catalytic Reduction (SNCR), Dry Absorbent Addition (DAA).	01-01-1965, 01-01-2008 (indirect firing system), 12-01-2011 (SNCR, DAA)	FG KG5, FG MACT KILNS
EU KILN 22	Kiln 22, an indirect fired rotating kiln. Process Equipment: rotary kiln, storage silos, waste heat recovery boiler (generates steam to make electricity), stack shared by Kilns 22 and 23. Control Devices: 1 baghouse, 2 dust collectors, Selective Non-Catalytic Reduction (SNCR), Wet Flue Gas Desulfurization (FGD).	01-01-1975, 01-01-2008 (indirect firing system), 03-01-2012 (SNCR), 03-01-2014 (FGD)	FG KG6, FG MACT KILNS

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EU KILN 23	Kiln 23, an indirect fired rotating kiln. Process Equipment: rotary kiln, storage silos, waste heat recovery boiler (generates steam to make electricity), stack shared by Kilns 22 and 23. Control Devices: 1 baghouse, 2 dust collectors, Selective Non-Catalytic Reduction (SNCR), Wet Flue Gas Desulfurization (FGD).	01-01-1975, 01-01-2008 (indirect firing system), 03-01-2012 (SNCR), 03-01-2014 (FGD)	FG KG6, FG MACT KILNS

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG KG5	Kiln Group 5 heats the raw materials and alternate raw materials to make clinker and includes transport of the clinker to FG CLINK COOL. Kilns 19, 20, and 21 are indirect fired rotating kilns which heat raw materials up to 3,000 degrees Fahrenheit to produce clinker. Each kiln is equipped with a baghouse and dust collectors for PM control, a Dry Absorbent Addition system for control of SO2 and Mercury, and a Selective Non-Catalytic Reduction system for the control of NOx. Heat from the kiln exhaust is used by the waste heat boiler to generate electricity. The clinker is moved by gravity from each kiln to its respective clinker cooler.	EU KILN 19, EU KILN 20, EU KILN 21
FG KG6	Kiln Group 6 heats the raw materials and alternate raw materials to make clinker and includes transport of the clinker to FG CLINK COOL. Kilns 22 and 23 are indirect fired rotating kilns which heat raw materials up to 3,000 degrees Fahrenheit to produce clinker. Each kiln is equipped with a baghouse and dust collectors for PM control and a Selective Non-Catalytic Reduction system for the control of NOx. Exhaust from both kilns is directed to a wet gas desulfurization scrubber for SO2 control. Heat from the kiln exhaust is used by the waste heat boiler to generate electricity. The clinker is moved by gravity from each kiln to its respective clinker cooler.	EU KILN 22, EU KILN 23
FG FUEL HAND	Fuel Handling System receives, stores, transports, and pulverizes fuel used to fire the kilns.	EU BLD FUEL PILE, EU FUEL PULV 19, EU FUEL PULV 20, EU FUEL PULV 21, EU FUEL PULV 22, EU FUEL PULV 23
FG ALT FUEL HAND	Alternate fuels are transported by trucked to a staging building then fed by conveyor to the indirect firing system.	EU ALT FUEL PILE, EU MIDKILN FUEL

FG KG5
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Kiln Group 5 heats the raw materials and alternate raw materials to make clinker and includes transport of the clinker to FG CLINK COOL. Kilns 19, 20, and 21 are indirect fired rotating kilns which heat raw materials up to 3,000 °F to produce clinker. Each kiln is equipped with a baghouse and dust collectors for PM control, a Dry Absorbent Addition system for control of SO_2 and Mercury, and a Selective Non-Catalytic Reduction system for the control of NOx. Heat from the kiln exhaust is used by the waste heat boiler to generate electricity. The clinker is moved by gravity from each kiln to its respective clinker cooler.

Emission Units:

EU KILN 19: Rotary kiln 25-119, storage silo 25-012
EU KILN 20: Rotary kiln 25-120, storage silo 25-013
EU KILN 21: Rotary kiln 25-121, storage silo 25-014

POLLUTION CONTROL EQUIPMENT

EU KILN 19: Baghouse: 25-253, dust collectors: 25-247, 25-252; Dry Absorbent Addition (DAA): Two hoppers (314 HO 01 and 314 HO 02), DAA reagent storage silo (304 SO 01), and associated dust collector (304 DC 10).

EU KILN 20: Baghouse: 25-265, dust collectors: 25-278, 25-263; DAA: Two hoppers (324 HO 01 and 324 HO 02); DAA reagent storage silo (304 SO 01), and associated dust collector (304 DC 10), Kiln Group 5 Feed Silo: associated dust collector: 25-275; Kiln Group 5 Feed Transfer: associated dust collector: 25-280.

EU KILN 21: Baghouse: 25-266, dust collectors: 25-279, 25-264; DAA: Two hoppers (334 HO 01 and 334 HO 02); DAA reagent storage silo (304 SO 01), and associated dust collector (304 DC10).

FG KG5: Selective Non-Catalytic Reduction system (SNCR): NH3STGTANK - Two 40,000 gallon aqueous ammonia/urea storage tanks (306 TN 01 and 306 TN 02), Feed System Skid for KG5 (306 FS 04), and Ammonia Analyzer (306 AG 02); Feed Silo: associated dust collector: 25-275, Feed Transfer: associated dust collector: 25-280

Stack and Vent Identification:

EU KILN 19: SV25-289
EU KILN 19: Kiln Feed Transfer: SV25-247

EU KILN 20: SV25-290
EU KILN 20: Kiln Feed Transfer: SV25-278

EU KILN 21: SV25-291
EU KILN 21: Kiln Feed Transfer: SV25-279

FG KG5: SV 304 DC10 (DAA Silo)
FG KG5: Kiln Feed Silo: SV25-275 (Kiln Feed Silo)
FG KG5: Kiln Feed Transfer: SV25-280 (Kiln Feed Transfer)

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VE	20% opacity	6-minute average	FG KG5 (The limit applies to each individual kiln.)	SC VI.4	R 336.1301
2. SO_2	4.07 lbs per ton clinker	30-day rolling average, as determined at the end of each kiln operating day.[a]	EU KILN 19	SC V.1, SC VI.2, SC VI.4, SC VI.5	R 336.1205, R 336.1971
3. NOx	4.72 lbs per ton clinker	30-day rolling average, as determined at the end of each kiln operating day.[a]	EU KILN 19	SC V.1, SC VI.2, SC VI.4, SC VI.5	R 336.1205, R 336.1971
4. CO	284 tpy	12-month rolling time period as determined at the end of each calendar month.	EU KILN 19	SC V.1, SC VI.2, SC VI.3, SC VI.4	R 336.1205
5. SO_2	4.09 lbs per ton clinker	30-day rolling average, as determined at the end of each kiln operating day[a]	EU KILN 20	SC V.1, SC VI.2, SC VI.4, SC VI.5	R 336.1205, R 336.1971
6. NOx	4.91 lbs per ton clinker	30-day rolling average, as determined at the end of each kiln operating day[a]	EU KILN 20	SC V.1, SC VI.2, SC VI.4, SC VI.5	R 336.1205, R 336.1971
7. CO	280 tpy	12-month rolling time period as determined at the end of each calendar month.	EU KILN 20	SC V.1, SC VI.2, SC VI.3, SC VI.4	R 336.2804
8. SO_2	3.93 lbs per ton clinker	30-day rolling average, as determined at the end of each kiln operating day[a]	EU KILN 21	SC V.1 SC VI.2, SC VI.4, SC VI.5	R 336.1205, R 336.1971
9. NOx	4.48 lbs per ton clinker	30-day rolling average, as determined at the end of each kiln operating day[a]	EU KILN 21	SC V.1, SC VI.2, SC VI.4, SC VI.5	R 336.1205, R 336.1971
10. CO	279 tpy	12-month rolling time period as determined at the end of each calendar month.	EU KILN 21	SC V.1 SC VI.2, SC VI.3, SC VI.4	R 336.2804

[a] *30-day rolling average* – is defined as a kiln operating day plus the previous 29 kiln operating days. *Kiln operating day* – is defined as any day on which kiln operation has occurred. Kiln operation is any period in which any raw materials are fed into the kiln or any period when any combustion is occurring, or fuel is being fired in the kiln.

II. MATERIAL LIMIT(S)

1. The permittee may use alternate fuels in FG KG5 that meet the legitimacy criteria for non-hazardous secondary materials (NHSM) pursuant to 40 CFR Part 241. The legitimacy criteria shall be based on comparisons to traditional fuels permitted for FG KG5, including fossil fuels (e.g., coal, fuel oil, and natural gas), cellulosic biomass (virgin wood), plastics, TDF, and shingles. **(R 336.1205, R 336.1225, R 336.1702, R 336.2803, R 336.2804, 40 CFR Part 241)**

2. The permittee may not use any alternate fuel in FG KG5 with a heat input less than 5,000 BTU/lb. **(R 336.1205, R 336.1225, R 336.1702)**

3. The permittee shall not burn any fuel in FG KG5 with asbestos tailing or asbestos containing waste materials as defined in 40 CFR 61.141. **(R 336.1225, R 336.1901, 40 CFR 61.141)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FG KG5 unless the associated SNCR, DAA, baghouses and dust collectors are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining the control equipment in accordance with the manufacturer's written instructions and an AQD approved MAP. The permittee shall not operate FG KG5 unless the MAP is implemented and maintained. Proper operation of each control system shall include following the AQD approved MAP. **(R 336.1225, R 336.1910, R 336.1911, R 336.1971)**

2. The SO_2, NOx, and CO CEMS shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in Appendix 3.4, 40 CFR 60.13 and 40 CFR Part 60, Appendix B, Performance Specification PS 2; and PS 4, 4A, or 4B. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations. **(40 CFR 60.13, R 336.1205(1)(a)(ii)(E))**

3. The permittee shall only burn alternate fuels in FG KG5 as part of normal operations and not during start-up or shut-down operations. **(R 336.1205, R 336.1225, R 336.1702, R 336.2803, R 336.2804, 40 CFR Part 241**

4. The permittee shall not fill NH3STGTANK on the SNCR for FG KG5 unless the vapor balance system is installed, maintained, and operated in a satisfactory manner as follows:

   a) The permittee shall connect the vapor-tight collection line to the delivery vessel before any aqueous ammonia/urea is transferred.
   b) The permittee shall close the vapor-tight collection line upon disconnection so as to prevent release of ammonia/urea vapors.
   c) The permittee shall close the hatch and other openings on the delivery vessel and make certain they are vapor-tight to prevent emission of displaced ammonia/urea vapors during transfer operations, except under emergency conditions.

   The permittee shall develop written procedures for the operation of all the control measures described above and shall keep such procedures available in an accessible location near the transfer equipment.[1] **(R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Each baghouse associated with FG KG5 shall be equipped with a device to measure pressure differential. **(R 336.1910)**

2. The permittee shall install, calibrate, maintain, and operate in a satisfactory manner, any devices needed to continuously monitor and record operating parameters for SNCR and DAA for FG KG5. Satisfactory manner includes operating and maintaining the control equipment in accordance with the manufacturer's written instructions and an AQD approved MAP. **(R 336.1205, R 336.1910)**

3. The permittee shall equip and maintain NH3STGTANK for the SNCR of FG KG5 with vacuum breakers and pressure relief valves rated at 25 psi ±5 psi.[1] **(R 336.1901)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall perform the Quality Assurance Procedures of the SO_2, NOx and CO CEMS set forth in 40 CFR Part 60, Appendix F. **(40 CFR Part 60, Appendix F, 40 CFR 60.13)**

2. Verification and quantification of emissions from FG KG5 while burning alternate fuels, by testing at owner's expense, in accordance with the AQD requirements, may be required. **(R 336.2001, R 336.2003)**

3. The permittee shall verify each shipment of alternate fuels is acceptable to use as fuel in FG KG5, by determining the following:
   a) NHSM shall meet the Legitimacy Criteria in 40 CFR Part 241.
   b) Conduct monthly sampling. Samples shall be taken of the "as-fired" fuel and labeled with the unique batch identification number. Sufficient material shall be collected to provide three samples, each of sufficient volume for the required analysis.
   c) Monthly samples collected shall be analyzed to verify the fuel meets the legitimacy criteria, as defined in SC II.1.

   No less than 30 days prior to sampling, a complete sampling plan shall be submitted to the AQD. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. Sampling and analysis of alternate fuels must be kept on file for a period of 5 years and made available to the AQD upon request.
   (R 336.1205, R 336.1225, R 336.1702, R 336.2803, R 336.2804, 40 CFR Part 241)

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

2. The permittee shall monitor, record, and calculate: the daily kiln feed rates in tons, and the daily clinker production rates in tons, for each kiln in FG KG5. The permittee shall keep all records on file at the facility and make them available to the AQD upon request. **(R 336.1205, R 336.1224, R 336.1225)**

3. The permittee shall monitor and record the SO_2, NOx and CO emissions from EU KILN 19, EU KILN 20, and EU KILN 21 on a continuous basis in a manner and with instrumentation acceptable to the AQD. These monitors and the resulting data shall be used for determining compliance with SO_2, NOx and CO permit limits. **(40 CFR 60.13, R 336.1205(1)(a)(ii)(E), 40 CFR Part 60, Appendix B & F)**

4. From EU KILN 19, EU KILN 20, and EU KILN 21, the permittee shall calculate the CO emissions in tons per 12-month rolling time period basis as determined at the end of each calendar month. **(R 336.1205)**

5. The permittee shall monitor and record operating parameters for each SNCR, DAA, baghouse, and dust collector for FG KG5 on a continuous basis with instrumentation acceptable to the AQD. All operating parameters shall be outlined in the AQD approved MAP. The permittee shall keep all records on file at the facility and make them available to the AQD upon request. **(R 336.1205(1)(a)(ii)(E), R 336.1911, 40 CFR 60.13, 40 CFR Part 60, Appendix B & F)**

6. The permittee shall monitor, record, and calculate the SO_2 and NOx emissions in pound per ton of clinker, including emissions from startups, shutdowns, and malfunctions, from each kiln in FG KG5, on a 30-day rolling average as follows: First, sum the total pounds each of SO_2 and NOx, as measured with a CEMS, from each respective kiln during each kiln operating day and the previous 29 kiln operating days; second, sum the total tons of clinker produced by each respective kiln during the same kiln operating day and previous 29 kiln operating days; third, divide the total pounds each of SO_2 and NOx emitted from each respective kiln during the 30 kiln operating days by the total tons of clinker produced by each respective kiln during the same 30 kiln operating days. Each 30-day rolling average emission rate shall be calculated each new kiln operating day. The permittee shall keep all records on file at the facility and make them available to the AQD upon request. **(R 336.1205, R 336.1970, R 336.1971)**

7. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD District Supervisor, the amount and type of each alternate fuel used in FG KG5 on a monthly and 12-month rolling time period basis as determined at the end of each calendar month. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1331, R 336.1702)**

8. The permittee shall monitor and record any sampling and analysis for alternate fuels used in FG KG5 per SC V.3 and the Fuel Procurement Monitoring Plan, as required in FG ALT FUEL HAND. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1331, R 336.1702)**

VII. REPORTING

1. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. **(R 336.2001, R 336.2003, R 336.2004, R 336.1205(1))**

2. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. **(R 336.2001(4), 40 CFR Part 60, Appendix B & F)**

3. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test, and in a format approved by the AQD. The test report shall include operating parameters of the kilns and air pollution control equipment. **(R 336.2001, R 336.2003, R 336.2004, R 336.2001(5))**

4. No less than 30 days prior to the performance specification testing of the CEMS, a complete test plan must be submitted to the District Supervisor. The final test plan must have approval prior to the testing. The permittee shall submit to the District Supervisor within 60 days of completion, two copies of the final report demonstrating the COMS and the CEMS complies with the applicable requirements. **(40 CFR Part 60, Appendices B & F)**

5. The permittee shall report the Quality Assurance Procedures of the SO_2, NOx, and CO set forth in 40 CFR Part 60, Appendix F. Each quarter the results shall be presented and submitted in the format of the data assessment report (DAR). **(40 CFR Part 60, Appendix F, 40 CFR 60.13)**

6. In accordance with 40 CFR 60.7(c) and (d), an EER and summary report for all CEMS shall be submitted in an acceptable format to the District Supervisor within 30 days following the end of each calendar quarter. The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period; a report of all periods of CEMS downtime and corrective action; a report of the total operating time of each kiln during the reporting period; a report of any periods that the CEMS exceeds the instrument range. If no exceedances or CEMS downtime occurred during the reporting period, the permittee shall report that fact. **(40 CFR 60.7(c)&(d))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV25-289 EU KILN 19	156	220	R 336.1225, R 336.1228, R 336.1229(2)(b), R 336.2803, R 336.2804
2. SV25-290 EU KILN 20	156	220	R 336.1225, R 336.1228, R 336.1229(2)(b), R 336.2803, R 336.2804
3. SV25-291 EU KILN 21	156	220	R 336.1225, R 336.1228, R 336.1229(2)(b), R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall maintain an SO_2, NOX and CO CEMS Monitoring Plan/QAQC Plan approved by the AQD. The Monitoring Plan shall include drawings or specifications showing locations and descriptions of all required monitors. **(R 336.1205)**

2. The permittee shall not use emission reductions of SO_2 and NOx resulting from the installation of the DAA and SNCR as a creditable contemporaneous emission decrease for the purpose of obtaining a netting credit under the Clean Air Act's New Source Review Major Source Permitting Programs. **(R 336.1201)**

3. The permittee shall comply with all applicable requirements of the National Emissions Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry as specified in 40 CFR Part 63, Subpart A and Subpart LLL, as they apply to FG KG5. **(40 CFR Part 63, Subparts A & LLL)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FG KG6
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Kiln Group 6 heats the raw materials and alternate raw materials to make clinker and includes transport of the clinker to FG CLINK COOL. Kilns 22 and 23 are indirect fired rotating kilns which heat raw materials up to 3,000 ºF to produce clinker. Each kiln is equipped with a baghouse and dust collectors for PM control and a Selective Non-Catalytic Reduction system for the control of NOx. Exhaust from both kilns is directed to a wet gas desulfurization scrubber for SO_2 control. Heat from the kiln exhaust is used by the waste heat boiler to generate electricity. The clinker is moved by gravity from each kiln to its respective clinker cooler.

Emission Units:

EU KILN 22: Rotary Kiln 26-122, storage silos 26-003, 26-004
EU KILN 23: Rotary Kiln 26-123, storage silos 26-003, 26-004

POLLUTION CONTROL EQUIPMENT

EU KILN 22: Baghouse: 26-256, dust collectors: 26-254, 26-255
EU KILN 23: Baghouse: 26-262, dust collectors: 26-260, 26-261
FG KG6: Selective Non-Catalytic Reduction system (SNCR): NH3STGTANK - Two 40,000 gallon aqueous ammonia/urea storage tanks (306 TN 01 and 306 TN 02), Feed System Skid for KG6 (306 FS 05), and Ammonia Analyzer (306 AG 03); Wet Flue Gas Desulfurization scrubber (FGD): 308 WS 01 – Wet flue gas desulfurization unit (FGD); Feed Silo: associated dust collector 26-263.

Stack and Vent Identification:

EU KILN 22: SV26-292A (stack shared by Kilns 22 and 23)
EU KILN 22 Feed Transfer: SV26-254 (Kiln Feed Transfer)
EU KILN 23: SV26-292A (stack shared by Kilns 22 and 23)
EU KILN 23 Feed Transfer: SV26-260 (Kiln Feed Transfer)
EU KG6 Kiln Feed Silo: SV26-263 (Kiln Feed Silo)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VE	20% opacity	6-minute average	FG KG6	SC VI.5	R 336.1301, 40 CFR 60.62(a)(2)
2. NOx	5.47 lbs per ton clinker	30-day rolling average, as determined at the end of each kiln operating day[a]	EU KILN 22	SC V.1, SC VI.2, SC VI.4, SC VI.5	R 336.1205, R 336.1801(4), R 336.1971
3. CO	537 tpy	12-month rolling time period as determined at the end of each calendar month	EU KILN 22	SC V.1, SC VI.2, SC VI.3, SC VI.5	R 336.2804
4. SO_2	1.98 lbs per ton clinker	30-day rolling average, as determined at the end of each kiln operating day[a]	FG KG6 (Applies when both kilns operate simultaneously or either kiln operates individually.)	SC V.1, SC VI.2, SC VI.4, SC VI.5	R 336.1205, R 336.1971
5. NOx	5.69 lbs per ton clinker	30-day rolling average, as determined at the end of each kiln operating day[a]	EU KILN 23	SC V.1, SC VI.2, SC VI.4, SC VI.5	R 336.1205, R 336.1801(4), R 336.1971
6. CO	539 tpy	12-month rolling time period as determined at the end of each calendar month	EU KILN 23	SC V.1, SC VI.2, SC VI.3, SC VI.5	R 336.2804

[a] *30-day rolling average* – is defined as a kiln operating day plus the previous 29 kiln operating days. *Kiln operating day* – is defined as any day on which kiln operation has occurred. Kiln operation is any period in which any raw materials are fed into the kiln or any period when any combustion is occurring, or fuel is being fired in the kiln.

II. MATERIAL LIMIT(S)

1. The permittee may use alternate fuels in FG KG6 that meet the legitimacy criteria for non-hazardous secondary materials (NHSM) pursuant to 40 CFR Part 241. The legitimacy criteria shall be based on comparisons to traditional fuels permitted for FG KG6, including fossil fuels (e.g., coal, fuel oil, and natural gas), cellulosic biomass (virgin wood), plastics, TDF, and shingles. **(R 336.1205, R 336.1225, R 336.1702, R 336.2803, R 336.2804, 40 CFR Part 241)**

2. The permittee may not use any alternate fuel in FG KG6 with a heat input less than 5,000 BTU/lb. **(R 336.1205, R 336.1225, R 336.1702)**

3. The permittee shall not burn any fuel in FG KG6 with asbestos tailing or asbestos containing waste materials as defined in 40 CFR 61.141. **(R 336.1225, R 336.1901, 40 CFR 61.141)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FG KG6 unless the associated SNCR, FGD, baghouses, and dust collectors are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining the control equipment in accordance with any applicable manufacturer's written instructions and an AQD approved MAP. The permittee shall not operate FG KG6 unless the MAPs for the SNCR and main baghouse and the FGD are implemented and maintained. Proper operation of each control system shall include following the AQD approved MAP. **(R 336.1225, R 336.1910, R 336.1911, R 336.1971)**

2. The SO_2, NOx and CO CEMS shall be calibrated, maintained, and operated in accordance with the procedures set forth in Appendix 3.4 of this ROP, 40 CFR 60.13 and 40 CFR Part 60, Appendix B, Performance Specification 2; and 40 CFR Part 60, Appendix B, Performance Specification 4, 4A, or 4B. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations. **(40 CFR 60.13, R 336.1205(1)(a)(ii)(E))**

3. The permittee shall operate the FGD with the liquid flow equal to or exceeding the minimum flow rate as described in the AQD approved MAP. **(R 336.1205(1), R 336.1301(1), R 336.1910)**

4. The permittee shall operate the FGD within the minimum and maximum differential pressure range as described in the AQD approved MAP. **(R 336.1205(1), R 336.1301(1), R 336.1910)**

5. The permittee shall operate the FGD within the minimum and maximum outlet temperature range as described in the AQD approved MAP. **(R 336.1205(1), R 336.1301(1), R 336.1910)**

6. The permittee shall only burn alternate fuels in FG KG6 as part of normal operations and not during start-up or shut-down operations. **(R 336.1205, R 336.1225, R 336.1331, R 336.1702, R 336.2803, R 336.2804, 40 CFR Part 241)**

7. The permittee shall not burn whole tires in FG KG6 unless the mid-kiln tire injection system is installed and operated. **(R 336.1205, R 336.1225, R 336.1331, R 336.1702)**

8. All emissions from FG KG6 shall be exhausted through stack SV26-292A. **(R 336.1225, R 336.2803, R 336.2804)**

9. The permittee shall not fill NH3STGTANK on the SNCR for FG KG6 unless the vapor balance system is installed, maintained and operated in a satisfactory manner as follows:
   a) The permittee shall connect the vapor-tight collection line to the delivery vessel before any aqueous ammonia/urea is transferred.
   b) The permittee shall close the vapor-tight collection line upon disconnection so as to prevent release of ammoniax/urea vapors.
   c) The permittee shall close the hatch and other openings on the delivery vessel and make certain they are vapor-tight to prevent emission of displaced ammonia/urea vapors during transfer operations, except under emergency conditions.

   The permittee shall develop written procedures for the operation of all the control measures described above and shall keep such procedures available in an accessible location near the transfer equipment.[1] **(R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Each baghouse associated with FG KG6 shall be equipped with a device to measure pressure drop across the baghouses. **(R 336.1910)**

2. The permittee shall install and maintain monitoring devices on the FGD for measuring the liquid flow rate, pressure differential, and the outlet temperature. **(R 336.1205, R 336.1910)**

3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, any devices needed to continuously monitor and record operating parameters for SNCR and FGD. Satisfactory manner includes operating and maintaining the control equipment in accordance with the manufacturer's written instructions and an AQD approved MAP for FG KG6. **(R 336.1205, R 336.1910)**

4. The permittee shall equip and maintain the two SNCR 40,000-gallon aqueous ammonia/urea storage with vacuum breakers and pressure relief valves rated at 25 psi ±5 psi.[1] **(R 336.1901)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall perform the Quality Assurance Procedures of the SO_2, NOx, and CO CEMS set forth in 40 CFR Part 60, Appendix F. **(40 CFR Part 60, Appendix F, 40 CFR 60.13, 40 CFR 52.21, R 336.2157)**

2. Verification and quantification of emissions from FG KG6 while burning alternative fuels, by testing at owner's expense, in accordance with the AQD requirements, may be required. **(R 336.2001, R 336.2003)**

3. The permittee shall verify each shipment of alternate fuels is acceptable to use as fuel in FG KG6, by determining the following:
   a. NHSM shall meet the Legitimacy Criteria in 40 CFR Part 241.
   b. Conduct monthly sampling. Samples shall be taken of the "as-fired" fuel and labeled with the unique batch identification number. Sufficient material shall be collected to provide three samples, each of sufficient volume for the required analysis.
   c. Monthly samples collected shall be analyzed to verify the fuel meets the legitimacy criteria, as defined in SC II.1.

   No less than 30 days prior to sampling, a complete sampling plan shall be submitted to the AQD. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. Sampling and analysis of alternate fuels must be kept on file for a period of 5 years and made available to the AQD upon request.
   (R 336.1205, R 336.1225, R 336.1702, R 336.2803, R 336.2804, 40 CFR Part 241)

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

9. The permittee shall monitor, record, and calculate: the daily kiln feed rates in tons, and the daily clinker production rates in tons, for each kiln in FG KG6. The permittee shall keep all records on file at the facility and make them available to the AQD upon request. **(R 336.1205, R 336.1224, R 336.1225, 40 CFR 60.63(b))**

10. The permittee shall monitor and record the SO_2 (combined stack), NOx, and CO emissions from EU KILN 22 and EU KILN 23 on a continuous basis in a manner and with instrumentation acceptable to the AQD. These monitors and the resulting data shall be used for determining compliance with SO_2, NOx and CO permit limits. **(R 336.1205(1)(a)(ii)(E), 40 CFR 60.13)**

11. From EU KILN 22 and EU KILN 23, the permittee shall calculate the CO emissions in tons per year on a monthly and 12-month rolling time period basis as determined at the end of each calendar month. **(R 336.1205(1)(a)(ii)(E), 40 CFR 60.13)**

12. The permittee shall monitor, record, and calculate the SO_2 and NOx emissions in pound per ton of clinker, including emissions from startups, shutdowns, and malfunctions, from FG KG6 on a 30-day rolling average as follows: First, sum the total pounds each of SO_2 and NOx, as measured with a CEMS, from each respective kiln during each kiln operating day and the previous 29 kiln operating days; second, sum the total tons of clinker produced by each respective kiln during the same kiln operating day and previous 29 kiln operating days; third, divide the total pounds each of SO_2 and NOx emitted from each respective kiln during the 30 kiln operating days by the total tons of clinker produced by each respective kiln during the same 30 kiln operating days. Each 30-day rolling average emission rate shall be calculated each new kiln operating day. The permittee shall keep all records on file at the facility and make them available to the AQD upon request. **(R 336.1205, R 336.1971, R 336.1801(8))**

13. The permittee shall monitor and record operating information for each SNCR, FGD, baghouse, and dust collector for FG KG6 on a continuous basis with instrumentation acceptable to the AQD. All operating information shall be outlined in the AQD approved MAP. The permittee shall keep all records on file at the facility and make them available to the AQD upon request. **(R 336.1205(1)(a)(ii)(E), R 336.1911, 40 CFR 60.13, 40 CFR Part 60, Appendix B & F)**

14. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD District Supervisor, the amount and type of each alternate fuel used in FG KG6 on a monthly and 12-month rolling time period basis as determined at the end of each calendar month. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1331, R 336.1702)**

15. The permittee shall monitor and record any sampling and analysis for alternate fuels used in FG KG6 per SC V.3 and the Fuel Procurement Monitoring Plan, as required in FG ALT FUEL HAND. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1331, R 336.1702)**

VII. REPORTING

1. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date, and in a format approved by the AQD. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. **(R 336.2001, R 336.2003, R 336.2004, R 336.1205(1), R 336.2001(5))**

2. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. **(40 CFR Part 60, Appendix F)**

3. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test, and in a format approved by the AQD. The test report shall include operating parameters of the kilns and FGD including FGD flow rate, differential pressure, and outlet temperature. **(R 336.2001, R 336.2003, R 336.2004, R 336.1205, R 336.2001(5))**

4. The permittee shall report the Quality Assurance Procedures of the SO_2, NOx and CO CEMS set forth in 40 CFR Part 60, Appendix F. Each quarter the results shall be presented and submitted in the format of the data assessment report (DAR). **(40 CFR 60.13, 40 CFR Part 60, Appendix F)**

5. In accordance with 40 CFR 60.7(c) and (d), an EER and summary report for all CEMS shall be submitted in an acceptable format to the District Supervisor within 30 days following the end of each calendar quarter. The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period; a report of all periods of CEMS downtime and corrective action; a report of the total operating time of each kiln during the reporting period; a report of any periods that the CEMS exceeds the instrument range. If no exceedances or CEMS downtime occurred during the reporting period, the permittee shall report that fact. **(40 CFR 60.7(c) & (d))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV26-292A Stack shared by EU KILN 22 and EU KILN 23	100	250	R 336.1225, R 336.1228, R 336.1229(2)(b), R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall maintain an SO_2, NOx, and CO Monitoring Plan/QAQC Plan approved by the AQD. The Monitoring Plan shall include drawings or specifications showing locations and descriptions of all required monitors. **(R 336.2803, R 336.2804)**

2. Once a MAP is approved by the AQD, the permittee shall not operate the kilns in FG KG6 unless the MAP is being implemented and maintained. **(R 336.1911)**

3. The permittee shall not use emission reductions of SO_2 and NOx resulting from the installation of the FGD and SNCR as a creditable contemporaneous emission decrease for the purpose of obtaining a netting credit under the Clean Air Act's New Source Review Major Source Permitting Programs. **(R 336.1201)**

4. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry as specified in 40 CFR Part 63, Subpart A and Subpart LLL, as they apply to FG KG6. **(40 CFR Part 63, Subparts A & LLL)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FG FUEL HAND
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Fuel Handling System receives, stores, transports, and pulverizes fuel used to fuel the kilns. EU BLD FUEL PILE, Blended Fuel Pile, includes the coal, coke, and blended coal and coke stockpiles. Coal and coke are received from boats and placed in separate piles. The coal and coke are blended using conveyors, per a needed ratio and placed in a pile. Blended fuel is transported and loaded into the indirect firing system by scrapers or other haulage equipment. EU FUEL PULV 19-23, Fuel pulverizers on Kilns 19, 20, 21, 22, and 23, pulverize the blended coal and coke and feed this fuel to the kiln burners. Each pulverizer has its own baghouse and particulate matter emission limit. The pulverizer dust collectors exhaust to the atmosphere.

Emission Units:

EU BLD FUEL PILE:	Stockpiles, hoppers 74-031, 74-032, bins 74-041, 74-042, conveyors 74-101, 74-102, 74-103, 74-104, 74-105.
EU ALT FUEL PILE:	Stockpiles, conveyor 18-071.
EU FUEL PULV 19:	Storage tanks 36-002, pulverizer 613CR01, storage bin 614HO01, conveyors 36-041, screw conveyor 614SC01.
EU FUEL PULV 20:	Storage tanks 36-004, pulverizer 623CR01, storage bin 624HO01, conveyors 36-042, screw conveyor 624SC01.
EU FUEL PULV 21:	Storage tanks 36-005, pulverizer 633CR01, storage bin 634HO01, conveyors 36-043, screw conveyor 634SC01.
EU FUEL PULV 22:	Storage tanks 37-001, pulverizer 6A3CR01, storage bin 6A4HO01, conveyor 37-024, screw conveyor 6A4SC01.
EU FUEL PULV 23:	Storage tank 37-002, pulverizer 6B3CR01, storage bin 6B4HO01, conveyors 37-025, screw conveyor 6B4SC01.

POLLUTION CONTROL EQUIPMENT

EU BLD FUEL PILE:	Water spray on pile
EU ALT FUEL PILE:	None
EU FUEL PULV 19:	Dust collectors 613DC01, 614DC01
EU FUEL PULV 20:	Dust collectors 623DC01, 624DC01
EU FUEL PULV 21:	Dust collectors 633DC01, 634DC01
EU FUEL PULV 22:	Dust collectors 6A3DC01, 6A4DC01
EU FUEL PULV 23:	Dust collectors 6B3DC01, 6B4DC01

STACK AND VENT IDENTIFICATION

EU BLD FUEL PILE:	NA
EU ALT FUEL PILE:	NA
EU FUEL PULV 19:	SV613-01
EU FUEL PULV 20:	SV623-01
EU FUEL PULV 21:	SV633-01
EU FUEL PULV 22:	SV6A3-01
EU FUEL PULV 23:	SV6B3-01

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. VE	20% opacity	6-minute average	FG FUEL HAND	SC III.1 SC VI.2	R 336.1301
2. PM-10	1.8 pph	Hourly	EU FUEL PULV 19 EU FUEL PULV 20 EU FUEL PULV 21	SC V.1 SC VI.2	R 336.1205, R 336.1225, R 336.2803, R 336.2804
3. PM-10	8.0 tpy	12-month rolling time period as determined at the end of each calendar month	EU FUEL PULV 19 EU FUEL PULV 20 EU FUEL PULV 21	SC V.1 SC VI.1	R 336.1205, R 336.2803, R 336.2804
4. PM-10	2.9 pph	Hourly	EU FUEL PULV 22 EU FUEL PULV 23	SC V.1 SC VI.2	R 336.1205, R 336.1225, R 336.2803, R 336.2804
5. PM-10	12.8 tpy	12-month rolling time period as determined at the end of each calendar month	EU FUEL PULV 22 EU FUEL PULV 23	SC V.1 SC VI.1	R 336.1205, R 336.2803, R 336.2804
6. PM	0.15 lb per 1000 lbs of exhaust gases, calculated on a dry basis	Hourly	EU FUEL PULV 19 EU FUEL PULV 20 EU FUEL PULV 21 EU FUEL PULV 22 EU FUEL PULV 23	SC VI.2	R 336.1331(1)(a)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate any equipment in FG FUEL HAND unless the associated dust collectors are installed, maintained, and operated in a satisfactory manner. Proper operation of each baghouse and dust collector shall include following the AQD approved MAP for FG FUEL HAND. **(R 336.1910, R336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. EU BLD FUEL PILE shall be operated in a manner which will minimize the fugitive particulate emissions from the coal blending operation. **(R 336.1331)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Once every five years, verification of PM10 emission rates by testing at owner's expense, in accordance with AQD requirements shall be required from EU FUEL PULV 19, EU FUEL PULV 20, EU FUEL PULV 21, EU FUEL PULV 22, and EU FUEL PULV 23. **(R 336.1205, R 336.2803, R 336.2804)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall calculate and keep, in a satisfactory manner, monthly and 12-month rolling time-period PM10 emission calculation records using the most recent stack test results for EU FUEL PULV 19, EU FUEL PULV 20, EU FUEL PULV 21, EU FUEL PULV 22, and EU FUEL PULV 23. All records shall be made available to the AQD upon request. **(R 336.1205(1)(a) & (3))**

2. The permittee shall monitor and record the pressure drop across each dust collector associated with FG FUEL HAND SYS, on a daily basis. **(R 336.1201)**

VII. REPORTING

1. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. **(R 336.2001, R 336.2003, R 336.2004, 336.1205(1))**

2. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. **(40 CFR Part 60, Appendix F)**

3. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test. The test report shall include operating parameters of the kilns and FGD including FGD flow rate, differential pressure, and outlet temperature. **(R 336.2001, R 336.2003, R 336.2004, R 336.1205)**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions Diameter (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV613-01 (36-K19) EU FUEL PULV 19	30	60	R 336.1225, R 336.2803, R 336.2804
2. SV623-01 (36-K20) EU FUEL PULV 20	30	60	R 336.1225, R 336.2803, R 336.2804
3. SV633-01 (36-K21) EU FUEL PULV 21	30	60	R 336.1225, R 336.2803, R 336.2804
4. SV6A3-01 (36-K22) EU FUEL PULV 22	40	60	R 336.1225, R 336.2803, R 336.2804
5. SV6B3-01 (36-K23) EU FUEL PULV 23	40	60	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FG ALT FUEL HAND
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Alternate Fuel Handling System receives, stores, and transports alternate fuels (fuels other than coal) used to fuel the kilns. EU ALT FUEL PILE, Alternate Fuel Pile, includes non-hazardous secondary materials.

All TDF will be delivered by truck and stored in truck trailers until they are introduced into the system by a truck tipper into a live bottom hopper. The tires will be discharged from the hopper one at a time where they enter an inspection station that places tires in single file and sorted so that all tires exiting the station are fit to be fed into the kiln.

Other alternate fuels are transported to the alternate fuel pile or container and then fed by conveyance system to the kilns hood (fire end of the kiln).

Emission Units:

EU ALT FUEL PILE:	Stockpiles, conveyor 18-071.
EU MIDKILN FUEL:	Trailer tipper, live bottom hopper, tire separator, separation refinement system, tire inspection and rejection, conveying system with accumulation control, mid kiln valve for tire derived fuel introduction, above kiln valve actuator, and weight-based feed rate control.

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate any equipment in FG ALT FUEL HAND unless proper storage of alternate fuels is maintained and operated in a satisfactory manner. Proper operation of each storage pile or container shall include following the AQD approved Fugitive Dust Plan for FG ALT FUEL HAND. **(R 336.1910, R336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. FG ALT FUEL HAND shall be operated in a manner which will minimize the fugitive particulate emissions from the transporting and storing of all materials on site. **(R 336.1331)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall monitor and record the amount and types of alternate fuels received on site. **(R 336.1371, R 336.1372)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. Within 60 days from the date of permit issuance, the permittee shall update the fugitive dust control plan for to include FG ALT FUEL HAND. **(R 336.1371, R 336.1372, Act 451 324.5524)**

2. Within 60 days of permit issuance, the permittee shall submit to the AQD District Supervisor a Fuel Procurement Monitoring Plan for the alternative fuels burned in FG KG5 and FG KG6. The plan shall include but is not limited to the types of materials taken on site, how the materials are managed, how sampling and analysis is performed to determine if they are suitable fuels. The plan shall be kept on site and any revised plan shall be sent to the AQD District Supervisor within 45 days with the reason of the revision(s). **(R 336.1225)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).