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

MARCH 5, 2021

PERMIT TO INSTALL
140-15B

ISSUED TO
ST. MARYS CEMENT U.S. LLC

LOCATED AT
16000 BELLS BAY ROAD
CHARLEVOIX, MICHIGAN 49720

IN THE COUNTY OF
CHARLEVOIX

STATE REGISTRATION NUMBER
B1559

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: **December 2, 2020**	
DATE PERMIT TO INSTALL APPROVED: **March 5, 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

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 conditions 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
EUSOLIDFUELSYSTEM	Solid fuel processing mill to allow for a higher throughput for processing properly sized solid fuels due to increased production capacity. The processed fuel will then be transported to the existing two solid fuel storage silos.	9/1/2018	EUSOLIDFUELSYSTEM
EUALTFUELSTORAGE	AF Building will be used to store and process AF prior to its introduction into the calciner and eventually into the main kiln burner. AF requiring onsite shredding will be delivered to the new AF Building. AF may also be delivered in ready-to-use form (i.e., preprocessed/preshredded).	TBD	FGNONKILNFACILITY
EUCLINKERCOOL	The new clinker cooler consists of equipment associated with the cooling of clinker and the treatment of the cooler gases, including: clinker cooler, clinker heat exchanger, and baghouse.	9/1/2018	NA
EUFINISHMILL4	Horizontal finish mill used to grind clinker with gypsum and other additives to produce cement products.	9/1/2018	FGFINISHMILLS, FGNONKILNFACILITY
EUCEMENTHAND&STO	Includes: pneumatic conveyors; silos #1- 12, 26-29, 6A; air slides #1-12 & below silos #1-6; dust collectors top of old silos #1-3, new silo #4, and below silos #1-6; bucket elevator with dust collector; storage dome & dust collector; truck loading & dust collector, and ship loading.	2/1/1978 12/1/1999 9/1/2018	FGNONKILNFACILITY
EURAWMATHANDSTOR	Raw material loading, unloading and raw material transfer, including the material handling equipment that takes a feed into the kiln feed shelf. Also contains spill conveyors under the bottom ash feeder.	6/1/1967 9/1/2018	FGNONKILNFACILITY

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUCKDHANDSTOR	Equipment associated with handling and storage of cement kiln dust. Includes: cement kiln dust elevator, north pug tank, south pug tank, and pug mill. Also includes all truck loading at 80 percent removal efficiency.	2/23/1978 10/1/1985 9/1/2018	FGNONKILNFACILITY

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUINLINEKILN	The in-line Raw Mill kiln system uses a proportioning system for grinding and mixing sources of iron, silica, calcium, and alumina. These raw materials are added to the Raw Mill where the material is ground, and heated creating a Kiln Feed mixture, which is conveyed to EUBLENDSILO for blending and storage. Kiln Feed is transferred from EUBLENDSILO via the kiln feed belt scale, elevator, and fed to upper stages of the pre-heating tower. The Kiln Feed is calcined in the preheater tower, the source of heat for this reaction is generated in both the Calciner and Kiln, the Kiln is the location where the feed is heated to a point where the calcined feed is melted and then cooled to start the formation of clinker. A tertiary duct transfers hot exhaust gases from the clinker cooler to the calciner portion of the preheater tower. Control equipment associated with in-line kiln system includes conditioning towers prior to downstream equipment (for modulating temperatures), SNCR, the main stack baghouse, bypass stack baghouse and other smaller baghouses. The calciner and kiln have been designed to use traditional solid and liquid fuels and various alternative fuels including recyclable and non-recyclable plastics excluding PVC, cellulose fibers, asphalt flakes, biomass, wood chips, paper, cardboard, and non-tire derived rubber. Propane is utilized for refractory curing but not for production of clinker.	2/23/1978 9/1/2018	NA

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.

EUSOLIDFUELSYSTEM
EMISSION UNIT CONDITIONS

DESCRIPTION

Solid fuel processing mill to allow for a higher throughput for processing properly sized solid fuels due to increased production capacity. The processed fuel will then be transported to the existing two solid fuel storage silos.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Fabric filter baghouse for particulate matter control.
COKEMIL1 - Petcoke Mill baghouse

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Opacity	10 percent	6-minute average per hour	SVCOKEMIL1 of EUSOLIDFUELSYSTEM	SC V.1, SC VI.2	R 336.1301, 40 CFR 60.254
2. PM	0.010 gr/dscf	Hourly	SVCOKEMIL1 of EUSOLIDFUELSYSTEM	SC V.2	R 336.1331, 40 CFR 60.254
3. PM10	3.93 pph	Hourly	SVCOKEMIL1 of EUSOLIDFUELSYSTEM	SC V.3	R 336.2803, R 336.2804
4. PM2.5	1.86 pph	Hourly	SVCOKEMIL1 of EUSOLIDFUELSYSTEM	SC V.3	R 336.2803, R 336.2804

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall maintain and operate EUSOLIDFUELSYSTEM according to the procedures outlined in the preventative maintenance/malfunction abatement plan (PM/MAP). If at any time the PM/MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the PM/MAP within 45 days after such an event occurs. The permittee shall also amend the PM/MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the PM/MAP and any amendments to the PM/MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the PM/MAP or amended PM/MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1911, R 336.1912)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUSOLIDFUELSYSTEM unless the fabric filter with broken bag leak detectors or an alternative monitoring method approved in writing by the AQD District Supervisor is installed and/or implemented, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with a PM/MAP. **(R 336.1301, R 336.1331, R 336.1910)**

V. TESTING/SAMPLING

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

1. The permittee shall comply with federal Standards of Performance for New Stationary Sources which require evaluation of visible emissions from SVCOKEMIL1 of EUSOLIDFUELSYSTEM, at owner's expense, in accordance with 40 CFR Part 60, Subparts A and Y. Thereafter, a new performance test must be conducted within 90 operating days of the previous test if the six-minute average opacity reading exceeded half the applicable opacity limit or within 12 calendar months of the previous test if the 6-minute average opacity reading was equal to or less than half the applicable opacity limit. Visible emission observation procedures must have prior approval by the AQD Technical Programs Unit and District Office. No less than ten (10) days prior to the anticipated test date, the permittee shall notify the AQD District Supervisor of the test date. If after the anticipated test date has been submitted, there is a delay in conducting the test, the permittee shall submit to the AQD District Supervisor notice of the new test date. This notification shall take place a minimum of three days prior to the rescheduled test taking place. Verification of visible emissions includes the submittal of a complete report of opacity observations to the AQD Technical Programs Unit and District Office within 30 days following the last date of the test. As an alternative to this performance test the permittee may elect to comply with daily observations and performance testing once every 5 years, as described in SC VI.1 and VI.2. **(R 336.1301, 40 CFR 60.255(b)(2), 40 CFR 60.257, 40 CFR Part 60, Subparts A & Y)**

2. The permittee shall verify PM emission rates from SVCOKEMIL1 of EUSOLIDFUELSYSTEM concurrently with visual emissions test, as required by federal Standards of Performance for New Stationary Sources, by testing at owner's expense, in accordance with USEPA Method 5 or equivalent and 40 CFR Part 60, Subparts A and Y. The permittee shall notify the AQD District Supervisor in writing within 15 days of the date of commencement of trial operation in accordance with 40 CFR 60.7(a)(3). Stack testing procedures and the location of stack testing ports shall be in accordance with the applicable federal Reference Methods, 40 CFR Part 60 Appendix A. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of 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. **(R 336.1331, 40 CFR 60.255(d), 40 CFR 60.257, 40 CFR Part 60, Subpart Y)**

3. The permittee shall verify PM10 and PM2.5 emission rates from SVCOKEMIL1 of EUSOLIDFUELSYSTEM by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of 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. Testing thereafter shall be coordinated with the ROP testing of once every five years. **(R 336.2001, R 336.2003, R 336.2004, 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. As an alternative to visual emissions performance testing in SC V.1, the permittee may elect to do the following monitoring for SVCOKEMIL1 of EUSOLIDFUELSYSTEM:
   a) Conduct one daily 15-second observation each operating day (during normal operation) when the solid fuel preparation and processing plant is in operation. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Each observer determining the presence of visible emissions must meet the training requirements specified in §2.3 of Method 22 of appendix A-7 of 40 CFR Part 60. If visible emissions are observed during any 15-second observation, the owner or operator must adjust the operation of the affected facility and demonstrate within 24 hours that no visible emissions are observed from SVCOKEMIL1 of EUSOLIDFUELSYSTEM. If visible emissions are observed, a Method 9, of appendix A-4 of 40 CFR Part 60, performance test must be conducted within 45 operating days.
   b) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible.
   c) Conduct a performance test using Method 9 of appendix A-4 of this part at least once every 5 calendar years for each affected facility. **(40 CFR 60.255(f)(1), 40 CFR Part 60 Subpart Y)**

2. As an alternative to visual emissions performance testing in SC V.1, the permittee may elect to do the following monitoring for SVCOKEMIL1 of EUSOLIDFUELSYSTEM: Prepare a written site-specific monitoring plan for a digital opacity compliance system for approval by the Administrator or delegated authority. The plan shall require observations of at least one digital image every 15 seconds for 10-minute periods (during normal operation) every operating day. An approvable monitoring plan must include a demonstration that the occurrences of visible emissions are not in excess of 5 percent of the observation period. For reference purposes in preparing the monitoring plan, *see* OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer- Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. The monitoring plan approved by the Administrator or delegated authority shall be implemented by the owner or operator. **(40 CFR 60.255(f)(2), 40 CFR Part 60 Subpart Y)**

3. The permittee shall maintain and record a logbook for SVCOKEMIL1 of EUSOLIDFUELSYSTEM, in a satisfactory manner, with the records as specified below:
   a) The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, shall be noted.
   b) The date and time of periodic coal preparation and processing plant visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall be noted.
   c) The amount and type of coal processed each calendar month.
   d) The amount of chemical stabilizer or water purchased for use in the coal preparation and processing plant.
   e) Monthly certification that the dust suppressant systems were operational when any coal was processed and that manufacturer's recommendations were followed for all control systems. Any variance from the manufacturer's recommendations, if any, shall be noted.
   f) Monthly certification that the fugitive coal dust emissions control plan was implemented as described. Any variance from the plan, if any, shall be noted. A copy of the applicable fugitive coal dust emissions control plan and any letters from the Administrator providing approval of any alternative control measures shall be maintained with the logbook. Any actions, e.g., objections, to the plan and any actions relative to the alternative control measures, e.g., approvals, shall be noted in the logbook as well.
   g) For each bag leak detection system, the owner or operator must keep the records specified below:
      i) Records of the bag leak detection system output;
      ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection settings; and
      iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.
   h) A copy of any applicable monitoring plan for a digital opacity compliance system and monthly certification that the plan was implemented as described. Any variance from plan, if any, shall be noted.

   (40 CFR 60.258, 40 CFR Part 60 Subpart A and Y)

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification of EUSOLIDFUELSYSTEM authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUSOLIDFUELSYSTEM. **(R 336.1201(7)(a))**

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 Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVCOKEMILL1	63	119	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Y, as they apply to EUSOLIDFUELSYSTEM. **(40 CFR Part 60 Subparts A & Y)**

EUINLINEKILN
EMISSION UNIT CONDITIONS

DESCRIPTION

The in-line raw mill kiln system uses a proportioning system for grinding and mixing limestone, shale, sand, cement kiln dust (CKD), and overburden, in addition to sourced slag, calcium, aluminum, iron and silica. These raw materials are added to the raw mill where the material is ground, and heated creating a kiln feed mixture, which is conveyed to EUBLENDSILO for blending and storage.

Kiln feed is transferred from EUBLENDSILO via the kiln feed belt scale, elevator, and fed to upper stages of the pre-heating tower.

The kiln feed is calcined in the preheater tower, the source of heat for this reaction is generated in both the calciner and kiln, the kiln is the location where the feed is heated to a point where the calcined feed is melted and then cooled to start the formation of clinker.

A tertiary duct transfers hot exhaust gases from the clinker cooler to the calciner portion of the preheater tower.

Control equipment associated with in-line kiln system includes conditioning towers prior to downstream equipment (for modulating temperatures), SNCR, the main stack baghouse, and other smaller baghouses.

The calciner and kiln have been designed to use traditional solid and liquid fuels and various alternative fuels including recyclable and non-recyclable plastics excluding PVC, cellulose fibers, asphalt flakes, biomass, wood chips, paper, cardboard, non-tire derived rubber. Propane is utilized for refractory curing but not for production of clinker.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

The in-line raw mill kiln system includes conditioning towers prior to downstream equipment (for modulating temperatures), SNCR, the main stack baghouse, and other smaller baghouses.

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.25 lb per 1000 lbs exhaust gas	Hourly	EUINLINEKILN	SC V.1, SC VI.5, SC VI.6	R 336.1331(1)(a)
2. PM	0.07 pounds per ton of clinker produced	30-day rolling average	EUINLINEKILN	SC V.1, SC VI.2, SC VI.5, SC VI.6	40 CFR 63.1343(b)(1)
3. PM10	4,800 lb/day	Calendar day average	EUINLINEKILN – RawMill On	SC V.2, SC VI.11	R 336.2803, R 336.2804
4. PM10	7,200 lb/day	Calendar day average	EUINLINEKILN	SC V.2, SC VI.11_	R 336.2803, R 336.2804
5. PM2.5	4,800 lb/day	Calendar day average	EUINLINEKILN – RawMill On	SC V.2, SC VI.11	R 336.2803, R 336.2804

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
6. PM2.5	7,200 lb/day	Calendar day average	EUINLINEKILN	SC V.2, SC VI.11	R 336.2803, R 336.2804
7. SO_2	1,175 pph	Hourly, as the average of each calendar day's emissions over the time of operation.	EUINLINEKILN	SC V.6, SC VI.7	R 336.2803, R 336.2804
8. SO_2	7.50 lb/ton of clinker produced	12-month rolling time period as determined at the end of each calendar month	EUINLINEKILN	SC V.6, SC VI.2, SC VI.9	40 CFR 52.1183(h)
9. NO_x	700 pph	Hourly, as the average of each calendar day's emissions over the time of operation.	EUINLINEKILN	SC V.5, SC VI.8	R 336.2803, R 336.2804
10. NO_x (as NO_2)	2.80 lbs/ton of clinker produced	30-day rolling average	EUINLINEKILN	SC V.5, SC VI.2, SC VI.10	R 336.1801(4)(e), 40 CFR 52.1183(h)
11. NO_x (as NO_2)	2.40 lbs/ton of clinker produced	12-month rolling time period as determined at the end of each calendar month	EUINLINEKILN	SC V.5, SC VI.2, SC VI.10	R 336.1801(4)(e), 40 CFR 52.1183(h)
12. Dioxan/Furans (D/F)*	0.2 ng/dscm (TEQ) corrected to 7 percent oxygen**	Hourly	EUINLINEKILN	SC III.5, SC V.3	40 CFR 63.1343(b)(1)
13. Mercury	106 lbs/yr	12-month rolling time period as determined at the end of each calendar month	EUINLINEKILN	SC V.7, SC VI.17	R 336.1228
14. Mercury	55 lbs/million tons of clinker produced	30-day rolling average	EUINLINEKILN	SC V.7, SC VI.12	40 CFR 63.1343(b)(1)
15. Organic HAP (OHAP)	12 ppmvd corrected to 7 percent oxygen	30-day rolling average	EUINLINEKILN	SC V.4, SV VI.13	40 CFR 63.1343(b)(1) foot note 4 alternative
16. HCl	3 ppmvd corrected to 7 percent oxygen	30-day rolling average	EUINLINEKILN	SC V.8, SC VI.7, SC VI.14	40 CFR 63.1343(b)(1)

*Dioxin and furans (D/F), as defined in 40 CFR 63.1341.
**If the average temperature at the inlet to the first PM control device (fabric filter or electrostatic precipitator) during the D/F performance test is 400 °F or less, this limit is changed to 0.40 ng/dscm (TEQ).

II. MATERIAL LIMITS

1. The permittee may use clear, brown or green glass as a raw material in EUINLINEKILN. Other glass containing emerald and fluorescent colored green glass using chromium or uranium and "leaded" glass shall be prohibited. **(R 336.1225)**

2. The permittee may use aluminum based refractory as a raw material in EUINLINEKILN. This aluminum based refractory shall not come from a source that combusts hazardous waste. **(R 336.1225)**

3. The permittee may use coal, petroleum coke, fuel oil, propane, natural gas, and various alternative fuels including recyclable and non-recyclable plastics excluding PVC, cellulose fibers, asphalt flakes, biomass, wood chips, paper, cardboard, non-tire derived rubber and other fuels that meet legitimacy criteria as fuels, pursuant to 40 CFR Part 241, in EUINLINEKILN. **(R 336.1205(1), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804)**

4. The permittee shall not burn any fuel with asbestos tailing or asbestos containing waste materials as defined in 40 CFR 61.141 in EUINLINEKILN. **(R 336.1224, R 336.1225, R 336.1901, 40 CFR 61.141)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not produce more than 6,300 tons of clinker per day from EUINLINEKILN on a 30-day rolling average as determined at the end of each calendar day. **(R 336.1205(1)(a)(i), R 336.2803, R 336.2804)**

2. The permittee shall not produce more than 6,000 tons of clinker per day from EUINLINEKILN on a 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(1)(a)(i), R 336.2803, R 336.2804)**

3. The permittee shall maintain and operate EUINLINEKILN according to the procedures outlined in the preventative maintenance/malfunction abatement plan (PM/MAP). If at any time the PM/MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the PM/MAP within 45 days after such an event occurs. The permittee shall also amend the PM/MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the PM/MAP and any amendments to the PM/MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the PM/MAP or amended PM/MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. (**(R 336.1911, R 336.1912)**

4. The temperature of the gases at the inlet of MAIN stack baghouse shall not exceed the respective levels established during the most recent performance testing conducted pursuant to 40 CFR, Part 63.1349(b)(3), as follows:

   a) When the raw mill is operating, the temperature of the gases at the inlet of the MAIN baghouse established during the performance test when the raw mill was operating shall not be exceeded, except during startup and shutdown when the temperature limit may be exceeded by no more than 10%.
   b) When the raw mill is not operating, the temperature of the gases at the inlet of the MAIN baghouse established during the performance test when the raw mill was not operating shall not be exceeded, except during startup and shutdown when the temperature limit may be exceeded by no more than 10%.
   c) The temperature of the gases at the inlet of the MAIN baghouse established during the performance test when the raw mill was operating shall not be exceeded, except during startup and shutdown when the temperature limit may be exceeded by no more than 10%.

   (40 CFR 63.1346(a))

6. During periods of startup and shutdown the permittee shall meet the following requirements:

   a) During startup the permittee shall use any one or combination of the following clean fuels: natural gas, synthetic natural gas, propane, distillate oil, synthesis gas (syngas), and ultra-low sulfur diesel (ULSD) until the in-line kiln reaches a temperature of 1200 degrees Fahrenheit.
   b) Combustion of the primary kiln fuel may commence once the kiln temperature reaches 1200 degrees Fahrenheit.

   (40 CFR 63.1346(g))

7. As part of the application for a ROP, the permittee shall submit to the AQD District Supervisor, an approvable operation and maintenance plan. The plan shall contain all information required by 40 CFR 63.1347(a), as applicable, which includes the following:

   a) Procedures for proper operation and maintenance of EUINLINEKILN and associated air pollution control devices in order to meet the emissions limits and operating limits of 40 CFR 63.1343, and 63.1346. The permittees operations and maintenance plan must address periods of startup and shutdown.
   b) Corrective actions to be taken when required by paragraph 40 CFR 63.1350(f)(3);
   c) Procedures to be used during an inspection of the components of the combustion system of in-line kiln raw mill located at the facility at least once per year.

   (40 CFR 63.1347)

8. While combusting alternative fuels, the permittee shall operate EUINLINEKILN according to an approved Fuel Procurement and Monitoring Plan (FPMP). The permittee shall utilize the FPMP at all times to ensure that only fuel, as defined in SC II.3, is being burned in EUINLINEKILN and to prevent unacceptable fuel from being burned in EUINLINEKILN. The plan shall, at a minimum, specify the following:

   a) A description of fuel to be burned.
   b) Inspection and sorting procedures and protocol used to eliminate unauthorized fuels and minimize unauthorized fuel.
   c) Procedures for rejecting and/or removing unauthorized fuel.
   d) Supplier qualification, processing and inspection procedures for each supplier of source separated fuel.
   e) Auditing procedures including records of fuel specification, load identification, quality control of load and fuel pile(s).

   The permittee shall submit any amendments to the FPMP to the AQD District Supervisor for review and approval. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1205, R 336.1225)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install, calibrate, maintain, and operate continuous monitoring systems for NOx, SO_2, Mercury, THC, and HCl on EUINLINEKILN, in accordance with the procedures set forth in 40 CFR 60.13. These Performance Specifications are located in 40 CFR, Part 60, Appendix B and attached in Appendix 3B. **(40 CFR 60.13, R 336.2150)**

2. The permittee shall install, calibrate, maintain, and continuously operate a PM CPMS, for EUINLINEKILN, in accordance with the procedures set forth in 40 CFR Part 63 Subpart LLL. **(40 CFR 63.1350)**

3. The permittee shall not operate EUINLINEKILN unless the fabric filter baghouses are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved PM/MAP for EUINLINEKILN. **(R336.1301, R336.1331, R 336.1910, R 336.2803, R 336.2804)**

4. The permittee shall install, maintain, and operate a SNCR in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved PM/MAP for EUINLINEKILN. **(R 336.1910, R 336.2803, R 336.2804)**

5. The permittee shall install, calibrate, maintain, and continuously operate a CMS to record the temperature of the exhaust gases from the kiln, at the inlet to, or upstream of, the kiln PM control devices. **(40 CFR 63.1350)**

V. TESTING/SAMPLING

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

1. The permittee shall verify PM emission rates from EUINLINEKILN by testing, at owner's expense, in accordance with Method 5 or Method 5I at appendix A-3 to 40 CFR Part 60, annually. The PM CPMS shall be used to establish a site-specific operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit. The performance test shall be repeated annually to reassess and adjust the site-specific operating limit in accordance with the results of the performance test using the procedures in 40 CFR Part 63, Subpart LLL. The permittee shall also repeat the test if there's a change in the analytical range of the instrument, or if the instrument itself or any principle analytical component of the instrument that would alter the relationship of output signal to in-stack PM concentration is replaced. **(R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 63.1349, 40 CFR 63.1350)**

2. The permittee shall verify PM10 and PM2.5 emission rates from EUINLINEKILN by testing at owner's expense. Testing shall be repeated no more than 13 calendar months after the previous performance test. The results shall be used to establish site-specific emission factors for PM10 and PM2.5 in lb/ton. Testing shall be performed using an approved EPA Method listed below.

Pollutant	Test Method Reference
PM10 / PM2.5	40 CFR Part 51, Appendix M

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. 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. **(R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804)**

3. The permittee shall verify D/F emission rates from EUINLINEKILN by testing, at owner's expense, in accordance with Method 23 of appendix A-7 to part 40 CFR Part 60. The performance test shall be repeated no more than 31 calendar months after the previous performance test.
   a) Each performance test must consist of three separate runs conducted under representative conditions. The duration of each run must be at least 3 hours, and the sample volume for each run must be at least 2.5 dscm (90 dscf).
   b) The temperature at the inlet to the kiln or in-line kiln/raw mill PMCD, and, where applicable, the temperature at the inlet to the alkali bypass PMCD must be continuously recorded during the period of the Method 23 test, and the continuous temperature record(s) must be included in the performance test report.
   c) Average temperatures must be calculated for each run of the performance test.
   d) The run average temperature must be calculated for each run, and the average of the run average temperatures must be determined and included in the performance test report and will determine the applicable temperature limit in accordance with 40 CFR 63.1346(b).

   (R 336.2001, R 336.2003, R 336.2004, 40 CFR 63.1349, 40 CFR 63.1350)

4. The permittee shall demonstrate compliance with organic HAP emission rates from EUINLINEKILN with raw mill on and raw mill off, by testing, at owner's expense, in accordance with Method 320 of Appendix A of Part 63, Method 18 of Appendix A of Part 60, or ASTM D6348-03 or a combination of the methods and by the procedures in 63.1349(b)(7)(i) through (v). The performance test shall be repeated no more than 31 calendar months after the previous performance test. Each performance test must consist of three separate runs under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with 40 CFR 63.7(e). Each run must be conducted for at least 1 hour. **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 63.1349, 40 CFR 63.1350)**

5. The permittee shall perform the NO_x Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR, Part 60, each calendar quarter. **(40 CFR 60.13, Appendix F)**

6. The permittee shall perform the SO_2 Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR, Part 60, each calendar quarter. **(40 CFR 60.13, Appendix F)**

7. The permittee shall perform the mercury Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR, Part 60, each calendar quarter. **(40 CFR 60.13, Appendix F)**

8. The permittee shall perform the HCl Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR, Part 60, each calendar quarter. **(40 CFR 60.13, Appendix F)**

9. The permittee shall perform the THC Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR, Part 60, each calendar quarter. **(40 CFR 60.13, Appendix F)**

10. The permittee shall verify each shipment of alternate fuels is acceptable to use as fuel in EUINLINEKILN, by testing at owner's expense, in accordance with an approved FPMP. **(R 336.2001, R 336.2003)**

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 kiln feed rate in tons of dry feed per hour through EUINLINEKILN with instrumentation acceptable to the AQD. The kiln feed production rate is determined from the kiln feed weigh scale. All records shall be made available to the Department upon request. **(R 336.1205)**

2. The permittee shall calculate and record the production rate in tons of clinker produced per hour and per day from EUINLINEKILN on a daily basis using the equation in Appendix 3A or as approved by the AQD District Supervisor. **(R 336.1801, R 336.2803, R 336.2804, 40 CFR 63.1350(d))**

3. The permittee shall determine, record, and maintain a record of the accuracy of the system of measuring hourly clinker production (or feed mass flow if applicable) before initial use (for new sources) or by the effective compliance date of this rule (for existing sources). During each quarter of source operation, you must determine, record, and maintain a record of the ongoing accuracy of the system of measuring hourly clinker production (or feed mass flow). **(R 336.1205, 40 CFR 63.1350(d))**

4. The permittee shall maintain the average emissions or the operating parameter values within the operating parameter limits established through performance tests for each CMS. **(40 CFR 63.1350(a))**

5. To determine continuous compliance with SC I.2, the permittee must use the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. **(40 CFR 63.1350(b))**

6. For any exceedance of the 30 process operating day PM CPMS average value from the established operating parameter limit, you must:
   a) Within 48 hours of the exceedance, visually inspect the air pollution control device (APCD);
   b) If inspection of the APCD identifies the cause of the exceedance, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and;
   c) Within 30 days of the exceedance or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the PM CPMS operating limit within 45 days. You are not required to conduct additional testing for any exceedances that occur between the time of the original exceedance and the PM emissions compliance test required under this paragraph.

   (40 CFR 63.1350(b))

7. The permittee shall continuously monitor and record the SO_2 emissions of the exhaust gases from EUINLINEKILN routed through SVMAIN with a CEM system. The permittee shall maintain a QA/QC program as specified in Appendix F of 40 CFR Part 60 and to comply with the requirements as specified in PS 2, Appendix B of 40 CFR Part 60. If you choose to demonstrate HCl compliance by continuously monitoring SO_2 emissions, follow the procedures in 40 CFR 63.1350(l)(3). You must establish an SO_2 operating limit equal to the average recorded during the HCl stack test. This operating limit will apply only for demonstrating HCl compliance. **(40 CFR 60.13, R 336.1205(1)(a)(ii)(E), 40 CFR 63.1349(b)(6)(iii))**

8. The permittee shall continuously monitor and record the NO_x emissions and volumetric flow of the exhaust gases from EUINLINEKILN routed through SVMAIN with a CEM system. The permittee shall maintain a QA/QC program as specified in Appendix F of 40 CFR Part 60 and to comply with the requirements as specified in PS 2, Appendix B of 40 CFR Part 60. **(R 336.1205(1)(a)(ii)(E), R 336.1801(8), 40 CFR 60.13)**

9. The permittee shall keep, in a satisfactory manner, pounds per hour, pounds per ton of clinker produced, tons per month, and 12-month rolling time period SO_2 emission records from the SO_2 CEM system for EUINLINEKILN. **(R 336.2803, R 336.2804)**

10. The permittee shall keep, in a satisfactory manner, NO_x emission records in pounds per hour and pounds per ton of clinker produced, using the NO_x CEM system and the amount of clinker produced for EUINLINEKILN. **(R 336.1801, R 336.2803, R 336.2804, 40 CFR 52.1183(h))**

11. The permittee shall keep, in a satisfactory manner, PM10 and PM2.5 emission records in pounds per ton of clinker produced, and pounds per day using the factors established in the most recent accepted performance test and the amount of clinker produced for EUINLINEKILN. **(R 336.1801, R 336.2803, R 336.2804)**

12. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD, the mercury emissions, as specified in 40 CFR 63.1349(b)(5), in pounds per year and pounds per million ton of clinker produced from EUINLINEKILN on a monthly and 12-month rolling and 30-day rolling time period, as determined at the end of each calendar month. The permittee shall keep all records on file and make them available to the AQD upon request. **(R336.1228, 40 CFR 63.1350(k))**

13. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD, the THC/Organic HAP emissions, as specified in 40 CFR 63.1349(b)(7), based on a 30-day rolling average for EUINLINEKILN. The permittee shall keep all records on file and make them available to the AQD upon request. **(40 CFR 63.1350)**

14. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD, the HCl emissions, as specified in 40 CFR 63.1349(b)(6), based on a 30-day rolling average for EUINLINEKILN. The permittee shall keep all records on file and make them available to the AQD upon request. **(40 CFR 63.1350)**

15. The permittee shall keep records of the amount and type of glass used as a raw material and the amount and type of refractory used as a raw material in EUINLINEKILN. **(R 336.1225)**

16. The permittee shall retain and record the supplier certificates of quality, sampling analysis results, and manifests for each delivery of alternate fuels used in EUINLINEKILN. All documentation shall be made available to the AQD upon request. **(R 336.1225, R 336.1228)**

17. The permittee shall continuously monitor the alternate fuels feed rate to EUINLINEKILN using an in-line belt scale or other method, as approved by the AQD District Supervisor. The alternate fuels feed rate of EUINLINEKILN shall be continuously recorded (as described in Appendix 3A) in tons per hour as determined on a daily average using the plants electronic (computer) monitoring system and make all records available to the Department upon request. **(R 336.1205(1), R 336.1225)**

18. The permittee shall keep all sampling and/or testing results for the alternate materials used as fuel for EUINLINEKILN. The permittee shall use a recordkeeping method acceptable to the AQD District Supervisor and make all records available to the Department upon request. **(R 336.1225)**

19. The permittee shall verify that any material processed by EUINLINEKILN does not contain asbestos tailings or asbestos containing waste materials. **(R 336.1225)**

VII. REPORTING

1. Within 30 days following the end of each calendar quarter, the permittee shall submit the results of the NO_x Quality Assurance Procedures to the AQD in the format of the data assessment report (Figure 1, Appendix F of 40 CFR, Part 60). **(40 CFR 60.13, Appendix F)**

2. Prior to emissions testing, 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(3))**

3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated emissions test date. **(R 336.2001(4))**

4. No less than 30 days prior to the SO_2 performance evaluation of the CEM system, a complete test plan must be submitted to the AQD. The final test plan must have approval prior to the testing. The permittee shall submit to the AQD, within 60 days of completion, two copies of the final report demonstrating the CEM system complies with the performance specification requirements. **(40 CFR 60.13, 40 CFR Part 60, Appendix B)**

5. No less than 30 days prior to the performance evaluation of the NO_x CEM system, a complete test plan must be submitted to the AQD. The final test plan must have approval prior to the testing. The permittee shall submit to the AQD, within 60 days of completion, two copies of the final report demonstrating the CEM system complies with the performance specification requirements. **(40 CFR Part 60, Appendix B, R 336.1801(11), 40 CFR 60.13)**

6. The daily clinker production rate shall be submitted to the AQD District Supervisor within one month after the end of the calendar quarter. All records, including data generated during reviews and audits of clinker production as referred to in Appendix 3A or as approved by the AQD District Supervisor, shall be made available to the Department upon request. **(R 336.1205)**

7. Within 30 days of written request by the AQD District Supervisor, the permittee shall submit to the District Supervisor a written summary of the results of any review or audit of clinker production. The summary shall compare the tons of clinker produced as determined in the review or audit to the tons of clinker produced as calculated using Appendix 3A or as approved by the AQD District Supervisor. **(R 336.1205)**

8. Within 30 days following the end of each calendar quarter, the permittee shall submit the results of NOx and SO_2 Quality Assurance Procedures to the AQD in the format of the data assessment report (Figure 1, Appendix F of 40 CFR, Part 60). **(40 CFR 60.13, Appendix F)**

9. The permittee shall submit all applicable notification and reports as required by 40 CFR Part 63, Subpart LLL. **(40 CFR 63.1354)**

10. The permittee shall submit a written report of the results of the performance evaluation for the continuous monitoring system required by 40 CFR 63.8(e). The permittee shall submit the report simultaneously with the results of the performance test. **(R 336.2001(5), 40 CFR 63.1354(b)(6))**

11. The permittee shall submit, to the AQD District Office, an excess emissions and continuous monitoring system performance report for any event when the continuous monitoring system data indicate the source is not in compliance with the applicable emission limitation or operating parameter limit as specified in Appendix 3B. **(R 336.2150, 40 CFR 63.1354(b)(8))**

12. The permittee shall report, to the AQD District Office, each failure to meet a standard or emission limit caused by a malfunction in the semi-annual compliance report required by 40 CFR 63.1354(b)(9). The report must contain the date, time and duration, and the cause of each event (including unknown cause, if applicable), and a sum of the number of events in the reporting period. The report must list for each event the affected source or equipment, an estimate of the amount of each regulated pollutant emitted over the emission limit for which the source failed to meet a standard, and a description of the method used to estimate the emissions. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.1348(d), including actions taken to correct a malfunction. **(40 CFR 63.1354(c))**

13. The permittee shall submit a summary report semiannually within 60 days of the reporting period to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the extensible markup language (XML) schema listed on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri*), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report the Administrator at the appropriate address listed in 40 CFR 63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. The excess emissions and summary reports must be submitted no later than 60 days after the end of the reporting period, regardless of the method in which the reports are submitted. The report must contain the information specified in 40 CFR 63.10(e)(3)(vi). In addition, the summary report shall include: **(40 CFR 63.1354(b)(9))**
    a) All exceedances of maximum control device inlet gas temperature limits specified in 40 CFR 63.1346(a) and (b);
    b) Notification of any failure to calibrate thermocouples and other temperature sensors as required under 40 CFR 63.1350(g)(1)(iii) of this subpart; and
    c) Notification of any failure to maintain the activated carbon injection rate, and the activated carbon injection carrier gas flow rate or pressure drop, as applicable, as required under 40 CFR 63.1346(c)(2).
    d) Notification of failure to conduct any combustion system component inspections conducted within the reporting period as required under 40 CFR 63.1347(a)(3).
    e) Any and all failures to comply with any provision of the operation and maintenance plan developed in accordance with 40 CFR 63.1347(a).
    f) For each PM CPMS, and HCl, Hg, THC, SO_2 CEMS, or Hg sorbent trap monitoring system, within 60-days after the reporting periods, you must report all of the calculated 30-operating day rolling average values derived from the CPMS, CEMS, CMS, or Hg sorbent trap monitoring systems.
    g) In response to each violation of an emissions standard or established operating parameter limit, the date, duration and description of each violation and the specific actions taken for each violation including inspections, corrective actions and repeat performance tests and the results of those actions.

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. SVMAIN	93	323	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. 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 EUINLINEKILN. **(40 CFR Part 63, Subparts A & LLL**)

2. The permittee shall comply with all applicable requirements of the Standards of Performance for Portland Cement Plants as specified in 40 CFR Part 60, Subpart A and Subpart F, as they apply to EUINLINEKILN. **(40 CFR Part 60, Subpart A & F)**

3. The permittee shall comply with all applicable requirements of the Regional Haze Regulations requiring Best Available Retrofit Technology (BART) effective January 1, 2017. **(40 CFR 52.1183(h))**

4. Within 60 days of permit issuance, the permittee shall submit to the AQD District Supervisor a Fuel Procurement Monitoring Plan (FPMP) for the alternative fuels burned in EUINLINEKILN. 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)**

EUCLINKCOOL
EMISSION UNIT CONDITIONS

DESCRIPTION

The new clinker cooler consists of equipment associated with the cooling of clinker and the treatment of the cooler gases, including: clinker cooler, clinker heat exchanger, and fabric filter baghouses.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Fabric filter baghouse for particulate matter control.
COOLER – Clinker Cooler

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.02 lb/ton of clinker throughput	Hourly	EUCLINKCOOL	SC V.1, SC VI.1	R 336.1301, 40 CFR 60.62(b), 40 CFR 63.1343(b)
2. PM10	5.0 pph	Hourly	EUCLINKCOOL	SC V.2	R 336.2803, R 336.2804
3. PM2.5	5.0 pph	Hourly	EUCLINKCOOL	SC V.2	R 336.2803, R 336.2804

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall develop a site-specific monitoring plan according to the following requirements:
   a) Installation of the continuous monitoring system (CMS) sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);
   b) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and
   c) Performance evaluation procedures and acceptance criteria (e.g., calibrations),
   d) Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1), (c)(3), and (c)(4)(ii);
   e) Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d);
   f) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).

   The plan must be submitted at least 30 days before the initial performance evaluation of the PM continuous parametric monitoring system (CPMS). **(40 CFR 60.63(i))**

2. The permittee shall maintain and operate EUCLINKCOOL according to the procedures outlined in the preventative maintenance/malfunction abatement plan (PM/MAP). If at any time the PM/MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the PM/MAP within 45 days after such an event occurs. The permittee shall also amend the PM/MAP within 45 days, ifproduced new equipment is installed or upon request from the District Supervisor. The permittee shall submit the PM/MAP and any amendments to the PM/MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the PM/MAP or amended PM/MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1911, R 336.1912)**

3. The permittee shall install and operate a PM continuous parametric monitoring system (CPMS) for EUCLINKCOOL in accordance with 40 CFR Part 63, Subpart LLL. **(40 CFR 63.1350(b))**

4. The permittee shall not operate EUCLINKCOOL unless the AQD approved Operations and Maintenance Plan is implemented and maintained. **(R 336.1911, 40 CFR 63.1347)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. A PM CPMS shall be installed, calibrated, maintained, and operated for EUCLINKCOOL in accordance with the procedures set forth in 40 CFR Part 60. **(40 CFR 60.63(c), 40 CFR 63.1350(b))**

2. The permittee shall not operate EUCLINKCOOL unless the fabric filter baghouses are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved PM/MAP for EUCLINKCOOL. **(R 336.1301, R 336.1331, R 336.1910, R 336.2803, R 336.2804)**

V. TESTING/SAMPLING

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

1. The permittee shall verify PM emission rates from EUCLINKCOOL and while concurrently monitoring continuous performance through the use of a PM CPMS to establish a site specific operating limit, as required by federal Standards of Performance for New Stationary Sources, by testing at owner's expense, in accordance with 40 CFR Part 60 Subparts A and F. The permittee shall notify the AQD District Supervisor in writing within 15 days of the date of commencement of trial operation in accordance with 40 CFR 60.7(a)(3). Stack testing procedures and the location of stack testing ports shall be in accordance with the applicable federal Reference Methods, 40 CFR Part 60 Appendix A. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of 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. **(R 336.1331, 40 CFR 60.64, 40 CFR 63.1349)**

2. The permittee shall verify PM emission rates from EUCLINKERCOOLER by testing, at owner's expense, in accordance with the AQD requirement, no more than 13 calendar months from previous test. The PM CPMS shall be used to establish a site-specific operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit. The performance test shall be repeated no more than 13 calendar months from previous to reassess and adjust the site-specific operating limit in accordance with the results of the performance test using the procedures in 40 CFR Part 63, Subpart LLL. The permittee shall also repeat the test if there's a change in the analytical range of the instrument, or if the instrument itself or any principle analytical component of the instrument that would alter the relationship of output signal to in-stack PM concentration is replaced. **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 63.1349, 40 CFR 63.1350)**

3. The permittee shall verify PM10 and PM2.5 emission rates from EUCLINKCOOL by testing at owner's expense. Testing shall be repeated once every five years after the previous performance test. Testing shall be performed using an approved EPA Method listed below.

Pollutant	Test Method Reference
PM10 / PM2.5	40 CFR Part 51, Appendix M

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. 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. **(R 336.2001, R 336.2003, R 336.2004, 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 maintain the average emissions or the operating parameter values within the operating parameter limits established through performance tests for each CMS. **(40 CFR 63.1350(b))**

2. To determine continuous compliance with SC I.2, the permittee must use the PM CPMS output data for all periods when the process is operating, and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. **(40 CFR 63.1350(b))**

3. For any exceedance of the 30 operating day PM CPMS average value from the established operating parameter limit, you must:

   a) Within 48 hours of the exceedance, visually inspect the air pollution control device (APCD);
   b) If inspection of the APCD identifies the cause of the exceedance, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and
   c) Within 30 days of the exceedance or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the PM CPMS operating limit within 45 days. You are not required to conduct additional testing for any exceedances that occur between the time of the original exceedance and the PM emissions compliance test required under this paragraph.
   (40 CFR 63.1350(b))

4. The permittee shall calculate and record the production rate in tons of clinker produced per hour and per day from EUINLINEKILN on a daily basis using the equation in Appendix 3. **(R 336.1801, R 336.2803, R 336.2804, 40 CFR 63.1350(d))**

5. The permittee shall determine, record, and maintain a record of the accuracy of the system of measuring hourly clinker production (or feed mass flow if applicable) before initial use (for new sources) or by the effective compliance date of this rule (for existing sources). During each quarter of source operation, you must determine, record, and maintain a record of the ongoing accuracy of the system of measuring hourly clinker production (or feed mass flow). **(40 CFR 63.1350(d))**

VII. REPORTING

1. Within 60 days after the date of completing each performance test (see 40 CFR 60.8) as required by 40 CFR Part 60 Subpart F, the permittee shall submit the results of the performance tests conducted to demonstrate compliance with 40 CFR Part 60 Subpart F. **(40 CFR 60.64(d), 40 CFR Part 60 Subparts A & F)**

2. For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (e.g. beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run. **(40 CFR 60.64(d), 40 CFR Part 60 Subparts A & F)**

3. Each owner or operator required to install a CPMS or CEM system under sections 40 CFR 60.63(c) through (e) shall submit reports of excess emissions. The content of these reports must comply with the requirements in 40 CFR 60.7(c). Notwithstanding the provisions of 40 CFR 60.7(c), such reports shall be submitted semiannually. **(40 CFR 60.65(a), 40 CFR Part 60 Subparts A & F)**

4. Each owner or operator of facilities subject to the provisions of 40 CFR 60.63(c) through (e) shall submit semiannual reports of the malfunction information required to be recorded by 40 CFR 60.7(b). These reports shall include the frequency, duration, and cause of any incident resulting in deenergization of any device controlling clinker cooler emissions or in the venting of emissions directly to the atmosphere. **(40 CFR 60.65(b), 40 CFR Part 60 Subparts A & F)**

VIII. STACK/VENT RESTRICTIONS

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 Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVCOOLER	132	134	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all applicable requirements of the federal Standards of Performance for Portland Cement Plants as specified in 40 CFR Part 60 Subparts A and F, as they apply to EUCLINKCOOL. **(40 CFR Part 60 Subparts A & F)**

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

EUFINISHMILL4
EMISSION UNIT CONDITIONS

DESCRIPTION

Horizontal finish mill used to grind clinker with gypsum and other additives to produce cement products.

Flexible Group ID: FGFINISHMILLS, FGNONKILNFACILITY

POLLUTION CONTROL EQUIPMENT

Fabric filter baghouse for particulate matter control.
FM4 – Finish mill No. 4

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Opacity	10 percent	6-minute average per hour	EUFINISHMILL4	SC VI.1	R 336.1301, 40 CFR 60.62(c), 40 CFR 63.1345
2. PM	0.15 lb/1000 lbs exhaust gas	Hourly	EUFINISHMILL4	SC V.1	R 336.1331
3. PM10	6.24 pph	Hourly	EUFINISHMILL4	SC V.2	R 336.2803, R 336.2804
4. PM2.5	6.24 pph	Hourly	EUFINISHMILL4	SC V.2	R 336.2803, R 336.2804

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall maintain and operate EUFINISHMILL4 according to the procedures outlined in the preventative maintenance/malfunction abatement plan (PM/MAP). If at any time the PM/MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the PM/MAP within 45 days after such an event occurs. The permittee shall also amend the PM/MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the PM/MAP and any amendments to the PM/MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the PM/MAP or amended PM/MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1911, R 336.1912)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EUFINISHMILL4 unless the fabric filter baghouses are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved PM/MAP for EUFINISHMILL4. **(R 336.1301, R 336.1331, R 336.1910, R 336.2803, R 336.2804)**

V. TESTING/SAMPLING

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

1. Within 60 days after achieving the maximum production rate, but not later than 180 days after commencement of initial startup of EUFINISHMILL4, the permittee shall verify PM emission rates from EUFINISHMILL4 by testing at owner's expense, in accordance with Department requirements. Testing thereafter shall be coordinated with the ROP testing once every five years. **(R 336.1331(1)(a), R 336.2001, R 336.2003)**

2. Within 60 days after achieving the maximum production rate, but not later than 180 days after commencement of initial startup of EUFINISHMILL4, the permittee shall verify PM10 and PM2.5 emission rates from EUFINISHMILL4 by testing at owner's expense, in accordance with Department requirements. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of 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. Testing thereafter shall be coordinated with the ROP testing once every five years. **(R 336.2001, R 336.2003, R 336.2004, 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 keep, in a satisfactory manner, PM10 and PM2.5 emission records and performance test results for EUFINISHMILL4. **(R 336.2803, R 336.2804)**

VII. REPORTING

1. The permittee shall submit all applicable reports as described in the National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants as they apply to EUFINISHMILL4. **(40 CFR 63.1354, 40 CFR 60.65)**

VIII. STACK/VENT RESTRICTIONS

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 Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVFM4	98.5	141	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all applicable requirements of the federal Standards of Performance for Portland Cement Plants as specified in 40 CFR Part 60 Subparts A and F, as they apply to EUFINISHMILL4. **(40 CFR Part 60 Subparts A & F)**

2. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry as specified in 40 CFR Part 63, Subparts A and LLL as they apply to EUFINISHMILL4. **(40 CFR Part 63, Subparts A & LLL)**

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
FGNONKILNFACILITY	This flexible group covers handling the materials, gases, fuels, and dust associated with the production of cement. Included are limestone, bottom ash, fly ash, sand; clinker cooler gases; coal and petroleum coke; and the finished cement product.	EURAWMATHANDSTOR, EUCLINKERHAND, EUCEMENTHAND&STO, EUCOALSYSTEM, EUSOLIDFUELSYSTEM, EUCKDHANDSTOR, EUFINISHMILL4
FGPROJECT2016	Upgrades at the existing Portland cement plant to increase the production capacity. A Hybrid applicability analysis was used to determine a non-significant emission increase.	EURAWMATHANDSTOR, EUCLINKERHAND, EUCEMENTHAND&STO, EUFINISHMILL4, EUSOLIDFUELSYSTEM, EUCKDHANDSTOR, EUCLINKERCOOL, EUINLINEKILN
FGPROJECTADDAF	Project to include additional alternate fuels to the current fuel portfolio.	EUINLINEKILN

FGNONKILNFACILITY
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

This Flexible Group covers handling the materials, gasses, fuels, and dust associated with the production of cement. Included are limestone, bottom ash, fly ash, sand; clinker cooler gasses; coal and petroleum coke; alternative fuels and the finished cement product that is shipped for sale.

Emission Units: EUALTFUELSSTORAGE, EURAWMATHANDSTOR, EUCLINKERHAND, EUCEMENTHAND&STO, EUCOALSYSTEM, EUSOLIDFUELSYSTEM, EUCKDHANDSTOR, EUFINISHMILL4

POLLUTION CONTROL EQUIPMENT

Fabric filter baghouses for particulate matter control.
NEW009 – Raw Mill Blending Silo Extraction
NEW0009-1 – PH Bucket Tower Inlet
NEW010 – Top of PH Tower Feed
NEW013 – Clinker Conveyor
NEW014 – Clinker Conveyor Transfer
NEW014-1 – Clinker Conveyor Transfer #2
NEW015 – Cement Mill 4 Feed Conveyor
NEW015-1 – Cement Mill 4 Feed Conveyor #2
NEW015-2 – Cement Mill 4 Feed Conveyor #3
NEW017 – Cement Air Slides to Cement Cooler
NEW018 – Cement Silos Feed

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Opacity	10 percent	6-minute average per hour	FGNONKILNFACILITY	SC VI.1	R 336.1301, 40 CFR 63.1345
2. PM	0.15 lb/1000 lbs exhaust gas	Hourly	FGNONKILNFACILITY	SC VI.1	R 336.1331
3. PM10	0.37 pph	Hourly	Each for SVNEW015, SVNEW015-1, SVNEW015-2 of EUCLINKERHAND	SC VI.1	R 336.2803, R 336.2804
4. PM2.5	0.37 pph	Hourly	Each for SVNEW015, SVNEW015-1, SVNEW015-2 of EUCLINKERHAND	SC VI.1	R 336.2803, R 336.2804
5. PM10	0.041 pph	Hourly	SVNEW017 of EUCEMENTHAND&STOR	SC VI.1	R 336.2803, R 336.2804
6. PM2.5	0.041 pph	Hourly	SVNEW017 of EUCEMENTHAND&STOR	SC VI.1	R 336.2803, R 336.2804
7. PM10	0.016 pph	Hourly	SVNEW018 of EUCEMENTHAND&STOR	SC VI.1	R 336.2803, R 336.2804
8. PM2.5	0.016 pph	Hourly	SVNEW018 of EUCEMENTHAND&STOR	SC VI.1	R 336.2803, R 336.2804

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
9. PM10	0.0167 pph	Hourly	Each for SVNEW013, SVNEW014, SVNEW014-1 of EUCLINKERHAND	SC VI.1	R 336.2803, R 336.2804
10. PM2.5	0.0167 pph	Hourly	Each for SVNEW013, SVNEW014, SVNEW014-1 of EUCLINKERHAND	SC VI.1	R 336.2803, R 336.2804
11. PM10	0.042 pph	Hourly	Each for SVNEW009, SVNEW009-1, SVNEW010 of EURAWMATHANDSTOR	SC VI.1	R 336.2803, R 336.2804
12. PM2.5	0.042 pph	Hourly	Each for SVNEW009, SVNEW009-1, SVNEW010 of EURAWMATHANDSTOR	SC VI.1	R 336.2803, R 336.2804

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The requirement to conduct Method 22 visible emissions monitoring pursuant to SC VI.1 and 40 CFR 63.1350(f)(1) do not apply to any totally enclosed conveying system transfer point, regardless of the location of the transfer point. "Totally enclosed conveying system transfer point" means a conveying system transfer point that is enclosed on all sides, top, and bottom. The enclosures for these transfer points must be operated and maintained as total enclosures on a continuing basis in accordance with the facility operations and maintenance plan. **(40 CFR 63.1350(f)(1)(v))**

2. The permittee shall not operate FGNONKILNFACILITY unless the Operations and Maintenance Plan (OMP), including a fugitive dust plan, is implemented and maintained. **(R 336.1205, R 336.1901, 40 CFR 63.1347)**

3. The permittee shall maintain and operate FGNONKILNFACILITY according to the procedures outlined in the preventative maintenance/malfunction abatement plan (PM/MAP). If at any time the PM/MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the PM/MAP within 45 days after such an event occurs. The permittee shall also amend the PM/MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the PM/MAP and any amendments to the PM/MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the PM/MAP or amended PM/MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1911, R 336.1912, 40 CFR 63.6(e)(3))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The belt conveyor installed to convey refractory to the kiln system shall be covered or located in an enclosed structure. **(R 336.1301)**

2. The permittee shall not operate FGNONKILNFACILITY unless the fabric filter baghouses are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved PM/MAP for FGNONKILNFACILITY. **(R 336.1301, R 336.1331, R 336.1910, R 336.2803, R 336.2804)**

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. Monthly 10-minute visible emissions observations using USEPA Method 22 shall be conducted on each emission point of FGNONKILNFACILITY while operating. If visible emissions are observed, 30 minutes of opacity observations, recorded at 15-second intervals must be conducted in accordance with USEPA Method 9. The USEPA Method 9 test shall begin within one hour of any observation of visible emissions. The test frequency shall be semiannual for each emission point for which there are no visible emissions observed over six consecutive monthly tests. The test frequency shall be annually if there are no visible emissions observed for an emission point during the semiannual test for the emission point. If any visible emissions are observed in the semiannual or annual visible emissions observations for an emission point, the facility shall resume monthly testing until the emission point again meets the requirements for semiannual or annual testing. **(40 CFR 63.1350(f)(1))**

2. If any partially enclosed or unenclosed conveying system transfer point is located in a building, the permittee must conduct a Method 22 performance test according to the requirements of SC VI.1 above for each such conveying system transfer point located within the building, or for the building itself, according to SC VI.3 and 40 CFR 63.1350(f)(1)(vii). **(40 CFR 63.1350(f)(1)(vi))**

3. If monitored emission points include visible emissions from a building, the requirements of SC VI.1 apply to the monitoring of the building. The permittee must test visible emissions from each side, roof, and vent of the building for at least 10 minutes using USEPA Method 22. **(40 CFR 63.1350(f)(1)(vii))**

4. The permittee shall keep, in a satisfactory manner, visible emission records for FGNONKILNFACILITY. All records shall be made available to the Department upon request. **(40 CFR 63.1355)**

5. The permittee shall keep records as required in the OMP. All records shall be made available to the Department upon request. **(R 336.1911)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of FGNONKILNFACILITY. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS

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 Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVNEW009	22	50	R 336.1225, R 336.2803, R 336.2804
2. SVNEW009-1*	24	24	R 336.1225, R 336.2803, R 336.2804
3. SVNEW010*	22	288	R 336.1225, R 336.2803, R 336.2804
4. SVNEW013*	14	24	R 336.1225, R 336.2803, R 336.2804
5. SVNEW014*	14	47	R 336.1225, R 336.2803, R 336.2804
6. SVNEW014-1*	14	79	R 336.1225, R 336.2803, R 336.2804
7. SVNEW015*	30	42	R 336.1225, R 336.2803, R 336.2804
8. SVNEW015-1*	30	49	R 336.1225, R 336.2803, R 336.2804
9. SVNEW015-2*	30	60	R 336.1225, R 336.2803, R 336.2804
10. SVNEW017	24	8.0	R 336.1225, R 336.2803, R 336.2804
11. SVNEW018	14	56	R 336.1225, R 336.2803, R 336.2804
*Horizontal Discharge			

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry as specified in 40 CFR Part 63, Subparts A and LLL. **(40 CFR Part 63, Subparts A & LLL)**

2. The permittee shall comply with the approved OMP, or an alternate plan approved by the AQD District Supervisor. If the plan is not adequate, the owner or operator shall revise the plan within 45 days after such an event occurs and submit the revised plan to the AQD District Supervisor. **(40 CFR 63.1347)**

FGPROJECT2016
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Upgrades at the existing Portland cement plant to increase the production capacity. A Hybrid applicability analysis was used to determine a non-significant emission increase.

Emission Units: EURAWMATHANDSTOR, EUCLINKERHAND, EUCEMENTHAND&STO, EUFINISHMILL4, EUSOLIDFUELSYSTEM, EUCKDHANDSTOR, EUCLINKERCOOL, EUINLINEKILN

POLLUTION CONTROL EQUIPMENT

Fabric filter baghouses for particulate matter control and SNCR.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

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 calculate and keep records of the annual emissions of PM10 and SO_2 from FGPROJECT2016 described in Appendix 4, in tons per calendar year. Calculations and record keeping shall begin the month in which regular operations of FGPROJECT2016 resumes operation and shall continue for ten (10) years. **(R 336.2818, 40 CFR 52.21(r)(6)(c)(iii))**

VII. REPORTING

1. The permittee shall submit records of the annual emission of PM10 and SO_2 from FGPROJECT2016 described in Appendix 4, in tons per calendar year, to the AQD District Supervisor and Permit Section Supervisor within 60 days following the end of each reporting year if both the following occur:

   a) The calendar year actual emission of PM10 and SO_2 exceed the baseline actual emissions (BAE) by a significant amount, and
   b) The calendar year actual emissions differ from the pre-construction projection. (The pre-construction projection is the sum of the projected actual emissions from each existing emission unit and the potential emissions from each new emission unit included in the Hybrid Applicability Test used for FGPROJECT2016.)

The report shall contain the name, address, and telephone number of the facility; the annual emissions as calculated pursuant to SC VI.1, and any other information the owner or operator wishes to include (i.e., an explanation why emissions differ from the pre-construction projection). **(R 336.2818, 40 CFR 52.21(r)(6)(c)(iii))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FGPROJECTADDAF
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Project to include additional alternate fuels to the current fuel portfolio including paper, cardboard, biomass, wood chips, non-tire derived rubber, recyclable plastics, non-recyclable plastics excluding PVC and other fuels meeting the legitimacy criteria as fuels, pursuant to 40 CFR Part 241, and plant specifications.

Emission Unit: EUINLINEKILN

POLLUTION CONTROL EQUIPMENT

Fabric filter baghouses for particulate matter control and SNCR.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

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 calculate and keep records of the annual emissions of SO_2 from FGPROJECTADDAF described in Appendix 4, in tons per calendar year. Calculations and record keeping shall begin the month in which regular operations of FGPROJECTADDAF resumes operation and shall continue for five (5) years. **(R 336.2818, 40 CFR 52.21(r)(6)(c)(iii))**

VII. REPORTING

1. The permittee shall submit records of the annual emission of SO_2 from FGPROJECTADDAF described in Appendix 4, in tons per calendar year, to the AQD District Supervisor and Permit Section Supervisor within 60 days following the end of each reporting year if both the following occur:

   a) The calendar year actual emission of SO_2 exceed the baseline actual emissions (BAE) by a significant amount, and

b) The calendar year actual emissions differ from the pre-construction projection. (The pre-construction projection is the sum of the projected actual emissions from each existing emission unit and the potential emissions from each new emission unit included in the Hybrid Applicability Test used for FGPROJECTADDAF.)

The report shall contain the name, address, and telephone number of the facility; the annual emissions as calculated pursuant to SC VI.1, and any other information the owner or operator wishes to include (i.e., an explanation why emissions differ from the pre-construction projection). **(R 336.2818, 40 CFR 52.21(r)(6)(c)(iii))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

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

APPENDIX 3A - Monitoring
Methods for Determining Clinker Production

The following monitoring procedures, methods, or specifications are the details to the monitoring requirements identified and referenced in EUINLINEKILN.

NESHAP Methodology

1. Determine hourly clinker production by one of two methods:
   i) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of clinker produced. The system of measuring hourly clinker production must be maintained within ±5 percent accuracy.
   ii) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of feed to the kiln. The system of measuring feed must be maintained within ±5 percent accuracy. Calculate your hourly clinker production rate using a kiln specific feed to clinker ratio based on reconciled clinker production determined for accounting purposes and recorded feed rates. This ratio must be updated monthly. Note that if this ratio changes at clinker reconciliation, you must use the new ratio going forward, but you do not have to retroactively change clinker production rates previously estimated.

2. Determine, record, and maintain a record of the accuracy of the system of measuring hourly clinker production (or feed mass flow if applicable). During each quarter of source operation, you must determine, record, and maintain a record of the ongoing accuracy of the system of measuring hourly clinker production (or feed mass flow).

3. Record the daily clinker production rates and kiln feed rates; and

4. Develop an emissions monitoring plan.

APPENDIX 3B - Monitoring

Continuous Emission Monitoring/Continuous Emission Rate Monitoring System (CEMS/CERMS)

1. Within 30 calendar days after commencement of initial start-up, the permittee shall submit two copies of a Monitoring Plan to the AQD, for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required CEMS/CERMS.

2. Within 150 calendar days after commencement of initial start-up, the permittee shall submit two copies of a complete test plan for the CEMS/CERMS to the AQD for approval.

3. Within 180 calendar days after commencement of initial start-up, the permittee shall complete the installation and testing of the CEMS/CERMS.

4. Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CEMS/CERMS complies with the requirements of the corresponding Performance Specifications (PS) in the following table:

Pollutant	Applicable PS
NO_x/SO_2	2
CO_2/O_2	3
CO	4
CERMS	6
THC	8
Mercury	12A or 12B
HCl	18

5. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.

6. The CEMS/CERMS shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and Appendix B to 40 CFR Part 60.

7. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CEMS/CERMS set forth in Appendix F of 40 CFR Part 60.
   a) Within 30 days following the end of each calendar quarter, the permittee shall submit the results for NOx, SO2, and CO2/O2 to the AQD in the format of the data assessment report (Figure 1, Appendix F of 40 CFR Part 60).
   b) Within 60 days following the end of the semiannual period, the permittee shall submit the results for THC, Mercury, and HCl to the AQD in the format required by 40 CFR, Part 63 Subpart LLL.

8. In accordance with 40 CFR 60.7(c) and (d), the permittee shall submit two copies of an excess emission report (EER) and summary report for NOx, SO_2, and CO_2/O_2 in an acceptable format to the AQD, 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 following information:
   a) A report of each exceedance above the limits specified in the Emission Limits of this permit. This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
   b) A report of all periods of CEMS/CERMS downtime and corrective action.
   c) A report of the total operating time of the kiln during the reporting period.
   d) A report of any periods that the CEMS/CERMS exceeds the instrument range.
   e) If no exceedances or CEMS/CERMS downtime occurred during the reporting period, the permittee shall report that fact.

9. In accordance with 40 CFR Part 63 Subpart LLL, the permittee shall submit two copies of an excess emission report (EER) and summary report for THC, Mercury, and HCl in an acceptable format to the AQD within 60 days following the end of each semiannual period. The Summary Report shall follow the format required by 40 CFR, Part 63 Subpart LLL.

10. The permittee shall keep all monitoring data on file for a period of at least five years and make them available to the AQD upon request.

APPENDIX 4 – Recordkeeping
Applicability Tests

All information in this Appendix shall be maintained pursuant to R 336.2818 and 40 CFR 52.21(r)(6)(i) for ten years after the emission unit(s) identified in Table C resume normal operations, and shall be provided to the Department for the first year and thereafter made available to the Department upon request.

1) FGPROJECT2016

A. Project Description: St. Marys Cement is an existing Portland cement manufacturing facility, located at 16000 Bells Bay Road, Charlevoix, Michigan. The plant consists of quarry operations, primary and secondary crushing systems, raw material feed receiving and storage areas, raw mill grinding and drying, coal and petroleum coke fuel receiving/storage/crushing areas, a calciner (where calcining begins and raw feed preheating occurs), a rotating kiln, clinker cooler, clinker storage systems, finish mill systems, and a cement storage and shipping facility. The raw mill, calciner and kiln are identified as an "in-line kiln system."

St. Marys Cement is proposing to upgrade their existing Portland cement plant. The upgrade will result in an increase in the plant's capability to produce Portland cement from a current nominal design capacity of 4,480 short tons of clinker per day to a nominal 6,000 short tons of clinker per day, based on a 12-month rolling average, which will result in an increased production design capacity by approximately 24 percent. The following is a list of the proposed changes: replace the existing gravity clinker cooler, the existing rotating kiln will be replaced with a shorter kiln shell, a new solid fuel processing mill added to the existing coal processing mill, a new raw feed blending silo with associated material handling equipment (currently included in PTI 115-15), a new horizontal rotary finish ball mill will be added to the three existing mills, miscellaneous conveyance equipment will be installed and upgrades to existing conveyance equipment will be made.

B. Applicability Test Description: Hybrid Test

C. Limitations: 6,300 tons of clinker per day from EUINLINEKILN on a 30-day rolling average and 6,000 tons of clinker per day from EUINLINEKILN on a 12-month rolling time period.

Table C

		Emissions (tpy)			
Emission Unit/Flexible Group ID	**Pollutant**	**Baseline Actual**	**Projected Actual**	**Excluded**	**Reason for Exclusion**
EUINLINEKILN	SO_2	2,828	3,705	838	Capable of accommodating clinker production rate. (The maximum 30 consecutive day clinker production during the baseline period of 02/12/2008 through 02/11/2010 was determined and annualized for a 12-month period.)
EUINLINEKILN	PM10	552	697	131	Capable of accommodating clinker production rate. (The maximum 30 consecutive day clinker production during the baseline period of 05/01/2012 through 04/30/2014 was determined and annualized for a 12-month period.)

2) FGPROJECTADDAF

A. Project Description: St. Marys Cement is an existing Portland cement manufacturing facility, located at 16000 Bells Bay Road, Charlevoix, Michigan. The plant consists of quarry operations, primary and secondary crushing systems, raw material feed receiving and storage areas, raw mill grinding and drying, coal and petroleum coke fuel receiving/storage/crushing areas, a calciner (where calcining begins and raw feed preheating occurs), a rotating kiln, clinker cooler, clinker storage systems, finish mill systems, and a cement storage and shipping facility. The raw mill, calciner and kiln are identified as an "in-line kiln system."

St. Marys Cement is proposing to additional fuels to their alternative fuels (AF) portfolio. The upgrade will not result in an increased design capacity of the inline kiln system. As part of this project, St. Marys is proposing to install a new AF Building, which will be used to store and process AF prior to its introduction into the calciner and eventually into the main kiln burner. AF requiring onsite shredding will be delivered to the new AF Building. AF may also be delivered in ready-to-use form (i.e., preprocessed/preshredded). An enclosed air supported conveyor will transport AF from the AF building to the calciner dosing unit in the preheater tower. The dosing unit is to provide continuous gravimetric dosing of the AF to the calciner. The dosing unit will discharge to calciner through a discharge chute.

B. Applicability Test Description: Hybrid Test

C. Limitations: 6,300 tons of clinker per day from EUINLINEKILN on a 30-day rolling average and 6,000 tons of clinker per day from EUINLINEKILN on a 12-month rolling time period.

Table C

			Emissions (tpy)			
	Emission Unit/Flexible Group ID	**Pollutant**	**Baseline Actual**	**Projected Actual**	**Excluded**	**Reason for Exclusion**
	EUINLINEKILN	SO_2	2,419	3,549	1,095	Capable of accommodating clinker production rate. (The maximum 30 consecutive day clinker production during the baseline period of 04/16/2011 through 04/14/2013 was determined and annualized for a 12-month period.)