DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

B155955002

FACILITY: St Marys Cement Charlevoix Plant		**SRN / ID:** B1559
LOCATION: 16000 BELLS BAY RD, CHARLEVOIX		**DISTRICT:** Cadillac
CITY: CHARLEVOIX		**COUNTY:** CHARLEVOIX
CONTACT: Laurie Leaman , Environmental Supervisor, Alternative Fuel Special		**ACTIVITY DATE:** 08/18/2020
STAFF: Rob Dickman	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Scheduled inspection of this major source.		
RESOLVED COMPLAINTS:		

St. Mary's Cement, Inc. (US) is a Portland Cement manufacturing facility located on the shores of Lake Michigan at 16000 Bells Bay Road in Charlevoix, Charlevoix County, Michigan. Cement manufacturing has been occurring at this site since circa 1966. In April 2005, St. Mary's Cement, Inc. (US) purchased the operations from CEMEX. The total area of the facility, including the quarry is approximately 1370 acres. The actual production and shipping facilities occupy approximately 80 acres.

The plant operates one dry process rotary kiln. The kiln typically operates 24 hours per day, 7 days a week, for approximately 300 days in the year. The kiln system is rated at 6000 tons of clinker per day. The kiln can be fueled by a combination of coal and petroleum coke. Certain alternative fuels, including plastics and propane, are allowed. Raw materials are ground and mixed including various materials from on-site and off-site sources. The requirements for the process include approximately 80 percent calcium oxides, 10 percent aluminum oxides, 5 percent iron oxide and 5 percent silica oxide. These oxides are typically derived from limestone, shale, bottom ash, fly ash, bauxite, mill scales, slags, various sands, numerous iron sources, clay, overburden and other sources. The majority of raw materials are obtained on-site from St. Mary's Cement, Inc. (US) quarrying operations; all offsite materials are brought to the site by trucks, ships, and/or barges.

The site includes: the quarry operations, conveying and storage systems for raw materials, grinding and blending the raw materials, the preheater tower (Precalciner), the kiln, clinker cooler, clinker conveying, clinker storage, clinker grinding (finish mills), cement storage systems, and shipping facilities.

I inspected this facility per Renewable Operating Permit (ROP) number MI-ROP-B1559-2014. In addition to the ROP, there are two Permits to Install (PTI) in effect for the facility. PTI Number 115-15 is for installation of a new blending silo (EUBLENDSILO). PTI Number 140-15 details several major changes to the facility including installation of a new kiln. In February of 2018, the facility, per 40 CFR 60.2790, notified the AQD that they would be ceasing the burning of non-hazardous waste as fuel and the new kiln would not be subject to 40 CFR 60, Subpart DDDD (CISWI) but rather would be subject to 40 CFR 63, Subpart LLL (PC-MACT). The facility was also inspected per this regulation. Also, the facility is subject to regional haze regulations per 40 CFR 52.1183. The scope of this inspection is the previous 12 months of operation of the facility. My contact for this inspection was Laurie Lehman, Environmental Manager for the facility. Prior to coming on site, no visible fugitive or point source emissions were noted from the facility which was in full operation at the time of the inspection. Following are the findings of this inspection:

MI-ROP-B1559-2014

Source-wide Conditions

Emission Limits

There are no emissions limits associated with this unit; therefore, this section is not applicable.

Material Limits

There are no material limits associated with this unit; therefore, this section is not applicable.

Process or Operational Restrictions

The facility is required to have a source wide Malfunction Abatement Plan (MAP). The most recent version of this on file is dated November of 2018 and was approved August of 2020. The facility is also required to have a source wide Fugitive Emissions Plan (FEP). The facility has a facility wide fugitive emissions plan on file and the most recent version of it is dated November of 2017 and was approved December of 2017.

Design or Equipment Parameters

There are no design or equipment parameters associated with this unit; therefore, this section is not applicable.

Testing and Sampling Requirements

There are no testing or sampling requirements associated with this unit; therefore, this section is not applicable.

Monitoring and/or Recordkeeping Requirements

Records of all repairs initiated as a result of inspections pursuant to the MAP are required. This facility maintains a work order system that stores records of all inspections and repairs made. The last 12 months of maintenance records were supplied upon request. An abbreviated sample of these records is attached.

The facility is also required to keep records specified in the fugitive emissions plan. Daily records of watering and sweeping are kept manually by the equipment operators and were available for review. A sample of these records is attached.

Reporting

Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions

There are no stack or vent restrictions associated with this unit; therefore, this section is not applicable.

Other Requirements

The facility is required to comply with the MAP. This includes inspection of the many dust collectors on site and recordkeeping of any maintenance performed on them. A review of records indicates the facility appears in compliance with it.

The facility is required to comply with the FEP. At the time of inspection, roadways appeared in good condition. Storage piles appeared in good condition and no visible emissions from them were noted. Records associated with the FEP indicate compliance.

The facility has agreed to a consent decree with EPA, Consent Decree Case No. 1:06-cv-607. The only applicable part of the decree, as all other requirements have been completed, is that the facility submit annual reporting on the progress of installation of the kiln indirect firing system and main stack baghouse. These projects have been completed. This Consent Decree was terminated in April of 2017.

EUPORTABLECRUSH - This emission unit consists of a 100 ton per hour portable nonmetallic mineral crushing facility consisting of a crusher and associated process equipment including grinding mills, loading operations, and any other material handling equipment operated at the site. Control is by spray water bars or enclosure.

This emission unit has not been on site and operating in the last 12 months. It was removed from the facility approximately seven years ago and is not anticipated to return. Any necessary crushing that would require a portable crusher is being performed by an outside contractor.

FGQUARRY - This Flexible Group consists of equipment used in the mining and crushing of limestone. Included here are the drilling, blasting and hauling of the limestone in the quarry; the crushing of the limestone in the primary and secondary crushers; and handling of dust including fugitive emissions from the quarry and dust from the secondary crusher. This group consists of EUHAMMER, EUQUARRYFUGITIVE, and EUSECONDARYCRUSH. Control is by fabric filters and baghouse. In addition to state rules, EUHAMMER is subject to 40 CFR, Part 60, Subpart OOO.

Emission Limits

Visible emissions from EUHAMMER of this group are limited to 15% opacity. At the time of the inspection, this unit was not in operation. If a chunk of rock is too big for the throat of the primary crusher, this is used to break and/or move it. Use of this equipment is infrequent and emissions from it when in use are negligible.

Visible emissions from EUQUARRYFUGITIVE are limited to 5% opacity. At the time of the inspection, no other fugitive emissions were noted.

Visible emissions from EUSECONDARYCRUSH are limited to 20% opacity. No emissions were noted from the building housing the secondary crusher.

Material Limits

There are no material limits associated with this unit; therefore, this section is not applicable.

Process or Operational Restrictions

There are no process or operational restrictions associated with this unit; therefore, this section is not applicable.

Design or Equipment Parameters

There are no design or equipment parameters associated with this unit; therefore, this section is not applicable.

Testing and Sampling Requirements

There are no testing or sampling requirements associated with this unit; therefore, this section is not applicable.

Monitoring and/or Recordkeeping Requirements

Monthly one-minute visible emissions observation using USEPA Method 22 are required to be conducted on EUQUARRYFUGITIVE, EUHAMMER, and EUSECONDARYCRUSH. These records were reviewed at the time of the inspection for the months of September of 2019 and April and July of 2020. These records appeared complete and in compliance.

Reporting

Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

There are no stack or vent restrictions associated with this unit; therefore, this section is not applicable.

Other Requirements

The facility is required to comply with all applicable requirements of the New Source Performance Standards for Nonmetallic Mineral Processing Plants as specified in 40 CFR, Part 60, Subpart OOO.

Review of this subpart indicates that if the facility is in compliance with the applicable conditions of this section, they are in compliance with this subpart.

FGKILNRAWMILLS - This group was in operation until April of 2018 after which the equipment was replaced with new equipment as listed in Permit to Install 140-15. Findings of the inspection relating to this new equipment are addressed later in this report.

FGFINISHMILLS - This Flexible Group deals with pulverizing the cooled clinker after it has left the kiln and cooling areas. The clinker is ground in the mills-which are horizontal steel tubes filled with steel balls. As the tubes rotate, the steel balls tumble and crush the clinker into a superfine gray powder known as Portland Cement. A small amount of gypsum is added during the final grinding to control the set. Emission units for this group include EUFINISHMILL1, EUFINISHMILL2, and EUFINISHMILL3 and control is through baghouses.

Emission Limits

Emissions for the individual units in this group are limited to 10% opacity based on a six-minute average. Compliance with this limit is through daily non-certified visible emissions readings and recordkeeping, and a once annually three-hour certified test. The last annual test was performed in September of 2019 and demonstrated an average of 0% opacity for all three finish mills. Daily readings were reviewed at the time of the inspection for the months of September of 2019 and April and July of 2020. These records appeared complete and in compliance.

Material Limits

There are no material limits associated with this unit; therefore, this section is not applicable.

Process or Operational Restrictions

An Operation and Maintenance Plan (OMP) and a Startup, Shutdown, Malfunction Plan (SSMP) are required for operation of this equipment. The most recent OMP is dated September of 2009 and the most recent SSMP is dated October of 2007. There is no requirement that these plans be approved, only that the facility drafts and maintains them.

There are no design or equipment parameters associated with this unit; therefore, this section is not applicable.

Testing and Sampling Requirements

Annual certified visible emissions testing is required for this group. This testing was last performed in September of 2019 and demonstrated compliance.

Monitoring and/or Recordkeeping Requirements

Daily 6-minute visible emissions test of each emission unit in FGFINISHMILLS are performed in accordance with Method 22. Records regarding these readings were available for review. Any abnormal readings are also documented along with any corrective action taken. These records were reviewed at the time of the inspection for the months of September of 2019 and April and July of 2020. These records appeared complete and in compliance.

Reporting Requirements

Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions

Stacks for this process are limited to a maximum diameter of 98.5 in and a minimum height of 141 feet. These stacks appear to meet this criteria and do not appear to have been recently modified.

Other Requirements

This group is required to comply with 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 (PCMACT). Review of this subpart indicates that if the facility is in compliance with the applicable conditions of this section, they are in compliance with this subpart. There is a requirement to comply with the OMP and SSMP at all times. Deviations from this plan are reported as part of semiannual reporting. This reporting was previously reviewed and documented.

FGNONKILNFACILITY - This group was in operation until April of 2018 after which the equipment was replaced with new equipment as listed in Permit to Install 140-15. Findings of the inspection relating to this new equipment are addressed later in this report.

FGALTSAND/SOIL - This flexible group contains equipment for the extraction and screening of alternative sand/soils from the former City of Charlevoix landfill located in the Quarry (alternative sand/soils) and the use of the alternative sand/soils as raw feed to the kiln. Emission Units include EUQUARRYFUGITIVE, EUPRIMARYCRUSH, EUSECONDARYCRUSH, EURAWMILLS, EUKILN. Control is through baghouses.

Emission Limits

There are no emissions limits associated with this unit; therefore, this section is not applicable.

Material Limits

This material has not been used by the facility since July of 2019. The materials handled by this group cannot contain more than 1,573 pounds of lead or cadmium both based on a 12-month rolling time period as determined at the end of each month. Compliance with this condition is through testing of this material and subsequent calculations based on the results of that testing and material usage. This material has been completely extracted from the old Charlevoix Landfill and placed in two piles. One pile has been tested. The other pile remains to be tested as needed. It is anticipated it will take several decades to begin to consume the tested pile given current usage rates. Testing on the current material being used was last performed in February of 2011. The results indicated lead content was 478 ppm and Cadmium content was 2.34 ppm. Historically, the facility uses 1200 tons of this material annually. This calculates out to 1147 pounds of lead and 5.6 pounds of Cadmium.

Process or Operational Restrictions

A Materials Screening Plan (MSP) is required for the handling of this material. The facility does have a plan in place. However, this material has not been and will not be added to in the future.

Design or Equipment Parameters

There are no design or equipment parameters associated with this unit; therefore, this section is not applicable.

Testing and Sampling Requirements

This material has been completely extracted from the old Charlevoix Landfill and placed in two piles. One pile has been tested. The other pile remains to be tested as needed. It is anticipated it will take several decades to begin to consume the tested pile given current usage rates. Testing on the current material being used was last performed in February of 2011. The results indicated lead content was 478 ppm and Cadmium content was 2.34 ppm.

Monitoring and/or Recordkeeping Requirements

Records of the amount of alternative material extracted each week are to be kept and available for review. This material has not been used by the facility since July of 2019.

Reporting Requirements

Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions

There are no stack or vent restrictions associated with this unit; therefore, this section is not applicable.

Other Requirements

There are criteria listed in the permitting regarding the content of the Material Screen Plan including addressing disposing of unusable material such as large pieces of wood or metal, barrels, batteries, etc. The plan appears to address these items.

FGMACTZZZZEMERGENCY - This flexible group includes one compression ignition (CI) existing emergency stationary reciprocating internal combustion engine (RICE) that has a maximum site rating of 500 brake horsepower (HP) (68HP) at a major source of hazardous air pollutants (HAPs) and that are subject to 40 CFR, Part 63, Subpart ZZZZ (40 CFR 63.6580-6675), the "RICE MACT". Emission Units include EUEMERGENCYGEN. EUKILNDONKEY was part of this group but has been dismantled and removed from the facility.

Emission Limits

There are no emissions limits associated with this unit; therefore, this section is not applicable.

Material Limits

There are no material limits associated with this unit; therefore, this section is not applicable.

Process or Operational Restrictions

There are no time limitations on the emergency operation of this engine. It has an autorun feature that activates for 20 minutes once weekly for a total of approximately 17 hours per year. For for maintenance and readiness checks, the facility is limited to operating it less than 100 hours. For operation outside of emergency, maintenance, and readiness checks, the facility can operate each engine for up to 50 hours each with the operation time counting towards the 100-hour limit. Compliance with these conditions is through installation of a non-resettable hour meter and recordkeeping. At the time of the inspection, the generator had operated a total of 65.8 hours since 2018. In the last 12 months, it has only run for maintenance and readiness checks, not for emergency purposes.

Design or Equipment Parameters

As mentioned above, the engine is required to be, and is equipped with, a non-resettable hour meter.

Testing and Sampling Requirements

There are no testing or sampling requirements associated with this unit; therefore, this section is not applicable.

Monitoring and/or Recordkeeping Requirements

A number of records must be kept including occurrence and duration of malfunctions, maintenance, hours of operation regarding the conditions listed above. Maintenance performed is documented per the facility work order system and these records were available for review. This facility does not use an oil analysis program. This engine was load bank tested and maintained by an outside contractor in April of 2019. Records of this were supplied upon request.

Reporting Requirements

Annual certifications of compliance and semiannual deviation and MACT compliance reports were previously reviewed and documented.

Stack/Vent Restrictions

There are no stack or vent restrictions associated with this unit; therefore, this section is not applicable.

Other Requirements

The facility is required to comply with 40 CFR 63, Subpart ZZZZ. Review of this subpart indicates that if the facility is in compliance with the applicable conditions of this section, they are in compliance with this subpart.

FGCOLDCLEANERS - Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.

There is a total of three small parts washers located at the facility. All appeared in good condition. All were closed at the time of the inspection and had appropriate signage regarding correct operation. All are serviced by an outside contractor. The Main Maintenance Shop and Mobile Maintenance Shop were last serviced 7/15/20 and the Oiler Shop cleaner was serviced 4/22/20

PERMIT TO INSTALL NUMBER 140-15 – This permit is for the installation of new equipment at the facility including a new in line kiln, calciner, and coke mill process. Construction of this equipment began in 2016 and was completed in April of 2018. In February of 2018, the facility, per 40 CFR 60.2790, notified the AQD that they would be ceasing the burning of non-hazardous waste as fuel and the new kiln would not be subject to 40 CFR 60, Subpart DDDD (CISWI) but rather would be subject to 40 CFR 63, Subpart LLL (PC-MACT). Notification that the facility was able to operate at capacity was sent September 4, 2018.

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.

Emission Limits

Opacity from this equipment is limited to 10%. Particulate matter emissions are limited to 0.010 gr/dscf, PM-10 emissions are limited to 3.93 pounds per hour and PM-2.5 emissions are limited to 1.86 pounds per hour. Compliance with of these limits is through performance testing and visible emissions readings. Performance testing was performed in September of 2018 and demonstrated compliance. This testing was previously reviewed and documented. Visible emissions performance testing was last performed in September of 2019 and demonstrated an average of 0% opacity.

Material Limits

There are no material limits associated with this unit; therefore, this section is not applicable.

Process or Operational Restrictions

This unit is required to have an associated MAP. The most recent version of this on file is dated November of 2018 and was approved August of 2020.

Design or Equipment Parameters

The baghouse controlling this equipment is required to have a bag leak detection system. This baghouse is so equipped. It is required to be operated per the MAP. Associated records for this unit indicate the facility is following the MAP.

Testing and Sampling Requirements

Performance testing was performed in September of 2018 and demonstrated compliance. This testing was previously reviewed and documented. Visible emissions performance testing was last performed in September of 2019 and demonstrated an average of 0% opacity.

Monitoring and/or Recordkeeping Requirements

The facility is required to keep records of maintenance activities associated with this unit. Records of all repairs initiated as a result of inspections are required. This facility maintains a work order system that stores records of all inspections and repairs made. These records were readily available for review.

The amount of and type of coal is to be recorded monthly. These records were available for review. In June of 2020, only petroleum coke was burned and 17,396 tons was used.

The facility does not purchase any water or other chemical stabilizers for dust control on this unit.

The baghouse has an associated bag leak detection system (BLDS). An abbreviated sample of output for the system is attached to this report. Output for the system is a percentage of the opacity limit. No alarms for this system have been recorded in the last 12 months.

Reporting Requirements

Notification that this emission unit was able to operate at capacity was sent September 4, 2018.

Stack/Vent Restrictions

The coke mill stack is to be no less than 119 feet above ground and no greater than 63 inches in diameter. The stack appears in compliance and does not appear to have been modified.

Other Requirements

This unit is required to comply with the applicable parts of 40 CFR 60, Subpart Y, Standards of Performance for Coal Preparation and Processing Plants. A review of the subpart indicates that if the facility is in compliance with the conditions listed in this section, they are in compliance with the applicable conditions of the subpart.

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 bypass process has been blanked off since July of 2019 and is nonoperational at this time.

The calciner and kiln have been designed to use traditional solid and liquid fuels and various alternative fuels including asphalt flakes, plastic and small quantities of cellulose fibers. While permitted to do so, connections to feed alternative fuels to the new kiln have not yet been made.

It should be noted that the bypass stack has not been operational in the last 12 months. Requirements associated were not evaluated as part of this inspection.

Emission Limits

Particulate Matter (PM) emissions are limited to 0.25 pounds per 1000 pounds exhaust gas for the main stack. Testing for this was performed in September of 2018 and demonstrated compliance.

PM less than 10 microns (PM-10) and PM-2.5 emissions are limited to 57.5 pounds per hour (pph) for the main and bypass stacks (each). Compliance with this is demonstrated through stack testing and a Continuous Parametric Monitoring System (CPMS). Testing for PM, PM-10, and PM-2.5 was performed in September of 2018 and was non-compliant. Testing for PM only on the main stack was performed again in September of 2019 and was compliant. PM10/2.5 compliance testing has not been performed pending main stack modification and a revision of PTI 140-15. An escalated enforcement action has been taken against the facility and is ongoing. The CPMS is installed on the main stack. Certification testing on this CPMS was performed in August of 2018 and the monitors were certified.

Sulfur Dioxide (SO2) emissions are limited to 1175 pph and 7.5 pounds per ton of clinker produced both as the average of each calendar day's emissions over the time of operation for the combined main and bypass stacks. Compliance with this is demonstrated through a Continuous Emissions Monitor System (CEMS). Certification testing on this CEMS was performed in August of 2018 and the monitored was certified. The last QA RATA was performed in September of 2019 and demonstrated compliance.

Nitrogen oxides (NOx) emissions are limited to 700 pph as the average of each calendar day's emissions over the time of operation for the combined main and bypass stacks. Also, 2.8 pounds per ton of clinker produced based on a 30-day rolling average and 2.4 pounds per ton of clinker produced based on a 12-month average both for the combined main and bypass stacks. Compliance with this is demonstrated through CEMS. Certification testing on this CEMS was performed in August of 2018 and the monitored was certified. The last QA RATA was performed in September of 2019 and demonstrated compliance.

Mercury emissions are limited to 106 pounds per year based on a 12-month rolling time period for the combined main and bypass stacks. Compliance with this is demonstrated through CEMS. Certification testing on this CEMS was performed in August of 2018 and the monitor was certified. The last QA RATA was performed in September of 2019 and demonstrated compliance.

Visible emissions from the main stack is limited to 10%. Compliance with this is demonstrated through a Continuous Opacity Monitoring System (COMS). Reporting regarding this system has been previously submitted, reviewed, and documented.

Material Limits

The facility is allowed to use colored glass, aluminum-based refractory, coal, petroleum coke, recyclable plastics, cellulose fibers, asphalt flakes, fuel oil, and propane in this unit. The facility will not use glass or asphalt as it adversely impacts product quality. Currently only plastics are used as alternative fuel. Coal and petroleum coke are the primary fuel for the kiln. Propane and fuel oil are not utilized for production. Rather they are used to cure replaced refractory brick inside the kiln. No asbestos containing materials are used.

Process or Operational Restrictions

The facility is not allowed to produce more than 6300 tons of clinker per day based on a 30-day rolling average determined at the end of each day nor more than 6,000 tons of clinker per day based on a 12-month rolling time period as determined at the end of each calendar month. Records regarding this are being kept and were available for review. At the time of the inspection, the facility was averaging 250 tons of clinker per hour which equates to 6000 tons per day.

The main baghouse and corresponding pressure drop gauge must be operating when the kiln is in operation. The baghouse pressure drop readings at the time of inspection were averaging 6.6 inches of water, gauge for the main. This is typical for this equipment.

The facility must operate this unit per the MAP. The most recent version of this on file is dated November of 2018 and was approved August of 2020. Required records associated with the MAP indicate compliance.

Design or Equipment Parameters

CEMS, COMS, main baghouse, and SNCR have to be installed and operating correctly. This equipment is installed. Quality assurance procedures performed on the CEMS and COMS ensure proper operation. Compliant data collected from these systems indicates proper operation of the main baghouse and SNCR. Reporting associated with these systems is submitted quarterly. Certification testing on this CEMS was performed in August of 2018 and the monitored was certified. The last QA RATA was performed in September of 2019 and demonstrated compliance.

Testing and Sampling Requirements

Testing for PM, PM-10, and PM-2.5 was performed in September of 2018 and was non-compliant. Testing for PM only on the main stack was performed again in September of 2019 and was compliant. PM10/2.5 compliance testing has not been performed pending main stack modification and a revision of PTI 140-15. An escalated enforcement action has been taken against the facility and is ongoing.
Testing for mercury was performed in September of 2018 and demonstrated compliance.

Verification of chlorine content for plastics is to be performed per shipment. Chlorine content is limited to 1.5% by weight. The last analysis for chlorine content was performed January of 2020 and demonstrated a content of 0.113%.

Monitoring and/or Recordkeeping Requirements

Kiln feed rate per hour is to be tracked by weigh scale. This information is being collected. Kiln feed rate at the time of the inspection was 458 tons of dry feed per hour.

Tons of clinker produced per hour and per day it to be tracked. This information is being recorded. At the time of the inspection, the facility was averaging 250 tons per hour and 6000 tons per day of clinker produced.

There is a COMS and CEMS are installed and operating on the main stack as required

Accuracy of the belt scale is to be audited quarterly. This has been performed and records of calibrations were supplied from 10/2018 to 7/2020. A sample of these records is attached to this report.

Reporting Requirements

Excess emissions, monitoring system downtime, and quality assure procedure results for the CEMS and COMS are reported quarterly. These results were previously reviewed and documented.

Per Consent Order 1:06-cv-607 the facility is required to submit an annual report regarding installation of an indirect firing system and a baghouse on the main stack. This report was last submitted March 2017. This project was completed in 2006. In December of 2016, the facility requested the order be terminated. This Consent Decree was terminated in April of 2017.

The facility has submitted all applicable protocols for stack testing and CEM evaluation in a timely manner. These documents have been reviewed and the review documented. Daily clinker production is submitted with the Excess Emissions Reporting every quarter.

Stack/Vent Restrictions

The main stack is required to be 323 feet above ground and have a maximum diameter of 132 inches. This stack has been recently narrowed to 93 inches in anticipation of a permit revision to PTI 140-15.

Other Requirements

This unit was to comply with the emission guidelines of 40 CFR Part 60, Subpart DDDD, Commercial and Industrial Solid Waste Incineration (CISWI) units that commenced construction on or before November 30, 1999 upon the February 7, 2018 compliance date. However, on that date, the facility, per 40 CFR 60.2790, notified the AQD that they would be ceasing the burning of non-hazardous waste as fuel and the new kiln would not be subject to 40 CFR 60, Subpart DDDD (CISWI) but rather would be subject to 40 CFR 63, Subpart LLL (PC-MACT). Review of each of these subparts (for pre and post modification of the facility) indicates compliance for the old and reconstructed kilns.

This unit is also required to comply with all applicable requirements of the Regional Haze Regulations requiring Best Available Retrofit Technology (BART) effective January 1, 2017. This essentially requires that the facility monitor for NOx and report quarterly on any excess emissions and monitoring system performance. This reporting has been completed, reviewed, and documented.

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.

Emission Limits

Opacity emissions from this unit are limited to 10% opacity. Compliance with the opacity limit is through periodic non-certified visible emission reading. These records were reviewed at the time of the inspection for the months of September of 2019 and April and July of 2020. These records appeared complete and in compliance.

PM emissions are limited to 0.02 pounds per ton of clinker throughput. Compliance with this limit is through performance testing. This testing was last performed in September of 2019 and demonstrated compliance.

Compliance with the opacity limit is through periodic non-certified visible emission reading. These records were reviewed at the time of the inspection for the months of September of 2019 and April and July of 2020. These records appeared complete and in compliance.

Compliance with PM and PM10/2.5 emission limits is through stack testing, baghouse pressure drop readings, and a PM Continuous Parametric Monitoring System (CPMS). Testing to verify the CPMS was completed in September of 2018 and the results demonstrated compliance.

Material Limits

There are no material limits associated with this unit; therefore, this section is not applicable.

Process or Operational Restrictions

The facility is required to develop a CPMS plan. This plan was developed and the CPMS was evaluated in September of 2018. Testing to verify the CPMS was completed in September of 2018 and the results demonstrated compliance.
The facility must operate this unit per the MAP. The most recent version of this on file is dated November of 2018 and was approved August of 2020.

Design or Equipment Parameters

A baghouse is required to be installed and operating. This baghouse is installed and was operating at the time of the inspection

Testing and Sampling Requirements

PM, PM10, and PM 2.5 emissions are required to be tested. This testing was performed in September of 2019 and demonstrated compliance.

Monitoring and/or Recordkeeping Requirements

The CPMS is required for the monitoring of PM emissions. This system is installed and operating. Results from it will be validated following results of the performance evaluation for the CPMS. Non-certified visible emissions readings are required to be performed daily. These records were reviewed at the time of the inspection for the months of September of 2019 and April and July of 2020. These records appeared complete and in compliance.

Reporting Requirements

The facility is required to submit stack testing reports, excess emissions reports associated with the CPMS, and malfunction reports associated with this equipment. These reports have been previously submitted, reviewed, and documented.

Stack/Vent Restrictions

The stack for the clinker cooler is required to be 134 feet above ground and have a maximum diameter of 132 inches. This stack appears compliant with these parameters and does not appear to have been recently modified.

Other Requirements

This unit is to 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, and 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. By complying with the conditions listed in this section, the facility is in compliance with these subparts.

EUFINISHMILL4 - Horizontal finish mill used to grind clinker with gypsum and other additives to produce cement products.

Emission Limits

Opacity from this mill is limited to 10%, compliance with this is through non-certified visible emissions readings and recordkeeping. These records were reviewed at the time of the inspection for the months of September of 2019 and April and July of 2020. These records appeared complete and in compliance.

PM emissions are limited to 0.15 #/1000# exhaust gases and PM 10/2.5 emissions are limited to 6.24 pounds per hour. Compliance with these limits is through stack testing. This testing was last performed in September of 2018 and demonstrated compliance.

Material Limits

There are no material limits associated with this unit; therefore, this section is not applicable.

Process or Operational Restrictions

The facility is required to have a source wide Malfunction Abatement Plan (MAP). The most recent version of this on file is dated November of 2018 and was approved August of 2020.

Design or Equipment Parameters

The baghouse associated with this unit was in operation at the time of the inspection. A review of the associated records would indicate compliant operation of this control equipment.

Testing and Sampling Requirements

PM emissions are limited to 0.15 #/1000# exhaust gases and PM 10/2.5 emissions are limited to 6.24 pounds per hour. Compliance with these limits is through stack testing. This testing was last performed in September of 2018 and demonstrated compliance.

Monitoring and/or Recordkeeping Requirements

Opacity from this mill is limited to 10%, compliance with this is through non-certified visible emissions readings and recordkeeping. These records were reviewed at the time of the inspection for the months of September of 2019 and April and July of 2020. These records appeared complete and in compliance.

Reporting Requirements

The facility is required to report applicable reporting per PCMACT. This reporting has been submitted and has been previously submitted.

Stack/Vent Restrictions

The stack for the unit is required to be 141 feet above ground and have a maximum diameter of 98.5 inches. This stack appears compliant with these parameters and do not appear to have been recently modified.

Other Requirements

This unit is to 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, and 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. By complying with the conditions listed in this section, the facility is in compliance with these subparts.

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 that is shipped for sale. Associated emission units include: EURAWMATHANDSTOR, EUCLINKERHAND, EUCEMENTHAND&STO, EUCOALSYSTEM, EUSOLIDFUELSYSTEM, EUCKDHANDSTOR, EUFINISHMILL4. Particulate emissions from these units is controlled be several baghouses listed as follows:

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

Emission Limits

Opacity from this group is limited to 10 percent. Compliance with this limit is through monthly 10-minute visible emissions readings. PM10/2.5 emissions from each #15 stack/vent (3) on EUCLINKERHAND are limited to 0.37 pounds per hour (pph). PM10/2.5 emissions from the #17 stack of EUCEMENTHAND&STOR are limited to 0.041 pph. PM10/2.5 emissions from the #18 stack of EUCEMENTHAND&STOR are limited to 0.016 pph. PM10/2.5 emissions from each the #13 and two #14 stack/vent on EUCLINKERHAND are limited to 0.0167 pounds per hour (pph). PM10/2.5 emissions from each the #10 and two #9 stack/vents on EUCLINKERHAND are limited to 0.042 pounds per hour (pph). Compliance with this limit is through monthly 10-minute visible emissions readings. These records were reviewed at the time of the inspection for the months of September of 2019 and April and July of 2020. These records appeared complete and in compliance.

Material Limits

There are no material limits associated with this unit; therefore, this section is not applicable.

Process or Operational Restrictions

An Operation and Maintenance Plan (OMP) is required for operation of this equipment. The most recent OMP is dated September of 2009 and the most recent SSMP is dated October of 2007. There is no requirement to approve these plans, only that the facility drafts and maintains them. Also required is Fugitive Emissions Plan (FEP). The facility has a facility wide fugitive emissions plan on file and the most recent version of it is dated November of 2017 and was approved December of 2017.

The facility must operate this unit per the MAP. The most recent version of this on file is dated November of 2018 and was approved August of 2020.

Design or Equipment Parameters

There is a belt conveyor used to move refractory to the kiln system. This conveyor is required to be covered. It is so equipped.

All associated fabric filter baghouses are required to be installed and operating. All were installed and visible emissions records indicate operation.

Testing and Sampling Requirements

There are no testing or sampling requirements associated with this unit; therefore, this section is not applicable.

Monitoring and/or Recordkeeping Requirements

Non-certified visible emissions readings are required to be performed monthly. These records were reviewed at the time of the inspection for the months of September of 2019 and April and July of 2020. These records appeared complete and in compliance.

Reporting Requirements

Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions

Following are the stack restrictions for this group:

	Max Diameter(inches)	Min Height(feet)
SVNEW009	22	50
SVNEW009-1*	24	24
SVNEW010*	22	288
SVNEW013*	14	24
SVNEW014*	14	47
SVNEW014-1*	14	79
SVNEW015*	30	42
SVNEW015-1*	30	49
SVNEW015-2*	30	60
SVNEW017	24	8.0
SVNEW018	14	56

These stacks/vents appear in compliance with these parameters.

Other Requirements

This group is to 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, and 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. By complying with the conditions listed in this section, the facility is in compliance with these subparts.

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. Emission units include: EURAWMATHANDSTOR, EUCLINKERHAND, EUCEMENTHAND&STO, EUFINISHMILL4, EUSOLIDFUELSYSTEM, EUCKDHANDSTOR, EUCLINKERCOOL, EUINLINEKILN

Emission Limits

There are no emissions limits associated with this unit; therefore, this section is not applicable.

Material Limits

There are no material limits associated with this unit; therefore, this section is not applicable.

Process or Operational Restrictions

There are no process or operational restrictions associated with this unit; therefore, this section is not applicable.

Design or Equipment Parameters

There are no design or equipment parameters associated with this unit; therefore, this section is not applicable.

Testing and Sampling Requirements

There are no testing or sampling requirements associated with this unit; therefore, this section is not applicable.

Monitoring and/or Recordkeeping Requirements

The facility is required to keep records of annual SO2 emissions from this group on a tons per calendar year basis. Records of this are being kept and are reported as part of the facility MAERS annual reporting.

Reporting Requirements

The facility is required to report records of annual SO2 emissions from this group on a tons per calendar year basis. Records of this are being kept and are reported as part of the facility MAERS annual reporting.

Stack/Vent Restrictions

There are no stack or vent restrictions associated with this unit; therefore, this section is not applicable.

Other Requirements

There are no other requirements associated with this emission unit; therefore, this section is not applicable.

ADDITIONAL REQUIREMENTS UNDER PC-MACT - In February of 2018, the facility, per 40 CFR 60.2790, notified the AQD that they would be ceasing the burning of non-hazardous waste as fuel and the new kiln would not be subject to 40 CFR 60, Subpart DDDD (CISWI) but rather would be subject to 40 CFR 63, Subpart LLL (PC-MACT).

PM emissions from the main stack are limited to 0.07 lbs/ton of clinker produced. Compliance with this limit is through performance testing. This testing was last performed in September of 2018 and demonstrated compliance.

For the Clinker Cooler, PM emissions are limited to 0.02 pounds per ton of clinker produced. Compliance with this limit is through stack testing and CPMS. Stack testing was last performed in September of 2018 and demonstrated compliance. Certification testing on this CPMS was performed in September of 2018 demonstrated compliance.

Dioxin and Furan emissions from the main stack are limited to 0.2 ng/dscm corrected to 7% oxygen. Compliance with this limit is through stack testing. Stack testing was performed in September of 2018 and demonstrated compliance with emissions limits.

Mercury emissions from the main stack are limited to 21 pounds per million tons of clinker produced. Compliance with this limit is through recordkeeping and CEMS. Certification testing on this CEMS was performed in August of 2018 and the monitored was certified. The last QA RATA was performed in September of 2019 and demonstrated compliance.

Total Hydrocarbons are monitored by CEMS on the Main Stack. Certification testing on this CEMS was performed in August of 2018 and the monitored was certified. The last QA RATA was performed in September of 2019 and demonstrated compliance.

Organic Hazardous Air Pollutants (OHAPs) emissions from the main stack are limited to 12 ppmv. Testing for this was performed in September of 2018 and was non-compliant. Testing was performed again in September of 2019 and was again determined to be non-compliant. Testing is currently scheduled for September of 2020. An escalated enforcement action has been taken against the facility and is ongoing.

Hydrogen Chloride emissions are limited to 3.0 ppmvd corrected to 7% oxygen. Compliance with this limit is through recordkeeping and CEMS. Certification testing on this CEMS was performed in August of 2018 and the monitored was certified.

Temperature of the Main and Bypass stacks must be monitored. These temperatures are monitored and recorded.

Other monitoring, recordkeeping, reporting, and operation requirements appear to be similar to those found in the current permitting for the facility.

Permit to Install Number 115-15

EUBLENDSILO - Raw feed from the raw mill is transferred to the blending silo where it will be stored and stirred to obtain a more uniform mixture of the various ingredients before it is transferred to the kiln system (at the top of the calciner/preheater). Particulate Matter emissions are controlled by two pulse-jet baghouses at the transfer point of raw feed from the raw mill into the silo and the transfer point of blended and uniform raw feed from the silo out to the conveyance equipment which delivers the raw feed to the top of the calciner/preheater. Completion of construction of this equipment is complete and operation of it began in July of 2017.

Emission Limits

Opacity from this unit is limited to 10%. Particulate matter emissions are limited to 0.15 pounds per 1000# of exhaust gases. Compliance with these limits is through non-certified visible emissions readings.

Material Limits

There are no material limits associated with this unit; therefore, this section is not applicable.

Process or Operational Restrictions

There are no process or operational restrictions associated with this unit; therefore, this section is not applicable.

Design or Equipment Parameters

The two baghouses associated with this equipment were in operation at the time of the inspection. These are equipped with a Bag Leak Detection System. An abbreviated sample of output for this type of system is attached to this report. Output for the system is a percentage of the opacity limit.

Testing and Sampling Requirements

There are no testing or sampling requirements associated with this unit; therefore, this section is not applicable.

Monitoring and/or Recordkeeping Requirements

Monthly 10-minute non-certified visible emissions readings are to be taken at each emission point on this unit. These records were reviewed at the time of the inspection for the months of September of 2019 and April and July of 2020. These records appeared complete and in compliance.

Reporting Requirements

Annual certifications of compliance and semiannual deviation reports were previously reviewed and documented.

Stack/Vent Restrictions

The stack for the silo inlet is required to have a maximum diameter of 30 inches and a minimum height of 250 feet. The stack for the silo outlet is required to have a maximum diameter of 22 inches and a minimum height of 32 feet. This stack appears to meet these parameters and does not appear to have been recently modified.

Other Requirements

The permittee shall comply with the applicable provisions of the Federal New Source Performance Standards as specified in 40 CFR Part 60 Subparts A and F, and 40 CFR Part 63 Subparts A and LLL as they apply each emission unit of EUBLENDSILO. Review of these subparts indicates that if the facility is in compliance with the applicable conditions of this section, they are in compliance with this subpart.

At the time of the inspection, the facility appeared in compliance with currently applicable permitting and state and federal air regulations with the exception of issues noted in this report. These include compliance testing for OHAPs and PM10/2.5 from the main stack. Issues noted have been addressed.

NAME _____ DATE _____ SUPERVISOR _____