MACES- Activity Report

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DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION ACTIVITY REPORT: On-site Inspection

| B356754903 | · | | | |
|---|-----------------------------------|---------------------------|--|--|
| FACILITY: ST MARY'S CEMENT | | SRN / ID: B3567 | | |
| LOCATION: 9333 DEARBORN ST, DETROIT | | DISTRICT: Detroit | | |
| CITY: DETROIT | | COUNTY: WAYNE | | |
| CONTACT: | | ACTIVITY DATE: 08/28/2020 | | |
| STAFF: Jill Zimmerman | COMPLIANCE STATUS: Non Compliance | SOURCE CLASS: SM OPT OUT | | |
| SUBJECT: Complaint Investigation Inspection | | | | |
| RESOLVED COMPLAINTS: C-20-04205, C-20-04208 | | | | |

| DATE OF INSPECTION | : | 8/28/2020 |
|-----------------------|--------|------------------------------------|
| TIME OF INSPECTION | : | 11:00 am |
| INSPECTED BY | : | Jill Zimmerman |
| PERSONNEL PRESENT | • | Alfredo Estrada, Plant Mamager |
| | Eric (| Olsen, Quality Control Coordinator |
| | Steph | anie Jarrett, Consultant |
| FACILITY PHONE NUMBER | : | 313-849-4581 |
| FACILITY FAX NUMBER | : | 313-849-4533 |

FACILITY BACKGROUND

The Way's Centent, Inc. is owned by Votoratum Cimentos, Inc., a Brazilian company with plants in Brazil, the U.S and Canada. This facility is located in an industrial area, bordered by the Rouge River to the south and southwest, and the Fisher Freeway to the north and northeast. The facility operates a cement manufacturing plant, grinding cement clinker, limestone, gypsum and slag, with the finish product sold in bulk. The main product produced at this facility is Portland type 1 cement. Customers are bulk suppliers; the general public cannot buy the product from St. Mary's Cement.

The facility operates three shifts per day, seven days per week. The facility operates on "valley hours', where more work is preformed in the evening in order to conserve energy.

REQUIRED PPE

During the onsite inspection, I wore steel toed shoes, eye protection and a safety vest. Due to the ongoing COVID-19 pandemic, a face mask was worn by all participants involved with this onsite inspection and my body temperature was taken before I entered the facility.

COMPLAINT/COMPLIANCE HISTORY

Fallout complaints were received on August 22, 2020, August 23, 2020, and September 1, 2020. One complaint (8/22/2020) was received through EPA. The other two complaints were received by Jon Lamb, who was able to sample the dust that was observed on the vehicles.

OUTSTANDING VNs

NA

PROCESS EQUIPMENT AND CONTROLS

Trucks deliver limestone and gypsum, which are the raw materials. Raw slag is brought to the facility via barge from Canada unless the river is frozen. The facility makes nine different types of final products, including slag, Portland 1, Portland 2, Portland 3, masonry S, masonry N, high bond M, high bond S, and mortar high bond.

Cement clinker is delivered by barge and stored in Building A. A piping system is used to unload the clinker. The pipes connect the barge to the building, and the product is deposited inside Building A. This process takes about 24 hours to complete. Employees then push the product on to a conveyor system through floor grates. The underground conveyor system connects Building A to the Mill Building. The raw materials are stored in small silos or day bins in the mill building until the product is ready to be grinded. Limestone, gypsum and slag are stored outside along the southeast portion of Building A. Raw slag usually has a moisture content of 12% to 16%. Slag passes through a dryer, which is powered by natural gas, before entering the Mill Building. This dryer, which reduces the moisture content in the slag from about 12% to less than 2%, is controlled by a baghouse. The dryer usually operates at a temperature of 170 °F, with a maximum temperature of 250 °F; a hotter temperature would destroy the conveyor belts. During the winter months, the gypsum is stored inside Building A to prevent freezing, which would cause problems with this raw material. The limestone and gypsum are also moved to the Mill Building, through the conveyor system. These raw materials are grinded in one of three mills in the Mill Building. The final product is stored in one of thirty storage silos. Recently, a sealant product has been applied to Building A to prevent the product from escaping from holes in the building.

Clinker that is brought to this facility via truck was stored inside Building K. The clinker is then moved to Building A so that it can be moved through the conveyor system.

There are seven-day bin silos inside the mill building. These silos can feed more than one mill. Fringe, which is material created during the transition of different types of cement, is stored in the mill room until it can be used. Quality control tests of the cement are preformed approximately every two hours, and include testing for the limestone content, and chemical analysis. Raw material is metered into the mills based on the proportions required for the cement mix. As the mills grind the material, the friction creates heat, though no heat is added to the process. A water system is present to control the temperature inside the mills; when too much heat is generated, this system releases water to cool the mill. The hold time for each mill is approximately 30 minutes.

Mill 1 only grinds slag, producing approximately 40,000 tons per hour. Mill 2 is capable of producing 80,000 tons of Portland type 1 per hour; all other products are able to be produced in this mill at a rate of 40,000 tons per hour. Mill 3 is capable of producing approximately 140,000 tons of Portland type 1 per hour; all other products are able to be produced in this mill at a rate between 40,000 tons and 60,000 tons per hour.

Next, the product, which flows like a liquid because of how fine it is ground, is pumped to a storage silo. The pumps are operated with air pressure. The facility has 9 silos which were part of the former packaging process and 11 bulk silos. The silos hold between 1,000 tons to 4,000 tons. Trucks are filled under the silos on a truck scale; railcars can also be filled from these silos. Some of these silos are quad type, where the silo is divided into 4 distinct compartments. Between the traditional shaped silos are interstitial silos, which are distinct compartments with walls and roofs. When the employees are working in the silos, they are to keep the doors closed.

The facility also owns 16 silos and part of a building on the other side of the railroad tracks. However, someone has stolen all the wiring and other metal utilities so the building cannot be used.

INSPECTION NARRATIVE

Initially I was in contact with Mr. Alfredo Estrada, plant manager, after received fallout complaints during the previous few days. I explained to Mr. Estrada that in the past I had worked with Ms. Linda Harris, who has since left the company. I explained that I had received fallout dust complaints and I would like to meet with him at the plant to discuss the situation as well as reconnect with the new complaisance person and discuss the current permit conditions. Mr. Estrada arranged a meeting with Mr. Eric Olson, quality control coordinator and their consultant, Stephanie Jarret with Fishbeck.

On Friday August 28, 2020 at 11:00 am I met the company personnel. I was unable to perform any dust surveillance in the area due to the weather; the area was experiencing a heavy downpour of rain during the entire time that I was meeting with the company. We initial discussed the recent fallout complaints. I explained that I had received complaints from two different households regarding dust collecting of personal items overnight. I explained that a coworker had meet with the complainants to collect a sample to help determine the source and content of the fallout. Mr. Estrada was concerned how we would determine the source of the dust. I explained that the sample would been observed under a microscope to determine its makeup. In the future, I may take a sample from the facility for comparison if needed. Ms. Jarrett explained that with the departure of Ms. Harris, the facility was working through their permits to determine compliance and how to move forward to maintain the proper records and other requirements. She explained that she was considering FOIAing the file to determine how compliance had been handled in the past. I explained that I would forward the most recent email exchange between Ms. Harris and I in the spring when I had some questions about the MAERS submission as it contained the records typically collected during past inspections. I asked the facility to share with me the emission records for PM, PM10, PM2.5, CO, and NOx. The company asked for two weeks to review their records before sharing them since they have recently had a personnel change. I granted their request.

The facility has requested that permits 262-99B be voided. This permit is for a test burn of a plastic fuel. The company has not preformed any test burns of this type of fuel and has no intention to preform this in the future. I will void this permit per their request.

The facility has requested that permit 15-11 be voided. This permit is a general permit for a portable crusher. This permit should be voided because this equipment is no longer onsite and is no longer owned by the facility. I will void this permit per their request.

Next, we discussed stack testing requirements. Special condition 3.6 in permit 262-99A requires a stack test on EU- 001, EU-004, EU-005 every five years. The facility confirmed that the last stack test was completed in 2006. The facility said that they plan to start the process to have the stacks tested as soon as possible. Ms. Jarrett was planning to work with the company to hire a stack testing company and get the process started.

Finally, we discussed the possibility of the facility bring a portable crusher onsite to some occasional work. The company is planning to rent a crusher on a temporary basis. I explained that the owner of the crusher would most likely be responsible for permitted requirements for the crusher such as a relocation notification, which was verified through my conversation with Mr. Jeff Korniski. Mr. Korniski explained that the company would be responsible for dust control and other operational requirements. On September 4, 2020 the company applied for a general permit for a portable concrete crusher. The crusher is owned by a third party and will operate at the St. Mary's site.

I was unable to walk through the facility due to the weather conditions at the time of the inspection. I requested that the company submit records electronically during my onsite inspection. The company asked for a few days to submit the records since the person formerly responsible for maintaining the records was no longer with the company. The extension was to allow the company to make sure that all records were properly maintained before submitting them. On September 10, 2020 the company requested an additional 2 weeks to collect the records. As of September 28, 2020 I have not received a copy of the requested records.

APPLICABLE RULES/PERMIT CONDITIONS

St. Mary's Cement is operating under four State of Michigan permits. Permit **\$**15-11 is a general permit for a portable concrete crusher. This permit was not evaluated because the equipment is no longer located at this location.

Permit 14-04 for a slag silo, slag conveyor system, and slag spout. Multiple requests for records were sent following this inspection which went unanswered. In April 2020 I had worked with Ms. Linda Harris with the facility, and she had sent me records. These records will be used to evaluate the permit conditions.

Special Conditions

Emission Limits

 Compliance – This condition was evaluated based on a review of the records received in April 2020. Between January 2019 and December 2019, the highest reported PM emissions for EUSLAGSPOUT was 0.02 tons per 12 month rolling time period for multiple months, which is less than the permitted limit of 0.30 TPY. The highest reported PM emissions for EUSLAGSILO during the same time period was 0.02 tons per 12 months rolling time period for multiple months, which is less than the permitted limit of 0.27 TPY. During the same time period, the PM emissions for EUSLAGCONVEYOR was 0.03 tons per 12 month rolling time period, which is less than the permitted limit of 1.0 TPY.

Visible Emissions

 NA – The facility typically has a certified opacity reader who reads the opacity daily. However due to the current pandemic, there is currently not a certified opacity reader as the most recent certification training was canceled. Opacity certification training is scheduled for October 2020. The facility also has opacity meters when electronically monitor the opacity. When the opacity reached 8%, the equipment will shut off.

Material Usage Limits

 Compliance – Based on a review of the records, the maximum annual amount of slag processed was 28,402.5 tons in February 2019, which is less than the permit limit of 1,000,000 tons. This value is based on the records provided on the spreadsheet labeled #12 PTI 14-04 FGSLAGLOAD Hours.

Process/Operational Limits

- 4. Compliance Based on a review of the records provided on the spreadsheet titled #12 PTI 14-04 FGSLAGLOAD Hours, the maximum annual hours of operating based on a 12-month rolling average was 189.35 hours in February and March 2019. This is less than the permitted limit of 3,000 hours.
- 5. Compliance A acceptable Malfunction Abatement Plan (MAP) was received by the department for the slag silo, slag conveyor system, and slag spout.

Testing

6. Compliance – VE's are monitored by an opacitimeter. When VE's exceed 8%, the facility shuts down. No VE's were observed during the onsite inspection

Recordkeeping/Reporting/Notification

- 7. Compliance The facility maintains records of the hours of operation in a spreadsheet which was shared with me electronically during the onsite inspection.
- 8. Compliance The facility maintains a spreadsheet record of the VE. This record was maintained by Ms. Harris.
- 9. Compliance The PM records are maintained onsite and were shared electronically during the onsite inspection.
- 10. Compliance The amount of slag processed is maintained in a spreadsheet which was share electronically during the onsite inspection.
- 11. Compliance Records for the fugitive dust plan are maintained and were shared electronically during the onsite inspection.

Permit 262-99A for the cement process and associated equipment. Special Conditions: EU-001 Material Usage Limits

1.1 Undetermined – Records were not received containing BTU usage in EU-001.

1.2 NA – The facility has only burned natural gas for at least the past two years.

1.3 NA – The facility has only burned natural gas for at least the past two years.

Testing

1.4 NA – The facility has not used fuel oil during at least the past two years.

Monitoring

1.5 Unknown – Monthly natural gas records were not received.

1.6 NA – During at least the past two years, no fuel oil has been burned at this plant.

Recordkeeping/Reporting/Notification

1.7 Unknown – Fuel records were not received.

1.8 Unknown – Fuel records were not received.

1.9 NA – Fuel oil has not been used at this facility for at least the past two years.

1.10 NA – Fuel oil has not been used at this facility for at least the past two years.

EU-031

Emission Limits

2.1 Compliance – Based on a review of records, the maximum PM emissions were 0.7 tons per 12 month rolling average for every month between January 2019 and December 2019 for both November 2019 and December 2019.

Visible Emission Limits

2.2 NA – During the onsite inspection, I was unable to observe VE from the piles due to the wet conditions.

2.3 NA – During the onsite inspection, I was unable to observe VE from the piles due to the wet conditions.

Recordkeeping/Reporting/Notification

2.4 Compliance – The facility is maintaining PM emission records. Proper reporting was reviewed in MAERS

2.5 Compliance – VE records were reviewed during the onsite inspection.

FG-001

Emission Limits

3.1 Compliance – I reviewed the reported emissions in MAERS for 201[®]. The tons per year for each of the listed pollutants were below the permitted limit. I did not review the emissions based on test protocol. A stack test occurred between January 26, 2006 and January 28, 2006. It appears based on a review of this report that the tested emissions were acceptable for both EU-

001 and EU-004. The emissions for EU-005 appear to be higher than the emission limit. Additional investigation into the emission rates will occur during the next inspection.

Visible Emission Limits

3.2 Compliance – During the onsite inspection, it appeared that the VEs were less than 10% opacity. Opacity is monitored onsite by a certified reader as well as opacitimeters.

Process/Operational Limits

3.3 Compliance – Based on a review of the collected records, it appears that all equipment is operating under the permit limit hours of operation. The records were reviewed for the past two years.

3.4 Compliance – During the onsite inspection. The duct collector was operating properly.

Testing

3.5 Compliance – The opacity is monitored by an opacitimeter, which sends an alert anytime that the opacity exceeds 8%. There is also a certified reader onsite to monitor opacity.

3.6 Noncompliance – The last stack test for EU-001, 004 and 005 was in 2006. The facility has installed opacimeters on each stack is calibrated by a third party. The opacitimeters were last calibrated on July 12, 2017 and the calibration sheets are attached to this report. The last stack test appears to have occurred on January 26-28, 2006. The facility stated that they planned to perform a stack test in the near future to resolve this noncompliance issue.

Recordkeeping/Reporting/Notification

This section was not evaluated since the records were not received.

Stack/Vent Restrictions

3.12 Compliance – No changes have been made to the stacks since the last onsite inspection.

FG-002

Process/Operational Limits

4.1 Compliance – The facility only operates using natural gas.

FG-003

Process/Operational Limits

5.1 Compliance – Based on a review of the records, the clinker was unloaded at an acceptable rate.

Recordkeeping/Reporting/Notification

5.2 Unknown – In the past the facility is maintaining proper records. No records were received for this inspection.

https://intranet.egle.state.mi.us/maces/WebPages/ViewActivityReport.aspx?ActivityID=24... 3/24/2023

FGFACILITY

Emission Limits

6.1 Compliance – The facility is operating under the PM permitted limit of 86.7 tpy. The highest emissions of 43.83 ton per 12-month rolling average was reported for February .

Record keeping/Reporting/Notification

6.2 Compliance – Monthly and 12-month rolling time period PM emission records are maintained and attached to this report.

6.3 Compliance – The current MAP was approved by the department and appears to be the appropriate maintenance plan for the facility.

6.4 Compliance – The facility is following their current Fugitive Dust Plan.

Permit 262-99B for the trial burn of plastic fuels

The trial burn of the plastic fuels never occurred. The corporate decision makers decided against the trial burn. This permit will be voided because the trial burn did not begin by February 28, 2013, which is the latest commencing date listed in the permit.

MAERS REPORT REVIEW

The facility submitted this report on time on March 13, 2019 and appears to accurately report all emissions.

FINAL COMPLIANCE DETERMINATION

St. Mary's Cement does not appear to be operating with all permit conditions. The facility is required to stack test EU-001, EU-004, and EU-005 once every five years, though it appears these emission units have not been tested since 2006. General surveillance in the area should be performed periodically as a result of the fallout complaint.

DATE SAULZORS SUPERVISOR NAME