

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

B194555368

FACILITY: QUIKRETE-FLINT		SRN / ID: B1945
LOCATION: 14311 CMI Drive, HOLLY		DISTRICT: Warren
CITY: HOLLY		COUNTY: OAKLAND
CONTACT: Devin Kaufman , Plant Manager		ACTIVITY DATE: 09/11/2020
STAFF: Robert Elmouchi	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Virtual scheduled inspection.		
RESOLVED COMPLAINTS:		

On September 11, 2020, I conducted a scheduled virtual inspection of Quikrete-Flint (Quikrete), **SRN: B1945**, located at 14311 CMI Drive, Holly, Michigan. A virtual inspection was conducted because the permittee has restricted visitor entry per the company's COVID19 pandemic response plan. The purpose of this inspection was to determine the facility's compliance with the requirements of the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the administrative rules; and the conditions of Air Use Permit to Install (PTI) No. 530-96E.

BACKGROUND

Quikrete-Flint (Quikrete) is a manufacturer of ready-to-use Concrete products. This facility produces a variety of concrete products under the Quikrete brand name and customer brand names. Quikrete receives raw products (e.g. sand, cement, etc.) and blends the raw materials to create ready-to-use concrete mixes, which are designed for various applications. Power plant fly ash is not a component of products manufactured at the Quikrete-Flint facility. All raw materials received are dry except for sand. Sand is received wet, with a desired maximum water content of 5%. The sand must be dried before mixing with other materials otherwise the final product will harden and become unusable. Sand drying is performed with a natural gas-fired fluidized bed dryer. Dryer emissions are controlled first by a cyclone, and then a wet scrubber in series. Collected dry particulates are reclaimed to make final products. Quikrete dries three types of sand; concrete sand (CS, also known as 2NS), mason sand (MS), and play sand (Play). Quikrete uses CS, MS, and Play designations when tracking sand throughput.

Quikrete is located on an industrial parcel of land near the intersection of I-75 and Grange Hall Road and, per Google Maps, appears to be located more than one mile from residential property. The products manufactured at this facility tend to result in particulate matter dispersed throughout the facility. Fugitive dust control is performed on a continual basis. Sand and concrete cement are significant components of the final product. Exterior areas, where sand is conveyed, are noticeably impacted, and routinely cleaned. All facility roads and pathways are unpaved, except for a concrete pad adjacent to the main building. Sand particulates (including sand fines and clay fines) that escape the drying process control devices collect on the ground and appear similar to beach sand except for dried sand fines and clay fines.

During inspections, I have been routinely pelted with a light dusting of wet sand when standing downwind of the EU-Dryer exhaust stack. It is important to note that EU-Dryer is permitted to emit 4.4 pounds per hour. Sand grains vary in size from 62.5 microns to 4750 microns (<https://en.wikipedia.org/wiki/Sand>), whereas cement dust grains vary from 3 to 100 microns (https://www.engineeringtoolbox.com/particle-sizes-d_934.html). Because sand particulates are relatively large, most particulates fall to the ground within a few hundred feet of the exhaust stack. The rapid settling of sand particulates can result in the subjective impression of an emission exceedance, which appears to be a false subjective impression because the EU-Dryer control devices appear to be properly maintained and operated.

MATERIAL THROUGHPUT TEST

PTI 530-96E requires Quikrete to use the actual number of front-end loader buckets to calculate material throughput. Special condition V.1 required the permittee to conduct a test to determine the average maximum weight capacity of material per front-end loader bucket. On June 14, 2019, I was present to observe the measurement test.

TEST RESULT

The average maximum LB1 front-end loader bucket capacity determined during the measurement test conducted on June 14, 2019, is 7,834 pounds, which equals 3.917 tons. It is important to note that Quikrete may

not use fractions of loader buckets to measure and calculate throughput. Any fraction of a front-end loader bucket shall be counted as a full bucket.

VIRTUAL SCHEDULED INSPECTION

EU-Dryer

The EU-Dryer process consists of the following steps:

- Wet sand is collected from a stockpile using a front-end loader.
- The wet sand is placed on a Syntron vibratory feeder to break-up clumped material.
- The wet sand then is transported on a conveyor into the fluidized bed dryer.
- Particulate emissions from the fluidized bed dryer are controlled, in series, by a cyclone followed by a wet scrubber.
- The sand exits the fluidized bed dryer onto the dry sand conveyor.
- Particulates from the dry sand conveyor are controlled by the Bin Vent baghouse.
- The dry sand is then transported by the bucket elevator (dry sand elevator) to the storage silo.
- The storage silo holds the dry sand for EU-Mixnbag.

During the recordkeeping review, I was able to determine that the wet scrubber pressure drop and liquid flow rate had been recorded on a daily basis, which appears to demonstrate compliance with EU-Dryer, special conditions VI.4.a and b. Photos provided by Mr. Kaufman, appear to demonstrate a pressure drop of 6.8 inches of water column at approximately 58 GPM water flow rate.

EU-Mixnbag

I reviewed the daily records of the pressure loss (in inches of water column) of the gas stream through the fabric filter dust collector for EU-Mixnbag. Daily records indicated a pressure drop of less than 5 inches of water column. Records provided indicate a pressure drop reading of 3.6 inches of water column. The pressure drop records appear to indicate compliance.

EU-Process

Quikrete provided records of visible emission readings as required by VI.2, and Appendix B. The visible emission records appeared to demonstrate with the percent opacity limits.

Quikrete provided records of the number of front-end loader buckets placed into the dryer as required by VI.3. The records appear to demonstrate compliance with this recordkeeping condition.

Quikrete provided records of the amount of material processed through EU-Process in tons of material per day, month, and 12-month rolling time period as required by VI.4. The records appear to indicate compliance with the 12-month rolling total of 150,000 tons. The daily throughput records indicate compliance with the daily throughput limit of 1,000 tons per day.

Photos provided by Mr. Kaufman appeared to indicate that EU-Process equipment had been modified. On September 24, 2020, I telephoned Mr. Kaufman. He explained that Quikrete was in the process of installing a new sand dryer. I told Mr. Kaufman that it is a violation to install equipment before a permit to install has been approved. Mr. Kaufman stated that, per previous conversations with me, he thought the company had 18-months to submit a PTI application after installation. I explained that he misunderstood general condition number 2. I followed up our conversation with a clarifying email. To resolve this non-compliance, Mr. Kaufman agreed to attend a Teams meeting on October 1, 2020. In addition to myself, this meeting will be attended by Devin Kaufman, and John Kehlbeck from Quikrete, plus Nick Carlson and Andrew Drury of EGLE. The purpose of this meeting is to provide the permittee an opportunity to describe the modifications to permitted equipment and describe equipment that the permittee is in the process of installing. We will also establish a plan for the permittee to submit a PTI application. The R 336.1201(1) violation notice will be drafted after I gather additional information at the 11:00 a.m. meeting with Quikrete on October 1, 2020.

FG-Fugitive

Special condition no. III.1 states, "The permittee shall not operate FG-Fugitive unless the program for continuous fugitive emissions control for all plant roadways, the plant yard, all material storage piles, and all material handling operations specified in Appendix No. A has been implemented and is maintained."

Quikrete primarily uses applications of calcium chloride to limit fugitive dust from the roadways. Water applications are available from the neighboring company on a limited basis but the primary control is calcium

chloride. Quikrete uses a dock broom to clean the concrete pad adjacent to the building.

CONCLUSION

Quikrete-Flint appears to be in violation of R 336.1201(1) for commencing the installation of process equipment before obtaining an approved permit to install. The R 336.1201(1) violation notice will be drafted after I gather additional information at the 11:00 a.m. meeting with Quikrete on October 1, 2020.

NAME

Robert UmarchiDATE September 28, 2020

SUPERVISOR

Joyce ZH