 P1188 March

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

P118867963

FACILITY: Hercules Concrete, LLC		**SRN / ID:** P1188
LOCATION: 2791 West Jefferson Avenue, DETROIT		**DISTRICT:** Detroit
CITY: DETROIT		**COUNTY:** WAYNE
CONTACT: Mark Fletcher , Director, Environmental		**ACTIVITY DATE:** 06/29/2023
STAFF: Jonathan Lamb	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: On-Site Inspection, FY 2023		
RESOLVED COMPLAINTS:		

INSPECTED BY: Jonathan Lamb and Jeff Korniski, EGLE-AQD
PERSONNEL PRESENT: Mark Fletcher, Director, Environmental – Crown Enterprises, Inc.; Shawn Wells, Superintendent - Detroit Aggregate; Steph Lewis, Plant Manager - Hercules Concrete
CONTACT PHONE NUMBER: 586-467-1711, ext. 2276 (Mr. Fletcher)
FACILITY WEBSITE: www.herculesconcrete.com

FACILITY BACKGROUND

Hercules Concrete, LLC operates a portable central mix concrete batch plant located at 2791 West Jefferson Ave., Detroit. Hercules Concrete is owned by Crown Enterprises, LLC, based out of Warren, Michigan. The facility operates within a 13.2-acre unpaved parcel of land along the Detroit River just north of the Ambassador Bridge. The facility started operations at this location in March 2020. The facility operates approximately 4:00 AM to 6:00 PM, Monday through Saturday. Most of the production at the facility occurs from April through December, with limited production from January through March. There are approximately 35 employees working out of this site, including drivers. Note: the entrance to the facility is located at 115 Rosa Parks Blvd.

INSPECTION NARRATIVE/PROCESS DESCRIPTION

AQD staff, Jeff Korniski and Jon Lamb (author), met with Mark Fletcher, Director, Environmental - Crown Enterprises, LLC to perform site visits/inspections of facilities owned by Crown Enterprises which are located at the following sites:

2791 West Jefferson Ave. (SRN: P1188). Hercules Concrete, LLC currently operates a concrete batch plant at this location, but may be relocating the batch plant to 4461 West Jefferson within the next two years.

115 Rosa Parks Blvd. (SRN: P0431). This address is listed under "Detroit Bulk Storage" in AQD's database. This property is contiguous with 2791 West Jefferson Ave. Crown Enterprises has two portable concrete crushers currently located at this address but has submitted relocation notices to move both crushers to 4461 West Jefferson.

4105 and 4461 West Jefferson Ave. (SRN: P0434). The 4105 West Jefferson address is listed under "Nicholson Terminal & Dock Co., Port of Detroit" in AQD's database; 4461 West Jefferson was the address provided by Crown Enterprises, which is part of the same property and so is included in the P0434 SRN at this time. The property is owned by Ambassador Port and operated by Nicholson Terminal. Detroit Aggregate, LLC, which is owned by Crown Enterprises, currently has operations on this site.

In additional to performing inspections at each site, Mr. Korniski and Mr. Lamb discussed current and future operational plans and permitting issues with Mr. Fletcher, including the future relocation of two portable concrete crushers and potential relocation of the concrete batch plant, as well as recent complaints received by AQD regarding fugitive dust and general siting concerns relating to operations at these sites.

This report will focus on Hercules Concrete's current operations at 2791 West Jefferson (SRN P1188); separate reports will be written for the inspections performed at P0431 and P0434.

Hercules Concrete operates a single central mix concrete batch plant, which means that the concrete is mixed in a drum on site and loaded into trucks ready for use (rather than mixing within the drums of the trucks themselves). Hercules Concrete produces concrete for MDOT and other general contractors in addition to use for in-house operations. The facility is considered a portable concrete batch plant but is currently operating at a fixed location for an indeterminate timeframe. Per Mr. Fletcher and Mr. Lewis, there has been no changes to the equipment or operations since the facility started operations.

The facility uses various raw materials to produce concrete, including aggregates, cement, fly ash, and slag. Aggregates (sand and stone) are delivered in bulk by truck; the stone and gravel are stored in open piles while the sand is stored within three-sided bins. Aggregate is delivered wet and the aggregate storage piles are sprayed with water on a regular basis to maintain sufficient moisture content for production and dust control. Cement, fly ash, and slag are also delivered in bulk by truck and pneumatically pumped from the trucks into silos for storage. During busy months, deliveries of raw materials are received almost every day.

To produce concrete, the raw materials are transported to enclosed weigh scales based on customer specifications and conveyed into the mixer. A front-end loader is used to move stone and sand from the storage piles into four outside hoppers, from which enclosed conveyors move the material to enclosed storage bins. Aggregate in the storage bins is then metered onto the weigh scales, wetted, and conveyed to the mixer. Cement from the cement silo is pumped through a tube into a horizontal storage cement silo, metered onto the weigh scale, and then screw conveyed into the mixer. Similarly, fly ash and slag are pumped from the silos through a tube to enclosed storage bins, metered onto the weigh scale, and then screw conveyed to the mixer. Within the mixer, the raw materials are mixed with heated water and chemical additives to produce concrete on a batch basis. Once the mixing is complete, trucks are loaded directly from the mixer with concrete ready for use in projects off site. The mixer is equipped with an external cartridge filter baghouse to control particulate during the mixing and loading process.

There are three vertical silos for storage of cement, fly ash, and slag. The cement silo is 60 tons while the fly ash and slag silos are 50 tons each. There is a fourth 55-ton horizontal silo for the storage of cement. Each silo is controlled with a cartridge dust collector located atop each silo.

The mixer, horizontal cement storage silo, storage bins, scales, truck load-out area, and associated conveyors are all contained within a semi-permanent framed enclosure. The vertical silos, hoppers, hopper conveyors, and mixer baghouse are located outside the enclosure.

Facility personnel check the site daily for fugitive dust issues, and the mixer baghouse and silo dust collectors are also visually checked for leaks on a daily basis. Written records of these daily inspections and associated maintenance and corrective actions are maintained in a binder and were reviewed on site during the inspection. According to Mr. Lewis, the baghouse and silo dust filters are replaced every month or two based on these daily checks.

There is a 10,000-gallon, 2.3 MMBtu diesel-fired hot water heater used to heat the water going into the mixer. This hot water heater is exempt per Rule 282(2)(b)(ii).

There are four 500-gallon horizontal diesel tanks, which are used to fuel vehicles on site. These tanks are exempt per Rule 284(2)(g)(ii).

There are two horizontal propane tanks (1000 gallons and 500 gallons, respectively) used to fuel several torpedo space heaters on site. These tanks are exempt per Rule 284(2)(b).

There is no emergency generator on site.

REGULATORY REVIEW

Hercules Concrete is currently operating as exempt from air permitting requirements under Rule 289(2)(d); the company had previously submitted a Permit to Install (PTI) air use application to AQD but withdrew the application. The facility is classified under NAICS code 327320: Ready-Mix Concrete; the corresponding SIC code is 3273: Ready-mixed concrete. Due to its operation (major SIC grouping 32) and its location (within the area delineated by AQD Rule 371), the facility is subject to Section 5524 of Act 451 of 1994, which provides for the regulation of fugitive dust sources at subject facilities. Section 5524, paragraphs (4) and (5) requires a subject facility to develop an operating plan for the control of fugitive dust and that operating plan is required to be incorporated into a legal order or approved permit to install. Historically, however, the AQD has not required cement batch plants to obtain a PTI or consent order incorporating a fugitive dust plan provided the batch plant was in compliance with the plan in Rule 289.

Based on this inspection, the facility appears to meet the requirements of the Rule 289(2)(d) exemption, as discussed below:

Rule 289(2)(d)(i): Based on production records, the facility has produced less than the exemption limit of 200,000 cubic yards of concrete per year:
2021: 138,755.5 cubic yards of concrete produced
2022: 114,218.9 cubic yards of concrete produced
2023 (January-June): 42,027.25 cubic yards of concrete produced

Rule 289(2)(d)(ii): The mixer uses a dust collector, drop chute, and enclosure for truck loading.

Rule 289(2)(d)(iii): Silos are equipped with cartridge dust collectors and the weigh scales are enclosed. Facility staff visually check the silos daily for visible emissions and the cartridge dust collectors are replaced every month or two.

Rule 289(2)(d)(iv): Facility maintains records of concrete produced on a monthly basis. These records were provided to AQD staff via email on June 30, 2023.

Rule 289(2)(d)(v): Facility notified the district office of the location of the concrete batch plant via an email to the Southeast Michigan District Office on February 7, 2020, which was forwarded to the Detroit Office on February 10, 2020.

Rule 289(2)(d)(vi): The concrete batch plant is located more than 250 feet from any residential or commercial establishment.

Rule 289(2)(d)(vii): The facility has a written fugitive dust plan approved by the City of Detroit, which is implemented and maintained in accordance with the requirements of this exemption. A copy of this fugitive dust plan was provided to AQD during the inspection and includes the following:

- Drop distance at each transfer point is minimized, including the delivery of aggregates, the loading of aggregates into the hoppers, and loading of cement trucks.
- On-site vehicles are loaded in a way to prevent fugitive dust emissions. Cement trucks are loaded under the mixer within an enclosure.
- Facility applies water to the unpaved areas several times a day (unless it rains) and sprays calcium chloride in the yard as necessary to control fugitive dust and maintains records of these applications. Calcium chloride was most recently applied on June 28, 2023. The facility also uses a wet sweeper along Rosa Parks and West Jefferson on a regular basis to clean up track out from the site.
- Aggregate is delivered wet and aggregate storage piles are watered as needed to control fugitive dust emissions below 5% opacity.

During the inspection, AQD staff did not observe any fugitive dust issues from the lot, storage piles, or operations.

Note: In 2021, the AQD expressed concern with the proposed permitting of the crushers on an adjoining location to a batch plant that had been sited in 2021. At the time, it appeared to the AQD that these actions constituted one project under Rules 278 and Rules 278a. As the crushers alone were ineligible for exemption a combined project would likely render the concrete batch plant ineligible for Rule 289(2)(d). During this inspection, AQD was informed that the two crushers had been operating from this site years prior to the arrival of the batch plant. If accurate, AQD explained the co-location question would no longer be an issue for two addresses and the concrete batch plant could retain use of the Rule 289(2)(d) exemption.

FINAL COMPLIANCE DETERMINATION

Based on AQD's inspection, Hercules Concrete, LLC appears to be in substantial compliance with applicable air quality rules and regulations, including operating within the requirements of Rule 289(2)(d).

NAME _____ DATE 7-7-23 SUPERVISOR JK