

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

CHAPTER 2 TECHNICAL MEMORANDUM

TO: File

THROUGH: Stephen S. Ours, P.E.
Chief, Permitting Branch

FROM: Wyatt Bohmann
Environmental Protection Specialist

SUBJECT: Permit Nos 7368, 7369, 7370 and 7371 to Construct and Operate One Portable Crusher, One Portable Screener, and Two Separate Stacking Conveyors at the Fort Totten Ready-Mix Concrete Plant, Located at 5001 Fort Totten Drive NE

DATE: July 8, 2024

BACKGROUND INFORMATION

A permit application package from Holcim–MAR, Inc. to construct and operate a crusher, screener, and two conveyors at the Fort Totten Ready-Mix Concrete Plant, located at 5001 Fort Totten Drive NE, was received by the Air Quality Division (AQD) on January 24, 2024. The units are described in more detail in the table below. The applicant submitted a Certificate of Clean Hands and updated calculations on February 15, 2024, and February 20, 2024, respectively. The application was deemed complete when the associated fee bill was paid on February 27, 2024.

Permit No.	Equipment Type	Equipment Description	Serial Number
7368	Jaw Crusher	McCloskey International J50v2 jaw crusher with a built-in belt conveyor, both powered by a 375 hp Caterpillar Model C9.38 375 hp diesel engine	79456
7369	Screener	McCloskey International S190 Triple Deck Screener, powered by a Caterpillar Model C4.4 130 hp diesel engine	78858
7370	Conveyor	McClosky International ST80T stacker, powered by a Caterpillar C2.2 ET 49 hp diesel engine	N/A
7371	Conveyor	McClosky International ST80T stacker, powered by a Caterpillar C2.2 ET 49 hp diesel engine	N/A

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Holcim–MAR, Inc. has not requested that any of the materials submitted with this application be held confidential.

Estimated Emissions:

The equipment, per the request of the applicant, will be operated no more than twelve hours per day, six days per week. This limitation will only allow the equipment to operate for a maximum of 3,744 hours within a 12-consecutive-month period. The applicant is also proposing the equipment shall not process in excess of 100,000 tons of material in any 12-consecutive-month period.

The maximum emissions emitted from the operation of the unit covered by this permit have been estimated to be as follows:

Pollutant	Potential Emissions Without Operational Limitations (tons per year)[†]	Potential Emissions With Operational Limitations (tons per year)
Coarse Particulate Matter (PM ₁₀)	2.78	0.13
Total Particulate Matter (PM Total) [‡]	7.52	0.31
Oxides of Sulfur (SO _x)	0.19	0.01
Oxides of Nitrogen (NO _x)	3.73	1.59
Volatile Organic Compounds (VOC)	0.43	0.19
Carbon Monoxide (CO)	1.64	0.7

[†]The applicant will not be permitted to operate at this level, but this data is used for evaluating whether 20 DCMR 204 would have been applicable without operational limits. See the regulatory review discussion below.

[‡]PM Total is not a Regulated NSR Pollutant (see the definition in 20 DCMR 299) and is not subject to review under 20 DMR 204. This data is included here for informational purposes only.

REGULATORY REVIEW

20 DCMR Chapter 2, Section 200: General Permit Requirements

The crushing, screening, and conveying operations being proposed would be classified as stationary sources of air pollution, specifically for particulate matter. As a result, Chapter 2 permits are required before construction and operation of the equipment can commence. Additionally, while engines of this type are normally considered non-road engines because they will be active at the site for more than 12 consecutive months, they will also be considered stationary engines and are therefore subject to Chapter 2 permitting requirements.

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Additionally, a limit on operating hours of the plant has been taken in Condition III(a) and III(b) of the permits. This condition limits operations of the plant to 12 hours per day, 6 days per week, and 3,744 hours in any 12-consecutive-month period.

20 DCMR Chapter 2, Section 201: General Requirements for Permit Issuance

Pursuant to this section, several permit conditions have been included in the permits to ensure that operation of the equipment is protective of public health and welfare. These limits include the restriction on total operation time to no more than twelve hours per day and no more than six days per week.

20 DCMR Chapter 2, Section 204: Permit Requirements for Major Sources Located in Non-Attainment Areas (New Source Review)

Non-Attainment New Source Review (NNSR) is not applicable to these units. The operation of all the equipment will not result in a “significant” (see the definition in 20 DCMR 299) increase in any air pollutant, even without the operational limitations placed in the permit. See the emission data in the table above. With the operational limits, the potential to emit (see the definition in 20 DCMR 199) is far below the applicability thresholds of this regulation.

20 DCMR Chapter 2, Section 209: Permit Requirements For Minor New Source Review

Effective January 1, 2014, the requirements of this section are applicable to any source required to obtain a Chapter 2 permit to construct a new stationary source, modify an existing stationary source, or install or modify an air pollution control device on a stationary source that results in an increase of potential to emit (PTE) rate equal to or greater than five tons per year (5 TPY) from an individual unit of VOC, NO_x, SO₂, PM₁₀, PM_{2.5}, or total hazardous air pollutants (HAPs).

Even without the operational limits established in Conditions III(a) and III(b), emissions of each of these pollutants are well below the 5 TPY threshold from the proposed operation of all four units. Therefore, 20 DCMR 209 is not applicable.

20 DCMR Chapter 6, Section 605: Control of Fugitive Dust

The fugitive dust control requirements of 20 DCMR 605 are applicable to the portable crusher, screener, and conveyors. The requirements of this regulation are found in Conditions II(b), (c), and III(d) of the permits. Additionally, it has been determined that use of wet suppression (water sprays) to minimize fugitive dust from the equipment is considered a “reasonable precaution” under this regulation, so this requirement has been included in Condition III(c) of the permit. The facility must monitor the site for compliance per Condition IV(e).

20 DCMR Chapter 6, Section 606: Visible Emissions

The visible emissions limitations of 20 DCMR 606.1(a)(2), 606.2(a)(2), and 606.2(f) are applicable to this portable crusher, screener, and conveyors and their associated diesel-fired engines and are found in Condition II(e) of the permit. Visible emissions shall not be emitted into the outdoor atmosphere from operation of the equipment except for two (2) minutes during

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any startup, cleaning, adjustment of combustion or operational controls, or regeneration of emission control equipment; provided they don't exceed twenty-seven percent (27%) opacity (unaveraged). Testing to determine compliance with these requirements is included in Condition IV(g), the results of which must be reported pursuant to Condition VI(c).

20 DCMR Chapter 9, Section 903: Odorous or Other Nuisance Air Pollutants

"An emission into the atmosphere of odorous or other air pollutants from any source in any quantity and of any characteristic, and duration which is, or is likely to be injurious to the public health or welfare, or which interferes with the reasonable enjoyment of life or property is prohibited [20 DCMR 903.1]" is applicable to this equipment. This requirement is contained in Condition II(h) of the permit. Deviations must be reported pursuant to Condition VI(d) if identified. Additionally, the affirmative defense provisions of 20 DCMR 903.13(b) are included in Condition II(h) of the permit as well.

40 CFR 60, Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants

40 CFR 60, Subpart OOO is applicable to the equipment covered by this permit as the units qualify as a nonmetallic mineral processing plant under the applicable definitions. As a result of the applicability of this regulation, additional visible emissions requirements were placed in Condition II(f) with corresponding monitoring and testing requirements in Condition IV(e) and (g), and record keeping requirements in Condition V(h) and notification and reporting requirements in Conditions VI(a) through (c). Additionally, inspections of the water sprays have been required in Condition IV(f) with associated record keeping required in Condition V(h).

40 CFR 60, Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The engines powering the crusher, screener, and conveyors are non-emergency compression ignition engine. This federal regulation is applicable to the engines as they will be employed at the site for greater than 12 months in a non-emergency capacity, and the engines thus categorized as stationary engines. The emission standards of this regulation are found in Condition II(a) of the permits. The sulfur content requirement applicable to the diesel fuel for the unit is found in Condition III(f). Maintenance and operation requirements are found in Condition III(h). Record keeping for fuel sulfur is included in Condition V(f) while the requirement to maintain record of the EPA Certificate of Conformity for the engine is found in Condition V(i).

RECOMMENDATIONS

Based on AQD's evaluation of the application package to construct and operate a crusher, screener, and two conveyors and a review of the applicable regulations, the construction and operation of the equipment as proposed, and the draft operating permit as written, are consistent with all applicable federal and District air pollution control laws and regulations.

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Public comments on the permit action will be solicited from July 19, 2024 through August, 2024. Additionally, during that time, any person may request a public hearing on this subject. A public hearing will not be held unless requested. If public comments are received, they will be reviewed and addressed before any final action is taken on the permit application package. If no adverse comments are received, I recommend that permit Nos. 7368, 7369, 7370, and 7371 be issued in accordance with 20 DCMR 200.1 and 200.2 promptly upon the completion of the public review period.

SSO:WEB