

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

CHAPTER 2 TECHNICAL MEMORANDUM

TO: File

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

FROM: Abraham T. Hagos *ATH*
Environmental Engineer

SUBJECT: **Permit Nos. 7277 and 7278 to Construct and Operate Portable
Crusher/Screeners and Portable Stacking Conveyor at 5001 Fort Totten Drive
NE**

DATE: November 21, 2019

BACKGROUND INFORMATION

A permit application package to construct and operate one (1) 300-ton per hour crusher with a built-in-belt conveyor, powered by a 510 hp, Tier 4f, diesel fired engine, coupled with a two-deck screener with top deck dimensions 4x 7.75 feet with three (3) built in belt conveyors and one (1) separate stacking conveyor powered by a 50 hp, Tier 4f, diesel fired engine at the ready-mix concrete production facility, located at 5001 Fort Totten Drive NE, was received by the Air Quality Division (AQD) on October 10, 2019. The crusher and screener are needed to process waste concrete from the ready-mix concrete manufacturing plant at the site. The units are described in more detail in the table below. The applicant is Bardon, Inc. dba Aggregate Industries.

Equipment Type	Equipment Description	Permit No.
McCloskey International Model I54Rv3 Crusher/Screeners	One (1) 300 ton per hour Crusher with one (1) built-in Belt Conveyor powered by a 510 Hp, Tier 4f, diesel fired engine coupled with a two deck screener with top deck dimensions 4 X 7.75feet with three (3) built-in belt conveyors.	7277
McCloskey International Model ST80T Stacking Conveyor	Stacking conveyor powered by a 50 Hp, Tier 4f, diesel fired engine.	7278

The permit action will be published in the DC Register and on DOEE's website on November 29, 2019. Public comments for the permit action will be solicited through December 30, 2019. Bardon, Inc. dba Aggregate Industries has not requested that any of the materials submitted with

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this application be held confidential.

Emissions Evaluation:

The applicant has requested that certain limitations on the ability of the equipment be established in the permits to limit the potential of the equipment to emit air pollutants. In particular, the applicant has requested a condition that limits engine operations to 3,000 hours each per 12-month rolling period. They have also indicated that their maximum equipment operating schedule will be 10 hours per day, 6¹ days per week, and 50 weeks per year. Because the latter request is more stringent than the former, those requirements have been included in the permit, but the 3,000 hour limit has not been specified therein.

The maximum emissions for all the units covered by these permits, in aggregate, would be as follows:

Pollutant	Maximum Emissions without Operational Limits (tons per year)[†]	Potential to Emit with Operational Limits (tons per year)
Coarse Particulate Matter (PM10)	2.88	0.99
Oxides of Sulfur (SO _x)	0.03	0.01
Oxides of Nitrogen (NO _x)	2.90	0.99
Volatile Organic Compounds (VOC)	0.92	0.31
Carbon Monoxide (CO)	13.28	4.55

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

REGULATORY REVIEW

20 DCMR Chapter 2, Section 200: General Permit Requirements

A crushing and screening operation is a potential air pollution source for particulate matter. Thus a Chapter 2 permit is required, both for construction and for operation of this type of unit.

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. They include the requirement to install and operate wet method dust control devices (water sprays) to minimize

¹ The application specifies 5 days per week, but the reference to limiting engine operations to 3,000 hours per year, along with the emission calculations (which are based on 10 hours per day, 300 days per year) are consistent with a six day operating week. Stephen Ours, Chief, Air Quality Permitting, spoke to Tim Bevard of Bardon, Inc. on November 21, 2019. Mr. Bevard indicated that there could be some circumstances where a sixth operating day per week might be needed, so the permit has been processed based on this request.

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dust emissions, a requirement to use only ultra-low sulfur diesel fuel, and a requirement to operate and maintain the equipment in accordance with manufacturers' recommendations.

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 equipment, taken in aggregate, would 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).

With the operational limits established, emission of each of these pollutants is below the 5 TPY threshold from each of the individual 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 these portable crusher/screener and conveyor units. The requirements of this regulation are found in Conditions II(a) and (b) and III(c) of the permits. The facility must monitor the site for compliance per Condition IV(d). In addition to the specific requirements of this regulation, other requirements in the permits have been established to assist with achieving the goals of 20 DCMR 605, such as requiring installation and operation of water sprays on the equipment.

20 DCMR Chapter 6, Section 606: Visible Emissions

The visible emissions limitations of 20 DCMR 606.1 are applicable to these portable crusher/screener and conveyor units. Visible emissions shall not be emitted into the outdoor atmosphere from the operation of the portable crusher/screen; provided, that discharges not exceeding forty percent (40%) opacity (unaveraged) shall be permitted for two minutes in any sixty (60) minute period and for an aggregate of twelve (12) minutes in any twenty-four hour (24 hr.) period during start-up, or malfunction of equipment. This requirement is contained in Condition II(d). Monitoring for compliance is required pursuant to Condition IV(d). Testing for compliance is required pursuant to Condition IV(f). Records of required testing must be maintained per Condition V(h) and reporting of results must occur per Condition VI.

A note was added to Condition II(d) to reflect that 20 DCMR 606 may be revised pursuant the U.S. Environmental Protection Agency (EPA) request for a revision to the District's State

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Implementation Plan (SIP), known as the start-up, shut-down, and malfunction (SSM) SIP Call. If the regulation is revised, the revised regulatory language will replace that found in Condition II(d).

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 source category, temporary portable concrete crusher/screen equipment. This requirement is contained in Condition II(f) of the permit.

40 CFR 60, Subpart LL: Standards of Performance for Metallic Mineral Processing Plants

40 CFR 60, Subpart LL will not be applicable to any units covered by these permits. Subpart LL applies only to “metallic mineral processing plants” that are producing “metallic mineral concentrates” from ore (see 40 CFR 60.381). Processing of waste concrete, as proposed in this application, is not consistent with these activities.

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 these permits. As a result of the applicability of this regulation, additional visible emissions requirements were placed in Condition II(e) with corresponding testing requirements in Condition IV(f) and (g), and record keeping and reporting requirements in Conditions V(h) and VI, respectively. Additionally, inspections of the water sprays have been required in Condition IV(e) with associated record keeping required in Condition V(g).

RECOMMENDATIONS

The application package to construct and operate the crusher/screening and the stacking conveyor and the draft operating permits comply with all applicable federal and District air pollution control laws and regulations.

Public comments for the permit action will be solicited from November 29, 2019 through December 30, 2019. 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. 7277 and 7278 be issued in accordance with 20 DCMR 200.1 and 200.2 promptly upon the completion of the public review period.

SSO/ATH

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