


**GOVERNMENT OF THE DISTRICT OF COLUMBIA**  
Department of Energy and Environment

**CHAPTER 2 TECHNICAL MEMORANDUM**

TO: File

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

SUBJECT: **Source Category Permit No. 6886-SC-R1 to Construct and Operate  
Temporary Portable Crushers, Screens, and Conveyors**

DATE: February 27, 2019

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***BACKGROUND INFORMATION***

On October 1, 2014, the Air Quality Division (“AQD”) of the Department of Energy and Environment (“DOEE” or “the Department”) issued a source category permit for temporary portable crushers and screens. This source category permit was intended to expedite the permitting process by simplifying permitting paperwork, not requiring a separate notice and comment period for each crusher/screen project, and reducing DOEE permit-review time. Because it would only approve short term (less than 6 months) projects, the Department believed that the projects would generally be non-controversial. The source category permit was issued pursuant to 20 DCMR 200.6.

This permit is scheduled to expire on September 30, 2019. In order to ensure that applicants will have sufficient time to complete their projects, AQD is proposing a renewal of this permit. Based on experience since the issuance of the original permit, AQD has made some revisions to the permit to be included in the renewed permit, but most aspects of the permit will remain unchanged.

The following comprise the substantive revisions:

- 1) Portable conveyors for aggregate handling have been included in the equipment covered by the permit. The conveyors used for this type of material handling generally emit less than crushers or screens, and as such, emissions from these would not be higher than those projected for the initial permit issuance.
- 2) The permit and associated application form have been revised to more clearly state that source category permit coverage for a project is not renewable after the original six months and that a source category permit cannot be used as a temporary permit while awaiting a longer term standard Chapter 2 permit.
- 3) A note has been added to indicate that a call for a State Implementation Plan (SIP) revision issued by the U.S. Environmental Protection Agency (EPA) (known as a “SIP call”) is under

## **CHAPTER 2 TECHNICAL MEMORANDUM**

### **Source Category Permit No. 6886-SC-R1 to Construct and Operate Temporary Portable Crushers, Screens, and Conveyors**

February 27, 2019

Page 2

review and may result in revision to the District's visible emissions regulation (20 DCMR 606). If such changes are made to the regulation, the new regulatory language would supersede the existing language in the permit.

#### ***TECHNICAL INFORMATION***

This source category permit is applicable to facilities to construct and operate temporary portable crusher and screen equipment, commonly used at building demolition sites in the District. Equipment covered by this permit must process nonmetallic minerals only. The equipment must operate for less than 12 hours per day for a period not to exceed six months at a given site. Crushing/screening facilities with the potential to emit more than 25 tons per year (limited by a six month operating period) of coarse particulate matter (PM<sub>10</sub>) or oxides of nitrogen (NO<sub>x</sub>) are not eligible for coverage by this permit. Engines associated with the equipment must be fueled either by gasoline or ultra low sulfur diesel fuel. Dust must be controlled by wet suppression.

The facilities who submit an application to the Department are approved for coverage under this permit, either actively or by passive approval which will occur thirty (30) days after submission of the complete application to AQD unless AQD objects to the approval in writing in that timeframe.

This source category permit covers only the portable concrete crusher/screen/conveyor at the facility. It does not cover other equipment regulated under Title 20 District of Columbia Municipal Regulations (DCMR) including boilers, generators and any other equipment at the facility capable of emitting air pollution. If any entity owns, operates, or plans to install any other air-pollutant-emitting equipment, permitting must occur in accordance with the requirements of 20 DCMR 200.

#### **Potential Emissions:**

Prior to issuance of the 2014 initial permit, worst case emissions were calculated for crushers and screens. While this permit renewal also covers conveyors, because conveyors have lower emission factors than crushers and screens, it was not deemed necessary to calculate emissions from these units. See AP-42 (a U.S. Environmental Protection Agency compendium of emission factors used to estimate the emission rates of equipment), Section 11.19.2 (<https://www3.epa.gov/ttn/chief/ap42/ch11/final/c11s1902.pdf>) for information on the emission factors used. The following describes the analysis that was performed based on crushers and screens.

The worst case criteria pollutant emissions from the worst case crusher/screen were calculated based on inquiries made to members of the concrete crushing industry known to be active in the District. Inquiries indicated that about the largest crusher used in the District would be a 400 ton per hour unit, though actual crushing would probably not exceed 100 tons per hour at any time. A unit this size would typically use about a 350 HP engine, but to be conservative for emission

## **CHAPTER 2 TECHNICAL MEMORANDUM**

### **Source Category Permit No. 6886-SC-R1 to Construct and Operate Temporary Portable Crushers, Screens, and Conveyors**

February 27, 2019

Page 3

estimates, a 599 HP engine was assumed. 599 HP was used as engines with 600 HP or greater power outputs have lower emission factors per AP-42. To estimate worst case operating hours allowable under the proposed permit emission calculations assumed 2,190 hours per year of operation (12 hours per day, for six months). To be conservative, the higher emission factors for gasoline or diesel engines were used for each pollutant.

To estimate the worst case emissions from the actual crushing or screening operation, the same 400 ton per hour highly conservative processing rate was used. Additionally, rather than using the lower crushing or standard screening emission factors, the higher fines screening emission factor was used.

Based on these conservative assumptions, the maximum potential to emit of a single unit covered by this permit would be as follows:

<b>Pollutant</b>	<b>Potential Emissions (tons per year)</b>
Coarse Particulate Matter (PM10)	2.40
Oxides of Sulfur (SO <sub>x</sub> )	1.35
Oxides of Nitrogen (NO <sub>x</sub> )	20.33
Volatile Organic Compounds (VOC)	14.43
Carbon Monoxide (CO)	4.56

Each applicant will need to provide an application form documenting that the emissions of each unit to be used will be below these levels to be approved for coverage under the source category permit. Additionally, if there are to be multiple units at the facility, the applicant will need to document that emissions of PM10 and NO<sub>x</sub> are below 25 tons per year for all equipment at the facility in combination.

### ***REGULATORY REVIEW***

#### **20 DCMR Chapter 2: General and Non-Attainment Area Permits:**

The provisions of 20 DCMR 200 are applicable to any temporary portable concrete crusher/screen/conveyor facility in the District as it is a stationary source of air pollution. A permit is therefore required to construct and subsequently operate the temporary portable concrete crusher/screen equipment pursuant to 20 DCMR 200.1 and 200.2. This source category permit is to be issued pursuant to the procedures set forth in 20 DCMR 200.6 for source category permits.

In some instances, where potential emissions of particulate matter or NO<sub>x</sub> exceed 5 tons per year, 20 DCM 209 could be triggered. The main generally available control for this type of equipment is wet suppression. This is required for all units covered by this permit per condition IV(b).

Note that, unlike most other permits issued in accordance with 20 DCMR Chapter 2, this permit (6886-SC-R1) will not supersede the previous permit (6886-SC), but will rather overlap it until

## **CHAPTER 2 TECHNICAL MEMORANDUM**

### **Source Category Permit No. 6886-SC-R1 to Construct and Operate Temporary Portable Crushers, Screens, and Conveyors**

February 27, 2019

Page 4

6886-SC expires. New applicants will be encouraged to apply for coverage under the renewed permit once it has been issued.

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

The fugitive dust control requirements of 20 DCMR 605 are applicable to this source category temporary portable crusher/screen/conveyor equipment. The requirements of this regulation are found in Conditions III(a) and (b) of the permit. The operational requirements are found in Conditions IV(c) and (d) of the permit. The facility must monitor the site for compliance per Conditions V(b) and (c).

#### **20 DCMR Chapter 6, Section 606: Visible Emissions**

The visible emissions limitations of 20 DCMR 606.1 are applicable to this source category, temporary portable concrete crusher/screen/conveyor equipment. Visible emissions shall not be emitted into the outdoor atmosphere from the operation of the portable concrete 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 III(d). Monitoring for compliance is required pursuant to Condition V(c).

One of the revisions made to the permit with the renewal has been the inclusion of a note in the permit that explains that the "SSM SIP Call" may result in changes to the requirements of 20 DCMR 606 and that, should this occur, the new regulatory language will supersede that found in the permit text. See Condition III(d) of the proposed permit renewal.

#### **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 III(f) of the permit.

#### **Other Regulations**

40 CFR 60, Subpart LL, Standards of Performance for Metallic Mineral Processing Plants, will not be applicable to any units covered by this source category permit as the applicants will not be allowed to process metallic minerals in the equipment. In the application, the applicant will be required to certify that they will not do so. Additionally, this is an applicability criterion of the permit. See Condition I(c).

40 CFR 60, Subpart OOO, the New Source Performance Standard (NSPS) for Nonmetallic Mineral Processing Plants, is applicable to these sources. As a result of the applicability of this regulation, additional visible emissions requirements were placed in Condition III(e) with corresponding testing requirements in Condition V(e) and (f) and record keeping and reporting

**CHAPTER 2 TECHNICAL MEMORANDUM**

**Source Category Permit No. 6886-SC-R1 to Construct and Operate Temporary Portable  
Crushers, Screens, and Conveyors**

February 27, 2019

Page 5

requirements in Conditions VI(h) and VII(a), respectively. Additionally, inspections of the water sprays have been required in Condition V(d) with associated record keeping required in Condition VI(g).

***RECOMMENDATIONS***

Notice of availability of the draft permit for public comment and the availability of the option to request a public hearing on this subject will be posted in D.C. Register and on the Department's website on March 1, 2019 and will be available for public comment or hearing requests through April 1, 2019.

The attached proposed permit complies with all applicable federal and District air pollution control laws and regulations. I recommend that the attached source category permit No. 6886-SC-R1 be issued upon completion of the public review period, assuming no adverse comments are received.

If adverse comments are received, such comments will be addressed prior to issuance of any final permit for this source category.

SSO

