

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Department of Energy and Environment

**CHAPTER 2 TECHNICAL MEMORANDUM**

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

FROM: Thomas Olmstead *SSO For TJO*  
Environmental Engineer

SUBJECT: **Monumental Concrete LLC, 3 DC Village Lane SW, Permit No. 6550-R2 to Operate an Existing Ready Mix Concrete Batch Plant**

DATE: May 28, 2020

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**BACKGROUND INFORMATION**

A permit application to operate an existing ready mix concrete batch plant with associated 2.7 MMBTU/hr No. 2 fuel oil fired hot water heater at 3 DC Village Lane SW was received by the Air Quality Division on January 14, 2020. The applicant is Monumental Concrete LLC.

Monumental Concrete LLC has not requested that any aspects of the application be held confidential.

**TECHNICAL INFORMATION**

Based on the emission calculations provided by the facility, the ready mix concrete batch plant has the potential to emit the following:

Pollutant	Maximum Annual Emissions (tons/yr)
Total Particulate Matter (PM Total)	2.78
Sulfur Dioxide (SO <sub>2</sub> )	0.02
Nitrogen Oxides (NO <sub>x</sub> )	1.69
Volatile Organic Compounds (VOC)	0.02
Carbon Monoxide (CO)	0.42

**REGULATORY REVIEW**

Both federal and District of Columbia regulations and applicable requirements apply to this project. Applicability or non-applicability of key regulations is discussed below.

20 DCMR 200 – General Permit Requirements: The ready mix concrete batch plant is stationary and has the potential to emit air pollutants. Therefore, the ready mix concrete batch plant is subject to the requirement to obtain a Chapter 2 permit pursuant to this regulation. The Permittee is limited to 134,750 tons of material, excluding water, loaded into the central mixer in any consecutive 12 month rolling period based on their application. This requirement is contained in

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Condition III(a) of the proposed permit.

#### 20 DCMR 205 – Permit Requirements for New Source Performance Standards (NSPS):

The requirements of this section adopt the federal NSPS codified in 40 CFR 60. Specifically Subpart Dc of 40 CFR Part 60 sets forth the standards of performance for small industrial-Commercial-Institutional steam generating units (ICI boilers) with maximum design heat input capacity less than 100 MMBtu/hr and greater than or equal to 10 MMBtu/hr. This subpart includes steam generating units for which construction, modification, or reconstruction commenced after June 9, 1989.

The No. 2 fuel oil-fired boiler at Monumental Concrete LLC has a maximum heat input of 2.7 MMBtu/hr and is therefore not subject to this subpart.

#### 20 DCMR Chapter 3: Operating Permits and Acid Rain Programs

A source that has the potential to emit more than 25 tons per year of oxides of nitrogen (NO<sub>x</sub>) or volatile organic compounds (VOCs), 10 tons per year of an individual hazardous air pollutant (HAP) or 25 tons per year of all HAPs combined, or 100 tons per year of other criteria pollutants is considered a major source and is required to obtain a Title V permit. Monumental Concrete LLC is not a major source, therefore it is not subject to Chapter 3 and will not need an operating permit in accordance with 20 DCMR 300.1.

#### 20 DCMR Chapter 5, Section 500: Source Monitoring and Testing Requirements

Appropriate monitoring and testing requirements have been included in Condition IV of the permit with associated record keeping and reporting requirements in Condition V of the permit to ensure that compliance with the conditions of the permit can be evaluated.

#### 20 DCMR Chapter 6, Section 600: Fuel Burning Particulate Emission

Total suspended particulate emission from the boiler shall not exceed 0.13 pounds per million BTU. This requirement is found in Condition II(e) of the permit. Generally, it will be presumed that they meet this standard if they use compliant fuels, but the Department reserves the right to require emission testing if it deems that it is warranted.

#### 20 DCMR Chapter 6, Section 603 and Appendix 6-1: Particulate Process Emissions

The discharge of particulate matter into the atmosphere from any process shall not exceed three hundredths (0.03) grains per dry standard cubic foot of the exhaust. Additionally, because the facility is rated to process more than 60,000 pounds (30 tons) per hour of materials, the facility shall not emit more than 40.00 pounds per hour of particulate matter per this regulation. Actual emissions are expected to be well below this.

To meet the particulate matter emissions standard, the facility intends to use a baghouse with 99.9% control efficiency for particulate matter. The manufacturer provided guidance that normal operating differential pressure would be between 4 and 6 inches of water across the bags as long as the bags are maintained at 99.9% efficiency.

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To monitor the efficiency of the baghouses, differential pressure gauges shall be installed to show the differential pressure across the bags and read between 4 and 6 inches of water when operating the baghouse (except for a short period after bag change-out). Per the manufacturer's recommendation the facility shall keep the replacement parts (listed on the manufacturer's specification of the baghouse) for the bag house on site. The Permittee is also required to maintain a full set of replacement bags and filter cartridges for the dust collection equipment. These requirements are contained in Conditions III(d) and (e).

Additionally, to ensure the equipment is maintained, differential pressure monitoring, visible emissions monitoring, and records of maintenance are required in the permit.

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

The fugitive dust requirements in 20 DCMR 605 are applicable to this ready mix concrete batch plant. Reasonable precautions shall be taken to minimize the emission of any fugitive dust into the outdoor atmosphere. These requirements are found in Conditions II(a) and (b) of this permit. The operational requirements are found in Condition III(f). The facility shall monitor the site for compliance per Condition IV(f) and maintain records of deviations per Condition V(j).

#### Chapter 6, Section 606: Visible Emissions

The visible emissions limitations of 20 DCMR 606.1 are applicable to this ready mix concrete batch plant. Visible emissions shall not be emitted from the equipment covered by this permit except that discharges not exceeding forty percent (40%) opacity (unaveraged) shall be permitted for two (2) 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, cleaning, adjustment of combustion controls, or malfunction of the equipment. This requirement is contained in Condition II(f). Monitoring for compliance is required pursuant to Condition IV(c). Records of any deviation shall be kept pursuant to Condition V(j). A note is included in the permit following Condition II(f) advising that 20 DCMR 606 is subject to a call from EPA for the District to revise its regulation (a "SIP Call"). The note advises that any resulting revised regulation will supersede the language in the permit that reflects the District's current visible emissions regulation language.

#### 20 DCMR Chapter 8, Section 805: Reasonably Available Control Technology for Major Stationary Sources of the Oxides of Nitrogen (NOx RACT)

NOx RACT is not applicable to this facility pursuant to 20 DCMR 805.1(a) because it is not a major source of NOx.

#### 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 all sources. This requirement is contained in Condition II(g) of the proposed permit. Monitoring for compliance is required pursuant to Condition IV(e). Records of deviations shall be kept pursuant to Condition V(i).

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### 40 CFR 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

This regulation is not applicable because the boiler is below the size applicability threshold of 10 MMBTU/hr heat input.

### 40 CFR 63, Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources:

This facility does not emit or have a potential to emit 10 tons per year or more of a single hazardous air pollutant (HAP) or 25 tons per year or more of any combination of HAPs. Consequently, the facility is considered an area source of HAP emissions.

The Monumental Concrete facility maintains a 2.7 MMBtu boiler that heats water during colder times of the year. The boiler operates on No. 2 fuel oil and is therefore subject to Subpart JJJJJ. The requirements of this regulation are found Conditions III(j) and V(n) through (p) of the permit.

## **CONCLUSIONS**

The operation of an existing ready mix concrete batch plant addressed in this action and the attached operating permit comply with all applicable federal and District air pollution control laws and regulations.

Public comments for the permit action will be solicited from June 5, 2020 through July 6, 2020. AQD will resolve any comments received before taking any final action on the permit application. If no comments are received, I recommend that Permit No. 6550-R2 be issued in accordance with 20 DCMR 200.1 and 200.2.

TJO