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

Digitally signed by stephen.ours
DN: cn=stephen.ours, email=stephen.ours@dc.gov
Date: 2026.10.22 11:03:43 -04'00'

FROM: John C. Nwoke
Environmental Engineer

Digitally signed by john.nwoke
Date: 2026.10.22 11:01:26 -04'00'

SUBJECT: Permit No. 7442 to Operate 40 kWe Diesel-Fired Non-Emergency Generator Set at Potomac River Tunnel Project, CSO 022 Site 2800 Virginia Avenue NW Washington, DC

DATE: October 22, 2026

BACKGROUND INFORMATION

A permit application from CBNA Halmar Clean Rivers JV to operate one non-emergency generator at Potomac River Tunnel Project, CSO 022 Site, 2800 Virginia Avenue NW, Washington, DC, was received by the Air Quality Division (AQD) on December 22, 2025. A revised application was received March 5, 2026. The application fee payment was received June 1, 2026. However, the application filing was not considered complete until a compliant certificate of clean hands was received on September 14, 2026. The application indicates that the unit was already installed at the site in January 2025 prior to issuance of a required air quality permit.

The 40 kWe[1] MQ Power diesel-fired non-emergency generator is driven by a 65.7 bhp Isuzu engine with serial number 4LE2-879257. The unit will support the Potomac River Tunnel Project. The unit will be used for the CSO 022 site to provide power supply until the permanent power supply is installed on site and will thereafter be a backup generator until the end of the project in 2030. A decision has been made to permit this unit as a non-emergency generator set as that reflects initial operations and associated requirements are more stringent than those for an emergency generator set. It is valid to use a non-emergency generator set in emergency operations, but the reverse is not the case. This discussion is limited to the non-emergency operation of the compression ignition internal combustion engine under draft Permit No. 7442.

This technical memorandum will also discuss the underlying regulatory basis for the permit action.

[1] The engine is rated at 40 kWe in standby mode and 36 kWe in prime mode. Although the unit is expected to be used in prime mode in the early phases of the project, AQD is using the higher rating to evaluate worst-case emissions and operations.

CBNA Halmar Clean Rivers JV has not requested that any of the materials submitted with this application be held confidential.

ESTIMATED EMISSIONS

The following table shows estimated maximum potential emissions from the generator set.

Pollutant	Potential Emissions (tons per year)
Total Particulate Matter (PM Total)	0.009
Oxides of Sulfur (SO_x)	0.59
Oxides of Nitrogen (NO_x)	1.43
Volatile Organic Compounds (VOC)	0.08
Carbon Monoxide (CO)	0.004

REGULATORY REVIEW

20 DCMR Chapter 2, Section 200: General Permit Requirements:
A non-emergency generator is a source of air pollutants that is not exempted in 20 DCMR 200. Thus, a pre-construction permit is required, pursuant to 20 DCMR 200.1 and a permit to operate is required pursuant to 20 DCMR 200.2. The applicant did not request any special operational limitations under 20 DCMR 200.6 or 200.7, and none are proposed to be granted.

20 DCMR Chapter 2, Section 204: Permit Requirements for Major Sources Located in Non-Attainment Areas (New Source Review)
20 DCMR 204 does not apply, as the non-emergency generator does not have the potential to emit greater than 25 tons per year of NOx, nor does it exceed any other major source threshold. The PTE of NOx is estimated to be 1.43 tons per year (TPY).

20 DCMR 205 – Permit Requirements for New Source Performance Standards (NSPS):
The requirements of this section adopt many of the federal NSPSs codified in 40 CFR 60 as in effect on July 29, 2021, except that, for certain NSPSs, some limited sections were not adopted. This is the case with 40 CFR 60 Subpart IIII, which applies to the equipment covered by this permit. See the discussions below of specific relevant New Source Performance Standards.

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, NOx, SO_2, PM_{10}, $PM_{2.5}$, or an aggregate of all HAPs.

Potential emissions of all of these pollutant categories are below the 5 TPY limit from the unit. Therefore, 20 DCMR 209 is not applicable.

20 DCMR Chapter 3: Operating Permits and Acid Rain Programs
This unit is not a major source and will not be sited at a major source facility. Thus, the requirements of this regulation are not applicable to this project.

20 DCMR Chapter 5, Section 500: Source Monitoring and Testing Requirements:
Several monitoring and record keeping requirements have been added to the permit pursuant to this regulation. Among these, monthly hours of operation must be maintained so that operations of the unit can be tracked and any related complaints can be traced to the units. Associated requirements were added in permit Conditions IV(a) and V(a)(1) pursuant to 20 DCMR 500.1.

Additionally, emission testing and fuel oil testing requirements have been included in the permit pursuant to 20 DCMR 502 in Conditions IV(c) and (d).

The Permittee must sample and test the fuel oil at least once each calendar quarter or at the time of each fuel delivery (whichever is less frequent) or otherwise obtain necessary information from their fuel supplier. This requirement has been established in Condition V(c) of the permit.

20 DCMR Chapter 6, Section 606: Visible Emissions
The non-emergency generator is subject to the visible emissions limitations of 20 DCMR 606.1 and relevant exceptions found in 20 DCMR 606.2. Visible emissions shall not be emitted into the outdoor atmosphere from the operation of the generator, except that discharges shall be permitted for two (2) minutes during any start-up, cleaning, adjustment of combustion or operational controls, or regeneration of emissions control equipment, provided that such discharges shall not exceed twenty-seven percent (27%) opacity (unaveraged). This requirement is contained in Condition II(b) of the permit. Monitoring and testing for compliance are contained in Conditions IV(e).

Additionally, the maintenance and operating requirements of 20 DCMR 606.4(a) and (b) are found in Conditions III(d) and (c), respectively, while the training requirement of 20 DCMR 606.4(c) are found in Condition III(e). The requirement to investigate malfunctions of 20 DCMR 606.5(b) is found in Condition IV(f), while the associated record keeping requirement is found in Condition V(a)(9). The record keeping requirements of 20 DCMR 606.5(a) are found in Condition V(a)(8) and the records of training to comply with Condition III(e) are found in Condition V(a)(10).

20 DCMR 801 – Sulfur Content of Fuel Oils:
This regulation limits fuel oil sulfur content to 1% by weight in all circumstances. There are more stringent requirements for commercial fuel oil, but the only portion of 20 DCMR 801 applicable to the engine is the 1% sulfur content limit. This requirement is streamlined with the more stringent requirements found in 40 CFR 60.4207(b) and included in Condition III(a) of the permit.

20 DCMR 805 – Reasonably Available Control Technology for Major Stationary Sources of the Oxides of Nitrogen:
NO_x RACT is not applicable to this facility pursuant to 20 DCMR 805.1(a) because the facility is not a major source of NO_x. The engine is a non-emergency engine which would have been subject to RACT under 20 DCMR 805.7 if it was located at a major source.

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 generator. This requirement is contained in Condition II(c) of the permit. Additionally, the affirmative defense provisions of 20 DCMR 903.13(b) are also applicable and found in Condition II(c). It is also noted in this condition that this requirement is District enforceable only.

40 CFR 60, Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
This unit is a generator set with a compression ignition non-emergency engine. This federal regulation is applicable to this generator engine. The emissions standards of this regulation are found in Condition II(a). These standards consist of Tier IV transient and steady state emission standards found in 40 CFR 1039.101(a) and (b), and the not-to-exceed standards of 40 CFR 1039.101(e). It should be noted that the smoke opacity standards of 40 CFR 1039.105 do not apply because the engine is certified to a PM standard less than 0.07 g/kW-hr, specifically 0.03 g/kW-hr (see 40 CFR 1039.105(a)(3)). Additionally, the requirements for crankcase emissions, adjustable parameters, prohibited controls, and defeat devices specified in 40 CFR 1039.115, as referenced in 40 CFR 60.4201(a), are incorporated in the permit by reference in Condition II(d). No family emission limits (FELs) were granted by the U.S. Environmental Protection Agency (EPA) for this engine.

The sulfur content of the diesel fuel requirement has been placed in Condition III(a), consistent with 40 CFR 60.4207(b). Maintenance and operation requirements are found in Condition III(c).

40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Engines
This subpart does not apply to this engine because this engine is a compression ignition (diesel) engine rather than a spark ignition engine.

40 CFR 60, Subpart ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Ignition Internal Combustion Engines
Because this unit is a stationary reciprocating internal combustion engine (RICE) at an area source of hazardous air pollutants (HAPs), this regulation is applicable to the unit. However, pursuant to 40 CFR 63.6590(c)(1), the only requirement of this subpart is to comply with 40 CFR 60, Subpart IIII, discussed above. As such, Subpart ZZZZ is not referenced in the permit document.

RECOMMENDATIONS

The application to operate the diesel fired non-emergency generator equipment 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 October 30, 2026 through November 30, 2026. AQD will address any comments received before taking any final action on the permit application. If no adverse comments are received, I recommend that permit No. 7442 be issued in accordance with 20 DCMR 200.2 promptly upon the completion of the public review period.

JCN