

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

TECHNICAL MEMORANDUM

TO: File

FROM: Stephen S. Ours, P.E.
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SUBJECT: Source Category Permit No. 7048-SC-R2 to Construct and Operate Stationary Diesel-Fired Emergency Engines Subject to NSPS Subpart III – Renewed and Revised to Address Revisions to Visible Emissions and Odor Regulations

DATE: December 4, 2023

BACKGROUND INFORMATION

The Air Quality Division (AQD) of the Department of Energy and Environment (the Department) issued a source category permit (No. 7048-SC) on September 30, 2015 for owners or operators to construct and operate certain stationary diesel-fired emergency compression ignition (CI) internal combustion engines in the District of Columbia. This particular source category permit is limited to engines covered by the federal New Source Performance Standard (NSPS) “Standards of Performance for Stationary Compression Ignition Internal Combustion Engines” (40 CFR 60, Subpart III). A [Technical Memorandum, dated August 24, 2015](#), was prepared in support of the draft of this source category permit which provides a regulatory review of the basis for the source category permit.

Subsequently, on September 27, 2019, AQD issued a revised and renewed version of this source category permit (No. 7048-SC-R1). The revisions to this version of the permit primarily addressed the impacts of a court case on certain underlying federal regulations that were the basis for certain permit conditions in the previous version of the permit. The details of these revisions are described in the [Technical Memorandum, dated August 14, 2019](#), issued in support of the draft of this renewal.

Source category permit No. 7048-SC-R1 is scheduled to expire on September 26, 2024. In preparation for this expiration, and to address certain regulatory changes that have occurred since the issuance of that permit, AQD has prepared a renewed and revised draft source category permit, designated No. 7048-SC-R2. This Technical Memorandum evaluates the revised regulations and how they impact the requirements of the source category permit. It is AQD’s intent that, upon final issuance of this source category permit, this new permit (No. 7048-SC-R2)

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will begin to be used exclusively for new applications and, by being issued well in advance of the expiration of the old permit (No. 7048-SC-R1), will allow the Department and the various previously permitted entities time to re-permit under the new permit. The old permit will not be cancelled or amended but rather will expire on its scheduled expiration date.

TECHNICAL INFORMATION

This source category permit covers only the installation and operation of emergency internal combustion engines that are regulated under 40 CFR 60, Subpart III. This regulation is broader in scope, but this source category permit covers only regulated equipment that is classified as an emergency engine and triggers NSPS applicability based on one of the following three triggers:

1. The model year of the engine is 2007 or later for engines that are not fire pump engines;
2. The engine is for a fire pump and its model year is equal to or newer than those specified in the following table, based on the size of the engine:

Fire Pump Engine Applicability Table		
Engine Power		Starting Applicability Model Year*
Mechanical Kilowatts (kW_m)	Horsepower (hp)	
kW _m < 75	hp < 100	2011
75 ≤ kW _m < 130	100 ≤ hp < 175	2010
130 ≤ kW _m ≤ 560	175 ≤ hp ≤ 750	2009
kW _m > 560	hp > 750	2008

*Fire pump engines with a maximum engine power greater than or equal to 37 kW_m (50 hp) and less than 450 kW_m (600 hp) and a rated speed of greater than 2,650 revolutions per minute (rpm) are covered only three years after the model year listed in this table for the applicable power category.

or;

3. The engine was ordered by the owner or operator after July 11, 2005 and one of the following is true:
 - i. The engine was manufactured after April 1, 2006 and is not a fire pump engine; or
 - ii. The engine was manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006;

Note that the federal regulation covers non-emergency engines. However, AQD plans to continue to require a case-by-case review of applications for any such engines at this time, so they are not covered by this source category permit.

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There are additional limitations placed on the equipment covered by this source category permit that are not required by the federal rule and may not be required in all cases by specific District regulations. This source category permit is not intended to disallow such operation in all cases. Instead, for some situations that may need further review by AQD, a case-by-case permit review process is still required to determine if such permits should be issued.

For equipment not covered by this source category permit (or other source category permits), if any entity owns, operates, or plans to install any equipment of this sort, they should consult with AQD to determine the applicability of any other permitting requirements pursuant to 20 DCMR 200. The main phone number for AQD is (202) 535-2250.

Also note that this source category permit does not cover all emergency engines, such as engines subject to the requirements of the spark ignition NSPS (40 CFR 60, Subpart JJJJ), engines subject to the Reciprocating Internal Combustion Engine (RICE) National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR 63, Subpart ZZZZ (except to the extent that Subpart ZZZZ references Subpart IIII for new sources), or existing engines exempt from these standards. These categories may be covered by other source category permits or may be handled on a case-by-case basis by AQD.

Since issuance of source category permit No. 7048-SC-R1 on September 27, 2019, several regulations of significance have been revised that affect emergency engines. The most significant effects to the permit are from revisions to the District's visible emissions regulation (20 DCMR 606), where the revised regulation was finalized on August 11, 2023. Additionally, revisions to the District's odorous or other nuisance air pollutants regulation (20 DCMR 903), where the revised regulation was finalized on August 4, 2023, also resulted in the need to revise this source category permit. The existing source category permit language must be revised to reflect the requirements of these amended regulations and the use of the existing permit needs to be phased out.

In addition to the changes resulting from regulatory revisions, other minor revisions have been made in the draft renewal source category permit to reflect improvements in permitting practice or minor errors or oversights in the existing permit.

REGULATORY REVIEW

The regulatory review for the source category permit is not significantly impacted by this source category permit revision and renewal beyond those regulations discussed below. For a review of the regulations not discussed below, please reference the previously issued [Technical Memorandum, dated August 24, 2015](#) and [Technical Memorandum, dated August 14, 2019](#).

20 DCMR 606 – Visible Emissions

On June 12, 2015 the EPA issued a call for a State Implementation Plan (SIP) revision (known as

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a “SIP call”) requiring the District to revise 20 DCMR 606, the District’s Visible Emissions Regulation. See “State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA’s SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction”, 80 Fed. Reg. 33840 (June 12, 2015). This federal action resulted in the Department revising 20 DCMR 606, with a final rulemaking promulgated on August 11, 2023.

These revisions resulted in changes to when emergency engines may apply the previously existing 2-minute exception to the base zero percent opacity standard in the District. Specifically, the exception may now only be applied during any start-up, cleaning, adjustment of combustion or operational controls, or regeneration of emissions control equipment. Also, for stationary engines, the magnitude of this exception was reduced from 40% opacity (unaveraged) to 27% opacity (unaveraged). These changes are reflected in Condition III(b) of the permit.

Additionally, equipment maintenance and operation requirements were added to the regulation as specified in 20 DCMR 606.4(a) and (b). These requirements have been streamlined with existing requirements in the permit in Conditions IV(g) and (e), respectively. Also, a new requirement to ensure that the personnel performing operation and maintenance tasks must be adequately trained and supervised was added to the regulation as 20 DCMR 606.4(c) and therefore, as a new permit Condition IV(h). Record keeping related to these three requirements have been incorporated into Conditions VI(a)(3), (4), and (11).

20 DCMR 805 – Reasonably Available Control Technology for Major Stationary Sources of the Oxides of Nitrogen

This regulation was revised on September 16, 2022. However, pursuant to 20 DCMR 805.1(c)(5), emergency standby engines operated during any 12-consecutive-month period for less than 500 hours for any purpose and less than 100 hours for maintenance and testing are exempt from any requirements under this regulation. Pursuant to Conditions IV(a) and (c) of the permit, any engines eligible for coverage under this source category permit must operate below these levels. Thus, this regulation does not apply to engines covered by this source category permit.

20 DCMR 903 – Odorous or Other Nuisance Air Pollutants

This regulation was revised on August 4, 2023. The base portion of the regulation, located in 20 DCMR 903.1 remained unchanged, and remains in the permit as Condition III(c). Most of the additions to the regulation related to requirements for certain sources to submit odor control plans. However, emergency engines are not one of the categories of equipment the owners or operators of which are required to submit such odor control plans, unless specifically required by the Department under special circumstances. As such, no odor control plan requirements have been added to the permit. Should there ever be a situation where an odor control plan was to be required of an owner or operator of an emergency engine permitted under this source category

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permit, such a plan may be required by order of the Department outside of the requirements of this permit. The only additional requirement in the revised regulation to apply is the newly added affirmative defense provisions of 20 DCMR 903.13(b). These have been added to Condition III(c) as well.

It should be noted that this regulation is a District-enforceable only regulation and is not found in the District's State Implementation Plan (SIP). This fact is noted in the permit.

RECOMMENDATIONS

The notice providing the public the opportunity to comment on the proposed source category permit will be published in the D.C. Register on December 15, 2023. The draft permit will be available for public comment for thirty (30) days following the date of publication. Pursuant to 20 DCMR 210, the public notice will also be sent to EPA Region 3 and affected states (VA, MD, and WV).

The attached proposed revised and renewed permit complies with all applicable federal and District air pollution control laws and regulations. I recommend that the attached source category permit No. 7048-SC-R2 be issued upon completion of the public review period, if 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/JCN