

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

TO: File

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

SUBJECT: Source Category Permit No. 7048-SC to Construct and Operate Stationary Diesel-Fired Emergency Engines Subject to NSPS Subpart IIII

DATE: August 24, 2015

BACKGROUND INFORMATION

The Air Quality Division (AQD) of the Department of Energy and Environment (the Department) has developed a source category permit for owners or operators to construct and operate 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 IIII). This source category permit will expedite the permitting process by simplifying permitting paper work, not requiring a notice and comment period for each emergency engine applicant, and reducing Department permit review time. The source category permit includes the requirements of all relevant District of Columbia (“District”) and federal air quality laws and regulations for this category of source.

All stationary emergency engines are potential sources of air pollution and are therefore subject to the requirements of 20 DCMR, Section 200 and must obtain a permit from the Department. This source category permit will provide an expedited method for obtaining such permits for a significant subset of those units while ensuring that all regulatory requirements are included in the governing permit for each covered unit.

TECHNICAL INFORMATION

This source category permit is applicable to owners and operators of stationary diesel-fired emergency engines in the District of Columbia who submit an application to AQD and are approved for coverage under this permit, either actively or by passive approval which will occur 45 days after submission of the application to AQD unless AQD objects to the approval in writing in that timeframe.

This source category permit covers only the installation and operation of emergency internal combustion engines that are regulated under 40 CFR 60, Subpart IIII. This regulation is more

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broad, 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 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.

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

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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 III 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.

REGULATORY REVIEW

20 DCMR Chapter 2, Section 200: General Permit Requirements:

Stationary emergency engines that burn fuel are potential sources of oxides of nitrogen and other air pollutants. Thus a Chapter 2 permit is required for installation and operation of such engine. In this case, this source category permit is being proposed to allow applicants to obtain such a permit under 20 DCMR 200.6.

20 DCMR Chapter 2, Section 204: Permit Requirements for Major Sources Located in Non-Attainment Areas (New Source Review):

This source category permit is not intended to address NSR requirements and as such, the permit has been limited to applications that do not trigger 20 DCMR 204. It is extremely unlikely that New Source Review (NSR) would be triggered by any other pollutant without first triggering it for oxides of nitrogen (NO_x). As such, the permit application specifically calls out the NSR threshold of 25 tons per year as a potential emission threshold above which the permit is not valid. However, in the rare instance that NSR could be triggered for other reasons, it is made clear in the application that AQD could deny coverage under the source category permit for special or unique circumstances. AQD would consider triggering NSR for another pollutant to be one of these circumstances.

20 DCMR Chapter 2, Section 209: Permit Requirements for Non-Major Stationary Sources (Minor New Source Review):

The equipment covered by this permit is relatively new and must meet relatively current federally established emission standards under 40 CFR 60, Subpart III. Additionally, by its very nature, an emergency engine would be used in very limited circumstances. Unlike with demand response programs, it is not likely that substantial percentages of the usage of the unit would coincide with high ozone days. Most emergency engines meeting the federal standards are unlikely to trigger this regulation, but some would. For the small amount of operating time, in most cases, add-on controls would be eliminated based on a case-by-case evaluation under 20 DCMR 209.4. Therefore, in most cases, AQD will consider meeting the current federal standards for emergency engines covered by this permit to meet the requirements of 20 DCMR

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209 and will therefore not require a specific review pursuant to this regulation for each applicant. In rare cases, or as new emission control technologies develop, AQD may determine that there is a reason to require such an evaluation on a case-by-case basis. In those situations, AQD has reserved the right to deny an application for coverage under this source category permit and instead require a more thorough case-by-case permit review.

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

In some cases, these units are installed at major stationary sources subject to 20 DCMR Chapter 3, commonly known as Title V, referencing Title V of the federal Clean Air Act, which establishes this program on a national basis. In order to ensure that any equipment covered by this source category permit is amended into the facility's Title V permit, Condition II(g) was added to the source category permit to require permittees to submit the appropriate Title V permit application or application update to AQD within 12 months of the date of approval of coverage of the unit under the source category permit. Additionally, pursuant to Chapter 3 requirements, any permittee subject to Chapter 3 and covered by this source category permit is required to maintain records for five years rather than the standard three years for non-major sources. See Condition VI(a).

20 DCMR Chapter 6: Particulates:

The visible emission limitations of 20 DCMR 606 are applicable to all units covered by this permit. Therefore, Condition III(b) includes these requirements.

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

Some engines have the potential to be covered by 20 DCMR 805, Reasonably Available Control Technology (RACT) for Major Stationary Sources of the Oxides of Nitrogen. However, pursuant to 20 DCMR 805.1(c)(2), emergency standby engines operated less than 500 hours during any consecutive 12-month period are exempt from this regulation. In Condition IV(a) of the source category permit, operations are limited to fewer than 500 hours in any given 12-month period to ensure that none of the units covered by this permit trigger 20 DCMR 805.

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. It is contained in Condition III(c) of the permit.

40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines:

As discussed previously, this federal regulation covers a wide variety of compression ignition

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internal combustion engines. However, for purposes of this source category permit, AQD has identified all regulatory requirements in this regulation that apply to stationary, diesel-fired emergency engines subject to the rule and has included them in the permit.

All applicable record keeping requirements associated with this regulation were included in Condition VI of the permit. The limited reporting requirements have been incorporated in Condition VII of the permit.

40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines:

This federal regulation is applicable to all engines covered by this source category permit. However, per 40 CFR 63.6590(c), the covered types of engines are subject only to the requirements of 40 CFR 60, Subpart IIII.

RECOMMENDATIONS

The public notice announcement was submitted to the D.C. Register for publication in the August 28, 2015 edition. The draft permit is available for public comment through September 28, 2015. Pursuant to 20 DCMR 210, the public notice will also be sent to EPA Region III and affected states (VA, MD, and WV).

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. 7048-SC 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.

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