

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Department of Energy and Environment

**CHAPTER 2 TECHNICAL MEMORANDUM**

TO: File

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

FROM: Olivia Achuko *OA*  
Environmental Engineer

SUBJECT: **The Louis DC Residential LLC**  
**Permit No. 6843**  
**Permit to Operate a 300 kWe Emergency Generator Set at 1920 14<sup>th</sup> St. NW**

DATE: September 29, 2017

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**BACKGROUND INFORMATION**

This permit action is to address an application from The Louis DC Residential LLC to operate a 300 kWe emergency generator set powered by a 463 HP diesel-fired engine at 1920 14<sup>th</sup> Street NW, Washington DC 20009. An initial application for the unit was received by the Air Quality Division (AQD) of the Department of Energy and Environment (the Department) on November 1, 2013, after the unit had already been installed at the facility. At that time, the applicant was 14th and U Residential, L.L.C. c/o the JBG Companies. A subsequent revision of the application was received on December 31, 2013, also from 14th and U Residential, L.L.C. On February 28, 2014, a draft permit was published for a 30-day public review and comment period. A comment in opposition to issuing the permit was received from a neighbor concerned about odor, noise, and health effects of the generator set venting into Treto Way, an alley abutting her residence.

After substantial investigation of the neighbor's concerns, in July 2014, AQD issued a notice of violation (NOV) requiring an updated permit application as well as an odor control plan. In August 2014, a new permit application was received identifying the applicant as The Louis DC Residential LLC. The associated odor control plan indicated that the applicant was investigating installing a Rypos diesel particulate filter with oxidation catalyst. The intent of this unit is to minimize emissions of particulate matter and hydrocarbons (a source of odor). Ultimately, the Rypos unit was selected and installed on the generator set in late 2015/early 2016. The most recent version of the permit application was received on March 24, 2016 and included the RYPOS unit.

The Company has not requested that any of the materials submitted with this application be held confidential.

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**TECHNICAL INFORMATION**

The generator has an electrical output rating of 300 kWe. The unit is powered by a model year 2012 diesel-fired John Deere engine, rated at 463 hp mechanical output. The engine has been certified by the U.S. Environmental Protection Agency (EPA) as a Tier 3 engine.

The engine has a Rypos active diesel particulate filter with a diesel oxidation catalyst installed. The particulate filter reduces particulate matter, while the oxidation catalyst reduces carbon monoxide and hydrocarbons, thereby reducing odors.

AQD does not normally require add-on controls for diesel-fired emergency generator sets, but given the location of the outlet in an alley with limited ventilation, AQD deemed it necessary to require additional controls, primarily to minimize odors for purposes of compliance with 20 DCMR 903.

**REGULATORY REVIEW**

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

Engines powering emergency generator sets are sources of oxides of nitrogen and other air pollutants because of the combustion of fuel, in this case, diesel fuel. Thus a Chapter 2 permit is required for installation and operation.

20 DCMR Chapter 6, Section 606: Visible Emissions:

The visible emission limitations of 20 DCMR 606 are applicable to this facility. Condition II(b) includes these requirements. It should be noted that this regulation is the subject of an EPA-issued call for a State Implementation Plan (SIP) revision (known as a "SIP call") requiring the District to revise 20 DCMR 606. Any resulting changes to this regulation will supersede the current permit language. This is specifically noted in Condition II(b) of the permit.

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

20 DCMR 805 is not applicable to "emergency standby engines operated less than five hundred (500) hours during any consecutive twelve (12) month period." [20 DCMR 805.1(c)(2)] This generator set meets this exception. Condition III(a) establishes an enforceable limit to ensure that this exclusion remains applicable.

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 II(d) of the permit.

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

NSPS Subpart IIII is applicable to the engine of the generator set covered by this permit based on the model year (2012) and installation date (October 2013). As such, the relevant requirements of this regulation have been incorporated throughout the permit.

40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (NESHAP for RICE) located in an Area Source of HAPS

Subpart ZZZZ of 40 CFR 63 regulates/monitors Hazardous Air Pollutants (HAPs) such as acetaldehyde, acrolein, benzene, toluene, xylene, cadmium, chromium, lead, etc, through surrogate compounds such as formaldehyde, CO and/or VOC.

A facility that emits or has the potential to emit 10 tons/year of any single HAP or 25 tons/year of any combination of HAPs, is consider a major source. Any source that is not a major source is an area source. Because this facility does not have the potential to emit more than 10 tons/year of a single HAP or an aggregate of more than 25 tons of total HAPs, it is not a major source. It is rather an area source.

Subpart ZZZZ is applicable to the generator engine operated by the applicant. However, pursuant to 40 CFR 63.6590(c), the only requirement is that the units comply with the requirements of (in the case of these compression ignition engines) 40 CFR 60, Subpart IIII, previously discussed.

**RECOMMENDATIONS**

The public notice announcement was submitted to the D.C. Register for publication in the October 6, 2017 edition. The draft permit is available for public comment through November 6, 2017. AQD will address all relevant comments before taking any final action on this permit application.

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