


GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Department of Energy and Environment

TECHNICAL SUPPORT MEMORANDUM  
FOR PROPOSED SYNTHETIC MINOR PERMITTING ACTION

Permit No. 7290-SM

TO: File

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

SUBJECT: **Verizon Washington DC, Inc.**  
**Synthetic Minor Permit No. 7290-SM for Operations at the Southwest  
Central Office, 30 E Street SW, Washington DC**

DATE: August 27, 2021

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This Technical Support Memorandum has been prepared to document the basis for a facility-wide synthetic minor operating permit for the following:

**Applicant and Permittee:**  
Verizon Washington DC, Inc.  
400 International Parkway  
Richardson TX 75081

**Facility Location:**  
Verizon Washington DC, Inc.  
Southwest Central Office  
30 E Street SW  
Washington DC 20016

**Application Signatory per 20 DCMR 200.13:**  
Mr. David P. Leland, Regional Environmental Manager

**FACILITY DESCRIPTION AND BACKGROUND INFORMATION:**

Verizon Washington DC, Inc., Southwest Central Office, is located at 30 E Street SW, Washington DC 20016. The facility's primary emission units consist of four (4) Detroit Diesel engine powered 1,500 kilowatt (kWe) Cummins Model # 1500 DS-4 diesel generators (EG1, EG2, EG3, and EG4), and a 250 kWe Caterpillar life safety emergency generator (LSEG1) with

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Caterpillar diesel engine Model # C9ATAAC. These units were all previously permitted under Title V Permit No. 045-R1, issued March 19, 2019.

The facility was previously identified as having three 20,000 gallon underground storage tanks for diesel fuel on the east side of the building, two 150-gallon diesel day tanks located inside the penthouse, and two chillers located on the roof of the building, adjacent to the penthouse. However, none of these units emit oxides of nitrogen (NO<sub>x</sub>) and are therefore not covered by this synthetic minor permit.

On October 16, 2020, the Air Quality Division (AQD) of the Department of Energy and Environment (the Department) received an application, signed October 6, 2020 with cover letter dated October 1, 2020, for a synthetic minor permit to replace existing Title V operating Permit No. 045-R1. The proposed permitting action accompanying this Technical Support Memorandum addresses this application.

### **DISCUSSION OF PROPOSED SYNTHETIC MINOR LIMITATIONS**

Previous information from the applicant indicates that routine operations of all generators are for testing once per month for maintenance purposes and for a five hour time period once per year for extended maintenance for a total of 17 hours of maintenance operating per year per generator in a normal year. Any additional hours of operation would be for emergency purposes only.

The facility had previously accepted, in the Title V permit, an operating limit of 440 hours per generator set per year for the four 1,500 kWe emergency generator sets (EG1, EG2, EG3, and EG4) and 125 hours per year for the 250 kWe generator set (LSEG1). The 440 hours per year limit for the larger generator sets was a limit taken to avoid applicability of non-attainment New Source Review, and as such, cannot be removed, but can be made more stringent.

In the October 2020 application, the applicant requested a more stringent limit of 400 hours per generator set per year for the four 1,500 kWe emergency generator sets (EG1, EG2, EG3, and EG4), while maintaining the 125 hours per year limitation for the 250 kWe generator set (LSEG1). As demonstrated in the emissions summary below, these limits will ensure that emissions are maintained below the District's major source threshold of 25 tons per year of NO<sub>x</sub>, which is the only pollutant that would have exceeded one of the District's major source thresholds if no restrictions on the operations, and therefore the potential to emit, of the facility were taken.

As such, with the establishment of these operational limits in Conditions III(a)(2)(A) and III(b)(2)(A) of the permit, along with associated monitoring and record keeping requirements<sup>1</sup>, and a requirement to report exceedances of these operational limits found in Condition

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<sup>1</sup> See Conditions III(a)(3)(B), III(a)(4)(A)(ii), III(b)(3)(B), and III(b)(4)(A)(ii) for these associated monitoring and record keeping requirements.

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I(c)(3)(B), the operational limits are enforceable as a practical matter, and pursuant to 20 DCMR 200.6, this facility qualifies for synthetic minor status.

**EMISSIONS SUMMARY:**

The following is an estimate of overall potential emissions from the facility:

<b>FACILITY-WIDE EMISSIONS SUMMARY [TONS PER YEAR]</b>		
<b>Pollutants</b>	<b>Potential Emissions without 20 DCMR 200.6 Limits<sup>†</sup></b>	<b>Potential Emissions with 20 DCMR 200.6 Limits<sup>‡</sup></b>
Sulfur Dioxide (SO <sub>2</sub> )	0.027	0.021
Oxides of Nitrogen (NO <sub>x</sub> )	28.23	22.27
Coarse Particulate Matter (PM10)	0.56	0.44
Volatile Organic Compounds (VOCs)	2.19	1.74
Carbon Monoxide (CO)	3.36	2.56

<sup>†</sup> Assumes 500 hours per year of operation for all generator sets.

<sup>‡</sup> Assumes 400 hours per year of operation for EG1 through EG4 and 125 hours per year of operation for LSEG1 per 20 DCMR 200.6 limits.

**REGULATORY REVIEW:**

This facility has been found to be subject to the requirements of the following regulations (except as specified in notes below):

Federal and District Enforceable:

20 DCMR Chapter 1 - General Rules

20 DCMR Chapter 2 - General and Non-Attainment Area Permits

20 DCMR 500 - Records and Reports

20 DCMR 502 - Sampling, Tests, and Measurements

20 DCMR 600 - Fuel-Burning Particulate Emission

20 DCMR 604 - Open Burning

20 DCMR 605 - Control of Fugitive Dust

20 DCMR 606 - Visible Emissions

20 DCMR 774 - Architectural and Industrial Maintenance Coatings

20 DCMR 800 - Control of Asbestos

20 DCMR 801 - Sulfur Contents of Fuel Oils

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

40 CFR 51.212, 52.12, 52.30, 60.11, and 61.12 - Credible Evidence

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

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40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (NESHAP for RICE)

District Enforceable Only:

20 DCMR 402 – Chemical Accident Prevention (*Note: AQD did not make a positive determination that this regulation was applicable to the facility, but included it as a standard requirement in the permit.*)

20 DCMR 900 - Engine idling

20 DCMR 901 - Vehicular exhaust emissions

20 DCMR 902 - Lead Content of Gasoline

20 DCMR 903 - Odorous or other nuisance air pollutants

20 DCMR 1406 - Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

20 DCMR Chapter 2 – General and Non-Attainment Area Permits:

All stationary engines are subject to Chapter 2 permitting requirements, regardless of size. As such, all of the significant units at the facility are subject to Chapter 2 permitting requirements. All five of the generator engines were incorporated in the combined Chapter 2 and Chapter 3 Title V permit previously issued for the facility. All associated Chapter 2 requirements are being transferred to this synthetic minor permit.

As discussed above, the applicant has requested 400 hour per year operational limitations for EG1 through EG4 and a 125 hour per year operational limitation for LSEG1 pursuant to 20 DCMR 200.6.

Additionally, it should be noted that a previous limitation of 440 hours per year was taken to avoid the applicability of 20 DCMR 204 (non-attainment New Source Review) to units EG1 through EG4, in a manner similar to what is now formally established in 20 DCMR 200.7. As such, even if the applicant requests at some future time to remove the 400 hour per year limit pursuant to 20 DCMR 200.6, consideration for 20 DCMR 204 applicability must also be made.

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

As discussed above in the “Discussion of Proposed Synthetic Minor Limitations”, 20 DCMR Chapter 3 will no longer be applicable upon the issuance of this permit with its limits established pursuant to 20 DCMR 200.6. Existing Title V permit 045-R1 will be superseded and replaced by this permit. The acid rain portions of 20 DCMR Chapter 3 are not, and have never been, applicable to the facility.

20 DCMR Chapter 5 – Source Monitoring and Testing:

Throughout the permit, appropriate monitoring, testing, and record keeping requirements have been established to ensure that all emission and operational limits in the permit are enforceable as a practical matter. These requirements are established under the authority of Chapter 5.

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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 emergency engines is the 1% sulfur content limit. This requirement is streamlined with the more stringent requirements found in 40 CFR 63.6604(b) for the non-NSPS engines and 40 CFR 60.4207(b) for the NSPS engine.

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

The engine of the life safety diesel emergency generator set is subject to 40 CFR 60, Subpart IIII. 40 CFR 60, Subpart IIII applies to stationary compression ignition internal combustion engines (CI-ICE) that: 1) are model year of 2007 or later, 2) commenced construction after July 11, 2005 and were manufactured after April 1, 2006, or 3) were modified or reconstructed after July 11, 2005.

The Department confirmed that the life safety diesel CI-ICE identified below is subject to 40 CFR 60, Subpart IIII:

<b>Equipment Location</b>	<b>Emission Unit ID</b>	<b>Stack ID</b>	<b>Chapter 2 Permit No.</b>	<b>Emission Unit Description</b>
Roof next to Penthouse	LSEG1	LSEG1	6845	One 250 kWe Caterpillar emergency generator with 355 hp Caterpillar Model C9ATAAC diesel engine (installed 2013)

The requirements of this regulation applicable to this unit are incorporated throughout Condition III(b) of the permit.

40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (NESHAP for RICE):

Subpart ZZZZ of 40 CFR 63 regulates/monitors 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 PTE 10 tons/year of any single HAP or 25 tons/year of any combination of HAPs is considered a major source of HAPs. Any source that is not a major source is an area source of HAPs. Because this facility does not have the PTE 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 an area source.

Subpart ZZZZ is applicable to new or reconstructed compression ignition (CI) engines at this facility, where “new” is defined as those engines that are manufactured or reconstructed after June 12, 2006. The four 1,500 kWe emergency generator sets were installed in 2000 and are therefore considered “existing” rather than “new” with respect to this regulation.

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“Existing” CI engines are covered by this regulation due the implications of the partial RICE vacatur (see <https://www.epa.gov/stationary-engines/technical-documents-neshap-reciprocating-internal-combustion-engines-0>). Any operation of the emergency generator sets to address low voltage or frequency situations would now be considered non-emergency operation, which the Department does not allow unless the unit is complying with either an NSPS (Subpart III or JJJJ) or NESHAP Subpart ZZZZ. As such, in order to be granted the non-emergency operation allowances in Subpart ZZZZ, this regulation was applied to the equipment.

All the existing emergency generators may be operated for up to fifty (50) hours per calendar year in non-emergency situations therefore the Subpart ZZZZ is applicable to this facility.

The newer life safety generator engine is also subject to Subpart ZZZZ, but because it is “new” (installed in 2013), the only requirement placed on it by Subpart ZZZZ is to comply with NSPS Subpart III. As such, the requirements of Subpart ZZZZ are not cited in the permit, but rather NSPS Subpart III is cited.

**PROCEDURE FOR SUBMITTING COMMENTS OR REQUESTING PUBLIC HEARING:**

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The District shall grant such a request if it is deemed appropriate. The venue, date, and time for any public hearing will be announced in the D.C. Register and on the Department’s website.

**COMMENT PERIOD:**

Beginning Date: September 10, 2021  
Ending Date: October 12, 2021

All written comments should be addressed to the following individual and office:

Stephen S. Ours, P.E.  
Chief, Permitting Branch  
Department of Energy and Environment  
Air Quality Division  
1200 First Street, NE, 5<sup>th</sup> Floor  
Washington DC 20002  
[stephen.ours@dc.gov](mailto:stephen.ours@dc.gov)

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**POINT OF CONTACT FOR INQUIRIES:**

Stephen S. Ours, P.E.

Chief, Permitting Branch

Department of Energy and Environment

Air Quality Division

1200 First Street, NE, 5th Floor

Washington DC 20002

[stephen.ours@dc.gov](mailto:stephen.ours@dc.gov)

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