## **GOVERNMENT OF THE DISTRICT OF COLUMBIA**

Department of Energy and Environment

## FACT SHEET AND STATEMENT OF BASIS FOR PROPOSED PERMITTING ACTION UNDER 20 DCMR 300 (TITLE V-OPERATING PERMIT PROGRAM)

This "Fact Sheet and Statement of Basis" has been prepared pursuant to 20 DCMR 303.1(c) and 40 CFR 70.7(a)(5).

#### PERMIT NO. 053

## APPLICANT AND PERMITTEE:

Architect of the Capitol Library Buildings and Grounds Jurisdiction 101 Independence Ave SE Washington, DC 20540

## **FACILITY LOCATION:**

Library of Congress 101 Independence Ave SE Washington, DC 20540

### RESPONSIBLE OFFICIAL

Mr. Michael Lewis, Superintendent

## FACILITY DESCRIPTION:

The Library Buildings and Grounds Jurisdiction of the Architect of the Capitol provide general support for government operations (Standard Industrial Classification code (SIC) 9199, North American Industry Classification System (NAICS) code 921190)<sup>1</sup>. The facility's emission unit inventory primarily consists of seven (7) diesel-fired emergency generator sets and three (3) parts washers used for parts cleaning.

This is the first Chapter 3 (Title V) permit application for Architect of the Capitol, Library Buildings and Grounds Jurisdiction. The Department of Energy and Environment (the Department) received a Chapter 3 (Title V) permit application on November 14, 2017. This permitting action is to address this Title V application.

It should be noted that the Library Buildings and Grounds Jurisdiction is a jurisdiction of the larger Architect of the Capitol (AOC) agency of the Legislative Branch of the U.S. Government. Prior to acting upon this application and two others that came in for other jurisdictions near the

It should be noted that, in a letter from Christopher Potter, Director of Utilities and Power, Architect of the Capitol, Capitol Power Plant, in response to questions from the U.S. Environmental Protection Agency, AOC indicated that the NAICS code for the Library Buildings and Grounds Jurisdiction's buildings was 921120, Legislative Bodies. At the time of preparation of this Fact Sheet and Statement of Basis, AOC continues to assert that 921120 is correct, but AQD believes 921190, Other General Government Support, is more descriptive of the applicant's operations.

same time, the Air Quality Division (AQD) performed an extensive analysis to determine whether the various jurisdictions of AOC should be aggregated into a single facility. It was determined that they should not be aggregated. See the "Major Source Determination Memorandum" signed by Stephen S. Ours, P.E., dated April 12, 2018, for a discussion of this evaluation and the reasons for this conclusion.

The Title V permit application for the Library Buildings and Grounds Jurisdiction listed six (6) non-NSPS diesel fired emergency generators, one (1) diesel fired emergency generator subject to NSPS (40 CFR 60) Subpart IIII, and one parts washer subject to 20 DCMR 764 Solvent Cleaning-Cold Cleaning. A subsequent correction indicated that there were actually three parts washers. In addition, the facility maintains the following miscellaneous/insignificant sources:

- One (1) Underground Storage Tank (UST) for diesel;
- Nine (9) Aboveground Storage Tanks (ASTs) for diesel;
- Thirty-four (34) Wet-Type Transformer Vaults for mineral oil;
- Four (4) Reservoirs for hydraulic oil; and
- Two (2) carpentry shop dust collectors (venting indoors).

## **EMISSIONS SUMMARY:**

Plant-wide Emissions Summary (tons per year)			
Pollutant	Potential Emissions		
Oxides of Sulfur (SO <sub>x</sub> )	0.38		
Oxides of Nitrogen (NO <sub>x</sub> )	38.03		
Particulate Matter (PM/PM10)*	1.43		
Volatile Organic Compounds (VOCs)**	2.33		
Carbon Monoxide (CO)	6.90		
Total Hazardous Air Pollutants (HAPs)	0.02		

Includes all of the insignificant particulate units.

## BASIS OF 20 DCMR CHAPTER 3 (TITLE V) APPLICABILITY:

This facility has the potential to emit 38.03 tons per year of oxides of nitrogen (NO<sub>x</sub>). The value for this criteria pollutant exceeds the major source thresholds in the District of Columbia of 25 TPY of NO<sub>x</sub>. Because potential emissions of NO<sub>x</sub> exceed the relevant major source threshold, pursuant to 20 DCMR 300.1(a), the source is subject to Chapter 3 and must obtain an operating permit in accordance with that regulation and Title V of the federal Clean Air Act.

## LEGAL AND FACTUAL BASIS FOR DRAFT PERMIT CONDITIONS:

The conditions contained in the Title V operating permit are based on underlying requirements of 20 DCMR as well as various federal regulations promulgated pursuant to the federal Clean Air Act. The regulations that are the basis of each condition are cited in the permit, except that conditions added to make another condition, with a direct underlying regulation, enforceable as a

<sup>\*\*</sup> Includes all of the tanks with capacities less than 1,000 gallons and the three parts washers, in addition to those units included in the original calculations provided with the Title V application.

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practical matter may, in some cases, not have a specific citation. These latter, un-cited conditions generally consist of monitoring, record keeping, and reporting requirements authorized under 20 DCMR 500.1.

The draft Title V permit has been developed to incorporate the requirements of all applicable requirements as defined in 20 DCMR 399.1 along with additional conditions necessary to make all such requirements enforceable as a practical matter.

Any condition of the draft Title V Permit that is enforceable by the District but is not federally enforceable is identified in the Title V permit as such with an asterisk.

It should also be noted that this permit will be issued to include updated requirements established pursuant to 20 DCMR Chapter 2 as well as Chapter 3. When the permit is issued for public review, the public notice will reflect this fact.

## REGULATORY REVIEW:

This facility has been found to be subject to the requirements of the following regulations, except as noted in the discussion below:

## Federal and District Enforceable:

- 20 DCMR Chapter 1 General Rules
- 20 DCMR Chapter 2 General and Non-Attainment Area Permits
- 20 DCMR Chapter 3 Operating Permits and Acid Rain Programs
- 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 764 Solvent Cleaning Cold Cleaning
- 20 DCMR 774 Architectural and Industrial Maintenance Coatings
- 20 DCMR 800 Control of Asbestos.
- 20 DCMR 801 Sulfur Contents of Fuel Oils
- 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)
- 40 CFR 63, Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (NESHAP for RICE)
- 40 CFR 82, Subpart G Protection of Stratospheric Ozone (Federally enforceable only except through Title V) (Note: Air Quality Division [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.)
- 40 CFR 82, Subpart H Halon Emissions Reduction (Federally enforceable only except through

Title V) (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

## 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 Chapter 2 - General and Non-Attainment Area Permits:

All stationary engines are subject to Chapter 2 permitting requirements, regardless of size as well as the parts washers at the facility. As such, all of the significant units at the facility are subject to Chapter 2 permitting requirements.

AQD is using Chapter 2 authority to update and establish other permit requirements where applicable. As such, this draft Title V permit will be issued for public notice pursuant to both Chapter 2 and Chapter 3 public notice requirements. The requirements of the following permits issued under the authority of 20 DCMR Chapter 2 (approval numbers are listed where the unit is covered by a source category permit; the source category permit number is the first six characters of the approval number) have been incorporated into the draft Title V permit and updated where appropriate.

Emission Unit ID	Emission Unit Identification	Chapter 2 Permit or Approval No.	Approval Date	
Emergency Generator #2	MTU Model No. 12V4000G43 generator set located at John Adams Building	6815	3/11/2014	
Emergency Generator #1	Perkins Model No. 1006-6T generator set located at St. Cecilia Special Services Facilities Center	7115-SC-0062	6/6/2018	
Emergency Generator #1	Caterpillar Model No. 3408B generator set located at Thomas Jefferson Building	5978-R2	8/12/2014	
Emergency Generator A	Detroit Model No. 81637305 generator set located at James Madison Memorial Building	7115-SC-0060	6/6/2018	

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Emission Unit ID	Emission Unit Identification	Chapter 2 Permit or Approval No.	Approval Date	
Emergency Generator B	Detroit Model No. 91637005 generator set located at James Madison Memorial Building	7115-SC-0059	6/6/2018	
Emergency Generator C	Detroit Model No. 91637305 generator set located at James Madison Memorial Building	7115-SC-0022	12/12/2017	
Emergency Generator D	Detroit Model No. 81637305 generator set located at James Madison Memorial Building	7115-SC-0061	6/6/2018	

It should be noted that the three parts washers were not previously permitted and will be permitted for the first time through this permitting action.

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

Please see the discussion above in the section entitled "Basis of 20 DCMR Chapter 3 (Title V) Applicability" for a discussion of the applicability of Chapter 3 to the facility. The acid rain portions of this chapter are not applicable to the facility.

## <u>20 DCMR Chapter 5 – Source Monitoring and Testing:</u>

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.

## 20 DCMR 603 - Particulate Process Emissions:

The requirements of 20 DCMR 603 are not included in the permit for the two shop dust collectors because the units vent indoors. However, the permit establishes that all captured dust emissions shall be controlled by an exhaust system attached to a baghouse unit which collects the particulates into a barrel and vents within the building. Additionally, the baghouse unit shall be maintained in accordance with the recommendations of the manufacturer.

## 20 DCMR 701 - Storage of Petroleum Products:

The requirements of 20 DCMR 701 do not apply to the source because all of the storage vessels located at the source have a capacity less than 40,000 gallons.

## <u>20 DCMR 715 – Major Source and Case-By-Case Reasonably Available Control Technology (RACT):</u>

The requirements of 20 DCMR 715 do not apply to the source because the VOC PTE of the

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source is less than 25 tons per year.

## 20 DCMR 764 – Solvent Cleaning-Cold Cleaning:

The solvent cleaning control requirements apply to the three parts washers. The operational requirements of this regulation are found in Condition III(c) of the permit document.

## 20 DCMR 770- Miscellaneous Industrial Solvent Cleaning Operations:

Pursuant to 20 DCMR 770.9(a), the subsections 770.1 through 770.8 shall not apply on or after January 1, 2012 to any person who owns, operates, or leases any cold cleaning machine subject to 20 DCMR 764. As such, this section establishes no requirements for the cold cleaning machine.

## 20 DCMR 771- Miscellaneous Cleaning and VOC Materials Handling Standards:

Pursuant to 20 DCMR 771.1(a), on or after January 1, 2012, any person who owns, operates, or leases any solvent cleaning operation subject to §770 shall be subject to §§ 771 through 771.4(a). As discussed above, 20 DCMR 770 does not apply to the source, thus 20 DCMR 771 also does not apply.

## 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.

## <u>20 DCMR 805 – Reasonably Available Control Technology for Major Stationary Sources of the Oxides of Nitrogen:</u>

The requirements of 20 DCMR 805 do not apply to the source. Pursuant to 20 DCMR 805.1(c)(2), the requirements of 20 DCMR 805 do not apply if "emergency standby engines operated less than five hundred (500) hours during any consecutive twelve (12) month period." The emergency generators all have operation limits of less than 500 hours listed in Condition III(a)(2)(A) and III(b)(2)(A)of the permit.

## 40 CFR 60, Subparts K, Ka, and Kb – Standards for Storage Vessels for Petroleum Liquids or Volatile Organic Liquids:

The requirements of the New Source Performance Standard for Storage Vessels for Petroleum Liquids or Volatile Organic Liquids (40 CFR 60, Subparts K, Ka, and Kb) do not apply to this facility for all of the storage vessels located at the source because for the purposes of Subparts K, Ka, and Kb all of the storage vessels at the source have a capacity less than 151,412 liters (40,000 gallons) for petroleum liquids or a capacity less than or equal to 75 cubic meters (m³) for volatile organic liquids as specified in 40 CFR 60, Subparts K, Ka, and Kb.

## <u>40 CFR 60. Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines:</u>

The engine of one diesel emergency generator set at the facility 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) commenced construction after July 11, 2005 and were manufactured after April 1, 2006, or 2) were modified or reconstructed after July 11, 2005.

The one (1) diesel CI-ICE identified below is subject to 40 CFR 60, Subpart IIII:

Emission Unit ID	Stack ID	Emission Unit Identification	Description
Emergency Generator #2	ADAMS	MTU Model No. 12V4000G43 generator set located at John Adams Building	1,500 kWe generator set powered by a 2,328 hp diesel engine, installation date: 2013 (NSPS)

The requirements of this regulation are incorporated throughout Condition III(b) of the permit for these units.

The engines listed below of the six diesel emergency generator sets at the facility are not subject to 40 CFR 60, Subpart IIII because 40 CFR 60, Subpart IIII applies to stationary compression ignition internal combustion engines (CI-ICE) that: 1) commenced construction after July 11, 2005 and were manufactured after April 1, 2006, or 2) were modified or reconstructed after July 11, 2005. The engines listed below were manufactured before April 1, 2006.

Emission Unit ID	Stack ID	Emission Unit Identification	Description
Emergency Generator #1	CHLD	Perkins Model No. 1006-6T generator set located at St. Cecilia Special Services Facilities Center	100 kWe generator set powered by a 166 hp diesel engine, installation date: 1999 (non-NSPS)
Emergency Generator #1	JEFF	Caterpillar Model No. 3408B generator set located at Thomas Jefferson Building	350 kWe generator set powered by a 536 hp diesel engine, installation date: 1989 (non-NSPS)
Emergency Generator A	MADA	Detroit Model No. 81637305 generator set located at James Madison Memorial Building	450 kWe generator set powered by a 960 hp diesel engine, installation date: 1979 (non-NSPS)
Emergency Generator B	MADB	Detroit Model No. 91637005 generator set located at James Madison Memorial Building	565 kWe generator set powered by a 1,025 hp diesel engine, installation date: 1979 (non-NSPS)
Emergency Generator C	MADC	Detroit Model No. 91637305 generator set located at James Madison Memorial Building	1,130 kWe generator set powered by a 1,425 hp diesel engine, installation date: 1999 (non-NSPS)

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Emission	Stack	Emission Unit Identification	Description
Unit ID	ID		
Emergency	MADD	Detroit Model No. 81637305	450 kWe generator set powered by a
Generator D		generator set located at James	960 hp diesel engine, installation
		Madison Memorial Building	date: 1979 (non-NSPS)

40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Engines This subpart does not apply to this facility because this facility only includes compression ignition (diesel) engines.

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

40 CFR 63, Subpart ZZZZ applies to stationary reciprocating internal combustion engines (RICE) at major or area sources of HAP emissions to regulate/monitor 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 TPY of any single HAP or 25 TPY 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 TPY of a single HAP or an aggregate of more than 25 TPY of total HAPs, it is an area source. Therefore the area source NESHAP requirements of Subpart ZZZZ are applicable to this facility.

Subpart ZZZZ is applicable to new or reconstructed diesel compression ignition (CI) engines at this facility, where "new" is defined as those engines that are manufactured or reconstructed after June 12, 2006. However, the only requirements for these units are to comply with 40 CFR 60, Subpart IIII, as applicable. This situation affects the one generator set (Emergency Generator #2) previously discussed as covered by 40 CFR 60, Subpart IIII. Only the NSPS requirements have been cited in the permit for this unit because Subpart ZZZZ does not add any additional compliance requirements.

"Existing" CI engines are also covered by this regulation. Six diesel engines associated with generator sets at the facility fall into this category as shown in the following table:

Emission Unit ID	Stack ID	Emission Unit Identification	Description
Emergency CHLD Perki Generator #1 gener Cecil		Perkins Model No. 1006-6T generator set located at St. Cecilia Special Services Facilities Center	100 kWe generator set powered by a 166 hp diesel engine, installation date: 1999 (non-NSPS)
Emergency Generator #1	JEFF	Caterpillar Model No. 3408B generator set located at Thomas Jefferson Building	350 kWe generator set powered by a 536 hp diesel engine, installation date: 1989 (non-NSPS)

Emission Unit ID	Stack ID	Emission Unit Identification	Description
Emergency Generator A	MADA	Detroit Model No. 81637305 generator set located at James Madison Memorial Building	450 kWe generator set powered by a 960 hp diesel engine, installation date: 1979 (non-NSPS)
Emergency Generator B	MADB	Detroit Model No. 91637005 generator set located at James Madison Memorial Building	565 kWe generator set powered by a 1,025 hp diesel engine, installation date: 1979 (non-NSPS)
Emergency Generator C	MADC	Detroit Model No. 91637305 generator set located at James Madison Memorial Building	1,130 kWe generator set powered by a 1,425 hp diesel engine, installation date: 1999 (non-NSPS)
Emergency Generator D	MADD	Detroit Model No. 81637305 generator set located at James Madison Memorial Building	450 kWe generator set powered by a 960 hp diesel engine, installation date: 1979 (non-NSPS)

The requirements of this regulation are incorporated throughout Condition III(a) of the permit for these units.

40 CFR 63. Subpart T—National Emission Standards for Halogenated Solvent Cleaning: This subpart does not apply to the parts washers because the source does not use any solvent containing methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5) or chloroform (CAS No. 67-66-3), or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent. Condition III(c)(1)(B) has been added to the permit to ensure that they do not trigger the applicability of this regulation.

## Compliance Assurance Monitoring (CAM) [40 CFR 64]:

The CAM rule does not apply to the emission units at U.S. Library Buildings and Grounds Jurisdiction that are covered by the draft Title V permit. The emissions units covered in the permit are engines and three parts washers. Individually, emissions from each of these units will not exceed the major source threshold for air contaminant emissions identified within 40 CFR 64; therefore none of the units meet the criteria for CAM applicability.

## Greenhouse Gas (GHG) Requirements:

Because Chapter 3 (Title V) was triggered by other pollutants, no evaluation was made to determine if the facility would trigger Title V applicability under the GHG Tailoring Rule. No modifications have been made to the source that would trigger PSD applicability under the GHG Tailoring Rule. Other than this requirement, there are no other applicable requirements related to GHGs at this time, therefore none were included in the permit.

#### COMPLIANCE HISTORY:

The applicant has not been subject to enforcement actions by AQD in the past three years. No air

quality violations have been identified by the Compliance and Enforcement Branch over the last three years. No air quality violations are listed in the three year compliance status summary in EPA's Enforcement and Compliance History Online (ECHO) database.

The applicant noted in the Compliance Plan and Compliance Certification form that the following units failed to meet the visible emissions requirements in 20 DCMR 606.

Emission Unit ID	Stack ID	Emission Unit Identification	Description
Emergency Generator #1	JEFF	Caterpillar Model No. 3408B generator set located at Thomas Jefferson Building	350 kWe generator set powered by a 536 hp diesel engine, installation date: 1989 (non-NSPS)
Emergency Generator B	MADB	Detroit Model No. 91637005 generator set located at James Madison Memorial Building	565 kWe generator set powered by a 1,025 hp diesel engine, installation date: 1979 (non-NSPS)
Emergency Generator C	MADC	Detroit Model No. 91637305 generator set located at James Madison Memorial Building	1,130 kWe generator set powered by a 1,425 hp diesel engine, installation date: 1999 (non-NSPS)

The applicant stated that these above units are in the process of being replaced. The applicant must obtain a permit before construction, installation, or operation of any generator and/or any other pollutant-emitting equipment subject to air quality permitting regulations begins.

### **COMMENT PERIOD:**

Beginning Date: February 1, 2019 Ending Date: March 4, 2019

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

#### PROCEDURE FOR REQUESTING PUBLIC HEARING:

During the public comment period, any interested person may submit written comments on the draft Title V 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 shall be announced in the District Register and a daily newspaper.

## POINT OF CONTACT FOR INQUIRIES:

Thomas Olmstead
Environmental Engineer
Department of Energy and Environment
Air Quality Division
1200 First Street NE, 5<sup>th</sup> Floor
Washington DC 20002
(202) 535-2273

## **REVIEWS:**

Prepared by:

Thomas Olmstead Environmental Engineer

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Approved by:

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