

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. 013-R3

APPLICANT AND PERMITTEE:

American University
4400 Massachusetts Avenue, NW
Washington, DC 20016

FACILITY LOCATION:

American University
4400 Massachusetts Avenue, NW
Washington, DC 20016

RESPONSIBLE OFFICIAL

David R. Osborne, Director, Energy and Engineering

FACILITY DESCRIPTION:

American University is a provider of educational services facility covered by Standard Industrial Classification (SIC) 8221 or North American Industry Classification System (NAICS) 611310. The facility has the potential to operate twenty-four (24) hours per day, seven (7) days per week, fifty-two (52) weeks per year. The facility’s regulated equipment consists of eleven (11) boilers each rated at 6 MMBTU/hr, two (2) boilers each rated at 5 MMBTU/hr, and eight (8) smaller boilers each with a capacity fewer than 5 MMBTU/hr of heat input. The boilers are required for heating and process uses. Other equipment includes thirteen (13) water heaters, twenty-three (23) emergency generators, one (1) microturbine CHP system, one (1) fire pump, seventeen (17) cooling towers/chillers, for air conditioning, twenty-four (24) fuel storage tanks, fifty-three (53) units of natural gas-fired kitchen equipment, fifty (50) fume hoods and periscopes¹, and photographic development chemicals. The electric clay kiln is used for firing clay.

The significant units at the facility consist of those listed in the following table.

¹ Also known as “elephant trunk” or “snorkel” hoods.

Fact Sheet and Statement of Basis**Permit No. 013-R3****American University**

April 10, 2023

Page 2

Emission Units[†]				
Emission Unit ID	Stack ID	Emission Unit Name	Chapter 2 Permit No.[‡]	Description
ASB-BL-BOILER005	ASB-5	Boiler No. 5	7198	One 6.0 MMBTU/hr natural gas, Aerco BMK 6000 condensing boiler. Serial No. N-18-0066
ASB-BL-BOILER006	ASB-6	Boiler No. 6	7199	One 6.0 MMBTU/hr natural gas, Aerco BMK 6000 condensing boiler. Serial No. N-18-0051
ASB-BL-BOILER007	ASB-7	Boiler No. 7	7200	One 6.0 MMBTU/hr natural gas, Aerco BMK 6000 condensing boiler. Serial No. N-18-0061
ASB-BL-BOILER008	ASB-8	Boiler No. 8	7201	One 6.0 MMBTU/hr natural gas, Aerco BMK 6000 condensing boiler. Serial No. N-18-0064
ASB-BL-BOILER009	ASB-9	Boiler No. 9	7202	One 6.0 MMBTU/hr natural gas, Aerco BMK 6000 condensing boiler. Serial No. N-18-0050
ASB-BL-BOILER010	ASB-10	Boiler No. 10	7203	One 6.0 MMBTU/hr natural gas, Aerco BMK 6000 condensing boiler. Serial No. N-18-0048
ASB-BL-BOILER011	ASB-11	Boiler No. 11	7204	One 6.0 MMBTU/hr natural gas, Aerco BMK 6000 condensing boiler. Serial No. N-18-0242
ASB-BL-BOILER012	ASB-12	Boiler No. 12	7205	One 6.0 MMBTU/hr natural gas, Aerco BMK 6000 condensing boiler. Serial No. N-18-0241
ASB-BL-BOILER013	ASB-13	Boiler No. 13	7206	One 6.0 MMBTU/hr natural gas, Aerco BMK 6000 condensing boiler. Serial No. N-19-0017
PG-PT-BOILR001	ECB-001	ECB Boiler 1	7232	One 6.0 MMBTU/hr natural gas, Aerco BMK 6000 condensing boiler, Serial No. N-18-0095
PG-PT-BOILR002	ECB-002	ECB Boiler 2	7233	One 6.0 MMBTU/hr natural gas, Aerco BMK 6000 condensing boiler, Serial No. N-18-0089
CHP-1		ASB-014 Microturbine	7207	One 11.5 MMBTU/hr. natural gas modular Capstone microturbine, Model No. C1000S.
GENR-00016	TRANS1	Transmitter Building Emergency		One (1) TB 450 kW Cummins Diesel Generator-model #

Fact Sheet and Statement of Basis**Permit No. 013-R3****American University**

April 10, 2023

Page 3

Emission Units[†]				
Emission Unit ID	Stack ID	Emission Unit Name	Chapter 2 Permit No.[‡]	Description
		Generator		DFEJ-A030M115; Serial Number B100097232. Powered by a 755 hp/563 kWm Model Year 2010 Cummins diesel-fired engine. Serial #79419189. Subject to NSPS Subpart III.
WCB-PH-GEN001	WARD1	Ward Circle Emergency Generator		One 180 kWe Kohler diesel-fired emergency generator, Model No. 180 R0ZJ, Serial No. 399347. Powered by a John Deer 300 hp/224 kWm diesel-fired engine. Installed 2005. Serial #RG6081A057030. Model No. 6081AF001. Not subject to NSPS standards.
CON-RF-GENR001	CON1	WAMU Emergency Generator	7048-SC-0168-R1	One 750 kWe Cummins diesel-fired emergency generator with Model No. DQCB-1321575 and Serial No. C130478178. Powered by a 1220 hp/910 kWm, Model Year 2012, Cummins diesel-fired engine. Serial Number 00325666. Subject to NSPS Subpart III.
SV-P1-GEN001	SPFP-01	Spring Valley Bldg. Fire Pump	7115-SC-0003-R1	Kohler diesel-fired Fire Pump Powered by a John Deere 134 hp/100 kWm diesel-fired engine. Installed 1995. Model No. 6059TF and Serial No. CD6059T185440. Not subject to NSPS standards.
AH-P7-GENR-001	AND1	Anderson Hall Emergency Generator		One 300 kWe Kohler diesel-fired emergency generator with Model 300ROD271 and Serial No. 364536. Installed 1995. Powered by a Detroit 474 hp/353.6 kWm diesel-fired engine. Unit 06VF211758. S.N. 7A50439. Not subject to NSPS standards.
ASB-EXT-GEN01	ASB4	Asbury Building Emergency		One 500 kWe Cummins diesel-fired emergency generator with Model 500DFEK-7056 and Serial No.

Fact Sheet and Statement of Basis**Permit No. 013-R3****American University**

April 10, 2023

Page 4

Emission Units[†]				
Emission Unit ID	Stack ID	Emission Unit Name	Chapter 2 Permit No.[‡]	Description
		Generator		J070113585 SPECIF. Powered by 755 hp/563 kWm @1800 rpm, Model Year 2007, Cummins diesel engine. Engine Serial No. 79272603. Subject to NSPS Subpart III.
BT-EXT-GEN001	KOGOD1	Kogod/Battelle Emergency Generator		One 125 kWe Cummins diesel-fired emergency generator, model DGEA-3366765 and Serial No. B990865368. Powered by a 207 hp/154 kWm, Model Year 1999, Cummins diesel-fired engine. Engine serial number 45808434. Not subject to NSPS standards.
CA-01-GENR001	CAS1	Cassell Hall Emergency Generator	7048-SC-0167-R1	One 200 kWe Cummins diesel-fired emergency generator with Model No. DSGAE-1327001 and Serial No. E130501133. Powered by Model Year 2013, 324 hp/242 kWm Cummins diesel-fired engine; S/N 73510878. Subject to NSPS Subpart III.
PG-PL-GEN001	ECG-01	East Campus 1 Emergency Generator	7048-SC-0021-R1	One 450 kWe Cummins diesel-fired emergency generator, model # DFEJ-1523546, serial # K150872438. Powered by a Model Year 2015, 755 hp/563 kWm Cummins diesel-fired engine. S/N 79888124. Subject to NSPS Subpart III.
PG-PL-GEN002	ECG-002	East Campus 124-EG-2 Emergency Generator	7048-SC-0022-R1	One 450 kWe Cummins diesel-fired emergency generator, model # DFEJ-1523546, serial # K150872439. Powered by a Model Year 2015, 755 hp/563 kWm Cummins diesel-fired engine. S/N 79888128. Subject to NSPS Subpart III.
PG-PL-GEN003	ECG-003	East Campus 128-EG-003	7048-SC-0023-R1	One 100 kWe Cummins diesel-fired emergency generator, model #

Fact Sheet and Statement of Basis**Permit No. 013-R3****American University**

April 10, 2023

Page 5

Emission Units[†]				
Emission Unit ID	Stack ID	Emission Unit Name	Chapter 2 Permit No.[‡]	Description
		Emergency Generator		DSGAA-1523609 serial # J150878897. Powered by a Model Year 2015, 324 hp/242 kWm Cummins diesel-fired engine, S/N 73898796. Subject to NSPS Subpart III.
HH-BL-GEN001	HUH1	Hughes Hall Emergency Generator		One 125 kWe Kohler diesel-fired emergency generator, model # 125RE0ZJB, serial # 2028827. Manufacture date: 01/05. Powered by a GM288013 John Deere diesel-fired engine, Engine # PE6068T417565. Not subject to NSPS standards.
HH1-GENR-00015	HH1	Hurst Hall Emergency Generator		One (1) 60 kWe Onan diesel emergency generator, model # 60DGCB, serial # J920489943. Powered by a 102 hp/76.1 kWm Cummins diesel-fired engine. Model Year 1992. Serial No. 44794324. Not subject to NSPS standards.
KA-P1-GEN001	KAC1	Katzen Art Center Emergency Generator		One (1) 400 kWe Cummins diesel emergency generator, model # DFEB5674372, serial # F040660862. Powered by a 600 hp/477.6 kWm, Model Year 2004, Cummins diesel-fired engine. Engine No. 37212625. Not subject to NSPS standards.
LH-09-GEN001	LNH1	Leonard Hall Emergency Generator		One (1) NSPS 125 kWe Cummins diesel emergency generator, model # DSHAE-5779503, serial # K060991203. Powered by a 300 hp/224 kWm, Model Year 2006, Cummins diesel-fired engine. Serial No. 46689835. Subject to NSPS Subpart III.
GENR-00004	LTH1	Letts Hall Emergency		One (1) 200 kWe Cummins diesel emergency generator, model #

Fact Sheet and Statement of Basis**Permit No. 013-R3****American University**

April 10, 2023

Page 6

Emission Units[†]				
Emission Unit ID	Stack ID	Emission Unit Name	Chapter 2 Permit No.[‡]	Description
		Generator		DSHAC27800041, serial # A100092571. Powered by a 364 hp/271 kWm, Model Year 2010, Cummins diesel-fired engine. Serial No. 73071955. Subject to NSPS Subpart III.
BL-GENR-0002	BEN1	Bender Library Emergency Generator		One (1) 60 kWe Cummins diesel emergency generator, model # DSFAD-27800049, serial # A100092569. Powered by a 145 hp/108 kWm, Model Year 2010, Cummins diesel-fired engine. Serial No. 73072002. Subject to NSPS Subpart III.
MH-TL-GEN001	MDH1	McDowell-Generator		One (1) 200 kWe Cummins diesel emergency generator, model # DSHAC7317773, serial # F110223068. Powered by a Model Year 2011, 364 hp/271 kWm Cummins diesel-fired engine. S/N 73251170, Model QSL9-G2 NR3. Date of manufacture: 20110602. EPA Cert. #CEX-STATCI-11-21 Subject to NSPS Subpart III.
MK-TL-GENR001	MB-1	McKinley Emergency Generator	7048-SC-0057-R1	One (1) 200 kWe Cummins diesel emergency generator, model # DSGAE-1328712, serial # F130516936. Powered by a Model Year 2013, 324 hp/242 kWm Cummins diesel-fired engine; S/N 73532494. Subject to NSPS Subpart III.
MGC-EXT-GEN001	MGC2	Mary Graydon Center Emergency Generator	7048-SC-0078-R1	One (1) 350 kWe Caterpillar diesel emergency generator, model # 350, serial #CAT00C13ET3200125. Powered by a Model Year 2017, Caterpillar 531 hp/396 kWm diesel-fired engine. S/N PW300273. Subject to NSPS Subpart III.

Fact Sheet and Statement of Basis**Permit No. 013-R3****American University**

April 10, 2023

Page 7

Emission Units[†]				
Emission Unit ID	Stack ID	Emission Unit Name	Chapter 2 Permit No.[‡]	Description
NH-BL-GEN001	NEH1	Nebraska Hall Emergency Generator		One (1) 350 kWe Cummins diesel emergency generator, model # 350 DFEG-6628, serial # D070045800. Powered by a 755 hp/563 kWm, Model Year 2007, Cummins diesel-fired engine. Engine #79242889. Subject to NSPS Subpart III.
ISB-04-GEN001	SIS1	SIS Emergency Generator		One (1) 250kWe Cummins diesel emergency generator, model # DQDAA-546259, serial # G090018479 and powered by a Model Year 2009, Cummins 399 hp/298 kWm diesel-fired engine, serial #73012165. Subject to NSPS Subpart III.
SC-EXT-GEN01	SCB1	Sports Center Bender Arena Emergency Generator		One (1) 300 kWe Cummins diesel emergency generator, model #DQHAB-7093413, serial #E080185469. Powered by Model Year 2008, 470 hp/350 kWm Cummins diesel-fired engine. Engine Serial No. 35229270. Subject to NSPS Subpart III.
HOS-01-GENR01	HOS-001	Hall of Science Emergency Generator	7048-SC-0202-R1	One (1) 600 kWe Cummins diesel emergency generator, model #DQCA-1928721, serial #L190696598. Powered by Model Year 2019, 1220 hp/ 910 kWm Cummins diesel-fired engine. Engine No. 85006886. Subject to NSPS Subpart III.

[†]Miscellaneous/Insignificant activities are listed separately in Condition IV of this permit.

[‡]The permit numbers and approval numbers listed here are for the Chapter 2 permits and approvals under which these units were previously permitted and are for reference only. The requirements of these permits have been incorporated into this Title V operating permit and these separate Chapter 2 permit numbers and approval numbers will no longer be maintained. Unless otherwise identified by a permit number the emission units are already covered by the existing Title V operating permit.

In addition to the significant units listed above, American University identified in their application the following insignificant units:

Fact Sheet and Statement of Basis

Permit No. 013-R3

American University

April 10, 2023

Page 8

- Twenty-four (24) fuel oil storage tanks (2 underground tanks and 22 aboveground tanks) to support fuel oil storage for emergency generators;
- Air Conditioning and Refrigeration operations [except as covered by Condition II(l) of this permit], including seventeen (17) cooling towers/chillers; fifty (50) fume hoods and periscopes, and photographic development chemicals;
- Eight small natural gas-fired hot water boilers: One (1) Emission Unit –2.68 MMBTU/hr; Two (2) Emission Units – 2.50 MMBTU/hr; One (1) Emission Unit -2.41 MMBTU/hr; One (1) Emission Unit – 1.34 MMBTU/hr; Two (2) Emission Units – 0.5 MMBTU/hr; and One (1) Emission Unit – 0.24 MMBTU/hr;
- Eight (8) natural gas-fired water heaters: Three (3) units rated at 1.2 MMBTU/hr each, one (1) unit rated at 0.42 MMBTU/hr, two (2) units rated at 0.39 MMBTU/hr and one (1) unit rated at 0.75 MMBTU/hr, one (1) unit rated at 0.8 MMBTU/hr - all less than 1.6 MMBTU/hr and equal to or less than 0.3 MMBTU/hr; and
- Five (5) natural gas-fired water heaters: Two (2) unit rated at 0.19 MMBTU/hr each, , two (2) units rated at 0.078 MMBTU/hr each, and one (1) unit rated at 0.04 MMBTU/hr - all less than 0.3 MMBTU/hr.

EMISSIONS SUMMARY:

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

FACILITY-WIDE EMISSIONS SUMMARY	
Criteria Pollutants	Potential Emissions (tons per year)
Oxides of Sulfur (SO _x)	2.46
Oxides of Nitrogen (NO _x)	88.22
Total Particulate Matter, including condensables (PM Total)	7.56
Volatile Organic Compounds (VOC)	5.73
Carbon Monoxide (CO)	44.33
Total Hazardous Air Pollutants (Total HAP)	1.62

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

American University has the potential to emit 88.22 tons per year (TPY) of oxides of nitrogen (NO_x). The value for this criteria pollutant exceeds the major source threshold in the District of Columbia of 25 TPY of NO_x (a precursor for ozone). No other pollutants have the potential to be emitted in excess of the other major source thresholds in the District. Because potential emissions of NO_x exceed the relevant major source threshold, pursuant to 20 DCMR 300.1(a),

Fact Sheet and Statement of Basis

Permit No. 013-R3

American University

April 10, 2023

Page 9

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 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 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 is being issued pursuant to the District's authority under 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 where the conditions of the requirement are included in all District Title V permits, or as discussed 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 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

Fact Sheet and Statement of Basis

Permit No. 013-R3

American University

April 10, 2023

Page 10

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

40 CFR 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

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

40 CFR 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines

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

40 CFR 63, Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

40 CFR 82 - Protection of Stratospheric Ozone (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 - Onroad Engine Idling and Nonroad Diesel 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:

The pollutant-emitting equipment at the facility (except some insignificant activities listed in Condition IV of the permit) has been subject to permitting requirements under 20 DCMR 200. Equipment included in the permit was either included in the previous Title V permit (issued September 30, 2013) or has since been subject to Chapter 2 permitting requirements. The table of emission units above lists the units at the site and their associated Chapter 2 permits. The second footnote to the table indicates which ones were previously incorporated into the Title V permit and which ones are being incorporated via this permitting action. Note that this action is a combined Chapter 2 and Chapter 3 permitting action and updates requirements for equipment under the authority of 20 DCMR 201.

Insignificant fuel burning equipment that is not subject to permitting because it burns natural gas or distillate fuel and is external combustion type equipment with a heat input capacity of 5 MMBTU/hr or fewer (see 20 DCMR 200.12) has not been issued permits under Chapter 2, although there are requirements in Condition IV of the Title V permit requiring that fuel usage be reported as well as various other requirements.

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

The boilers and generators are subject to Chapter 3 provisions of 20 DCMR. This permitting action is to issue a permit renewal under the authority of this regulation. All identified applicable

Fact Sheet and Statement of Basis

Permit No. 013-R3

American University

April 10, 2023

Page 11

requirements have been included in the permit. The facility is not subject to the acid rain provisions of Chapter 3.

20 DCMR Chapter 5 – Source Monitoring and Testing

Numerous monitoring and testing requirements have been placed in the permit to ensure that it is enforceable as a practical matter. Many of these conditions have been placed in the permit pursuant to Sections 500 and 502 authority.

20 DCMR Chapter 6 – Particulates

Several sections of Chapter 6 are applicable to this facility. Section 600 is applicable to the boilers and water heaters at the facility and appropriate conditions have been included in the permit. This section applies to both the significant emission units found in Condition III of the permit and the Chapter 2 permit-exempt insignificant fuel burning equipment found in Condition IV(e)(5) of the permit.

Sections 604 (Open Burning) and 605 (Control of Fugitive Dust) are standard requirements included in all Title V permits.

Section 606.1, establishing visible emission limits, is applicable to emission units. It has been noted in the permit that Section 606 is subject to a SIP Call from EPA and may be changed as a result. If this happens, it is noted that the new version of the regulation will supersede the older version.

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

NO_x RACT is applicable to this facility pursuant to 20 DCMR 805.1(a) because it is a major source of NO_x.

Many of the boilers at the site are therefore subject to 20 DCMR 805.5 which, for the sizes of the boilers at the site (all with heat input ratings less than 25 MMBTU/hr), only requires boiler tuning in accordance with 20 DCMR 805.5(b) and 20 DCMR 805.9. Note that these requirements apply to all boilers with heat input ratings of 5 MMBTU/hr and higher. Thus, two of the boilers that are considered “insignificant activities” in Section IV of the permit (Katzen Boiler 1 and Katzen Boiler 2) are subject to these requirements as well since they have heat input ratings of exactly 5 MMBTU/hr. The requirements of this regulation that apply to the Asbury Building and East Campus boilers are found in Conditions III(a)(1)(D) and III(a)(4)(E). Similarly, the requirements for the Katzen boilers are found in Conditions IV(e)(5)(A)(iv) and IV(e)(5)(D)(iv).

The Capstone microturbine is also subject to the NO_x RACT rule (20 DCMR 805) and specifically the emission limit provisions of 20 DCMR 805.4(a)(3)(A)(i) because it has a capacity less than 50 MMBTU/hr, but greater than 10 MMBTU/hr and fires gaseous fuels (i.e., natural gas) only. Annual emissions testing is required pursuant to 20 DCMR 805.4(b)(2) and

Fact Sheet and Statement of Basis

Permit No. 013-R3

American University

April 10, 2023

Page 12

Condition III(c)(3)(A) of the permit.

20 DCMR Chapter 9 – Engine Idling, Odor and Nuisance Pollutants

The provisions of the relevant parts of this chapter have been included in the permit to address engine idling, odor, and nuisance pollutants at the facility.

40 CFR 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units:

Under 40 CFR 60.40c, none of the boilers is subject to Subpart Dc as they have heat input ratings less than 10 MMBTU/hr, although they were all constructed after June 9, 1989. Consequently, the boilers are not subject to this federal regulation thus no requirements were included in the permit.

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

NSPS Subpart IIII applicability to the generator engines at the facility was considered. Based on the date of applicability, Subpart IIII is applicable to seventeen (17) compression ignition internal combustion engines (CIICE) because they were ordered after July 11, 2005 and manufactured after April 1, 2006. The requirements of this subpart have been incorporated into Condition III(b) of the permit. The requirements of this subpart did not apply to seven (7) of the emergency engines at the facility covered by Conditions III(d) and III(e) of the permit.

40 CFR 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

This subpart applies to volatile organic liquid (VOL) storage tanks constructed, reconstructed, or modified after July 23, 1984, with a capacity equal to or greater than 75 m³ (about 19,813 gallons). However, tanks greater than 151 m³ which store liquid with a true vapor pressure less than 3.5 kPa and tanks greater than 75 m³ but less than 151 m³ that store liquid with a true vapor pressure less than 15 kPa, are exempted under 40 CFR 60.110b(b). The 22 above ground diesel/No. 2 fuel oil storage tanks at American University were constructed after July 23, 1984. Each of the tanks has a storage volume under 75 m³. The tanks are used to store ultralow sulfur diesel fuel which, according to Table 7.1-2 of AP-42, has a true vapor pressure at 100°F of 0.022 psi (0.15 kPa). As such, none of the storage tanks is subject to Subpart Kb.

40 CFR 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines

This regulation applies to the microturbine since it has a heat input capacity of 11.5 MMBTU/hr – a rating that triggers the applicability of Subpart KKKK. According to this subpart, all stationary combustion turbines with heat input ratings equal to or greater than 10 MMBTU/hr. are subject to this standard. The appropriate language was placed in Condition III(c) of the permit. It is noted in Condition III(c)(1)(D) that the emission limit applicable under this standard was less stringent than the applicable standard under 20 DCMR 805.4(a)(3)(A)(i), so the requirements are streamlined.

Fact Sheet and Statement of Basis

Permit No. 013-R3

American University

April 10, 2023

Page 13

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 hazardous air pollutants (HAPs) such as acetaldehyde, acrolein, benzene, toluene, xylene, cadmium, chromium, lead, etc., through surrogate compounds such as formaldehyde, carbon monoxide (CO) and/or volatile organic compounds (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 considered 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. Therefore, the area source MACT for Reciprocating Internal Combustion Engines (RICE) is applicable to the emergency engines at the facility as discussed below.

Subpart ZZZZ is applicable to existing, new or reconstructed SI and CI engines. The part of Subpart ZZZZ that is applicable depends on the date of commencement of construction of the particular engine. Based on 40 CFR 63.6590(a)(2)(iii), engines whose construction or reconstruction commenced after June 12, 2006, are considered new stationary internal combustion engines. For these engines, pursuant to 40 CFR 63.6590(c), no requirements other than those imposed by 40 CFR 60, Subpart IIII or Subpart JJJJ as applicable, are imposed by Subpart ZZZZ. Subpart IIII applies to the 17 CI-ICE-powered emergency generator sets addressed in Condition III(b) of the permit as discussed earlier. Condition III(b) therefore only includes the requirements of 40 CFR 60, Subpart IIII and related references, as this is all that is required under Subpart ZZZZ.

However, for the seven existing CI engines subject to Subpart ZZZZ, appropriate requirements have been included in Conditions III(d) (for engines associated with emergency generators) and Condition III(e) (for the engine associated with an emergency fire pump).

40 CFR 63, Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

Because the facility is an area source of HAPs, as discussed above, applicability of 40 CFR 63, Subpart JJJJJ was evaluated as it relates to the facility's boilers and hot water heaters. American University operates under the NAICS code 611310 to which this rule applies. Certain boilers are exempted from the requirements of subpart JJJJJ pursuant to 40 CFR 63.11195 and the related definitions at 40 CFR 63.11237. All of the boilers and hot water heaters at the facility are exempt under this subpart as they are fired by natural gas only, hence no requirements under this subpart were included in the permit.

The smaller units identified in the permit application as hot water heaters all have heat input ratings less than 1.6 MMBTU/hr and, as such, meet the definition of a "Hot water heater" per 40 CFR 63.11237 as exempted at 40 CFR 63.11195(f). It should be noted that all of these units have tank capacities in excess of the 120-gallon threshold specified in the definition of "Hot water

Fact Sheet and Statement of Basis

Permit No. 013-R3

American University

April 10, 2023

Page 14

heater”, but that same definition provides the 1.6 MMBTU/hr threshold for hot water boilers included in the definition and indicates that this threshold should be evaluated independently. It should be noted that this interpretation (that the 120 gallon and 1.6 MMBTU/hr triggers are independent and should each be evaluated independently) was confirmed in a conference call between Air Quality Division and EPA staff on May 15, 2013.

40 CFR 63, Subpart YYYY – National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

40 CFR 63 Subpart YYYY for gas turbines regulates/monitors Hazardous Air Pollutants (HAPs) such as acetaldehyde, acrolein, benzene, toluene, xylene, cadmium, chromium, lead, etc, through surrogate compounds such as formaldehyde, carbon monoxide (CO) and/or volatile organic compounds (VOCs).

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 considered a major source. The facility-wide HAP emissions at American University are well under the major source thresholds for HAPs. Therefore, the microturbine is not subject to this MACT standard and as such no requirements were included in the permit.

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

Compliance Assurance Monitoring Plan (CAM) requirements do not apply to this facility. None of the equipment relies on emission control devices to comply with emission limitations or standards. Because no individual “pollutant specific emission unit” can emit more than 25 tons per year of NO_x before controls, CAM is not applicable to these units.

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 ordinarily 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.

ENFORCEMENT HISTORY:

According to EPA’s Enforcement and Compliance History Online (ECHO) database and the associated Integrated Compliance Information System (ICIS), with supplemental information from DOE’s enforcement tracking systems, there have been three formal enforcement actions taken against American University in the last five years for air quality violations. One was taken in March 2018 and covered late submittal of a 2017 annual certification report. One was taken in October 2018 and covered a failed stack test. The third was taken in May 2021 and covered annual and semi-annual compliance certification reporting violations. All have since been resolved.

Fact Sheet and Statement of Basis

Permit No. 013-R3

American University

April 10, 2023

Page 15

COMMENT PERIOD:

Beginning Date: **April 21, 2023**

Ending Date: **May 22, 2023**

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, 5th Floor
Washington DC 20002

PROCEDURE FOR 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 a 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 D.C. Register and on the Department's website.

POINT OF CONTACT FOR INQUIRIES:

John C. Nwoke
Environmental Engineer
Department of Energy and Environment
Air Quality Division
1200 First Street NE, 5th Floor
Washington, DC 20002
(202) 724-7778

REVIEWS:

Prepared by:

Approved by:

John C. Nwoke
Environmental Engineer

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

SSO:JCN