

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: 009-R2

APPLICANT AND PERMITTEE:

Gallaudet University
800 Florida Avenue NE
Washington, DC 20002-3695

FACILITY LOCATION:

Gallaudet University
800 Florida Avenue NE
Washington, DC 20002-3695

FACILITY DESCRIPTION:

Gallaudet University (GU) is a provider of educational services facility covered by Standard Industrial Classification (SIC) code 8221 and North American Industrial Classification System (NAICS) code 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 2014 Title V permit application listed three (3) large boilers (greater than 5 MM Btu per hour) dual fuel boilers classified as gas-fired and burning No. 2 fuel oil in the event of gas interruptions, Nineteen (19) emergency generators and one (1) cold-cleaning machine (degreaser).

In addition, the facility maintains the following miscellaneous/insignificant sources:

- Laboratories (Fume Hoods & Fugitive Emissions)
- Woodworking
- Welding operations
- Six ceramics kilns
- Photography processing
- Five (5) Storage Tanks (USTs) – diesel oil
- Five (5) Cooling Towers
- Natural gas fired fuel burning equipment with heat input ratings less than 5 MMBTU/hr including:
 - Two 4.5 MMBTU/hr natural gas fired boilers at the Kellogg Conference Center;

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- Various space heaters, fire places, and furnaces;
- Kitchen equipment;
- Heaters and dryers; and
- Hot water heaters

EMISSIONS SUMMARY:

The facility reported the following facility-wide potential emissions in the Title V permit application:

FACILITY-WIDE EMISSIONS SUMMARY	
Pollutants	Potential Emissions (tons per year)
Oxides of Sulfur (SO _x)	1.114
Oxides of Nitrogen (NO _x)	108.242
Total Particulate Matter, including condensables (PM Total)	14.516
Volatile Organic Compounds (VOC)	40.849
Carbon Monoxide (CO)	45.134

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

Gallaudet University has the potential to emit (PTE) approximately 108 tons per year (TPY) of oxides of nitrogen (NO_x), and 41 TPY of volatile organic compounds (VOC) . The values for these criteria pollutants exceed the major source thresholds in the District of Columbia of 25 TPY of NO_x or VOC, and/or 100 TPY of any other criteria pollutant. Because potential emissions of NO_x and VOC exceed the relevant major source thresholds, 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 draft 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 those 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 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.

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Any condition of the draft Title V permit that is enforceable by the District but is not federally-enforceable is identified in the draft 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 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 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 700 - Miscellaneous Volatile Organic Compounds (VOCs)
- 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
- 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 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 (CIICE)
- 40 CFR 60, Subpart JJJJ- Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SIICE)
- 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 (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources
- 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

New Source Performance Standards (NSPS) [40 CFR 60]:

NSPSs apply to this facility as the following analyses and applicability determination indicate:

1. One diesel emergency generator 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.

Any new emergency generators with compression ignition internal combustion engines (generally consistent with diesel units) installed after July 11, 2005 and manufactured after April 1, 2006 are considered new engines subject to Subpart IIII. There is one diesel generator at the facility that is subject to NSPS Subpart IIII.

DDOE confirmed that the diesel CI-ICE identified below is subject to 40 CFR 60, Subpart IIII:

Equipment ID and Location	Emission Unit Model/SN	Emission Unit Description
SLCC	Detroit MTU 300DSED / 2151296	300 kW Diesel, Installation / Modification Date 2007, Model Year 2007

2. One natural gas burning emergency generator is subject to 40 CFR 60, Subpart JJJJ.

Among other applicability thresholds, 40 CFR 60, Subpart JJJJ applies to owners and operators of emergency stationary spark ignition internal combustion engines (SI-ICE) that commence construction after June 12, 2006 where the SI-ICE is manufactured on or after January 1, 2009 for emergency engines with a maximum engine power greater than 25 hp.

DDOE confirmed that the natural gas SI-ICE identified below is subject to 40 CFR 60, Subpart JJJJ:

Equipment ID and Location	Emission Unit Model/ Serial Number	Emission Unit Description
Living and Learning Residence Hall	Generac 13617550300 / 2113208	130 kWe emergency generator set with 189 hp natural gas fired engine; Installation / Modification Date 2013 (NSPS)

3. Certain external combustion units (boilers) operating with fuel oil firing capability are subject to NSPS (40 CFR 60) Subpart Dc. Applicability of this for NSPS for boilers is based on unit size and age. The boilers must have heat input ratings greater than 10 MMBTU/hr, and must have been installed after June 9, 1989. Both criteria for age and size must be met for applicability of 40 CFR 60.40c – Subpart Dc to be triggered. The facility has three (3) dual fuel boilers in operation: CUB/GU-1, CUB/GU-2, and CUB/GU-3:
- CUB/GU-1 is 42 MMBTU/hr in size and is being installed in 2015. Installation is expected to be complete before the final Title V permit renewal is ready for issuance, therefore it has been included in the permit. Subpart Dc is applicable to this unit. The requirements of Subpart Dc have been incorporated in the permit as applicable.
 - CUB/GU-2 is 42 MMBTU/hr in size and was installed in 2013. Therefore, Subpart Dc is applicable to this unit. The requirements of Subpart Dc have been incorporated in the permit as applicable.
 - CUB/GU-3 is 12.6 MMBTU/hr in size and was installed in 2013. The two units meet both the size and age limitations. Therefore, Subpart Dc is applicable to these units. The requirements of Subpart Dc have been incorporated in the permit as applicable.

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 applies to stationary reciprocating internal combustion engines (RICE) at 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 spark ignition (SI) and compression ignition (CI) engines at this facility, where “new” is defined as those engines that are manufactured or

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reconstructed after June 12, 2006. Note that for new engines, Subpart ZZZZ defers their regulations to the NSPS, 40 CFR Part 60 Subpart IIII and Subpart JJJJ. One (1) new diesel engine and one (1) new natural gas engine for emergency generators at the facility fall into this category (as listed within the table under Subpart IIII and Subpart JJJJ). The draft Title V permit has been drafted to include the applicable requirements of the NSPSs for these units.

Additionally, Subpart ZZZZ has the potential to cover the other “existing” engines at the facility. However, the facility is eligible for the exemption found in 40 CFR 63.6585(f)(3) for existing institutional emergency stationary RICE “that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii).” Except in very limited situations, the District does not permit operation of units of this sort in demand response programs. This prohibited in the permit. Additionally, the facility requested a limitation on the use of these generators in low voltage or frequency situations to qualify for the exemption noted previously. Therefore, such limitations have been included in the permit and the requirements of Subpart ZZZZ have not been added to the permit for these existing units.

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

This subpart has the potential to apply because the facility is an area source of HAPs and it has institutional boilers that could burn fuel oil at heat input rates above the trigger thresholds of the regulation.

However, pursuant to 40 CFR 63.11195(e), if a boiler meets the definition of a “gas-fired boiler” (see 40 CFR 63.11237), it is exempt from this regulation. As such, at the request of the applicant, Conditions III(a)(2)(C) and III(b)(2)(C) have been added to the permit to limit operations on fuel oil to gas supply emergencies, gas curtailment, and periodic testing activities (48 hours maximum per calendar year) to ensure that the facility continues to meet the definition of a “gas-fired boiler” and is therefore exempt from the requirements of 40 CFR 63, Subpart JJJJJ.

As such, the requirements of 40 CFR 63, Subpart JJJJJ have not been included in the permits for these boilers.

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

A Compliance Assurance Monitoring Plan (CAM) does not apply to the emission units at Gallaudet University that are covered by the draft Title V permit. The emissions units covered in the permit include primarily boilers, engines, heaters, and emergency generators. These combustion units do not use a control device other than the inherent design of the unit and the proper operation and maintenance. Emissions from these units are products of the combustion of fuel burned and are controlled by proper operation, good combustion and maintenance practices. Individually, emissions from each of these units will not exceed the major source threshold for

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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 (which has been overturned by the U.S. Supreme Court in any case). Other than this requirement, there are no other applicable requirements related to GHGs at this time, therefore none were included in the permit.

Chapter 2 Permits:

AQD is using Chapter 2 authority to update 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 new permit(s) issued under the authority of 20 DCMR Chapter 2 have been incorporated into the draft Title V permit and updated where appropriate. The following table summarizes the Chapter 2 permits issued since the 2009 permit application:

Permit Number	Equipment Type/Description	Date Issued
6943	One 42 MMBTU/hr dual fuel boiler CUB/GU-1 classified as a gas-fired boiler	1/28/2015
6647-A1	One 42 MMBTU/hr dual fuel boiler CUB/GU-2 classified as a gas-fired boiler	5/20/2015
6648-A1	12.6 MMBTU/hr dual fuel boiler CUB/GU-3 classified as a gas-fired boiler	5/20/2015
6649	130 kW natural gas emergency generator – Living and Learning Residence Hall	5/15/2013
6494	300 kW diesel emergency generator - SLCC	8/3/2011

Note that permit 6943 is being amended simultaneously with the Title V permit renewal process, but is expected to be completed somewhat before completion of the Title V process. As such, the final Title V permit is expected to incorporate the conditions of permit amendment 6943-A1. The only amendment being made to this Chapter 2 permit is to extend the emission testing deadline as the unit has been delayed in its installation.

Also note that, while the emission limits found in Conditions III(a)(1)(A) and (E) and III(b)(1)(A) and (D) are being incorporated from Chapter 2 permits 6943, 6647-A1, and 6648-A1, there are slight differences between the limits found in Condition III(a)(1)(A) and (D) and the equivalent conditions found in permit 6647-A1. This is because rounding was standardized to two decimal places for both conditions. This also harmonizes the limits for boilers CUB/GU-1 and CUB/GU-2, which are identical boilers.

COMPLIANCE HISTORY:

The applicant has been subject to enforcement actions by AQD in the past three years. Four air quality violations are identified in the EPA Enforcement and Compliance History Online (ECHO) database over the last three years. They are as follows:

- Two notices of violation (NOV):
 - One (1) failure to submit an annual certification within the specified time limit; the NOV was served in April 30, 2015.
 - One (1) failure to submit correct Title V permit application information within the specified time limit; the NOV was served on September 4, 2014.
- Two notices of infraction (NOI):
 - One (1) failure to conduct air pollution emission tests by the deadlines specified in the Chapter 2 permits for boiler numbers 2 and 3, failure to conduct the required opacity emission test for boiler number 2, and failure to provide the District with written notification at least 10 days before a performance test as required by the facility's Title V permit (in this case for the boiler number 1 opacity test). The fine for these infractions was \$6,200.00. The NOI was served August 14, 2014.
 - One (1) failure to obtain an air pollution construction and operating permit for a temporary boiler, and failure to obtain an air pollution construction and operating permit for an emergency generator. The fine for these infractions was \$12,000.00. The NOI was served December 5, 2012.

COMMENT PERIOD:

Beginning Date: August 14, 2015
Ending Date: September 14, 2015

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:

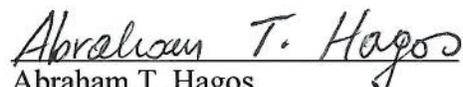
During the public comment period, any interested person may submit written comments on the draft Title V permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised 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:

Abraham T. Hagos
Environmental Engineer
Department of Energy and Environment
Air Quality Division
1200 First Street NE, 5th Floor
Washington, DC 20002
(202) 535-1354

REVIEWS:

Prepared by:


Abraham T. Hagos
Environmental Engineer

Approved by:


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

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