

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. 010-R2

APPLICANT AND PERMITTEE:

The Catholic University of America
620 Michigan Avenue NE
Washington, DC 20064

FACILITY LOCATION:

The Catholic University of America
620 Michigan Avenue NE
Washington, DC 20064

FACILITY DESCRIPTION:

The Catholic University of America is a provider of educational services covered by Standard Industrial Classification (SIC) 8221. The campus is bounded by Michigan Avenue NE to the south, North Capitol Street NE to the west, Hawaii Avenue NE to the north, and John McCormick Road NE to the east. The facility’s main heat plant provides heat for the university’s fifty-five (55) major buildings that are located on ninety (90) acres of land. It has the potential to operate twenty-four (24) hours per day, seven (7) days per week, and fifty-two (52) weeks per year but only actually operates during the heating season. Other units at the facility operate throughout the year.

The facility consists of the following sources of air emissions at the university (including identified miscellaneous/insignificant sources):

- Four (4) identical dual fuel (No. 2 fuel oil/natural gas) fired boilers
- Six (6) diesel-fired emergency standby generators subject to the New Source Performance Standards (NSPS)
- Twenty (20) diesel-fired emergency standby generators not subject to the NSPS
- One (1) paint spray booth at the Crough Center
- One (1) parts washer (degreaser) at the power plant
- One (1) DM1200 glass melter at the Vitreous State Laboratory, Hannan Hall
- Three (3) smaller glass melters – two (2) DM100 melters and one (1) DM10 melter (note that the numbers of these smaller glass melters change from time to time as new ones are constructed and older ones are taken out of service; they are, however considered insignificant sources and will not be subject to Chapter 2 permitting)

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- One (1) gasoline storage tank (6,000 gallon capacity) with one (1) associated gasoline fuel dispensing pump
- Numerous laboratory fume hoods
- Tile cutting room
- Carpentry and woodworking facilities located at Hartke Theater, Crough Center, and the power plant
- Numerous units of natural gas fired kitchen equipment
- Air conditioning and refrigeration operations [except as covered by Condition II(l) of this permit], including related cooling towers
- Two (2) photography developing laboratories
- Two (2) underground storage tanks and twenty-seven (27) aboveground storage tanks for fuel oil
- One (1) natural gas burning clay kiln
- Twenty-one (21) chillers
- One (1) diesel fuel dispensing pump
- Eleven (11) boilers with less than five (5) million British Thermal Units (BTU) per hour of heat input and burning natural gas only
- Forty (40) hot water heaters less than five (5) million BTU per hour of heat input

Based on these emission units, the facility has the potential to emit the following pollutants: sulfur dioxide (SO₂), oxides of nitrogen (NO_x), particulate matter, volatile organic compounds (VOCs), ammonia (NH₃), and hazardous air pollutants (HAPs).

EMISSIONS SUMMARY:

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

FACILITY-WIDE EMISSIONS SUMMARY [TONS PER YEAR]	
Pollutants	Potential Emissions
Sulfur Dioxide (SO ₂)	3.63
Oxides of Nitrogen (NO _x)	105.63
Total Particulate Matter (PM Total)	8.01
Volatile Organic Compounds (VOC)	7.96
Carbon Monoxide (CO)	55.81
Total Hazardous Air Pollutants	1.15

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

The Catholic University of America has the potential to emit (PTE) approximately 105.63 tons per year (TPY) of NO_x. This exceeds the major source threshold for NO_x in the District of Columbia of 25 TPY. Because potential emissions of NO_x exceed the major source threshold, pursuant to 20 DCMR 300.1(a), the source is subject to Chapter 3 (Title V) and must obtain an operating

permit in accordance with that regulation and Title V of the federal Clean Air Act. The potential emissions listed in this fact sheet are higher than the potential emissions indicated in the Title V Operating Permit application. This increase in identified potential emissions is a result of the Department's (then the District Department of the Environment, but now renamed the Department of Energy and Environment) site visit on August 29, 2013, where it was noted that the maximum heat input for the four identical boilers (DC17366, DC17367, DC17368 and DC17369) was higher than the maximum heat input provided in the application and the original emissions calculations. The applicant had submitted revised calculations subsequent to the application submittal. These revised calculations were slightly adjusted by the Department to correct for the boiler size inconsistency (reference the email from Younus Burhan of TetraTech to Kellie Hindman of Catholic University on July 20, 2015, copied to Abraham Hagos and Stephen Ours of the Department).

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 operating 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 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 operating 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 operating permit is being issued pursuant to the District's authority under 20 DCMR Chapter 2 as well as Chapter 3 (Title V). 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 the discussion below):

Federal and District Enforceable:

20 DCMR Chapter 1 - General Rules

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

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- 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 (VOC)
- 20 DCMR 704 - Stage I Vapor Recovery
- 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
- 40 CFR 63, Subpart CCCCCC - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities
- 40 CFR 63, Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources
- 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (NESHAP for RICE) (*Note: This regulation is not applicable; see the discussion below.*)
- 40 CFR 82, Subpart G - Protection of Stratospheric Ozone (federally enforceable only except through Title V) (*Note: The 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.

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20 DCMR 902 - Lead Content of Gasoline.
20 DCMR 903 - Odorous or other nuisance air pollutants.

Discussion of Specific Regulations:

20 DCMR 704 Stage I Vapor Recovery:

The capacity of the gasoline storage tank at the facility exceeds two hundred and fifty (250) gallons. Thus 20 DCMR 704 is applicable and has been included in the permit.

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

NSPS apply to this facility as the following NSPS analyses and applicability determinations indicate:

Combustion Units: Boilers DC17366, DC17367, DC17368, and DC17369

Applicability for NSPS for boilers is based on unit size and age. Both criteria must be met for applicability of 40 CFR 60.40c – Subpart Dc

Test No.1 - Size Limitation

The four (4) identical Kewanee dual fuel (No. 2 fuel oil/natural gas) fired boilers each have a capacity of 20.92 million BTU per hour. Therefore, the boilers have a heat input greater than ten million BTU per hour and they therefore meet this test for NSPS Subpart Dc applicability.

Test No. 2 - Age Limitation

The four (4) identical Kewanee dual fuel (No. 2 fuel oil/natural gas) fired boilers were installed after October 20, 2000 (Permit No. 5088). Therefore, the units were modified, or constructed after the NSPS applicability date of June 9, 1989 and the boilers therefore meet this test for NSPS Subpart Dc applicability.

As a result of this determination, the requirements of Subpart Dc have been incorporated in the permit as applicable.

None of the other smaller boilers meet the above applicability criteria.

Emergency Generators

NSPS Subpart IIII applicability for the generators was considered for this facility. Based on the date of applicability for emergency generators (model year 2007 or newer, or ordered after July 11, 2005 and manufactured after April 1, 2006), this subpart is applicable to the following six (6) new compression ignition internal combustions engines (CI ICE) as follows:

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Equipment Location	Chapter 2 Permit No.¹	Emission Unit Description	Equipment Serial Number
Centennial Village	6650	One (1) 50 kW Cummins generator set with 145 hp diesel engine (manufactured 2012/installed 2012)	H120374901
DuFour Center	None	One (1) 250 kW Cummins generator set with 363 hp diesel engine (manufactured 12/21/2006/installed 2007)	L060000826
Marist Hall	None	One (1) 50 kW Cummins generator set with 99 hp diesel engine (manufactured 2007/installed 2010)	E070056764
Opus Hall	6117	One (1) 350 kW Onan generator set with 755 hp diesel engine (manufactured 2007/installed 2008)	K0 H70126118
Portable #2 (Stucco Outside)	None	One (1) 50 kW Cummins generator set with 85 hp diesel engine (manufactured 2007/installed 2007)	E070064394
Father O'Connell Hall	6818	One (1) 150 kW Cummins generator set with 250 hp diesel engine (manufactured 2014/installed 2014)	B140635816

¹The Chapter 2 permit numbers listed here are for reference only. The requirements of the Chapter 2 permits are being incorporated into this permit and the separate Chapter 2 permit documents will no longer be maintained.

The remaining 20 emergency generator sets at the site do not meet the applicability criteria specified in 40 CFR 60, Subpart IIII. Of particular note is the generator at Gibbons Hall. It comes close to being covered, but its manufacture date was January 9, 2006, slightly before the April 1, 2006 applicability date for units ordered after July 11, 2005, thus it is not covered.

40 CFR 63 Subpart CCCCC - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Category: Gasoline Dispensing Facilities:

40 CFR 63 Subpart CCCCC applies to any existing or new gasoline distribution facility that is located at an area source of HAPs as defined in 40 CFR 63.2 (See 40 CFR 63.1111(a)). The facility has gasoline dispensing facilities, including an associated gasoline storage tank with a throughput of less than 10,000 gallons per month as confirmed by information provided by the applicant. Thus 40 CFR 63, Subpart CCCCC was determined to be applicable and the requirements of 40 CFR 63.11116 apply to the facility per 40 CFR 63.1111(b).

40 CFR 63, Subpart JJJJJ - NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources Subpart JJJJJ:

This regulation does not apply to the four (4) 20.92 MMBTU/hr boilers as they are prohibited from operating using No. 2 fuel oil except during natural gas interruptions and

for up to 48 hours per year for periodic testing. See Condition III(a)(2)(E) of the permit.

Also note that this rule does not cover the small fuel burning equipment in the miscellaneous/insignificant activities section of the permit as those units burn natural gas exclusively.

40 CFR 63, Subpart ZZZZ - NESHAP for Reciprocating Internal Combustion Engines (RICE) located in an Area Source of HAPs

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 potential to emit ten (10) tons/year of any single HAP or twenty-five (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 ten (10) tons/year of a single HAP or an aggregate of more than twenty-five (25) tons of total HAPs, it is not a major source; it is an area source.

The applicant had originally applied for an exemption from the requirements of Subpart ZZZZ under 40 CFR 63.6585(f), by accepting operational limitations to ensure that 1) the emergency generators do not run for more than fifteen (15) hours per calendar year under conditions when there is a deviation of voltage or frequency of five (5) percent or greater below standard voltage or frequency, and 2) the emergency generators do not operate for emergency or economic demand response purposes.

However, in May 2016 the mandate for the May 2015 decision of the U.S. Court of Appeals for the District of Columbia Circuit in the matter of *Delaware v. EPA* was issued. This court decision vacated a portion of Subpart ZZZZ that allowed operation in situations of voltage or frequency deviation to be considered to be emergency operations. The District does not allow facilities operating RICE to operate in non-emergency situations (except maintenance and readiness testing) unless they are complying with either Subpart ZZZZ or one of the NSPS standards covering RICE. If, however, they agree to comply with Subpart ZZZZ requirements, the 50 hours of non-compensated non-emergency operations allowed by that subpart are incorporated into the permit. In this case, because the facility will need to operate these emergency engines in low voltage or frequency situations, the requirements of Subpart ZZZZ have been included in the permit.

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

CAM regulations apply to pollutant-specific emission units at a major source that have pre-control devices emissions greater than the Title V major source thresholds and use a control device to achieve compliance. The Duramelter 1200 glass vitrification unit (housed at the Vitreous State Laboratory in Hannan Hall and operated under Permit 5364) is equipped with

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control devices including a scrubber and mist eliminator; potential uncontrolled emissions are below 100 tons per year of particulate matter (PM/PM₁₀). Therefore CAM does not apply.

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 Prevention of Significant Deterioration (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.

20 DCMR Chapter 2 Permits:

The Air Quality Division (AQD) of the Department 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:

- Permit No. 5987 – Install and operate emergency generator at Leahy Hall (Computer Center)
- Permit No. 6161 – Operate emergency generator outside the McCarthy building
- Permit No. 6117 – Install and operate emergency generator at Opus Hall
- Permit No. 6650 – Install and operate emergency generator at Centennial Village
- Permit No. 6546 – Operate a paint spray booth at Crough Center
- Permit No. 5364 – Operate DM1200 glass melter at the Vitreous State Laboratory, Hannan Hall
- Permit No. 6818 – Install and operate emergency generator at Father O’Connell Hall. The emission limitations for this generator in the Chapter 2 permit issued on August 21, 2014 were based on the engine output (250 brake horse power [bhp]) listed in the application submitted to the Department. However, on June 18, 2015, Catholic University informed the Department that the engine output listed in the application was incorrect and provided the correct engine output (324 bhp). In order to calculate the facility-wide potential emissions for the draft Title V permit, the engine output of 324 bhp was used. It should be noted that this Title V permit serves as an amendment to Chapter 2 permit No. 6818.

AQD is also using Chapter 2 authority to place unpermitted units which should have previously obtained Chapter 2 permits, but did not, directly into the draft Title V permit, along with appropriate requirements established pursuant to Chapter 2. Additionally, AQD is using Chapter 2 authority to update other permit requirements. As such, this draft Title V permit will be issued for public notice pursuant to both Chapter 2 and Chapter 3 (Title V) public notice requirements.

COMMENT PERIOD:

Beginning Date: August 19, 2016
Ending Date: September 19, 2016

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:

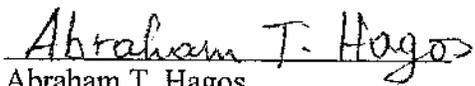
During public comment period any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Department 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 Hagos, Environmental Engineer
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Air Quality Division
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REVIEWS:

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