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: 008-R2-A1

APPLICANT AND PERMITTEE:
Providence Hospital
1150 Varnum Street NE
Washington, DC 20017

FACILITY LOCATION:
Providence Hospital
1150 Varnum Street NE
Washington, DC 20017

FACILITY DESCRIPTION:
Providence Hospital is a hospital campus that is approximately bounded by Buchanan Street NE to the north; 12th Street NE to the east; Varnum Street NE to the south; and 8th Street NE to the west. The campus includes Providence Hospital; the power plant for the hospital; Carroll Manor Nursing and Rehabilitation Center; Seton House (Providence's Behavioral Health Services); and Vincent Professional Building. The purpose and function of Providence Hospital (SIC Code 8062) is the daily operation of a general medical and surgical hospital. On July 1, 2015, Final Title V Permit No. 008-R2 was issued to the applicant to cover all emission units at the facility.

On March 11, 2016, the Air Quality Division (AQD) of the Department of Energy and Environment (the Department) received a Chapter 2 permit application from the applicant to construct and operate one (1) dual fuel-fired (natural gas and #2 fuel oil) 24.80 MMBtu per hour boiler at the facility. On November 22, 2016, Chapter 2 Permit No. 7088 was issued to the applicant to install the unit to replace one of the existing units, Boiler #1. Condition I(g) of this permit required, pursuant to 20 DCMR 301.1, that the applicant apply for a modification to the Title V permit within 12 months of issuance of the Chapter 2 permit.

On October 17, 2017, AQD received an application for a significant permit modification to Title V Permit No. 008-R2 to include in it the requirements of Chapter 2 Permit No. 7088. This permitting action is being taken to address this significant permit modification.

It should be noted that this significant permit modification action only opens Condition III(a) of the permit, to remove the previous unit designated as Boiler 1, and adds Condition III(e) to the permit to add the requirements covering the new Boiler 1. All other conditions of the permit remain unchanged from those included in the July 1, 2015 Final Title V Permit #008-R2. As

such, there will be no extension to the existing Title V permit expiration date (June 30, 2020). The applicant will still need to apply for a renewal of the Title V permit at least six months before that expiration date.

It should be noted that replacing the old Boiler 1, originally installed in 1977, with a new dual fuel-fired (natural gas and #2 fuel oil) 24.80 MMBtu per hour boiler, installed in 2016, triggers 40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (NSPS). AQD did not add the new boiler to Condition III(a) of the permit as the requirements for the old Boiler 2, which remains unaffected by the project, remain the same. Boiler 2 is not subject to the aforementioned NSPS. Condition III(a) was revised only to remove references to the old Boiler 1. Because the requirements are different for the new Boiler 1, a separate section (Condition III(e)) was added to cover this new boiler.

EMISSIONS SUMMARY:
The following table shows the effect of the boiler replacement on the Potential to Emit (PTE) of the facility in tons per year (TPY).

Criteria Pollutants	Facility PTE Before Boiler Replacement	Potential Emissions of Removed Boiler	Potential Emissions of New Boiler	Change from Project	Facility PTE After Boiler Replacement
Sulfur Dioxide (SO_2)	0.60	0.22	0.09	-0.13	0.47
Oxides of Nitrogen (NO_x)	85.11	20.77	4.90	-15.87	69.24
Total Particulate Matter including condensables (PM Total)	7.19	2.08	1.03	-1.05	6.14
Volatile Organic Compounds (VOC)	3.46	0.78	1.74	0.96	4.42
Carbon Monoxide (CO)	44.15	11.97	7.93	-4.04	40.11

BASIS OF 20 DCMR CHAPTER 3 (TITLE V) APPLICABILITY:
Providence Hospital has the potential to emit (PTE) more than 25 tons per year (TPY) of nitrogen oxides (NO_x). The total emission exceeds the major source threshold 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 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. The replacement of Boiler 1 reduced the potential to emit by 15.87 TPY of NO_x since the new boiler is smaller and more efficient, but the facility is still subject to Chapter 3 permitting requirements.

LEGAL AND FACTUAL BASIS FOR 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 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 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 the discussion below): *Note that this regulatory review has been updated from the evaluation found in the May 6, 2015 Fact Sheet and Statement of Basis, to account for the replacement of the old Boiler 1 with a new unit, also designated as Boiler 1. No other modifications to the analysis have been made.*

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 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 51.12, 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 (NESHAP) for Reciprocating Internal Combustion Engines (RICE)
40 CFR 63, Subpart JJJJJJ - 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]:
New Source Performance Standards apply to this facility as the following NSPS analyses and applicability determination indicate:

1. NSPS: Diesel emergency generators subject to Subpart IIII

   Pursuant to 40 CFR 60, NSPS Subpart IIII applies to stationary compression ignition internal combustion engines (CIICE): 1) with model years of 2007 or later, 2) that commenced construction after July 11, 2005 and were manufactured after April 1, 2006, or 3) that were modified or reconstructed after July 11, 2005. This subpart does not apply to any of the diesel emergency generators because the units were installed in 1978.

2. NSPS: Natural gas emergency generators subject to Subpart JJJJ

One natural gas burning emergency generator is subject to Subpart JJJJ for stationary spark ignition internal combustion engines (SIICE). The applicability triggers for Subpart JJJJ for natural gas burning emergency generators are based on the construction or modification/reconstruction date of June 12, 2006, or the manufacture date of July 1, 2008. The engine identified is as follows:

Equipment Location	Emission Unit Description	Equipment Serial Number
Seton House	One (1) 25 kW Kohler Natural Gas Emergency Generator	SGM32645K

3. NSPS: Dual fuel boilers subject to Subpart Dc

Combustion units operating as dual fuel boilers are subject to NSPS Subpart Dc. Applicability 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: Boiler 1 (ID# 17034), Boiler 2 (ID# 17035), and Boiler 3 (ID# 17230):

- Boiler 1 has been replaced with a new dual fuel boiler, also designated as Boiler 1, with a heat input capacity of 24.8 MMBTU/hr. This unit was installed in 2016 and meets the age and the size thresholds for a new source. Therefore Subpart Dc does apply to this unit. The requirements of this regulation are found in Condition III(e) of the modified permit.
- Boiler 2 remains in place and has a heat input capacity of 33.2 MMBTU/hr; however, it was installed in 1977 and does not meet the age threshold. Therefore Subpart Dc does not apply to this unit.
- Boiler 3 has a heat input capacity of 8.4 MMBTU/hr which is less than the 10 MMBTU/hr size threshold. Therefore Subpart Dc does not apply to this unit.

<u>40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (NESHAP for RICE)</u>
Subpart ZZZZ of 40 CFR 63 regulates/monitors hazardous air pollutants (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 tons/year of any single HAP or 25 tons/year of any combination of HAPs, is considered a major source of HAPs. Any source that is not a major source is an area source of HAPs. Because this facility does not have the 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 an area source. Subpart ZZZZ is applicable to the natural gas fired Seton House generator, however, because 40 CFR 60, Subpart JJJJ is also applicable to that unit, the Permittee only needs to comply with Subpart JJJJ to be in compliance with Subpart ZZZZ. See 40 CFR 63.6590(c).

Otherwise, Subpart ZZZZ for area source RICE is not applicable to this facility because the operating permit has been drafted to include operational limitations to ensure that (1) the other emergency generators do not run for more than 15 hours per calendar year under conditions when there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency, and (2) the emergency generators do not operate for emergency demand response purposes.

With these operational limitations in place, the generators are considered to be "existing institutional emergency stationary RICE located at an area source of HAP emissions 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)." As such, pursuant to 40 CFR 63.6585(f), the generators are not subject to Subpart ZZZZ. Therefore, the requirements of this subpart have not been included in the operating permit.

40 CFR 63, Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources
On March 19, 2015, the Permittee indicated their preference for three (3) of the existing boilers (Boilers 1, 2, and 3) at this facility to be permitted to operate using No. 2 fuel oil at will (in addition to the primary natural gas fuel); therefore these boilers fall into the oil subcategory as defined in NESHAP Subpart JJJJJJ and are subject to the requirements of this NESHAP. Specifically, the facility is required to submit an initial notification of applicability to the EPA and perform biennial boiler tune-ups (the requirement for which was changed to annual tune-ups in the permit due to a similar requirement in 20 DCMR 805, but which requires annual tune-ups). Additionally, two of the units have heat input ratings greater than 10 MMBTU/hr, and are therefore required to have performed a one-time energy assessment. All of these requirements have been included in the permit. It is noteworthy that 20 DCMR 805 tune-up requirements and the Subpart JJJJJJ tune-up requirements have a common emissions reduction goal. However, the approaches for achieving this goal differ modestly. Whereas the federal regulations requires that a subsequent tune-up after the initial tune-up must occur no later than 25 months, the DCMR reasonably available control technology (RACT) regulation of 20 DCMR 805, specify that combustion adjustments be performed annually.

In order to accommodate both rules in this permit, a streamlined approach was used in which Condition III (a)(2)(D) (and equivalent conditions for the other boilers) specifies a compromise frequency of 13 months (i.e., 25 less 12 equals 13). Hence the Permittee must conduct subsequent tune-ups no more than 13 months after the previous tune-up.

The energy assessment is not required for the dual fuel Boiler 3 which is a smaller boiler with a heat input rating less than 10 MMBTU/hr; however because the boiler is greater than 5 MMBTU/hr, tune-ups are required under the rule.

The subpart does not apply to the small fuel burning equipment in the miscellaneous

insignificant activities section of the permit as those units burn natural gas exclusively.

Compliance Assurance Monitoring (CAM) [40 CFR 64]:
A Compliance Assurance Monitoring (CAM) Plan does not apply to the emission units at Providence Hospital 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 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.

20 DCMR Chapter 2 Permits:
AQD uses Chapter 2 authority to update other permit requirements where applicable. As such, this Title V permit will be issued for public notice pursuant to both Chapter 2 and Chapter 3 public notice requirements. The requirements of the Chapter 2 below is being incorporated into the Title V permit and updated where appropriate in the Title V Permit No. 008-R2-A1. This significant permit modification action is being used to incorporate the Chapter 2 permit that was issued since the final Title V permit of July 1, 2015 was issued. The following table summarizes the Chapter 2 permit issued but not included in the current Title V permit:

Permit Number	Equipment Type	Date Issued
7088	One (1) dual fuel-fired (natural gas and #2 fuel oil) 24.80 MMBtu per hour boiler	November 22, 2016

This Title V significant permit modification is occurring to incorporate the above unit into the Title V permit as required by the Chapter 2 permit.

20 DCMR 801: Sulfur Content of Fuel Oils:
This regulation limits fuel oil sulfur content to 1% by weight. However, the permit application asserted that potential emissions of sulfur dioxide were based on the use of 0.0015% by weight sulfur #2 fuel oil. As a result, pursuant to authority under Chapter 2, the 0.0015% level was adopted as a limitation in the permit, a level more stringent than the requirement of 20 DCMR 801.

COMPLIANCE HISTORY:

The applicant has been subject to two enforcement actions by AQD in the past three years, according to the EPA Enforcement and Compliance History Online (ECHO) database, as of the time of this writing. A notice of infraction (NOI) was issued on May 11, 2016 assessing a penalty of $1,000 for failure to timely submit a Title V annual certification report for calendar year 2015. Also, a notice of violation (NOV) was issued to the facility on March 2, 2018 for failure to timely submit a Title V annual certification report for calendar year 2017.

COMMENT PERIOD:

Beginning Date: June 15, 2018
Ending Date: July 16, 2018

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 D.C. Register and a daily newspaper.

POINT OF CONTACT FOR INQUIRIES:

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REVIEWS:

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