

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. 017-R3

APPLICANT AND PERMITTEE:

Armed Forces Retirement Home - Washington
3700 North Capitol Street NW
Washington, DC 20317

FACILITY LOCATION:

Armed Forces Retirement Home - Washington
3700 North Capitol Street NW
Washington, DC 20317

FACILITY DESCRIPTION:

Armed Forces Retirement Home – Washington (AFRH) operates several boilers and emergency generators to provide heating, cooling and emergency backup power to buildings that house retired military personnel in the District of Columbia. This facility is located at 3700 North Capitol Street in the northwest quadrant of the District. The facility consists of many buildings that share the site. The primary emission sources in these buildings are emergency generators and “insignificant” boilers. The Permittee is covered under Standard Industrial Classification (SIC) Code 8361.

This facility includes emission units that are capable of operating twenty-four (24) hours per day, seven (7) days per week, and fifty-two (52) weeks per year. The units consist of fourteen (14) small boilers with heat input ratings less than 5 million BTU per hour, five (5) emergency generator sets, five (5) storage tanks, two woodworking areas, and one (1) non-VOC degreaser.

This facility has made the following physical changes since 2012 Permit renewal:

- Emission units A23, A24 and A25 (large boilers) have been taken out of service.
- Emission units A26 through A39 (14 small boilers) have been installed.
- Emission units B3, B6, B7, B8 and B9 (emergency generators) have been decommissioned.
- Emission Unit B13 and B14 (two 725 kWe emergency generator sets) were installed.

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- Degreaser F1 has been removed.
- Photography processing operation I2 has been removed
- Fuel Tanks C22 and C23 for storage of propane have been added.

It should be noted that emission units B13 and B14 were originally permitted to operate using propane as a back-up fuel, but the facility has confirmed that they do not use propane for this purpose and are therefore not requesting that it be allowed in this permit.

On September 9, 2017 the source notified the Department of intent to make further modification at the facility and provided a preliminary plan of adding a new generator and a fuel storage tank. These proposed changes are not being addressed in this permitting action as they have not yet occurred.

EMISSIONS SUMMARY:

Plantwide Emissions Summary (tons per year)	
Pollutant	Potential Emissions
Sulfur Dioxide (SO ₂)	0.49
Oxides of Nitrogen (NO _x)	27.12
Particulate Matter (PM/PM10)	8.53
Volatile Organic Compounds (VOCs)	6.05
Carbon Monoxide (CO)	19.47
Total Hazardous Air Pollutants (HAPs)	1.47

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

The facility has the potential to emit approximately 27 tons per year (“TPY”) of NO_x. This value exceeds the major source threshold in the District of Columbia of 25 TPY of NO_x. As such, 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.

It should be noted that the previous Title V permit was issued as permit number 017-R1 on April 6, 2012. AFRH failed to apply for renewal in a timely fashion. As a result, the previous permit expired on April 6, 2017. A renewal application was received on March 20, 2017. This permitting action addresses that application.

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

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

The 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.

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.

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.

REGULATORY REVIEW:

This facility has been found to be subject to the requirements of the following regulations (except as specified in notes and discussion below):

Federal and District Enforceable:

- 20 DCMR Chapter 1 - General Rules
- 20 DCMR Chapter 2 - General and Non-Attainment Area Permits
- 20 DCMR Chapter 3 - Operating Permits and Acid Rain Programs
- 20 DCMR 500 - Records and Reports
- 20 DCMR 502 - Sampling, Tests, and Measurements
- 20 DCMR 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 704 - Stage I Vapor recovery
- 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
- 20 DCMR 1501 - General Conformity - Requirements
- 40 CFR 51.212, 52.12, 52.30, 60.11, and 61.12 - Credible Evidence
- 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI-ICE)
- 40 CFR 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI-ICE)
- 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for

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Reciprocating Internal Combustion Engines (NESHAP for RICE)

- 40 CFR 82, Subpart G - 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.*)
- 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.*)
- 40 CFR 93, Subpart B - Determining Conformity of General Federal Actions to State or Federal Implementation Plans

District Enforceable Only:

- 20 DCMR 402 -- Chemical Accident Prevention (*Note: AQD did not make a positive determination that this regulation was applicable to the facility, but included it as a standard requirement in the permit.*)
- 20 DCMR 900 - Engine Idling
- 20 DCMR 901 - Vehicular Exhaust Emissions
- 20 DCMR 902 - Lead Content of Gasoline
- 20 DCMR 903 - Odorous or Other Nuisance Air Pollutants

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

Two (2) emergency generator sets, located at the Scott Building and designated as units B13 and B14, were subject to permitting pursuant to Chapter 2 of the 20 DCMR since the last Title V permit was issued. The permits were issued as Permit # 6718 and #6719 on May 2013. Some requirements are being established or updated pursuant to Chapter 2 authority in this permit. It should be particularly noted that these units are not being permitted to burn propane as a backup fuel in this Title V permit as they were in the Chapter 2 permits. AFRH's consultant (Sunhee Park of EA Engineering, Science and Technology, Inc., PBC) confirmed in an email of May 11, 2017 that the facility does not use propane as a backup fuel for these units. This was later confirmed by Patrick Benjamin of AFRH in an email dated October 25, 2017.

The three (3) other emergency generator sets at the site are also subject to Chapter 2 permitting requirements, but do not hold separate Chapter 2 permits as those permits were incorporated into the previous Title V permit. Requirements for these units are also being updated pursuant to Chapter 2 authority via this permitting action.

20 DCMR Chapter 3 – Operating Permits :

The facility was required to obtain a Title V operating permit because the potential to emit (PTE) is greater than 25 tons per year of NO_x. This permitting action is intended to address the requirements of this regulation, incorporating all applicable requirements into the permit and making them (except where denoted by an asterisk) federally enforceable.

As noted above, the facility previously held a Title V operating permit that expired in April 2017.

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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. The most important monitoring relates to the duration and circumstances of each operation of the emergency generator sets. These requirements have been included in the permit and will ensure that compliance with the operating hour restrictions can be determined and non-compliance will be reported.

20 DCMR Chapter 6 – Particulates

Several sections of Chapter 6 are applicable to this facility. Sections 604 (Open Burning) and 605 (Control of Fugitive Dust) are standard requirements included in all Title V permits. Section 606 covers visible emissions requirements. Specifically, 20 DCMR 606.1 is applicable to the generators. It should be noted that 20 DCMR 606 is subject to a call by the U.S. Environmental Protection Agency (EPA) for a revision to the District's State Implementation Plan (SIP). The underlying regulatory requirements may change as a result. This is so noted in the permit.

20 DCMR 704 – Stage I Vapor Recovery

The applicability of this regulation to diesel storage tanks is unclear from the language of the regulation. However, AQD has researched the documents related to the original development of the rule and has determined that it was not the intent of the rule for it to be applied to diesel storage tanks. There are several storage tanks at the site for storage of diesel fuel and for propane. The tanks are listed under miscellaneous activities therefore this regulation is not applicable to the tanks at the facility.

20 DCMR 774 – Solvent Degreaser

AFRH determined that the parts washer will no longer be used at the Auto Hobby Shop. If the needs arise in the future, then non-VOC solvents will be used. Therefore, facility requested that Parts Washer (F7) be excluded from the new Title V permit as a significant unit. The unit is included in the permit as miscellaneous activity, but requires that non-VOC solvents be used.

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

The emergency engines at the facility are not subject to the requirements of this section as they are not permitted to operate for 500 or more hours per 12-month rolling period. See 20 DCMR 805.1(c)(2). The insignificant activities at the site are too small to have any appropriate RACT requirements under the regulation.

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

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. Such engines are considered new engines subject to Subpart IIII. There is one diesel generator (B11) installed in 2007 at the facility, however, when this was investigated further, it

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was determined that the generator was a used unit when installed. Patrick Benjamin of AFRH confirmed via an email on October 25, 2017 to Olivia Achuko and a phone conversation with Stephen Ours on October 27, 2017 that the engine was manufactured in 2001. As such, this unit is not subject to NSPS Subpart III.

40 CFR 60, Subpart JJJJ - Standards of Performance for Spark Ignition Internal Combustion Engines

New Source Performance Standards (NSPS), Subpart JJJJ applies to two of the emergency generator sets (B13 and B14) at Scott Building, which were installed in 2013.

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.

The source notified AQD that the engines at Scott Building (B13 and B14) are not certified and therefore do not have certificates of conformity. Since these engines are not certified the source is required to do periodic performance stack tests in accordance with the requirements of 40 CFR 60 Subpart JJJJ. See Conditions III(a)(3)(D) and (E), III(a)(4), and III(a)(5)(C) for the related applicable requirements.

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

Subpart ZZZZ of 40 CFR 63 regulates 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 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 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 NESHAP requirements of Subpart ZZZZ are applicable to this facility.

Subpart ZZZZ is applicable to new or reconstructed SI and CI engines at this facility. New/Reconstructed stationary engines are those manufactured or reconstructed after June 12, 2006. However, for new engines, Subpart ZZZZ refers to the New Source Performance Standard (NSPS), 40 CFR Part 60 Subpart IIII as the only set of requirements needed to ensure compliance with Subpart ZZZZ. The two (2) new natural gas engines (Scott Building, B13 and B14) for emergency generators at the facility fall into this category as mentioned in the discussion of 40 CFR 60, Subpart JJJJ above. The Title V permit has been drafted to include the applicable requirements of the NSPS for these units.

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This regulation also covers existing RICE at the facility and the requirements of this standard have been included in the permit for the remaining three (3) units (Units B5, B11, and B12).

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

NESHAP Subpart JJJJJ is not applicable to any of the boilers at the facility. All of the boilers being permitted have heat input ratings below 5 MMBTU/hr and their permit requirements are therefore found in Condition IV (Miscellaneous/Insignificant Activities). All of these boilers meet the definition of a “gas-fired boiler” or a “hot water heater” as defined in 40 CFR 63.11237 and are therefore not subject to this subpart pursuant to 40 CFR 63.11195(e). Note that propane, the back-up fuel for several of the units, is burned in gaseous form.

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

Compliance Assurance Monitoring Plan (CAM) does not apply to this facility because none of the units in this facility rely on control devices for compliance with emission limits. There is no need for this facility to install control devices as defined by 40 CFR 64. Therefore, CAM does not apply.

Chapter 2 Permits:

The requirements of the following permit(s) issued under the authority of 20 DCMR Chapter 2 have been incorporated into the Title V permit:

- Permit Nos. 6718 and 6719 – Permits to operate two (2) 725 kWe emergency generator sets, both issued May 21, 2013.

ENFORCEMENT HISTORY:

The applicant has been subject to enforcement actions by AQD since the last Title V permit. Three air quality violations are identified in the EPA Enforcement and Compliance History Online (ECHO) database over the last few years. They are as follows:

- One enforcement case involved the following infractions:
 - One (1) failure to maintain and make available daily records demonstrating compliance with NO_x emission rates. The initial Enforcement Notice was served on October 7, 2016 for \$1,000 but was denied.
 - One (1) failure to submit a timely and complete Title V permit application or renewal (covering a Chapter 2 permit requirement to request a significant permit modification to include two new generators in the Title V permit). The initial Enforcement Notice was served on October 7, 2016 for \$1,000 but was denied.
 - One (1) failure to purchase, store or use fuel oil which contains less than one percent

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(1%) sulfur. The initial Enforcement Notice was served on October 7, 2016 for \$2,000 but was denied.

This Enforcement Notice covering these infractions was withdrawn and replaced by a Notice of Infractions (NOI) issued on June 28, 2017. This placed the case under the authority of the Office of Administrative Hearings. Again, the infractions were denied.

On November 29, 2017 the Department notified the Office of Administrative Hearings that a settlement in this case has been reached, but requested an additional 60 days for the parties to carry out the terms of the agreement. The terms of the settlement include a reduced total fine of \$2,000 and an admission of liability for the infraction related to the failure to submit a timely and complete Title V permit application or renewal.

- Administrative Order – On September 26, 2017, an Administrative Order was issued to the facility for failure to timely apply for a Title V permit renewal and subsequent operation after permit expiration. The order requires AFRH to comply with the conditions of the expired Title V permit until the Department takes final action on the March 20, 2017 application.

COMMENT PERIOD:

Beginning Date: December 8, 2017

Ending Date: January 8, 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 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 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.

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POINT OF CONTACT FOR INQUIRIES:

Olivia Achuko

Environmental Engineer

Department of Energy and Environment

Air Quality Division

1200 First Street NE, 5th Floor

Washington, DC 20002

(202) 535-2997

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REVIEWS:

Prepared by:



Olivia Achuko
Environmental Engineer

Approved by:



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

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