



AIR AND RADIATION ADMINISTRATION DRAFT PART 70 OPERATING PERMIT

DOCKET # 24-031-1124

COMPANY: Naval Support Activity Bethesda

LOCATION: 4655 Taylor Road
Bethesda MD 20889

CONTENTS:

1. Overview of the Part 70 Program
2. Notice of Opportunity for a Public Hearing
3. Fact Sheet
4. Draft Permit
5. Part 70 Permit Application

**MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION
AIR QUALITY PERMITS PROGRAM**

TITLE V – PART 70 OPERATING PERMIT PROGRAM OVERVIEW

Title V of the Clean Air Act (amended) requires each state to implement a federally enforceable operating permit program for major sources of air pollution. This program, the Part 70 Permit Program, also known as the Title V Permit Program, is designed to provide a comprehensive administrative document (a Part 70 Operating Permit) that identifies all air emissions sources at a given facility and the federal air quality regulations applicable to those sources. The permit establishes the methodology by which the owner/operator will demonstrate compliance, and includes testing, monitoring, record-keeping, and reporting requirements for each emissions source.

A Part 70 Operating Permit does not authorize new construction, and does not add any new emissions limitations, standards, or work practices on an affected facility. There may, however, be additional testing, record keeping, monitoring, and reporting requirements. A Part 70 Operating Permit is a five-year renewable permit. A responsible official for each facility subject to a Part 70 Operating Permit is required to annually certify compliance with each applicable requirement for that facility.

When an application for a Part 70 Operating Permit is received, the Department will complete a technical review of the application and will prepare a draft Part 70 Operating Permit and Fact Sheet. The Fact Sheet will explain the basis and technical analysis used by the Department to develop the federally enforceable permit conditions, including the required testing, monitoring, record keeping, and reporting provisions for each emissions unit at the permitted facility. The Fact Sheet will also include a description of the facility operations and the current compliance status with applicable requirements. If there are any discrepancies between the Part 70 Operating Permit application and the draft permit, the Fact Sheet will contain a discussion of the inconsistencies and the final resolution.

Public Participation Process

The Part 70 Operating Permit Program provides the public, adjacent states, and EPA the opportunity to review and submit comments on draft permits. The public may also request a public hearing on the draft permit.

The purpose of a public hearing is to give interested parties the opportunity to submit comments for the record which are germane to the draft federally enforceable permit conditions. Comments made at the hearing, or in writing to the Department during the comment period, should address errors and deficiencies in the permit such as unidentified emissions units, incorrect or deficient regulation citation, deficient record keeping, monitoring, reporting or testing requirements and unresolved compliance issues. After the public comment period has closed, the Department will review the formal testimony as part of the final review and prepare a Response to Comments document which will be sent to the EPA along with the draft Part 70 Operating Permit and Fact Sheet.

Testimony on state-only requirements will be kept on file at the Department as part of the formal record, however, state-only rules and regulations are not federally enforceable, and therefore are not within the scope of the EPA review. The Department will keep a record of the identity of the commenters, their statements, a summary of the issues raised during the public comment period, and the Response to Comments document for at least five years.

Citizen Petition to EPA to Object to Permit Issuance

Interested parties may petition the EPA to object to the Part 70 Permit if the EPA has not already objected, within 60 days after the 45-day EPA review period has ended. The petition period will be posted on the EPA website. The EPA will only consider objections to the federally enforceable provisions of the draft permit which were raised with reasonable specificity during the public comment period, unless: (1) the petitioner demonstrates that it was impractical to raise the objections within the public comment period, or (2) the grounds for the objection arose after the comment period. If the EPA agrees with the petition, the Department will reopen, revise, or revoke the permit as determined.

Applicant Objection to Permit Issuance and Recourse

If the applicant objects to the federally enforceable permit conditions contained in the issued Part 70 Operating Permit, the applicant has 15 days from receipt of the issued permit to request a contested case hearing. More information on that can be found in 40 CFR, Part 70, and COMAR 26.11.03.11.

**MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION**

**NOTICE OF INTENT TO ISSUE PART 70 OPERATING PERMIT, OPPORTUNITY TO SUBMIT WRITTEN
COMMENTS OR TO REQUEST A PUBLIC HEARING**

The Department of the Environment, Air and Radiation Administration (ARA) has completed its review of the application for a renewal Part 70 Operating Permit submitted by The Naval Support Activity Bethesda (NSAB) located at 74655 Taylor Road, Bethesda MD 20889. The facility includes boilers, emergency generators and gasoline storage tanks.

The applicant is represented by:

Ms. Susan Paul, Installation Environmental Program
Naval Support Activity Bethesda
4655 Taylor Road, Building No. 27
Bethesda, MD 20889

The Department has prepared a draft Part 70 Operating Permit for review and is now ready to receive public comment. A docket containing the application, draft permit, and supporting documentation is available for review on the Department's website, under the Air Quality Permitting Page's Title V link under "Draft Title V Permits" and may be viewed here:

<https://tinyurl.com/DraftTitleV>

Interested persons may submit written comments or request a public hearing on the draft permit. Written comments must be received by the Department no later than 30 days from the date of this notice. Requests for a public hearing must be submitted in writing and must also be received by the Department no later than 30 days from the date of this notice.

Comments and requests for a public hearing will be accepted by the Department if they raise issues of law or material fact regarding applicable requirements of Title V of the Clean Air Act, and/or regulations implementing the Title V Program in Maryland found in COMAR.

A Request for public hearing shall include the following:

- 1) The name, mailing address, and telephone number of the person making the request;
- 2) The names and addresses of any other persons for whom the person making the request is representing; and
- 3) The reason why a hearing is requested, including the air quality concern that forms the basis for the request and how this concern relates to the person making the request.

All written comments and requests for a public hearing should be directed to the attention of Ms. Shannon Heafey via email at Shannon.heafey@maryland.gov or by post at Air Quality Permits Program, Air and Radiation Administration, 1800 Washington Boulevard Suite 720, Baltimore, Maryland 21230-1720. Further information may be obtained by calling Ms. Shannon Heafey at (410) 537-4433.

DRAFT PERMIT

Wes Moore
Governor

Selena McIlwain
Secretary

Air and Radiation Administration

1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

☐ Construction Permit

☒ Part 70 Operating Permit

PERMIT NO.:
24-031-1124

DATE ISSUED:
Issue Date

PERMIT FEE:
To Be Paid in Accordance with
COMAR 26.11.02.19B

EXPIRATION DATE:
June 30, 202X

LEGAL OWNER & ADDRESS

Naval Support Activity Bethesda
Public Works Office
Installation Environmental Program
4655 Taylor Road, Building No. 27
Bethesda, MD 20889
Attn: Mrs. Susan Paul, Env. Program Director

SITE

Public Works Office
Installation Environmental Program
4655 Taylor Road, Building No. 27
Bethesda, MD 20889
Attn: Mrs. Susan Paul, Env. Program Director
AI # 29

SOURCE DESCRIPTION

A hospital, medical Laboratory, and medical school owned by the United States Navy operating fuel-burning equipment.

This facility is a major source of NOx emissions.

This source is subject to the conditions described on the attached pages.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

SECTION I	SOURCE IDENTIFICATION.....	4
SECTION II	GENERAL CONDITIONS	9
1.	DEFINITIONS.....	9
2.	ACRONYMS.....	9
3.	EFFECTIVE DATE	10
4.	PERMIT EXPIRATION	10
5.	PERMIT RENEWAL.....	10
6.	CONFIDENTIAL INFORMATION	11
7.	PERMIT ACTIONS.....	11
8.	PERMIT AVAILABILITY.....	12
9.	REOPENING THE PART 70 PERMIT FOR CAUSE BY THE EPA	12
10.	TRANSFER OF PERMIT.....	12
11.	REVISION OF PART 70 PERMITS—GENERAL CONDITIONS.....	12
12.	SIGNIFICANT PART 70 OPERATING PERMIT MODIFICATIONS	13
13.	MINOR PERMIT MODIFICATIONS	14
14.	ADMINISTRATIVE PART 70 OPERATING PERMIT AMENDMENTS.....	17
15.	OFF-PERMIT CHANGES TO THIS SOURCE	18
16.	ON-PERMIT CHANGES TO SOURCES	19
17.	FEE PAYMENT	21
18.	REQUIREMENTS FOR PERMITS TO CONSTRUCT AND APPROVALS	22
19.	CONSOLIDATION OF PROCEDURES FOR PUBLIC PARTICIPATION.....	22
20.	PROPERTY RIGHTS.....	23
21.	SEVERABILITY	23
22.	INSPECTION AND ENTRY.....	23
23.	DUTY TO PROVIDE INFORMATION	23
24.	COMPLIANCE REQUIREMENTS.....	24
25.	CREDIBLE EVIDENCE	24
26.	NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE	25
27.	CIRCUMVENTION.....	25
28.	PERMIT SHIELD.....	25
29.	ALTERNATE OPERATING SCENARIOS	26
SECTION III	PLANT WIDE CONDITIONS.....	27
1.	PARTICULATE MATTER FROM CONSTRUCTION AND DEMOLITION.....	27
2.	OPEN BURNING	27
3.	AIR POLLUTION EPISODE	27
4.	REPORT OF EXCESS EMISSIONS AND DEVIATIONS	27
5.	ACCIDENTAL RELEASE PROVISIONS	28
6.	GENERAL TESTING REQUIREMENTS.....	28
7.	EMISSIONS TEST METHODS.....	28
8.	EMISSIONS CERTIFICATION REPORT	29
9.	COMPLIANCE CERTIFICATION REPORT	30
10.	CERTIFICATION BY RESPONSIBLE OFFICIAL	31
11.	SAMPLING AND EMISSIONS TESTING RECORD KEEPING	31

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

12.	GENERAL RECORDKEEPING.....	32
13.	GENERAL CONFORMITY.....	32
14.	ASBESTOS PROVISIONS	32
15.	OZONE DEPLETING REGULATIONS	32
16.	ACID RAIN PERMIT	33
SECTION IV	PLANT SPECIFIC CONDITIONS.....	34
SECTION V	INSIGNIFICANT ACTIVITIES.....	66
SECTION VI	STATE-ONLY ENFORCEABLE CONDITIONS	70

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

SECTION I SOURCE IDENTIFICATION

1. DESCRIPTION OF FACILITY

Naval Support Activity Bethesda (NSAB) is located in Montgomery County, Maryland, approximately 10 miles north of downtown Washington, D.C. The primary SIC Code for NSAB, and all tenant Commands aboard the Bethesda complex is 8062, General Medical/Surgical Hospitals. Other applicable SICs include 9711, National Defense; 8071, Medical Laboratories; and 8072, Dental Laboratories. Colleges and university fall under SIC code 8221 for professional schools that fall under USUHS (Uniformed Services University of the Health Sciences).

The installations at the facility are comprised of four (4) Cleaver Brooks industrial boilers Model DL-68-E (each rated at 67 MMBtu/hr. heat input, equipped with flue gas recirculation, and permitted to burn natural gas and No. 2 fuel oil.), located in Building # 16; one (1) Cleaver Brooks water tube boiler Model DL-68-E rated at 71 MMBtu/hr. equipped with flue gas recirculation, and permitted to burn natural gas and No. 2 fuel oil also located in building # 16; one (1) Aerco INN 1060 natural gas-fired water heater rated at 1.06 MMBtu/hr. heat input, permitted under the General Permit Program and located in Building # 52; three (3) Lochinvar FNB1751 natural gas-fired boilers rated at 1.75 MMBtu/hr, located in building #51; and three (3) RBI Futera III MB 1500 natural-gas fired boilers rated at 1.5 MMBtu/hr. located in building #82.

The following installations are also located at the facility: twenty-five (25) emergency generators of varying sizes ranging from 350 kW to 3000 kW, and two (2) 20,000-gallon gasoline tanks located at the Navy Exchange (NEX) gas station.

Emission Units Identification

NSA Bethesda has identified the following emissions units as subject to the Title V operating permit program.

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
031-1124-5-1241	EU: 16-03B Boiler No.3	One (1) natural gas-fired Cleaver Brooks DL-68 boiler with diesel as backup rated at 73.1 MMBtu/hr equipped with 30PPM Power Flame low-NO _x burners.	Jan 2002 (Mod. 2021)
031-1154-5-1242	EU: 16-04B Boiler No. 4	One (1) natural gas-fired Cleaver Brooks DL-68 boiler with diesel as backup rated at 73.1 MMBtu/hr equipped with 30PPM Power Flame low-NO _x burners.	Apr 2002 (Mod. 2021)
	EU: 16-02B	One (1) natural gas-fired Cleaver	Nov 2002

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
031-1124-5-1263	Boiler No. 2	Brooks DL-68 boiler with diesel as backup rated at 73.1 MMBtu/hr equipped with 30PPM Power Flame low-NO _x burners.	(Mod. 2021)
031-1124-5-1264	EU: 16-01B Boiler No. 1	One (1) natural gas-fired Cleaver Brooks DL-68 boiler with diesel as backup rated at 73.1 MMBtu/hr equipped with 30PPM Power Flame low-NO _x burners.	Nov 2002 (Mod. 2021)
031-1124-5-2233	EU: 16-05B Boiler No. 5	One (1) natural gas-fired Cleaver Brooks DL-68E boiler with diesel as backup rated at 73.1 MMBtu/hr equipped with 30PPM Power Flame low-NO _x burners.	Jun 2010 (Mod. 2021)
031-1124-5-2407	EU: 82-01A Boiler	One (1) RBI Futera III natural gas-fired boiler rated at 1.5 MMBtu/hr. (Building 82)	2018
031-1124-5-2408	EU: 82-02A Boiler	One (1) RBI Futera III natural gas-fired boiler rated at 1.5 MMBtu/hr. (Building 82)	2018
031-1124-5-2409	EU: 82-03A Boiler	One (1) RBI Futera III natural gas-fired boiler rated at 1.5 MMBtu/hr. (Building 82)	2018
031-1124-5-2492	EU: 51-01B Boiler	One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr. (Building 51)	2019
031-1124-5-2493	EU: 51-02B Boiler	One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr. (Building 51)	2019
031-1124-5-2494	EU: 51-03B Boiler	One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr. (Building 51)	2019
031-1124-5-2564	EU: 52-01D Water Heater	One (1) Aerco INN 1060 natural gas-fired water heater rated at 1.06 MMBtu/hr. heat input.	2022
031-1124-9-0628	EU: 51A-01 UST	Gasoline service station consisting of two (2) 20,000-gallons underground gasoline storage tanks.	1995
031-1124-9-0804	EU: 07-01G	One (1) 680-hp Caterpillar diesel	June 1982

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
	Emergency Generator	engine emergency generator ID No.M03837, model number 3412 powering a Caterpillar model 3412 DIST electric generator for standby emergency backup power rated at 400-kW.	
031-1124-9-0949	EU: 27-01 A Emergency Generator	One (1) 1245-hp Caterpillar model C27 diesel engine powering a Caterpillar model SR4B electric generator for standby emergency backup power rated 800-kW.	November 2009
031-1124-9-0960	EU: 70A-01H Emergency Generator	One (1) 546-hp Caterpillar model C15 diesel engine powering a Caterpillar model LC6 electric generator for standby emergency backup power rated at 350-kW.	June 2010
031-1124-9-0961	EU: 71B-01H Emergency Generator	One (1) 619-hp Caterpillar model C15 diesel engine (Serial No. FSE 03146) powering a Caterpillar model LC6 electric generator for standby emergency backup power rated 400- kW.	April 2010
031-1124-9-0962	EU: 72C-02H Emergency Generator	One (1) 619-hp Caterpillar model C15 diesel engine (Serial No. FSE 03148) powering a Caterpillar model LC6 electric generator for standby emergency backup power rated 400- kW.	June 2010
031-1124-9-0963	EU: 55-03H Emergency Generator	One (1) 2206-hp Caterpillar model 3512C GD diesel engine (Serial No. EBG00722) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 1500-kW.	June 2010
031-1124-9-0964	EU: 63-01G Emergency Generator	One (1) 2923-hp Cummins model QSK60-G6 diesel engine (Serial No. 75779-1005) powering a Cummins model DQKAA-AO30G129 electric generator for standby emergency backup power rated at 1750-kW.	June 2010

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
031-1124-9-0966	EU: 55-01H Emergency Generator	One (1) 2206-hp Caterpillar model 3512C diesel engine (Serial No. EBG00724) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 600-kW.	June 2010
031-1124-9-0967	EU: 55-02H Emergency Generator	One (1) 2206-hp Caterpillar model 3512C diesel engine (Serial No. EBG00723) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 600-kW.	June 2010
031-1124-9-0970	EU:51-01G Emergency Generator	One (1) 685-hp Detroit model 9DDXL14.0VLD diesel engine powering a Kohler Model 400 REOZDD electric generator for standby emergency backup power rated at 405-kW.	May 2010
031-1124-9-1003	EU: 44-02G Emergency Generator	One (1) 1490-hp Cummins model QST30-G5 diesel engine powering a Cummins model DQFAD-576145 electric generator for standby emergency backup power rated at 1000-kW.	August 2010
031-1124-9-1004	EU: 44-01G Emergency Generator	One (1) 1220-hp Cummins model QSK23-G7 NR2 diesel engine (Serial No. 00320155) powering a Cummins model DQCB-576141 electric generator for standby emergency backup power rated at 750-kW.	August 2010
031-1124-9-1005	EU: 47-01G Emergency Generator	One (1) 1220-hp Cummins model QSK23-G7 NR2 diesel engine (Serial No. 00320174) powering a Cummins model DQCB-576143 electric generator for standby emergency backup power rated at 750-kW.	August 2010
031-1124-9-1008	EU: 17-01 Emergency	One (1) 903-hp Volvo model TWD1643GE diesel engine	July 2011

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
	Generator	powering a Kohler Model 600 REOZ electric generator for standby emergency backup power rated at 600-kW.	
031-1124-9-1009	EU: 62-02G Emergency Generator	One (1) 903-hp Volvo model TWD1643GE diesel engine powering a Kohler Model 600REOZ electric generator for standby emergency backup power rated at 600-kW.	July 2011
031-1124-9-1010	EU: 63-02H Emergency Generator	One (1) 2923-hp Cummins model QSK60-G6 diesel engine (Serial No. 6113-5) powering a Cummins model DQKAA-A040A134 electric generator for standby emergency backup power rated at 1750-kW.	July 2011
031-1124-9-1024	EU: 55-04H Emergency Generator	One (1) 2206-hp Caterpillar model 3512C diesel engine (Serial No. EBG00941) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 1500-kW.	November 2011
031-1124-9-1034	EU: 16-01C Emergency Generator	One (1) 4023-hp Caterpillar model C175 diesel engine powering a Cummins model SR5 electric generator for standby emergency backup power rated at 3000-kW.	February 2012
031-1124-9-1138	EU: 202-01H Emergency Generator	One (1) 752-hp MTU model 10V1600 G80S diesel engine powering an electric generator for standby emergency backup power rated at 500-kW.	January 2016
031-1124-9-1140	EU: 01-01H Emergency Generator	One (1) 896-hp MTU model 12V1600 diesel engine powering an electric generator for standby emergency backup power rated at 600-kW.	2016
031-1124-9-1183	EU: 16-01H Emergency Generator	One (1) Cummins diesel-fired emergency generator rated at 755- hp.	2021

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
031-1124-9-1184	EU: 16-02H Emergency Generator	One (1) Cummins diesel-fired emergency generator rated at 755- hp.	2021
031-1124-9-1185	EU: 55-05A Emergency Generator	One (1) MTU diesel-fired emergency generator rated at 2,328- hp.	2020
031-1124-9-1186	EU: 55-06A Emergency Generator	One (1) MTU diesel-fired emergency generator rated at 2,328- hp.	2020
031-1124-9-1252	EU: 54-01A	One (1) Caterpillar diesel-fired emergency generator rated at 546 horsepower.	2021

SECTION II GENERAL CONDITIONS

1. DEFINITIONS

[COMAR 26.11.01.01] and [COMAR 26.11.02.01-26]

The words or terms in this Part 70 permit shall have the meaning established in COMAR 26.11.01 and .02 unless otherwise stated in this permit.

2. ACRONYMS

ARA	Air and Radiation Administration
BACT	Best Available Control Technology
Btu	British Thermal Unit
CAAA	Clean Air Act (amended)
CAM	Compliance Assured Monitoring
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMAR	Code of Maryland Regulations
EPA	Environmental Protection Agency
FR	Federal Register
gr	grains
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
MDE	Maryland Department of the Environment
NESHAPS	National Emission Standards for Hazardous Air Pollutants

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
OTR	Ozone Transport Region
PM	Particulate Matter
PM ₁₀	Particulate Matter with Nominal Aerodynamic Diameter of 10 micrometers or less
ppm	Parts per Million
ppb	Parts per Billion
PSD	Prevention of Significant Deterioration
PTC	Permit to Construct
PTO	Permit to Operate (State)
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
TAP	Toxic Air Pollutant
tpy	Tons Per Year
VE	Visible Emissions
VOC	Volatile Organic Compounds

3. EFFECTIVE DATE

The effective date of the conditions in this Part 70 permit is the date of permit issuance, unless otherwise stated in the permit.

4. PERMIT EXPIRATION

[COMAR 26.11.03.01D (1)] and [COMAR 26.11.03.13B (2)]

Upon expiration of this permit, the terms of the permit will automatically continue to remain in effect until a new Part 70 permit is issued for this facility provided that the Permittee has submitted a timely and complete application and has paid applicable fees under COMAR 26.11.02.16.

Otherwise, upon expiration of this permit the right of the Permittee to operate this facility is terminated.

5. PERMIT RENEWAL

[COMAR 26.11.03.02B (3)] and [COMAR 26.11.03.02E]

The Permittee shall submit to the Department a completed application for renewal of this Part 70 permit at least 12 months before the expiration of the permit. Upon submitting a

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

completed application, the Permittee may continue to operate this facility pending final action by the Department on the renewal.

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information no later than 10 days after becoming aware that this occurred. The Permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after the date a complete application was submitted, but prior to the release of a draft permit. This information shall be submitted to the Department no later than 20 days after a new requirement has been adopted.

6. CONFIDENTIAL INFORMATION

[COMAR 26.11.02.02G]

In accordance with the provisions of the State Government Article, Sec. 10-611 et seq., Annotated Code of Maryland, all information submitted in an application shall be considered part of the public record and available for inspection and copying, unless the Permittee claims that the information is confidential when it is submitted to the Department. At the time of the request for inspection or copying, the Department will ascertain the confidentiality of the information. The Permittee, when requesting confidentiality, shall identify the information in a manner specified by the Department and, when requested by the Department, promptly provide specific reasons supporting the claim of confidentiality. Information submitted to the Department without a request that the information be deemed confidential, may be made available to the public. Subject to approval of the Department, the Permittee may provide a summary of confidential information that is suitable for public review. The contents of this Part 70 permit are not subject to confidential treatment.

7. PERMIT ACTIONS

[COMAR 26.11.03.06E (3)] and [COMAR 26.11.03.20A]

This Part 70 permit may be revoked or reopened and revised for cause. The filing of an application by the Permittee for a permit revision or renewal; or a notification of termination, planned changes or anticipated noncompliance by the facility, does not stay a term or condition of this permit.

The Department shall reopen and revise, or revoke the Permittee's Part 70 permit under the following circumstances:

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- a. Additional requirements of the Clean Air Act become applicable to this facility and the remaining permit term is 3 years or more;
- b. The Department or the EPA determines that this Part 70 permit contains a material mistake, or is based on false or inaccurate information supplied by or on the behalf of the Permittee;
- c. The Department or EPA determines that this Part 70 permit must be revised or revoked to assure compliance with applicable requirements of the Clean Air Act; or
- d. Additional requirements become applicable to an affected source under the Federal Acid Rain Program.

8. PERMIT AVAILABILITY

[COMAR 26.11.02.13G]

The Permittee shall maintain this Part 70 permit in the vicinity of the facility for which it was issued, unless it is not practical to do so, and make this permit immediately available to officials of the Department upon request.

9. REOPENING THE PART 70 PERMIT FOR CAUSE BY THE EPA

[COMAR 26.11.03.20B]

The EPA may terminate, modify, or revoke and reissue a permit for cause as prescribed in 40 CFR § 70.7(g).

10. TRANSFER OF PERMIT

[COMAR 26.11.02.02E]

The Permittee may not transfer this Title V (Part 70) permit except as provided in COMAR 26.11.03.15.

11. REVISION OF PART 70 PERMITS—GENERAL CONDITIONS

[COMAR 26.11.03.14] and [COMAR 26.11.03.06A (8)]

- a. The Permittee shall submit an application to the Department to revise a Part 70 permit when required under COMAR 26.11.03.15-.17.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- b. When applying for a revision to a Part 70 permit, the Permittee shall comply with the requirements of COMAR 26.11.03.02 and .03 except that the application for a revision need only include information listed that is related to the proposed change to the source and revision to the permit. This information shall be sufficient to evaluate the proposed change and to determine whether it will comply with all applicable requirements of the Clean Air Act.
- c. The Permittee may not change any provision of a compliance plan or schedule in a Part 70 permit as an administrative permit amendment or as a minor permit modification unless the change has been approved by the Department in writing.
- d. A permit revision is not required for a change that is provided for in this permit relating to approved economic incentives, marketable permits, emissions trading, and other similar programs.

12. SIGNIFICANT PART 70 OPERATING PERMIT MODIFICATIONS

[COMAR 26.11.03.17]

The Permittee may apply to the Department to make a significant modification to its Part 70 Permit as provided in COMAR 26.11.03.17 and in accordance with the following conditions:

- a. A significant modification is a revision to the federally enforceable provisions in the permit that is not an administrative or minor permit modification, as defined in COMAR 26.11.03.15 or 26.11.03.16.
- b. This permit does not preclude the Permittee from making changes, consistent with the provisions of COMAR 26.11.03.17, that would make the permit or particular terms and conditions of the permit irrelevant, such as by shutting down or reducing the level of operation of a source or of an emission unit within the source. Air pollution control equipment may not be shut down or its level of operation reduced if doing so would violate any term of this permit.
- c. Significant permit modifications are subject to all requirements of COMAR 26.11.03 as they apply to permit issuance and renewal, including the requirements for applications, public participation, and review by affected states and EPA, except:
 - (1) An application needs only to include information pertaining to the proposed change to the source and modification of this permit, including a description of the change and modification, the emissions resulting from

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

the change and modification, and any new applicable requirements of the Clean Air Act that will apply if the change occurs;

- (2) Public participation, and review by affected states and EPA, is limited to only the application and those federally enforceable terms and conditions of the Part 70 permit that are affected by the significant permit modification.
- d. As provided in COMAR 26.11.03.15B(5), an administrative permit amendment may be used to make a change that would otherwise require a significant permit modification if procedures for enhanced preconstruction review of the change are followed that satisfy the requirements of 40 CFR Sec. 70.7(d)(1)(v).
- e. Before making a change that qualifies as a significant permit modification, the Permittee shall obtain all permits to construct and approvals required by COMAR 26.11.02.
- f. The Permittee may not make a significant permit modification that results in a violation of any applicable requirement of the Clean Air Act.
- g. The permit shield in COMAR 26.11.03.23 applies to a final significant permit modification that has been issued by the Department, to the extent applicable under COMAR 26.11.03.23.

13. MINOR PERMIT MODIFICATIONS

[COMAR 26.11.03.16]

The Permittee may apply to the Department to make a minor modification to the federally enforceable provisions of this Part 70 permit as provided in COMAR 26.11.03.16 and in accordance with the following conditions:

- a. A minor permit modification is a Part 70 permit revision that:
 - (1) Does not result in a violation of any applicable requirement of the Clean Air Act;
 - (2) Does not significantly revise existing federally enforceable monitoring, including test methods, reporting, record keeping, or compliance certification requirements except by:
 - (a) Adding new requirements,

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- (b) Eliminating the requirements if they are rendered meaningless because the emissions to which the requirements apply will no longer occur, or
 - (c) Changing from one approved test method for a pollutant and source category to another;
 - (3) Does not require or modify a:
 - (a) Case-by case determination of a federally enforceable emission standard,
 - (b) Source specific determination for temporary sources of ambient impacts, or
 - (c) Visibility or increment analysis;
 - (4) Does not seek to establish or modify a federally enforceable permit term or condition for which there is no corresponding underlying applicable requirement of the Clean Air Act, but that the Permittee has assumed to avoid an applicable requirement to which the source would otherwise be subject, including:
 - (a) A federally enforceable emission standard applied to the source pursuant to COMAR 26.11.02.03 to avoid classification as a Title I modification; and
 - (b) An alternative emission standard applied to an emissions unit pursuant to regulations promulgated under Sec. 112(i)(5) of the Clean Air Act;
 - (5) Is not a Title I modification; and
 - (6) Is not required under COMAR 26.11.03.17 to be processed as a significant modification to this Part 70 permit.
- b. Application for a Minor Permit Modification.

The Permittee may submit to the Department an application for a minor permit modification that satisfies the requirements of COMAR 26.11.03 which includes the following:

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- (1) A description of the proposed change, the emissions resulting from the change, and any new applicable requirements that will apply if the change is made;
- (2) The proposed minor permit modification;
- (3) Certification by a responsible official, in accordance with COMAR 26.11.02.02F that:
 - (a) The proposed change meets the criteria for a minor permit modification, and
 - (b) The Permittee has obtained or applied for all required permits to construct required by COMAR 26.11.03.16 with respect to the proposed change;
- (4) Completed forms for the Department to use to notify the EPA and affected states, as required by COMAR 26.11.03 .07--.12.

c. Permittee's Ability to Make Change

- (1) For changes proposed as minor permit modifications to this permit that will require the applicant to obtain a permit to construct, the permit to construct must be issued prior to the new change.
- (2) During the period of time after the Permittee applies for a minor modification but before the Department acts in accordance with COMAR 26.11.03.16F(2):
 - (a) The Permittee shall comply with applicable requirements of the Clean Air Act related to the change and the permit terms and conditions described in the application for the minor modification.
 - (b) The Permittee is not required to comply with the terms and conditions in the permit it seeks to modify. If the Permittee fails to comply with the terms and conditions in the application during this time, the terms and conditions of both this permit and the application for modification may be enforced against it.

- d. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.16I is not within the scope of this regulation.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- e. Minor permit modification procedures may be used for the use of economic incentives, marketable permits, emissions trading, and other similar approaches, but only to the extent that the minor permit modification procedures provide as part of the Maryland SIP or other applicable requirements of the Clean Air Act.

14. ADMINISTRATIVE PART 70 OPERATING PERMIT AMENDMENTS

[COMAR 26.11.03.15]

The Permittee may apply to the Department to make an administrative permit amendment as provided in COMAR 26.11.03.15 and in accordance with the following conditions:

- a. An application for an administrative permit amendment shall:
 - (1) be in writing;
 - (2) include a statement certified by a responsible official that the proposed amendment meets the criteria in COMAR 26.11.03.15 for an administrative permit amendment, and
 - (3) identify those provisions of this part 70 permit for which the amendment is requested, including the basis for the request.
- b. An administrative permit amendment is:
 - (1) Is a correction of a typographical error;
 - (2) Identifies a change in the name, address, or phone number of a person identified in this permit, or a similar administrative change involving the Permittee or other matters which are not directly related to the control of air pollution;
 - (3) Requires more frequent monitoring or reporting by the Permittee;
 - (4) Allows for a change in ownership or operational control of a source for which the Department determines that no other revision to the permit is necessary and is documented as per COMAR 26.11.03.15B (4);
 - (5) Incorporates into this permit the requirements from preconstruction review permits or approvals issued by the Department in accordance with COMAR 26.11.03.15B (5), but only if it satisfies 40CFR70.7 (d) (1) (v);

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- (6) Incorporates any other type of change, as approved by the EPA, which is similar to those in COMAR 26.11.03.15B (1) -- (4);
 - (7) Notwithstanding COMAR 26.11.03.15B(1)--(6), administrative amendments for purposes of the acid rain portion of a Part 70 permit are governed by regulations promulgated under Title IV of the Clean Air Act; or
 - (8) Incorporates any change to a term or condition specified as State-only enforceable, if the Permittee has obtained all necessary permits to construct and approvals that apply to the change.
- c. The Permittee may make the change addressed in the application for an administrative amendment upon receipt by the Department of the application, if all permits to construct or approvals otherwise required by COMAR 26.11.02 prior to making the change have first been obtained from the Department.
 - d. The permit shield in COMAR 26.11.03.23 applies to administrative permit amendments made under Sec. B (5) of COMAR 26.11.03.15, but only after the Department takes final action to revise the permit.
 - e. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.15 is not within the scope of this regulation.

15. OFF-PERMIT CHANGES TO THIS SOURCE

[COMAR 26.11.03.19]

The Permittee may make off-permit changes to this facility as provided in COMAR 26.11.03.19 and in accordance with the following conditions:

- a. The Permittee may make a change to this permitted facility that is not addressed or prohibited by the federally enforceable conditions of this Part 70 permit without obtaining a Part 70 permit revision if:
 - (1) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;
 - (2) The change is not subject to any requirements under Title IV of the Clean Air Act;
 - (3) The change is not a Title I modification; and

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- (4) The change does not violate an applicable requirement of the Clean Air Act or a federally enforceable term or condition of the permit.
- b. For a change that qualifies under COMAR 26.11.03.19, the Permittee shall provide contemporaneous written notice to the Department and the EPA, except for a change to an emissions unit or activity that is exempt from the Part 70 permit application, as provided in COMAR 26.11.03.04. This written notice shall describe the change, including the date it was made, any change in emissions, including the pollutants emitted, and any new applicable requirements of the Clean Air Act that apply as a result of the change.
- c. Upon satisfying the requirements of COMAR 26.11.03.19, the Permittee may make the proposed change.
- d. The Permittee shall keep a record describing:
 - (1) Changes made at the facility that result in emissions of a regulated air pollutant subject to an applicable requirement of the Clean Air Act, but not otherwise regulated under this permit; and
 - (2) The emissions resulting from those changes.
- e. Changes that qualify under COMAR 26.11.03.19 are not subject to the requirements for Part 70 revisions.
- f. The Permittee shall include each off-permit change under COMAR 26.11.03.19 in the application for renewal of the Part 70 permit.
- g. The permit shield in COMAR 26.11.03.23 does not apply to off-permit changes made under COMAR 26.11.03.19.
- h. The Permittee is subject to enforcement action if it is determined that an off-permit change made under COMAR 26.11.03.19 is not within the scope of this regulation.

16. ON-PERMIT CHANGES TO SOURCES

[COMAR 26.11.03.18]

The Permittee may make on-permit changes that are allowed under Section 502(b) (10) of the Clean Air Act as provided in COMAR 26.11.03.18 and in accordance with the following conditions:

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- a. The Permittee may make a change to this facility without obtaining a revision to this Part 70 permit, although the change would violate the federally enforceable conditions of the Part 70 permit, if:
- (1) The change is not a Title I modification;
 - (2) The change does not result in emissions in excess of those expressly allowed under the federally enforceable provisions of this Part 70 permit for the permitted facility or for an emissions unit within the facility, whether expressed as a rate of emissions or in terms of total emissions;
 - (3) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;
 - (4) The change does not violate an applicable requirement of the Clean Air Act;
 - (5) The change does not violate a federally enforceable permit term or condition related to monitoring, including test methods, record keeping, reporting, or compliance certification requirements;
 - (6) The change does not violate a federally enforceable permit term or condition limiting hours of operation, work practices, fuel usage, raw material usage, or production levels if the term or condition has been established to limit emissions allowable under this permit;
 - (7) If applicable, the change does not modify a federally enforceable provision of a compliance plan or schedule in this Part 70 permit unless the Department has approved the change in writing; and
 - (8) This permit does not expressly prohibit the change under COMAR 26.11.03.18.
- b. The Permittee shall notify the Department and the EPA in writing of a proposed on-permit change under COMAR 26.11.03.18 not later than 7 days before the change is made. The written information shall include the following information:
- (1) A description of the proposed change;
 - (2) The date on which the change is proposed to be made;

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- (3) Any change in emissions resulting from the change, including the pollutants emitted;
 - (4) Any new applicable requirement of the Clean Air Act; and
 - (5) Any permit term or condition that would no longer apply.
- c. The responsible official of this facility shall certify in accordance with COMAR 26.11.02.02F that the proposed change meets the criteria for the use of on-permit changes under COMAR 26.11.03.18.
 - d. The Permittee shall attach a copy of each notice required by condition b. above to this Part 70 permit.
 - e. On-permit changes that qualify under COMAR 26.11.03.18 are not subject to the requirements for Part 70 permit revisions.
 - f. Upon satisfying the requirements under COMAR 26.11.03.18, the Permittee may make the proposed change.
 - g. The permit shield in COMAR 26.11.03.23 does not apply to on-permit changes under COMAR 26.11.03.18.
 - h. The Permittee is subject to enforcement action if it is determined that an on-permit change made under COMAR 26.11.03.18 is not within the scope of the regulation or violates any requirement of the State air pollution control law.

17. FEE PAYMENT

[COMAR 26.11.02.16A (2) & (5) (b)]

- a. The fee for this Part 70 permit is as prescribed in Regulation .19 of COMAR 26.11.02.
- b. The fee is due on and shall be paid on or before each 12-month anniversary date of the permit.
- c. Failure to pay the annual permit fee constitutes cause for revocation of the permit by the Department.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

18. REQUIREMENTS FOR PERMITS TO CONSTRUCT AND APPROVALS

[COMAR 26.11.02.09]

The Permittee may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits to construct and approvals:

- a. New Source Review source, as defined in COMAR 26.11.01.01, approval;
- b. Prevention of Significant Deterioration source, as defined in COMAR 26.11.01.01, approval;
- c. New Source Performance Standard source, as defined in COMAR 26.11.01.01, permit to construct;
- d. National Emission Standards for Hazardous Air Pollutants source, as defined in COMAR 26.11.01.01, permit to construct;
- e. A stationary source of lead that discharges one ton per year or more of lead or lead compounds measured as elemental lead, permit to construct;
- f. All stationary sources of air pollution, including installations and air pollution control equipment, except as listed in COMAR 26.11.02.10, permit to construct.
- g. In the event of a conflict between the applicability of (a-e) above and an exemption listed in COMAR 26.11.02.10, the provision that requires a permit applies.
- h. Approval of a PSD or NSR source by the Department does not relieve the Permittee obtaining an approval from also obtaining all permits to construct required by (c-g) above.

19. CONSOLIDATION OF PROCEDURES FOR PUBLIC PARTICIPATION

[COMAR 26.11.02.11C] and [COMAR 26.11.03.01K]

The Permittee may request the Department to authorize special procedures for the Permittee to apply simultaneously, to the extent possible, for a permit to construct and a revision to this permit.

These procedures may provide for combined public notices, informational meetings, and public hearings for both permits but may not adversely affect the rights of a person,

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

including EPA and affected states, to obtain information about the application for a permit, to comment on an application, or to challenge a permit that is issued.

These procedures may not alter any existing permit procedures or time frames.

20. PROPERTY RIGHTS

[COMAR 26.11.03.06E (4)]

This Part 70 permit does not convey any property rights of any sort, or any exclusive privileges.

21. SEVERABILITY

[COMAR 26.11.03.06A (5)]

If any portion of this Part 70 permit is challenged, or any term or condition deemed unenforceable, the remainder of the requirements of the permit continue to be valid.

22. INSPECTION AND ENTRY

[COMAR 26.11.03.06G (3)]

The Permittee shall allow employees and authorized representatives of the Department, the EPA, and the local Health Department, upon presentation of credentials or other documents as may be required by law, to:

- a. Enter at a reasonable time without delay and without prior notification the Permittee's property where a Part 70 source is located, emissions-related activity is conducted, or records required by this permit are kept;
- b. Have access to and make copies of records required by the permit;
- c. Inspect all emissions units within the facility subject to the permit and all related monitoring systems, air pollution control equipment, and practices or operations regulated or required by the permit; and
- d. Sample or monitor any substances or parameters at or related to the emissions units at the facility for the purpose of determining compliance with the permit.

23. DUTY TO PROVIDE INFORMATION

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

[COMAR 26.11.03.06E (5)]

The Permittee shall furnish to the Department, within a reasonable time specified by the Department, information requested in writing by the Department in order to determine whether the Permittee is in compliance with the federally enforceable conditions of this Part 70 permit, or whether cause exists for revising or revoking the permit. Upon request, the Permittee shall also furnish to the Department records required to be kept under the permit. For information claimed by the Permittee to be confidential and therefore potentially not discloseable to the public, the Department may require the Permittee to provide a copy of the records directly to the EPA along with a claim of confidentiality.

The Permittee shall also furnish to the Department, within a reasonable time specified by the Department, information or records requested in writing by the Department in order to determine if the Permittee is in compliance with the State-only enforceable conditions of this permit.

24. COMPLIANCE REQUIREMENTS

**[COMAR 26.11.03.06.E (1)], [COMAR 26.11.03.06A (11)] and
[COMAR 26.11.02.05]**

The Permittee shall comply with the conditions of this Part 70 permit. Noncompliance with the permit constitutes a violation of the Clean Air Act, and/or the Environmental Article Title 2 of the Annotated Code of Maryland and may subject the Permittee to:

- a. Enforcement action,
- b. Permit revocation or revision,
- c. Denial of the renewal of a Part 70 permit, or
- d. Any combination of these actions.

The conditions in this Part 70 permit are enforceable by EPA and citizens under the Clean Air Act except for the State-only enforceable conditions.

Under Environmental Article Sec. 2-609, Annotated Code of Maryland, the Department may seek immediate injunctive relief against a person who violates this permit in such a manner as to cause a threat to human health or the environment.

25. CREDIBLE EVIDENCE

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Nothing in this permit shall be interpreted to preclude the use of credible evidence to demonstrate noncompliance with any term of this permit.

26. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

[COMAR 26.11.03.06E(2)]

The need to halt or reduce activity in order to comply with the conditions of this permit may not be used as a defense in an enforcement action.

27. CIRCUMVENTION

[COMAR 26.11.01.06]

The Permittee may not install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes an emission which would otherwise constitute a violation of any applicable air pollution control regulation.

28. PERMIT SHIELD

[COMAR 26.11.03.23]

A permit shield as described in COMAR 26.11.03.23 shall only apply to terms and conditions in this Part 70 permit that have been specifically identified as covered by the permit shield. Neither this permit nor COMAR 26.11.03.23 alters the following:

- a. The emergency order provisions in Sec. 303 of the Clean Air Act, including the authority of EPA under that section;
- b. The liability of the Permittee for a violation of an applicable requirement of the Clean Air Act before or when this permit is issued or for a violation that continues after issuance;
- c. The requirements of the Acid Rain Program, consistent with Sec. 408 (a) of the Clean Air Act;
- d. The ability of the Department or EPA to obtain information from a source pursuant to Maryland law and Sec. 114 of the Clean Air Act; or
- f. The authority of the Department to enforce an applicable requirement of the State air pollution control law that is not an applicable requirement of the Clean Air Act.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

29. ALTERNATE OPERATING SCENARIOS

[COMAR 26.11.03.06A (9)]

For all alternate operating scenarios approved by the Department and contained within this permit, the Permittee, while changing from one approved scenario to another, shall contemporaneously record in a log maintained at the facility each scenario under which the emissions unit is operating and the date and time the scenario started and ended.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

SECTION III PLANT WIDE CONDITIONS

1. PARTICULATE MATTER FROM CONSTRUCTION AND DEMOLITION

[COMAR 26.11.06.03D]

The Permittee shall not cause or permit any building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

2. OPEN BURNING

[COMAR 26.11.07]

Except as provided in COMAR 26.11.07.04, the Permittee may not cause or permit an open fire from June 1 through August 31 of any calendar year. Prior to any open burning, the Permittee must request and receive approval from the Department.

3. AIR POLLUTION EPISODE

[COMAR 26.11.05.04]

When requested by the Department, the Permittee shall prepare in writing standby emissions reduction plans, consistent with good industrial practice and safe operating procedures, for reducing emissions creating air pollution during periods of Alert, Warning, and Emergency of an air pollution episode.

4. REPORT OF EXCESS EMISSIONS AND DEVIATIONS

[COMAR 26.11.01.07] and [COMAR 26.11.03.06C (7)]

The Permittee shall comply with the following conditions for occurrences of excess emissions and deviations from requirements of this permit including the State-only enforceable section:

- a. Report any deviation from permit requirements that could endanger human health or the environment, by orally notifying the Department immediately upon discovery of the deviation;
- b. Promptly report all occurrences of excess emissions that are expected to last for one hour or longer by orally notifying the Department of the onset and termination of the occurrence;

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- c. When requested by the Department the Permittee shall report all deviations from permit conditions, including those attributable to malfunctions as defined in COMAR 26.11.01.07A, within 5 days of the request by submitting a written description of the deviation to the Department. The written report must include the cause, dates and times of the onset and termination of the deviation, as well as the action planned or taken to reduce, eliminate, and prevent the recurrence of the deviation;
- d. All instances of deviations from permit requirements should be clearly identified in quarterly monitoring reports required by this permit. If quarterly monitoring reports are not required, the Permittee shall submit a report to the Department summarizing all instances of deviations from permit requirements for quarters in which deviations occurred. The reports are due no later than 30 days after the end of the relevant quarter.
- e. When requested by the Department, the Permittee shall submit a written report to the Department within 10 days of receiving the request concerning an occurrence of excess emissions. The report shall contain the information required in COMAR 26.11.01.07D (2).

5. ACCIDENTAL RELEASE PROVISIONS

[COMAR 26.11.03.03B (23)] and [40 CFR Part 68]

Should the Permittee, as defined in 40 CFR Part 68.3, become subject to 40 CFR Part 68 during the term of this permit, the owner or operator shall submit a risk management plan by the date specified in 40 CFR Part 68.10 and shall certify compliance with the requirements of 40 CFR Part 68 as part of the annual compliance certification as required by 40 CFR Part 70.

6. GENERAL TESTING REQUIREMENTS

[COMAR 26.11.01.04]

The Department may require the Permittee to conduct, or have conducted, testing to determine compliance with this Part 70 permit. The Department, at its option, may witness or conduct these tests. This testing shall be done at a reasonable time, and all information gathered during a testing operation will be provided to the Department.

7. EMISSIONS TEST METHODS

[COMAR 26.11.01.05]

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Compliance with the emissions standards and limitations in this Part 70 permit shall be determined by the test methods designated and described below or other test methods submitted to and approved by the Department.

Authority documents of the test methods approved by the Department include the following:

- a. 40 CFR Part 60, appendix A
- b. 40 CFR Part 51, appendix M
- c. The Department's Technical Memorandum 91-01 "Test Methods and Equipment Specifications for Stationary Sources", (January 1991), as amended through Supplement 2, (July 1, 1992).

8. EMISSIONS CERTIFICATION REPORT

[COMAR 26.11.02.19C] and [COMAR 26.11.02.19D]

The Permittee shall certify actual annual emissions of regulated pollutants from the facility on a calendar year basis.

- a. The certification shall be on a form obtained from the Department and submitted to the Department not later than April 1 of the year following the year for which the certification is required;
- b. The individual making the certification shall certify that the information is accurate to the individual's best knowledge. The individual shall be:
 - (1) Familiar with each source for which the certification form is submitted, and
 - (2) Responsible for the accuracy of the emission information;
- c. The Permittee shall maintain records necessary to support the emission certification including the following information if applicable:
 - (1) The total amount of actual emissions of each regulated pollutant and the total of all regulated pollutants;
 - (2) An explanation of the methods used to quantify the emissions and the operating schedules and production data that were used to determine emissions, including significant assumptions made;

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- (3) Amounts, types, and analyses of all fuels used;
- (4) Emission data from continuous emission monitors that are required by this permit, including monitor calibration and malfunction information;
- (5) Identification, description, and use records of all air pollution control equipment and compliance monitoring equipment including:
 - (a) Significant maintenance performed,
 - (b) Malfunctions and downtime, and
 - (c) Episodes of reduced efficiency of all the equipment;
- (6) Limitations on source operation or any work practice standards that significantly affect emissions; and
- (7) Other relevant information as required by the Department.

9. COMPLIANCE CERTIFICATION REPORT

[COMAR 26.11.03.06G (6) and (7)]

The Permittee shall submit to the Department and EPA Region III a report certifying compliance with each term of this Part 70 permit including each applicable standard, emission limitation, and work practice by April 1 of each year.

- a. The compliance certification shall include:
 - (1) The identification of each term or condition of this permit which is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether the compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance of the source, currently and over the reporting period; and
 - (5) Any other information required to be reported to the Department that is necessary to determine the compliance status of the Permittee with this permit.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- b. The Permittee shall submit the compliance certification reports to the Department and EPA simultaneously.

10. CERTIFICATION BY RESPONSIBLE OFFICIAL

[COMAR 26.11.02.02F]

All application forms, reports, and compliance certifications submitted pursuant this permit shall be certified by a responsible official as to truth, accuracy, and completeness. The Permittee shall expeditiously notify the Department of an appointment of a new responsible official.

The certification shall be in the following form:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. SAMPLING AND EMISSIONS TESTING RECORD KEEPING

[COMAR 26.11.03.06C (5)]

The Permittee shall gather and retain the following information when sampling and testing for compliance demonstrations:

- a. The location as specified in this permit, and the date and time that samples and measurements are taken;
- b. All pertinent operating conditions existing at the time that samples and measurements are taken;
- c. The date that each analysis of a sample or emissions test is performed and the name of the person taking the sample or performing the emissions test;
- d. The identity of the Permittee, individual, or other entity that performed the analysis;
- e. The analytical techniques and methods used; and

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- f. The results of each analysis.

12. GENERAL RECORDKEEPING

[COMAR 26.11.03.06]

The Permittee shall retain records of all monitoring data and support information that supports the compliance certification for a period of five years from the date that the monitoring sample, measurement, application, report or emissions test was completed or submitted to the Department.

These records and support information shall include:

- a. All calibration and maintenance records;
- b. All original strip-chart recordings for continuous monitoring instrumentation;
- c. Records which support the annual emissions certification; and
- d. Copies of all reports required by this permit.

13. GENERAL CONFORMITY

[COMAR 26.11.26.03]

The Permittee shall comply with the general conformity requirements of 40 CFR Part 93, Subpart B and COMAR 26.11.26.03.

14. ASBESTOS PROVISIONS

[40 CFR Part 61, Subpart M]

The Permittee shall comply with 40 CFR Part 61, Subpart M when conducting any renovation or demolition activities at the facility.

15. OZONE DEPLETING REGULATIONS

[40 CFR Part 82, Subpart F]

The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for MVACs in subpart B:

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

- a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the prohibitions and required practices pursuant to 40 CFR 82.154 and 82.156.
- b. Equipment used during the maintenance, service, repair or disposal of appliances shall comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- c. Persons performing maintenance, service, repairs or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
- d. Persons disposing of small appliances, MVACS, and MVAC-like appliances as defined in 40 CFR 82.152, shall comply with record keeping requirements pursuant to 40 CFR 82.155.
- e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
- f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

16. ACID RAIN PERMIT

Not applicable

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

SECTION IV PLANT SPECIFIC CONDITIONS

This section is comprised of tables containing the emissions standards, emissions limitations and work practices applicable to each emissions unit located at this facility. The Permittee shall comply with all applicable emissions standards, emissions limitations and work practices contained herein.

These tables also list testing, monitoring, record keeping and reporting requirements specific to each emissions unit. In addition to the requirements listed in **Section IV**, the Permittee is subject to the general testing, monitoring, record keeping, and reporting requirements contained in **Section III, Plant Wide Conditions** of this permit.

Unless otherwise provided in the specific requirements for an emissions unit, the Permittee shall maintain at the facility for at least five (5) years, and shall make available to the Department upon request, all records that the Permittee is required under this section to establish.

[**Authority: COMAR 26.11.03.06C(5)(g)**]

Table IV- 1	
1.0	<u>Emissions Unit Number(s): Boilers rated less than 10 MMBtu/hr</u> <u>EU: 52-01D</u> - One (1) Aerco INN 1060 natural gas-fired water heater rated at 1.06 MMBtu/hr. heat input. <u>EU: 82-01A</u> – One (1) RBI Futera III MB natural gas-fired boiler rated at 1.5 MMBtu/hr. <u>EU: 82-02A</u> – One (1) RBI Futera III MB natural gas-fired boiler rated at 1.5 MMBtu/hr. <u>EU: 82-03A</u> – One (1) RBI Futera III MB natural gas-fired boiler rated at 1.5 MMBtu/hr. <u>EU: 51-01B</u> – One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr. <u>EU: 51-02B</u> – One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr. <u>EU: 51-03B</u> – One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr.
1.1	<u>Applicable Standards/Limits:</u> A. <u>Control of Visible Emissions</u> 1. COMAR 26.11.09.05A(2), <u>Fuel Burning Equipment</u>. “Areas III and IV. In Areas

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 1

	III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.” 2. COMAR 26.11.09.05A(3), <u>Exceptions</u>. “Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if: a. The visible emissions are not greater than 40 percent opacity; and b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty-minute period. B. <u>Control of Nitrogen Oxides</u> 1. COMAR 26.11.09.08B(5), <u>Operator Training</u>. a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department. 2. COMAR 26.11.09.08E, <u>Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less</u>. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less shall: a. Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each; b. Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis; c. Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request; d. Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and e. Prepare and maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request. C. <u>Operational Limits</u>

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 1	
	The Permittee shall burn natural gas only in the boilers unless the Permittee applies for and obtains an approval from the Department to burn an alternate fuel. [Authority: COMAR 26.11.02.09A]
1.2	<u>Testing Requirements:</u> A. <u>Control of Visible Emissions</u> See Monitoring and Record Keeping and Reporting Requirements. B. <u>Control of Nitrogen Oxides</u> The Permittee shall perform a combustion analysis once a year. [Authority: COMAR 26.11.09.08E(2)] C. <u>Operational Limits</u> See Record Keeping and Reporting Requirements.
1.3	<u>Monitoring Requirements:</u> A. <u>Control of Visible Emissions</u> The Permittee shall properly operate and maintain the boilers in a manner to prevent visible emissions. [Authority: COMAR 26.11.03.06C] B. <u>Control of Nitrogen Oxides</u> The Permittee shall optimize combustion based on the annual combustion analysis. [Authority: COMAR 26.11.09.08E(2)] C. <u>Operational Limits</u> See Record Keeping and Reporting Requirements.
1.4	<u>Record Keeping Requirements:</u> All records must be maintained for a period of 5 years. [Authority: COMAR 26.11.03.06.C (5)(g)] A. <u>Control of Visible Emissions</u> The Permittee shall maintain an operations manual and preventive maintenance plan.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 1	
	The Permittee shall maintain a log of maintenance performed that relates to combustion performance. [Authority: COMAR 26.11.03.06C] B. <u>Control of Nitrogen Oxides</u> The Permittee shall maintain: a. Records of the results of the annual combustion analysis on site. b. Record of training program attendance for each operator at the site. [Authority: COMAR 26.11.09.08E(5)] C. <u>Operational Limits</u> The Permittee shall maintain records of the quantity and types of fuel burned. [Authority: COMAR 26.11.02.19C(1)(c)]
1.5	<u>Reporting Requirements:</u> A. <u>Control of Visible Emissions</u> The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". [Authority: COMAR 26.11.03.06C] B. <u>Control of Nitrogen Oxides</u> The Permittee shall submit: a. The results of combustion analysis to the department and the EPA upon request. [Authority: COMAR 26.11.09.08E(3)] b. A record of training program attendance for each operator to the Department upon request. [Authority: COMAR 26.11.09.08E(5)] C. <u>Operational Limits</u> The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III.

A Permit Shield shall cover the applicable requirements identified for the emissions units listed in the table above.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 2	
2.0	<u>Emissions Unit Number(s): NSPS Boilers</u> <u>EU: 16-01B through 16-04B</u> – Four (4) natural gas-fired Cleaver Brooks DL-68 boilers with diesel as backup rated at 73.1 MMBtu/hr equipped with 30 ppm Power Flame low-NO_x burners. <u>EU: 16-05B</u> – One (1) natural gas-fired Cleaver Brooks DL-68E boiler with diesel as backup rated at 73.1 MMBtu/hr equipped with 30 ppm Power Flame low-NO_x burners. The boilers burn natural gas and only burn fuel oil during natural gas curtailments, gas supply interruptions, or period testing, maintenance, or operator training as specified under §63.11195(e). Therefore, the boilers are considered “gas-fired” boilers and are exempt from the National Emission Standards for Hazardous Air Pollutant (NESHAPs) for Industrial, Commercial, Institutional Boilers at Area Sources (40 CFR Part 63, Subpart JJJJJ). [Authority: §63.11195(e)] If at a later date, NSAB decides to combust fuel-oil other than periods of natural gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training, it would have 180 days to comply with the requirements of the subpart. [Authority: § 63.11210(h)].
2.1	<u>Applicable Standards/Limits:</u> A. <u>Control of Visible Emissions</u> 1. COMAR 26.11.09.05A(2), <u>Fuel Burning Equipment</u>. “Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.” 2. COMAR 26.1.09.05A(3), <u>Exceptions</u>. “Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if: a. The visible emissions are not greater than 40 percent opacity; and b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty-minute period. 3. The Permittee shall <u>not</u> cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. The opacity standards apply at all times except during periods of startup,

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 2

shutdown, or malfunction. **[Authority: 40 CFR §60.43c(c) and (d)]**

The Permittee that is subject to an opacity standard in § 60.43c(c) is not required to operate a continuous opacity monitoring system (COMS) if the Permittee burns only gaseous fuels and/or fuel oils that contain no greater than 0.5 weight percent sulfur, and the Permittee operates the boilers according to the site-specific monitoring plan approved by the Department. **[Authority: 40 CFR 60.47c(f)(3)]**

B. Control of Nitrogen Oxides

1. COMAR 26.11.09.08B(5), Operator Training.
 - a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
 - b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.
2. COMAR 26.11.09.08E, Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less shall:
 - a. Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each;
 - b. Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;
 - c. Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request;
 - d. Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
 - e. Prepare and maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request.
3. The combined NO_x emissions from the five (5) Cleaver Brooks boilers shall be less than 25 tons in any rolling consecutive 12-month period. **[Authority: Permit to Construct No. 031-1124-5-1241 through 5-1264 and 5-2233 issued on September 27, 2021]**

C. Control of Sulfur Oxides

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 2	
	1. COMAR 26.11.09.07A(2) - <u>Sulfur Content Limitations for Fuel</u>. “A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent.” <i>Note: This condition only applies when these boilers are firing No. 2 fuel oil which may only occur during times of natural gas curtailment gas supply interruption, startups, or periodic testing maintenance on liquid fuel and operator training.</i> 2. The Permittee shall not cause to be discharged into the atmosphere any gases that contain SO₂ in excess of 215 ng/J (0.5 lb/million Btu) heat input; or, as an alternative, the Permittee shall not combust oil that contains greater than 0.5 weight percent sulfur. Fuel oil sulfur limits apply at all times, including periods of startup, shutdown, and malfunction. [Authority: 40 CFR §60.42c(d) and (i)] <i>Note: Compliance with COMAR 26.11.09.07A(2), demonstrates compliance with this requirement through fuel supplier certifications. [Authority: 40 CFR §60.42c(h)(1) and §60.48c(f)]</i> D. <u>Operational Limitations</u> 1. The Permittee shall burn only natural gas or No. 2 fuel oil in the boilers unless the Permittee applies for and obtains a Permit to Construct from the Department to burn an alternate fuel. [Authority: COMAR 26.11.02.09A] 2. The Permittee shall burn gaseous fuel in the boiler not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [Authority: 40 CFR §63.11237]
2.2	<u>Testing Requirements:</u> A. <u>Control of Visible Emissions</u> (1) The Permittee shall conduct initial Method 9 opacity observations for each boiler the next time each boiler is tested using fuel oil. The observation period for Method 9 may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation. The Permittee shall submit a notification of the anticipated date for conducting the initial Method 9 opacity observations. The notification shall be postmarked not less than 30 days

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 2

	prior to such date. [Authority: 40 CFR §60.47c(a) and 40 CFR §60.11c(e)] (2) The Permittee shall conduct subsequent Method 9 opacity observations for each boiler according to the following applicable schedule as determined by the most recent Method 9 results: (a) If no visible emissions are observed, a subsequent Method 9 performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; (b) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; (c) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or (d) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted. [Authority: 40 CFR §60.47c(a)(1)(i) through (iv)] (3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 performance test, the Permittee may, as an alternative to performing subsequent Method 9 performance tests, elect to perform subsequent monitoring using Method 22 as follows: (a) The Permittee shall conduct 10 minute observations (during normal operation) each operating day the affected boiler fires fuel for which an opacity standard is applicable using Method 22 and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 2

	minute period). (b) If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. (c) If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the Permittee shall either document and adjust the operation and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 performance test within 45 calendar days. (d) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed. [Authority: 40 CFR §60.47c(a)(3)] (4) If the Permittee burns fuel oil during a natural gas supply interruption and is unable to conduct a required Method 9 or Method 22 performance test during the interruption period, the Permittee shall maintain documentation demonstrating why the test could not be performed and shall conduct the required Method 9 or Method 22 performance test the next time the affected boiler burns fuel oil for periodic testing purposes. Notifications for subsequent required Method 9 or Method 22 performance tests are not required. [Authority: Site-Specific Monitoring Plan approved by the Department as allowed under 40 CFR 60.47c(f)(3)] B. <u>Control of Nitrogen Oxides</u> The Permittee shall perform a combustion analysis once a year. [Authority: COMAR 26.11.09.08E(2)] C. <u>Control of Sulfur Oxides</u> See Monitoring Record Keeping, and Reporting Requirements. D. <u>Operational Limitations</u>

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 2	
	See Record Keeping and Reporting Requirements.
2.3	<u>Monitoring Requirements:</u> A. <u>Control of Visible Emissions</u> The Permittee shall properly operate and maintain the boilers in a manner to prevent visible emissions. [Authority: COMAR 26.11.03.06C] B. <u>Control of Nitrogen Oxides</u> The Permittee shall optimize combustion based on the annual combustion analysis. [Authority: COMAR 26.11.09.08E(2)] C. <u>Control of Sulfur Oxides</u> The Permittee shall obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil. [Authority: COMAR 26.11.03.06C and 40 CFR §60.48c(f)(1)] D. <u>Operational Limitations</u> See Record Keeping and Reporting Requirements.
2.4	<u>Record Keeping Requirements:</u> All records must be maintained for a period of 5 years. [Authority: COMAR 26.11.03.06.C (5)(g)] A. <u>Control of Visible Emissions</u> 1. The Permittee shall maintain an operations manual and preventive maintenance plan. [Authority: COMAR 26.11.03.06C] 2. The Permittee shall maintain a log of maintenance performed that relates to combustion performance. [Authority: COMAR 26.11.03.06C] 3. For each performance test conducted using Method 9, the Permittee shall keep records of the (a) dates and time intervals of all opacity observation periods; (b) name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and (c) copies of all visible emission observer opacity field data sheets. [Authority: 40

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 2	
	CFR §60.48c(c)(1)] 4. For each performance test conducted using Method 22, the Permittee shall keep records of the (a) dates and time intervals of all visible emissions observation periods; (b) name and affiliation for each visible emission observer participating in the performance test; (c) copies of all visible emission observer opacity field data sheets; and (d) documentation of any adjustments made and the time the adjustments were completed to demonstrate compliance with the applicable monitoring requirements. [Authority: 40 CFR §60.48c(c)(2)] B. <u>Control of Nitrogen Oxides</u> The Permittee shall maintain: - Records of the results of the annual combustion analysis on site. - Record of training program attendance for each operator at the site. [Authority: COMAR 26.11.09.08E(5)] C. <u>Control of Sulfur Oxides</u> The Permittee shall maintain records of fuel supplier’s certification and shall make records available to the Department upon request. [Authority: COMAR 26.11.03.06C] D. <u>Operational Limitations</u> The Permittee shall maintain records of the quantity and types of fuel burned. [Authority: COMAR 26.11.02.19C(1)(c)]
2.5	<u>Reporting Requirements:</u> A. <u>Control of Visible Emissions</u> The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, “Report of Excess Emissions and Deviations”. [Authority: COMAR 26.11.03.06C] B. <u>Control of Nitrogen Oxides</u> The Permittee shall submit: - The results of combustion analysis to the department and the EPA upon request. [Authority: COMAR 26.11.09.08E(3)] - A record of training program attendance for each operator to the Department upon request. [Authority: COMAR 26.11.09.08E(5)]

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 2	
	C. <u>Control of Sulfur Oxides</u> The Permittee shall report fuel supplier certification to the Department upon request. [Authority: COMAR 26.11.09.07C] D. <u>Operational Limitations</u> The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III. [Authority: COMAR 26.11.03.06C]

A Permit Shield shall cover the applicable requirements identified for the emissions units listed in the table above.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 3

3.0	<u>Emissions Unit Number(s): Emergency Generators Exempt from NSPS</u> <u>EU 07-01G</u> – One (1) 680-hp Caterpillar diesel engine emergency generator ID No.M03837, model number 3412 powering a Caterpillar model 3412 DIST electric generator for standby emergency backup power rated at 400-kW. <u>EU 53-01G</u> – One (1) 536-hp Rolls Royce model 1 diesel engine powering a Katolight model D400FRR4 electric generator for standby emergency backup power rated at 400-kW. <u>Note:</u> These Emission Units were constructed before July 11, 2005 and are not subject to NSPS requirements under 40 CFR Part 60 Subpart IIII because of NSPS applicability date of July 11, 2005. [Ref.: §60.4200(a)(2)(i)].
3.1	<u>Applicable Standards/Limits:</u> A. <u>Control of Visible Emissions</u> 1. COMAR 26.11.09.05E(2), <u>Emissions During Idle Mode.</u> “A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.” 2. COMAR 26.11.09.05E(3), <u>Emissions During Operating Mode.</u> “A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.” 3. COMAR 26.11.09.05E(4), <u>Exceptions.</u> a. “Section E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system. b. Section E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods: i. Engines that are idled continuously when not in service: 30 minutes; ii. All other engines: 15 minutes. c. Section E(2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics.” B. <u>Control of Sulfur Oxides</u> 1. COMAR 26.11.09.07A(2), <u>Sulfur Content Limitations for Fuel.</u> “A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 3

and IV: (b) Distillate fuel oils, 0.3 percent.”

C. Control of Nitrogen Oxides

1. **COMAR 26.11.09.08B(5) - Operator Training.**
 - a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
 - b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.
2. **COMAR 26.11.09.08G – Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less.**
 - a. A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:
 - i. Provide certification of the capacity factor of the equipment to the Department in writing;
 - ii. For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
 - iii. Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
 - iv. Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
 - v. Maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request.

D. Operational Limits

1. The Permittee shall use diesel fuel only in the emergency generator unless the Permittee applies for and obtain approval from the Department to burn an alternate fuel. **[Authority: COMAR 26.11.02.09A]**
2. In order for the emergency generators to be considered institutional emergency stationary RICE exempt from the requirements of 40 CFR 63, Subpart ZZZZ, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in (a) through (c) below, is prohibited.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 3	
	(a) There is no time limit on the use of emergency stationary RICE in emergency situations. (b) For a maximum of 100 hours per calendar year, emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year. (c) The Permittee may operate the emergency stationary RICE for up to 50 hours per year in non-emergency situations, but those 50 hours are counted toward the 100 hours per year provided for the maintenance and testing and emergency response. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [Authority: 40 CFR §63.6640(f)(1), (2), and (4)]
3.2	<u>Testing Requirements:</u> A. <u>Control of Visible Emissions</u> See Monitoring, Record Keeping, and Reporting Requirements. B. <u>Control of Sulfur Oxides</u> See Monitoring, Record Keeping and Reporting Requirements. C. <u>Control of Nitrogen Oxides</u> The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the engines that operates more than 500 hours during a calendar year. [Authority: COMAR 26.11.09.08G(1)(b)] D. <u>Operational Limits</u> See Monitoring, Record Keeping, and Reporting Requirements.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 3	
3.3	<u>Monitoring Requirements:</u> A. <u>Control of Visible Emissions</u> The Permittee shall properly operate and maintain the engine in a manner to minimize visible emissions. [Authority: COMAR 26.11.03.06C] B. <u>Control of Sulfur Oxides</u> The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. [Authority: COMAR 26.11.03.06C] C. <u>Control of Nitrogen Oxides</u> - For engines that operate more than 500 hours during a calendar year, the Permittee shall perform a combustion analysis and optimize combustion. [Authority: COMAR 26.11.03.06C]. - The Permittee shall require each installation operators to attend operator training program on combustion optimization that are sponsored by the Department, U.S. EPA, or equipment vendors, once every three years. [Authority: COMAR 26.11.09.08G(1)(d)] D. <u>Operational Limits</u> See Record Keeping and Reporting Requirements.
3.4	<u>Record Keeping Requirements:</u> All records must be maintained for a period of 5 years. [Authority: COMAR 26.11.03.06C(5)(g)] A. <u>Control of Visible Emissions</u> The Permittee shall retain records of preventive maintenance on site for at least five years and make these records available to the Department upon request. [Authority: COMAR 26.11.03.06C] B. <u>Control of Sulfur Oxides</u> The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 3

	compliance with this regulation must be maintained for at least 5 years. [Authority: COMAR 26.11.09.07C] C. <u>Control of Nitrogen Oxides</u> The Permittee shall: a. Maintain the results of the combustion analysis at the site for at least 5 years and make these results available to the Department and the EPA upon request. [Authority: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]. b. Retain records of training program attendance for each operator at the site for at least 5 years and make these records available to the Department upon request. [Authority: COMAR 26.11.09.08G(1)(e) and COMAR 26.11.03.06C]. D. <u>Operational Limits</u> 1. The Permittee shall maintain on site for the life of the source the following records for each emergency generator: (a) Documentation of the manufacture date of the diesel engine, if manufactured prior to April 1, 2006, and the manufacturer model year of the diesel engine; and (b) The installation date of the emergency generator. 2. For each emergency generator, the Permittee shall maintain a log of the hours of operation, and the reason for generator operation and shall submit the logs to the Department upon request. [Authority: COMAR 26.11.03.06C]
3.5	<u>Reporting Requirements:</u> A. <u>Control of Visible Emissions</u> The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III, Plant Wide Condition, “Report of Excess Emissions and Deviations” [Authority: COMAR 26.11.03.06C] B. <u>Control of Sulfur Oxides</u> The Permittee shall report annual fuel supplier certification to the Department upon request. [Authority: COMAR 26.11.09.07C] C. <u>Control of Nitrogen Oxides</u>

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 3	
	1. The Permittee shall provide certification of the capacity factor of the equipment to the Department in writing as part of the April 1 certification report. [Authority: COMAR 26.11.09.08G(1)(a) & COMAR 26.11.03.06C] 2. The Permittee shall submit a list of trained operators to the Department upon request. [Authority: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C] D. <u>Operational Limits</u> Records of generator specifications and operating logs shall be submitted to the Department upon request. [Authority: COMAR 26.11.03.06C]

A Permit Shield shall cover the applicable requirements identified for the emissions units listed in the table above.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV-4

4.0	<u>Emissions Unit Number(s): NSPS Emergency Generators</u> <u>EU: 27-01A</u> – One (1) 1245-hp Caterpillar model C27 diesel engine powering a Caterpillar model SR4B electric generator for standby emergency backup power rated 800-kW. <u>EU: 71B-01H</u> – One (1) 619-hp Caterpillar model C15 diesel engine (Serial No. FSE 03146) powering a Caterpillar model LC6 electric generator for standby emergency backup power rated 400-kW. <u>EU: 72C-02H</u> – One (1) 619-hp Caterpillar model C15 diesel engine (Serial No. FSE 03148) powering a Caterpillar model LC6 electric generator for standby emergency backup power rated 400-kW. <u>EU: 55-03H</u> – One (1) 2206-hp Caterpillar model 3512C GD diesel engine (Serial No. EBG00722) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 1500-kW. <u>EU: 63-01G</u> – One (1) 2923-hp Cummins model QSK60-G6 diesel engine (Serial No. 75779-1005) powering a Cummins model DQKAA-AO30G129 electric generator for standby emergency backup power rated at 1750-kW. <u>EU: 55-01H</u> – One (1) 2206-hp Caterpillar model 3512C diesel engine (Serial No. EBG00724) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 600-kW. <u>EU: 55-02H</u> – One (1) 2206-hp Caterpillar model 3512C diesel engine (Serial No. EBG00723) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 600-kW. <u>EU: 51-01G</u> – One (1) 685-hp Detroit model 9DDXL14.0VLD diesel engine powering a Kohler Model 400 REOZDD electric generator for standby emergency backup power rated at 405-kW. <u>EU: 17-01</u> – One (1) 903-hp Volvo model TWD1643GE diesel engine powering a Kohler Model 600 REOZ electric generator for standby emergency backup power rated at 600-kW. <u>EU: 62-02G</u> – One (1) 903-hp Volvo model TWD1643GE diesel engine powering a Kohler Model 600REOZ electric generator for standby emergency backup power rated at 600-kW. <u>EU: 63-02H</u> – One (1) 2923-hp Cummins model QSK60-G6 diesel engine (Serial No. 6113-5) powering a Cummins model DQKAA-A040A134 electric generator for standby emergency backup power rated at 1750-kW. <u>EU: 70A-01H</u> – One (1) 546-hp Caterpillar model C15 diesel engine powering a Caterpillar model LC6 electric generator for standby emergency backup power rated at 350-kW. <u>EU: 44-02G</u> – One (1) 1490-hp Cummins model QST30-G5 diesel engine powering a Cummins model DQFAD-576145 electric generator for standby emergency backup power rated at 1000-kW. <u>EU: 44-01G</u> – One (1) 1220-hp Cummins model QSK23-G7 NR2 diesel engine (Serial No. 00320155) powering a Cummins model DQCB-576141 electric generator for standby emergency backup power rated at 750-kW. <u>EU: 47-01G</u> – One (1) 1220-hp Cummins model QSK23-G7 NR2 diesel engine (Serial No. 00320174) powering a Cummins model DQCB-576143 electric generator for standby

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV-4	
	emergency backup power rated at 750-kW. <u>EU: 55-04H</u> – One (1) 2206-hp Caterpillar model 3512C diesel engine (Serial No. EBG00941) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 1500-kW. <u>EU: 16-01C</u> – One (1) 4023-hp Caterpillar model C175 diesel engine powering a Cummins model SR5 electric generator for standby emergency backup power rated at 3000-kW. <u>EU: 202-01H</u> – One (1) 752-hp MTU model 10V1600 G80S diesel engine powering an electric generator for standby emergency backup power rated at 500-kW. <u>EU: 01-01H</u> – One (1) 896-hp MTU model 12V1600 diesel engine powering an electric generator for standby emergency backup power rated at 600- kW. <u>EU: 16-01H</u> – One (1) Cummins diesel-fired emergency generator rated at 755-hp. <u>EU: 16-02H</u> – One (1) Cummins diesel-fired emergency generator rated at 755-hp. <u>EU: 54-01A</u> – One (1) Caterpillar diesel-fired emergency generator rated at 546 horsepower. <u>EU: 55-05A</u> – One (1) MTU diesel-fired emergency generator rated at 2,328-hp. <u>EU: 55-06A</u> – One (1) MTU diesel-fired emergency generator rated at 2,328-hp. Note: These units are subject to the NSPS requirements under 40 CFR Part 60 Subpart IIII because they were constructed after NSPS applicability date of July 11, 2005. The earliest unit (27-01A) was constructed in November 2009. As specified in the NESHAP 40 CFR 63, Subpart ZZZZ, §63.6590(c) (1) -Stationary RICE subject to Regulations under 40 CFR 60 - “An affected source that meets any of the criteria in paragraphs (c) (1) through (7) of this section must meet the requirements of this part by meeting the requirement of 40 CFR part 60 Subpart IIII, for compression ignition engine or 40 CFR part 60 Subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.” Therefore, these emergency generators meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII.
4.1	<u>Applicable Standards/Limits:</u> A. <u>Control of Visible Emissions</u> COMAR 26.11.09.05E(2), <u>Emissions During Idle Mode.</u> “A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.” COMAR 26.11.09.05E(3), <u>Emissions During Operating Mode.</u> “A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.” COMAR 26.11.09.05E(4), <u>Exceptions.</u> “Section E(2) does not apply for a period of 2 consecutive minutes after a

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV-4

	period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system. b. Section E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods: i. Engines that are idled continuously when not in service: 30 minutes; ii. All other engines: 15 minutes. c. Section E(2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics.” B. <u>Control of Sulfur Oxides</u> COMAR 26.11.09.07A(2), <u>Sulfur Content Limitations for Fuel.</u> “A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent.” <i>Note: Installations subject to 40 CFR Part 60 Subpart IIII must comply with the diesel fuel standards of §60.4207 which limits the maximum sulfur content of fuel to 15 ppm.</i> C. <u>Control of Nitrogen Oxides</u> 1. COMAR 26.11.09.08B(5), <u>Operator Training.</u> a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department. 2. COMAR 26.11.09.08G, <u>Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less.</u> a. A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall: i. Provide certification of the capacity factor of the equipment to the Department in writing; ii. For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually; iii. Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request; iv. Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV-4

	optimization that are sponsored by the Department, the EPA, or equipment vendors; and v. Maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request. D. <u>Operational Limits</u> 1. The Permittee shall use diesel fuel only in the emergency generator unless the Permittee applies for and obtains a Permit to Construct from the Department to burn alternate fuel. [Authority: COMAR 26.11.02.09A] 2. The Permittee must operate and maintain the generators in a manner that achieve the emissions standards over the entire life of the engine. [Authority: 40 CFR §60.4206] 3. The Permittee must meet the ultra-low sulfur diesel (ULSD) fuel sulfur requirements of 40 CFR §1090.305 as follows: a. Maximum sulfur content 15 ppm and b. Minimum cetane index of 40; or c. Maximum aromatic content of 35 volume percent. [Authority: 40 CFR §60.4207(b) and 40 CFR §1090.305] 4. The Permittee must operate and maintain the stationary compression ignition internal combustion engines and control devices according to the manufacturer's emission related written instruction. [Authority: 40 CFR §60.4211(a)(1)] 5. The Permittee may change only those emission related settings that are permitted by the manufacturer. [Authority: 40 CFR §60.4211(a)(2)] 6. The Permittee must purchase an engine certified to the emission standards in 40 CFR §60.4205(b). The engine must be installed and configured according to the manufacturer's emissions related specifications. [Authority: 40 CFR §60.4211(c)] 7. The Permittee must not exceed the following opacity emission standards: a. 20 percent during the acceleration mode; b. 15 percent during the lugging mode; and c. 50 percent during the peaks in either the acceleration or lugging modes. [Authority: 40 CFR §60.4205(b), §60.4202(a)(2), and §1039.105] <u>Note:</u> <i>Compliance with this condition will be demonstrated by the purchase of certified engines and operating these engines as required under 40 CFR §60.4211(c).</i>

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV-4

	8. There is no time limit on the use of emergency stationary ICE (internal combustion engine) in emergency situations. [Authority: 40 CFR §60.4211(f)(1)] 9. The Permittee may operate the emergency stationary ICE for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine for a maximum of 100 hours per calendar year. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. [Authority: 40 CFR §60.4211(f)(2)(i)] 10. The Permittee may operate the emergency stationary ICE for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in the previous paragraph of this section. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [Authority: 40 CFR §60.4211(f)(3)]
4.2	<u>Testing Requirements:</u> A. <u>Control of Visible Emissions</u> See Monitoring, Record Keeping, and Reporting Requirements. B. <u>Control of Sulfur Oxides</u> See Monitoring, Record Keeping, and Reporting Requirements. C. <u>Control of Nitrogen Oxides</u> The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the engines that operates more than 500 hours during a calendar year. [Authority: COMAR 26.11.09.08G(1)(b)] D. <u>Operational Limits</u>

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV-4	
	See Record Keeping and Reporting Requirements.
4.3	<u>Monitoring Requirements:</u> A. <u>Control of Visible Emissions</u> The Permittee shall properly operate and maintain the engine in a manner to minimize visible emissions. [Authority: COMAR 26.11.03.06C] B. <u>Control of Sulfur Oxides</u> The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. [Authority: COMAR 26.11.03.06C] C. <u>Control of Nitrogen Oxides</u> - For engines that operate more than 500 hours during a calendar year, the Permittee shall perform a combustion analysis and optimize combustion. [Authority: COMAR 26.11.03.06C]. - The Permittee shall calculate the capacity factor of the engine within 30 days after the end of each month. [Authority: COMAR 26.11.03.06C] D. <u>Operational Limits</u> See Record Keeping and Reporting Requirements.
4.4	<u>Record Keeping Requirements:</u> All records must be maintained for a period of 5 years. [Authority: COMAR 26.11.03.06.C (5)(g)] A. <u>Control of Visible Emissions</u> The Permittee shall retain records of preventive maintenance on site for at least five years and make these records available to the Department upon request. [Authority: COMAR 26.11.03.06C] B. <u>Control of Sulfur Oxides</u> The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. [Authority:

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV-4	
	COMAR 26.11.09.07C] C. <u>Control of Nitrogen Oxides</u> 1. The Permittee shall maintain records of the results of the combustion analyses and any stack tests on site for at least five years and make them available to the Department and EPA upon request. [Authority: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]. 2. The Permittee shall maintain a record of the calculated capacity factor. [Authority: COMAR 26.11.09.08G(1)(a)]. 3. The Permittee shall maintain record of training program attendance for each operator on site for at least five years and make the records available to the Department upon request. [Authority: COMAR 26.11.09.08G(1)(e) & COMAR 26.11.03.06C] D. <u>Operational Limits</u> The Permittee shall maintain records of each engine model year, maximum engine power, displacement, installation date, and documentation from the manufacturer that the engines are certified to meet the emission standards in 40 CFR §60.4205(a) or (b), as applicable, for the same model year and maximum engine power. The Permittee shall maintain records of the hours of operation of the emergency generators that are recorded through the non-resettable hour meter. The Permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency, and how many hours are spent for non-emergency operation. [Authority: 40 CFR §60.4214(b)]
4.5	<u>Reporting Requirements:</u> A. <u>Control of Visible Emissions</u> The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III, Plant Wide Condition, “Report of Excess Emissions and Deviations” [Authority: COMAR 26.11.03.06C]. B. <u>Control of Sulfur Oxides</u> The Permittee shall report annual fuel supplier certification to the Department upon request. [Authority: COMAR 26.11.09.07C]

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV-4	
	C. <u>Control of Nitrogen Oxides</u> 1. The Permittee shall provide certification of the capacity factor of the equipment to the Department in writing as part of the April 1 certification report. [Authority: COMAR 26.11.03.06C and COMAR 26.11.09.08G(1)(a)]. 2. The Permittee shall submit a list of trained operators to the Department upon request. [Authority: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C] D. <u>Operational Limits</u> The Permittee shall submit records of engine operation to the Department upon request. [Authority: COMAR 26.11.03.06C]

A Permit Shield shall cover the applicable requirements identified for the emissions units listed in the table above.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 5

5.0	<u>Emissions Unit Number(s): Gasoline Storage Tanks</u> <u>EU: 51A-01</u> – Two (2) 20,000-gallon gasoline storage tanks.
5.1	<u>Applicable Standards/Limits</u> <u>Control of VOC Emissions</u> 1. COMAR 26.11.13.04C(2) – <u>Small Storage Tanks – Stage I Recovery</u>. An owner or operator of a gasoline tank truck or an owner or operator of a stationary storage tank subject to this regulation may not cause or permit gasoline to be loaded into a stationary tank unless the loading system is equipped with a vapor balance line that is properly installed, maintained, and used. 2. COMAR 26.11.13.04D – <u>Small Storage Tanks - General Standards</u>. A person may not cause or permit gasoline or VOC having a TVP greater than 1.5 psia or greater be loaded into any tank truck, railroad tank car, or other contrivance unless: a. Loading connections on the vapor lines are equipped with fittings that have no leaks and that automatically and immediately close upon disconnection to prevent release of gasoline or VOC from these fittings; and b. The equipment is maintained and operated in a manner to prevent avoidable liquid leaks during loading or unloading operations. 3. COMAR 26.11.24.03E – <u>Vapor Recovery at Gasoline Dispensing Facilities - General Requirements</u>. After the applicable dates established in §§A-C of this regulation, an operator may not use or allow the use of defective equipment associated with the transfer of gasoline from a stationary gasoline storage tank to motor vehicle fuel tanks. 4. COMAR 26.11.24.03F – <u>Vapor Recovery at Gasoline Dispensing Facilities - General Requirements</u>. The operator may not install or use a replacement part in an approved system unless that part has been certified by CARB or approved by the Department for the approved system. 5. COMAR 26.11.24.03G – <u>Vapor Recovery at Gasoline Dispensing Facilities - General Requirements</u>. The owner shall ensure that all underground piping is installed in accordance with the Department's requirements related to underground storage tanks, which are set forth in COMAR 26.10.03. 6. COMAR 26.11.24.03H – <u>Vapor Recovery at Gasoline Dispensing Facilities - General Requirements</u>. Gasoline storage tanks serving a gasoline dispensing facility that is subject to this chapter shall be equipped with a properly designed and installed pressure

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 5

and vacuum valve with minimum pressure and vacuum settings as specified in the CARB Executive Order for that system.

7. **COMAR 26.11.24.03J** – Vapor Recovery at Gasoline Dispensing Facilities - General Requirements. Stage I Vapor Recovery. An owner or operator of a gasoline tank truck or an owner or operator of a gasoline dispensing facility subject to this regulation may not cause or permit gasoline to be loaded into a stationary tank unless the loading system is equipped with a Stage I vapor balance system that is properly installed, maintained, and operated
8. **COMAR 26.11.24.06A** – Training Requirements for Operation and Maintenance of Approved Systems. General. An operator shall ensure that:
 - a. At least one employee at each facility subject to this regulation is trained in accordance with the requirements of Sec. B of this regulation; and
 - b. The trained employee assists in the training of each of the other employees at that facility who are involved in the operation or maintenance of the approved system.
9. **COMAR 26.11.24.06B** – Training Requirements for Operation and Maintenance of Approved Systems. Approved Training Course Contents and Duration.
 - a. An approved training course shall contain, at a minimum, a discussion of the following:
 - i. Daily inspection requirements and development and maintenance of records and files; and
 - ii. Equipment warranties and spare parts.
 - b. The approved training course shall be of a duration sufficient to properly train persons in the requirements of this chapter.
10. **COMAR 26.11.24.08** – Instructional Signs.
 - a. An operator who is subject to this chapter shall place instructional signs in conspicuous locations at each gasoline dispenser.
 - b. The instructional signs shall include:
 - i. Instructions, with illustrations, on how to insert the nozzle, dispensing gasoline, and how to remove the nozzle;
 - ii. A warning against attempts to continue refueling after automatic shutoff of the gasoline (that is, topping off); and
 - iii. The Department's toll-free telephone number, which may be used for complaints or comments concerning the use of the Stage II vapor recovery systems.
11. The Permittee must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 5

	a. Minimize gasoline spills; b. Clean up spills as expeditiously as practicable; c. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use; d. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators. [Authority: 40 CFR §63.11116(a) and 40 CFR §63.11118(a)] 12. The Permittee must only load gasoline into storage tanks at your facility by utilizing submerged filling, as defined in 40 CFR §63.11132, and as specified in paragraphs below of this section. The applicable distances in paragraphs a and b shall be measured from the point in the opening of the submerged fill pipe that is the greatest distance from the bottom of the storage tank. a. Submerged fill pipes installed on or before November 9, 2006, must be no more than 12 inches from the bottom of the tank. b. Submerged fill pipes installed after November 9, 2006, must be no more than 6 inches from the bottom of the tank. c. Submerged fill pipes not meeting the specifications of paragraphs a or b of this section are allowed if the owner or operator can demonstrate that the liquid level in the tank is always above the entire opening of the fill pipe. Documentation providing such demonstration must be made available for inspection by the Administrator's delegated representative during the course of a site visit. [Authority: 40 CFR §63.11117(b) and 40 CFR §63.11118(a)] 13. The Permittee must either (1) adhere to the applicable management practices in 40 CFR Part 63, subpart CCCCCC, Table 1 or (2) prior to January 10, 2008: operate a vapor balance system that achieves 90 percent emissions reduction or operates using management practices at least as stringent as those in 40 CFR Part 63, subpart CCCCCC, Table 1; and operate a gasoline dispensing facility in compliance with an enforceable State, local, or tribal rule or permit that contains requirements either operating a vapor balance system that achieves emission reductions of 90 percent or operates using management practices at least as stringent as those in 40 CFR Part 63, subpart CCCCCC, Table 1. [Authority: 40 CFR §63.11118(b)]
5.2	<u>Testing Requirements</u> <u>Control of VOC Emissions</u> 1. COMAR 26.11.24.04A – Testing Requirements for Stage II Stations. Except as provided in §§E and F of this regulation, an owner subject to this chapter shall perform the following CARB-approved tests. a. A leak test in accordance with the Vapor Recovery Test Procedure TP-201.3

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 5

- Authority in Regulation .01-1B(1) of this chapter;
- b. An air to liquid volume ratio test in accordance with the Vapor Recovery Test Procedure TP-201.5 Authority in Regulation .01-1B(2) of this chapter.
 - c. A dynamic pressure performance test in accordance with the Vapor Recovery Test Procedure TP-201.4 Authority in Regulation .01-1B(3) of this chapter;
 - d. A vapor return line vacuum integrity test for the Healy Model 400 ORVR System in accordance with Executive Order G-70-186, Exhibit 4 Authority in Regulation .01-1B(4) of this chapter; and
 - e. A vapor return line vacuum integrity test for the Healy Model 600 System in accordance with Executive Order G-70-165 Exhibit 4 Authority in Regulation .01-1B(5) of this chapter.
2. **COMAR 26.11.24.04A-1 – Testing Requirements for Decommissioned Stations and New Stations Installed after the effective date of this regulation that did not Install Stage II.** Except as provided in §§E and F of this regulation, an owner or operator of a gasoline dispensing facility subject to this chapter who does not operate a Stage II Vapor Recovery system shall perform the testing requirements of §A(1), (6), and (7) of this regulation as specified in §C(2) of this regulation and repeat annually.
 3. **COMAR 26.11.24.04B – Testing Requirements.** The leak and liquid blockage tests required in §A of this regulation shall be performed on each approved system before the gasoline dispensing facility is initially used to refuel motor vehicles, or by the applicable dates in Regulation .03 of this chapter, whichever occurs later.
 4. **COMAR 26.11.24.04C – Stage II Vapor Recovery System.** An owner of a Stage II vapor recovery system subject to this chapter shall repeat the required tests:
 - a. In accordance with the test schedule in §C (2) of this regulation; and
 - b. Upon replacement of 75 percent or more of an approved system.

Test Schedule

<i>Type of Stage II Vapor Recovery System</i>	<i>Initial Test</i>	<i>Frequency of Retest</i>
(a) Vapor Balance System	Dynamic Back Pressure	12 months
	Leak Test	12 months
	Liquid Blockage Test	5 years
(b) Vapor Assist System— Type 1	Air to Liquid Ratio Test	12 months
	Leak Test	12 months
	Liquid Blockage Test	5 years
(c) Vapor Assist System—	Nozzle Regulation Test	12 months

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 5

Type 2 Model 400	Vapor Return Leak Tightness Test	12 months
(d) Vapor Assist System— Type 2 Model 600	Air to Liquid Ratio Test	12 months
	Vapor Return Line Vacuum Integrity Test	12 months

5. **COMAR 26.11.24.04D – Testing Requirements.** If a gasoline dispensing facility fails any test required by this chapter, the owner shall notify the Department of the failure in writing within 5 working days after the test and before retesting.
6. **COMAR 26.11.24.04E – Testing Requirements.** Alternative test methods approved by CARB may be used in place of the test methods specified in §A of this regulation, if the alternative test methods are approved by the U.S. Environmental Protection Agency (EPA) as a revision to the State Implementation Plan, which is Maryland's plan for meeting the National Ambient Air Quality Standards.
7. **COMAR 26.11.24.04F – Testing Requirements.** Test methods and the frequency of testing required by this regulation may be modified for vapor assist systems, if the test methods and testing frequency are approved by the Department and the EPA.

5.3 Monitoring Requirements

Control of VOC Emissions

1. The Permittee shall, at all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **[Authority: 40 CFR §63.11115(a)]**
2. The Permittee must keep applicable records and submit reports as specified in §63.11125(d) and §63.11126(b). **[Authority: 40 CFR §63.11115(b)]**
3. The Permittee, at the time of installation and every 3 years thereafter, must: (1) demonstrate compliance with the leak rate and cracking pressure requirements, specified in item 1(g) of Table 1 to this subpart, for pressure-vacuum vent valves installed on gasoline storage tanks using CARB TP-201.1E or an alternative test method and

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 5

	procedure in accordance with the alternative test method requirements in §63.7(f); (2) demonstrate compliance with the static pressure performance requirement specified in item 1(h) of Table 1 to this subpart by conducting a static pressure test on your gasoline storage tanks using CARB TP-201.3, and alternative test method and procedure in accordance with the alternative test method requirements in §63.7(f), or BAAQMD ST-30. The testing frequency of this federal requirement is superseded by COMAR requirements. [Authority: 40 CFR §63.11120]
5.4	<u>Record Keeping Requirements:</u> <u>Control of VOC Emissions</u> 1. COMAR 26.11.24.07A – <u>Record Keeping Requirements and Reporting.</u> a. An operator subject to this chapter shall create and maintain a record file at the facility. b. The record file shall contain copies of all test reports, permits, violation notices, correspondence with the Department, equipment maintenance records, training records, and other information pertinent to the requirements of this chapter. Verification of training shall be maintained in the facility file. Equipment maintenance records shall be maintained for at least 2 years. Test records shall be maintained for at least 5 years. c. The equipment maintenance records shall include: i. The date on which defective equipment was found, a description of each defect, a description of the corrective action and the date on which the defect was corrected, and the probable cause of the defect; ii. If parts are replaced, the location within the approved system of the part, the part number, and assurance that the replacement part does not degrade the efficiency of the system; and iii. Inspection reports and any other information relating to maintenance or care of the system. 2. The Permittee must keep records of all tests performed under §63.11120(a) and (b) for a period of 5 years and they shall be made available for inspection by the Administrator’s delegated representatives during the course of a site visit. [Authority: 40 CFR §63.11125(a) and (b)] 3. The Permittee shall keep records of the occurrence and duration of each malfunction of operation, or the air pollution control and monitoring equipment and records of actions taken during periods of malfunction to minimize emissions in accordance with §63.1115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [Authority: 40 CFR §63.11125(d)]

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

Table IV- 5

Table IV- 5	
5.5	<u>Reporting Requirements:</u> <u>Control of VOC Emissions</u> 1. COMAR 26.11.24.07E – <u>Record-Keeping and Reporting Requirements</u>. The following reporting requirements apply to a test under this chapter: a. The Department shall be notified 5 days before a test is to be conducted; b. A test protocol shall be available at the test site during testing; c. Copies of all test results shall be forwarded to the Department within 30 days of the test; and d. Test failures shall be reported to the Department in writing within 5 days following the date of the failure.” 2. The Permittee shall report to the Administrator the results of all volumetric efficiency test required under 40 CFR §63.11120(b). Reports submitted under this paragraph must be submitted within 180 days of the completion of the performance testing. [Authority: 40 CFR §63.11126(a)] 3. The Permittee shall report, by March 15 of each year, the number, duration, and a brief description of each type of malfunction which occurred during the previous calendar year, and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by the Permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR §63.11115(a), including actions taken to correct a malfunction. No report is necessary for a calendar year in which no malfunctions occurred. [Authority: 40 CFR §63.11126(b)]

A Permit Shield shall cover the applicable requirements identified for the emissions units listed in the table above.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

SECTION V INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

- (1) No. 27 Fuel burning equipment using gaseous fuels or no. 1 or no. 2 fuel oil, and having a heat input less than 1,000,000 Btu (1.06 gigajoules) per hour;

The applicable fuel burning units are subject to the following requirements:

COMAR 26.11.09.05A(2), which establishes that the Permittee may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers.

Exceptions: COMAR 26.11.09.05A(2) does not apply to emissions during load changing, soot blowing, start-up, or adjustments or occasional cleaning of control equipment if:

- (a) The visible emissions are not greater than 40 percent opacity;
and
- (b) The visible emissions do not occur for more than 6 consecutive minutes in any sixty-minute period.

- (2) No. 21 Stationary internal combustion engines with an output less than 500 brake horsepower (373 kilowatts) and which are not used to generate electricity for sale or for peak or load shaving;

Note: Twenty (20) engines have been installed and one (1) engine is scheduled to be installed before issuance of this permit.

The affected units are subject to the following requirements:

- (A) COMAR 26.11.09.05E(2), Emissions During Idle Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.
- (B) COMAR 26.11.09.05E(3), Emissions During Operating Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

(C) Exceptions:

- (i) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
 - (ii) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
 - (a) Engines that are idled continuously when not in service: 30 minutes
 - (b) all other engines: 15 minutes.
 - (iii) COMAR 26.11.09.05E(2) & (3) do not apply while maintenance, repair or testing is being performed by qualified mechanics.
 - (iv) 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ as applicable.
- (3) ✓ Space heaters utilizing direct heat transfer and used solely for comfort heat;
- (4) ✓ Water cooling towers and water-cooling ponds unless used for evaporative cooling of water from barometric jets or barometric condensers, or used in conjunction with an installation requiring a permit to operate;
- (5) No. 18 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;
- (6) ✓ Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;
- (7) ✓ Brazing, soldering, or welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals and not directly related to plant maintenance, upkeep and repair or maintenance shop activities;
- (8) Containers, reservoirs, or tanks used exclusively for:
- (a) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

(b) No. 57 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;

- (9) ✓ Charbroilers and pit barbecues as defined in COMAR 26.11.18.01 with a total cooking area of 5 square feet (0.46 square meter) or less;
- (10) ✓ First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;
- (11) ✓ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;
- (12) ✓ Laboratory fume hoods and vents;
- (13) any other emissions unit, not listed in this section, with a potential to emit less than the “de minimus” levels listed in COMAR 26.11.02.10X (list and describe units):

No. 10 Oil/Water Separator

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
4655 TAYLOR ROAD, BETHESDA, MD 20889
DRAFT PART 70 OPERATING PERMIT
PERMIT No. 24-031-1124**

SECTION VI STATE-ONLY ENFORCEABLE CONDITIONS

The Permittee is subject to the following State-only enforceable requirements:

Applicable Regulations:

- a. **COMAR 26.11.06.08 – Nuisance.** An installation or premises may not be operated or maintained in such a manner that nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution.”
- b. **COMAR 26.11.06.09 - Odors.** “A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.”
- c. **COMAR 26.11.15.05A - Control Technology Requirements.** "New or Reconstructed Installations. A person may not construct, operate, or cause to be constructed reconstructed, or operated, any new installation or source that will discharge a toxic air pollutant to the atmosphere without installing and operating T-BACT."
- d. **COMAR 26.11.15.06A - Ambient Impact Requirement.** (1) "Except as provided in §A(2), of this regulation, a person may not construct, modify, or operate or cause to be constructed, modified, or operated any new installation or source without first demonstrating to the satisfaction of the Department using procedures established in this chapter that total allowable emissions from the premises of each toxic air pollutant discharged by the new installation or source will not unreasonably endanger human health."

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

Background

Naval Support Activity Bethesda (NSAB) is located in Montgomery County, Maryland, approximately 10 miles north of downtown Washington, D.C. The primary SIC Code for NSAB, and all tenant Commands aboard the Bethesda complex is 8062, General Medical/Surgical Hospitals. Other applicable SICs include 9711, National Defense; 8071, Medical Laboratories; and 8072, Dental Laboratories. Colleges and university fall under SIC code 8221 for professional schools that fall under USUHS (Uniformed Services University of the Health Sciences).

The facility's emission units have been organized for Title V permitting into the following categories:

1. Boilers rated less than 10 MMBtu/hr – (Table IV-1)
The seven (7) boilers under this heading are all rated below 10 MMBtu/hour, exempting them from further federal requirements, but do not meet the requirements to be considered space heaters under COMAR.
2. NSPS Boilers – (Table IV-2)
The five (5) boilers of this category are all “gas-fired” and were all constructed after June 9, 1989, and thus are obligated to meet the NSPS requirements of 40 CFR Part 60 Subpart Dc. The boilers were modified in 2021 and equipped with low NOx burners.
3. Emergency generators exempt from NSPS – (Table IV-3)
The two (2) emergency generators are diesel fired and exempt from NSPS requirements as they were constructed before July 11, 2005. The primary SIC for NSAB is 8062 which corresponds to NAICS 622110, General Medical and Surgical Hospitals. According to EPA guidance (EPA Docket EPA-HQ-OAR-2008-0708, memo dated August 9, 2010), this NAICS indicates that NSAB is an institutional facility with respect to the requirements of 40 CFR 63, Subpart ZZZZ. The generators are considered “existing institutional emergency stationary reciprocating internal combustion engines (RICE)” and are exempt from the requirements of 40 CFR Part 63 Subpart ZZZZ provided that the emergency generators operate for emergencies, testing, maintenance, and certain non-emergency operations as specified in 40 CFR §63.6640(f)(1), (2), and (3) only.
4. NSPS emergency generators – (Table IV-4)
There are twenty-four (24) emergency generators in this category are all diesel fired and constructed after July 11, 2005, making them subject to NSPS 40 CFR 60, Subpart IIII requirements. Per 40 CFR §63.6590(c), these engines meet the requirements of 40 CFR Part 63 Subpart ZZZZ by complying with NSPS regulations.
5. Fuel Storage Tanks – (Table IV-5)
Two (2) gasoline storage tanks, each with a capacity of 20,000 gallons. Each tank is equipped with Stage I vapor recovery.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

Removed Emission Units:

Table 1 below lists the emission units were removed by NSAB since the issuance of the previous Part 70 Operating Permit renewal:

TABLE 1: REMOVED EMISSION UNITS

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
031-1124-9-0805	EU: 53-01G Emergency Generator	One (1) 536-hp Rolls Royce model 1 diesel engine powering a Katolight model D400FRR4 electric generator for standby emergency backup power rated at 400-kW.	1988
031-1124-9-0806	EU: 16-01G Emergency Generator	One (1) 550 hp Cummins model VT-1710-G5 diesel engine (Serial No.10596641) powering a Cummins model 680FDR5059BDW electric generator for standby emergency backup power rated at 410 kW.	1976
031-1124-9-0807	EU: 16-02G Emergency Generator	One (1) 550 hp Cummins model VT-1710-G5 diesel engine (Serial No.10595777) powering a Cummins model 680FDR5059BDW electric generator for standby emergency backup power rated at 410 kW.	1976
031-1124-9-0811	EU: 01-01G Emergency Generator	One (1) 890 hp Caterpillar model 3412 diesel engine powering a Caterpillar model SR-4 electric generator for standby emergency backup power rated at 600 kW.	Unknown
031-1124-9-0628	EU: 155-01 UST	One (1) 10,000 gallons underground storage gasoline dispensing station.	1997
031-1124-9-1128	EU: 01-02G	One (1) 1490 hp Cummins model QST30-G5 diesel engine powering a Cummins model NHC20/QST30G5 NR2 electric generator for standby emergency backup power rated at 1038 kW.	April 2015
031-1124-9-1132	EU: 16-03G	One (1) 1884 hp Caterpillar model 3512 BDITA diesel engine powering a Kohler model SR4 electric generator for standby emergency backup power rated at 1275 kW.	April 2015

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
031-1124-9-1179	EU: 45-01A	One (1) Caterpillar diesel-fired emergency generators rated at 546 horsepower.	2018
031-1124-9-1300	EU: 09-01	One (1) Andersen ethylene oxide sterilization chamber equipped with dry resin catalyst.	2023 (Installation Cancelled)

Added Emission Units:

Table 2 below lists the emission units were constructed and/or permitted by NSAB since the issuance of the previous Part 70 Operating Permit renewal:

TABLE 2: NEWLY CONSTRUCTED/PERMITTED EMISSION UNITS

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
031-1124-5-2407	EU: 82-01A	One (1) RBI Futera III natural gas-fired boiler rated at 1.5 MMBtu/hr. (Building 82)	2018
031-1124-5-2408	EU: 82-02A	One (1) RBI Futera III natural gas-fired boiler rated at 1.5 MMBtu/hr. (Building 82)	2018
031-1124-5-2409	EU: 82-03A	One (1) RBI Futera III natural gas-fired boiler rated at 1.5 MMBtu/hr. (Building 82)	2018
031-1124-5-2492	EU: 51-01B	One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr. (Building 51)	2019
031-1124-5-2493	EU: 51-02B	One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr. (Building 51)	2019
031-1124-5-2494	EU: 51-03B	One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr. (Building 51)	2019
031-1124-9-1183	EU: 16-01H	One (1) Cummins diesel-fired emergency generator rated at 755 horsepower.	2021
031-1124-9-1184	EU: 16-02H	One (1) Cummins diesel-fired emergency generator rated at 755 horsepower.	2021
031-1124-9-1185	EU: 55-05A	One (1) MTU diesel-fired emergency generator rated at 2,328 horsepower.	2020

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
031-1124-9-1186	EU: 55-06A	One (1) MTU diesel-fired emergency generator rated at 2,328 horsepower.	2020
031-1124-5-2564	EU: 52-01D	One (1) Aerco INN 1060 natural gas-fired water heater rated at 1.06 MMBtu/hr. heat input	2021
031-1124-9-1252	EU: 54-01A	One (1) Caterpillar diesel-fired emergency generator rated at 546 horsepower.	2021

The following Table 3 summarizes the most recent five years actual emissions from NSA Bethesda. The primary sources of criteria pollutants from the facility are the boilers and generators.

TABLE 3: ACTUAL EMISSIONS

Year	NO_x (TPY)	SO_x (TPY)	PM₁₀ (TPY)	CO (TPY)	VOC (TPY)	Total HAP (TPY)
2018	16.9	0.83	2.80	30.9	4.92	0.81
2019	20.4	1.22	2.89	31.1	4.73	0.79
2020	26.1	1.46	3.13	28.8	3.97	0.68
2021	15.1	0.81	0.72	27.2	4.13	0.16
2022	33.5	2.56	1.06	33.8	4.90	0.05

The major source thresholds for triggering Title V permitting requirements in Montgomery County are 25 tons per year for NO_x or VOC and 100 tons per year for all other criteria pollutants, 10 tons per year of any single hazardous air pollutant (HAP) or 25 tons per year of any combination of HAPs. The potential emissions of NO_x are greater than the major source threshold of 25 tons per year. Therefore, NSA Bethesda is required to maintain and renew a Title V Part 70 Operating Permit.

A description of the emission units is shown in Table 4.

TABLE 4: EMISSION UNITS IDENTIFICATION

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
031-1124-5-1241	EU: 16-03B Boiler No.3	One (1) natural gas-fired Cleaver Brooks DL-68 boiler with diesel as backup rated at 73.1 MMBtu/hr equipped with 30PPM Power Flame	Jan 2002 (Mod. 2021)

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
		low-NO _x burners.	
031-1154-5-1242	EU: 16-04B Boiler No. 4	One (1) natural gas-fired Cleaver Brooks DL-68 boiler with diesel as backup rated at 73.1 MMBtu/hr equipped with 30PPM Power Flame low-NO _x burners.	Apr 2002 (Mod. 2021)
031-1124-5-1263	EU: 16-02B Boiler No. 2	One (1) natural gas-fired Cleaver Brooks DL-68 boiler with diesel as backup rated at 73.1 MMBtu/hr equipped with 30PPM Power Flame low-NO _x burners.	Nov 2002 (Mod. 2021)
031-1124-5-1264	EU: 16-01B Boiler No. 1	One (1) natural gas-fired Cleaver Brooks DL-68 boiler with diesel as backup rated at 73.1 MMBtu/hr equipped with 30PPM Power Flame low-NO _x burners.	Nov 2002 (Mod. 2021)
031-1124-5-2233	EU: 16-05B Boiler No. 5	One (1) natural gas-fired Cleaver Brooks DL-68E boiler with diesel as backup rated at 73.1 MMBtu/hr equipped with 30PPM Power Flame low-NO _x burners.	Jun 2010 (Mod. 2021)
031-1124-5-2407	EU: 82-01A Boiler	One (1) RBI Futera III natural gas- fired boiler rated at 1.5 MMBtu/hr. (Building 82)	2018
031-1124-5-2408	EU: 82-02A Boiler	One (1) RBI Futera III natural gas- fired boiler rated at 1.5 MMBtu/hr. (Building 82)	2018
031-1124-5-2409	EU: 82-03A Boiler	One (1) RBI Futera III natural gas- fired boiler rated at 1.5 MMBtu/hr. (Building 82)	2018
031-1124-5-2492	EU: 51-01B Boiler	One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr. (Building 51)	2019
031-1124-5-2493	EU: 51-02B Boiler	One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr. (Building 51)	2019
031-1124-5-2494	EU: 51-03B Boiler	One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr. (Building 51)	2019
031-1124-5-2564	EU: 52-01D Water Heater	One (1) Aerco INN 1060 natural gas-fired water heater rated at 1.06 MMBtu/hr. heat input.	2022

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
031-1124-9-0628	EU: 51A-01 UST	Gasoline service station consisting of two (2) 20,000-gallons underground gasoline storage tanks.	1995
031-1124-9-0804	EU: 07-01G Emergency Generator	One (1) 680-hp Caterpillar diesel engine emergency generator ID No.M03837, model number 3412 powering a Caterpillar model 3412 DIST electric generator for standby emergency backup power rated at 400-kW.	June 1982
031-1124-9-0949	EU: 27-01 A Emergency Generator	One (1) 1245-hp Caterpillar model C27 diesel engine powering a Caterpillar model SR4B electric generator for standby emergency backup power rated 800-kW.	November 2009
031-1124-9-0960	EU: 70A-01H Emergency Generator	One (1) 546-hp Caterpillar model C15 diesel engine powering a Caterpillar model LC6 electric generator for standby emergency backup power rated at 350-kW.	June 2010
031-1124-9-0961	EU: 71B-01H Emergency Generator	One (1) 619-hp Caterpillar model C15 diesel engine (Serial No. FSE 03146) powering a Caterpillar model LC6 electric generator for standby emergency backup power rated 400-kW.	April 2010
031-1124-9-0962	EU: 72C-02H Emergency Generator	One (1) 619-hp Caterpillar model C15 diesel engine (Serial No. FSE 03148) powering a Caterpillar model LC6 electric generator for standby emergency backup power rated 400-kW.	June 2010
031-1124-9-0963	EU: 55-03H Emergency Generator	One (1) 2206-hp Caterpillar model 3512C GD diesel engine (Serial No. EBG00722) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 1500-kW.	June 2010
031-1124-9-0964	EU: 63-01G Emergency Generator	One (1) 2923-hp Cummins model QSK60-G6 diesel engine (Serial No. 75779-1005) powering a Cummins model DQKAA-AO30G129 electric generator for standby emergency	June 2010

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
		backup power rated at 1750-kW.	
031-1124-9-0966	EU: 55-01H Emergency Generator	One (1) 2206-hp Caterpillar model 3512C diesel engine (Serial No. EBG00724) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 600-kW.	June 2010
031-1124-9-0967	EU: 55-02H Emergency Generator	One (1) 2206-hp Caterpillar model 3512C diesel engine (Serial No. EBG00723) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 600-kW.	June 2010
031-1124-9-0970	EU:51-01G Emergency Generator	One (1) 685-hp Detroit model 9DDXL14.0VLD diesel engine powering a Kohler Model 400 REOZDD electric generator for standby emergency backup power rated at 405-kW.	May 2010
031-1124-9-1003	EU: 44-02G Emergency Generator	One (1) 1490-hp Cummins model QST30-G5 diesel engine powering a Cummins model DQFAD-576145 electric generator for standby emergency backup power rated at 1000-kW.	August 2010
031-1124-9-1004	EU: 44-01G Emergency Generator	One (1) 1220-hp Cummins model QSK23-G7 NR2 diesel engine (Serial No. 00320155) powering a Cummins model DQCB-576141 electric generator for standby emergency backup power rated at 750-kW.	August 2010
031-1124-9-1005	EU: 47-01G Emergency Generator	One (1) 1220-hp Cummins model QSK23-G7 NR2 diesel engine (Serial No. 00320174) powering a Cummins model DQCB-576143 electric generator for standby emergency backup power rated at 750-kW.	August 2010
031-1124-9-1008	EU: 17-01 Emergency Generator	One (1) 903-hp Volvo model TWD1643GE diesel engine powering a Kohler Model 600 REOZ electric generator for standby	July 2011

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
		emergency backup power rated at 600-kW.	
031-1124-9-1009	EU: 62-02G Emergency Generator	One (1) 903-hp Volvo model TWD1643GE diesel engine powering a Kohler Model 600REOZ electric generator for standby emergency backup power rated at 600-kW.	July 2011
031-1124-9-1010	EU: 63-02H Emergency Generator	One (1) 2923-hp Cummins model QSK60-G6 diesel engine (Serial No. 6113-5) powering a Cummins model DQKAA-A040A134 electric generator for standby emergency backup power rated at 1750-kW.	July 2011
031-1124-9-1024	EU: 55-04H Emergency Generator	One (1) 2206-hp Caterpillar model 3512C diesel engine (Serial No. EBG00941) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 1500-kW.	November 2011
031-1124-9-1034	EU: 16-01C Emergency Generator	One (1) 4023-hp Caterpillar model C175 diesel engine powering a Cummins model SR5 electric generator for standby emergency backup power rated at 3000-kW.	February 2012
031-1124-9-1138	EU: 202-01H Emergency Generator	One (1) 752-hp MTU model 10V1600 G80S diesel engine powering an electric generator for standby emergency backup power rated at 500-kW.	January 2016
031-1124-9-1140	EU: 01-01H Emergency Generator	One (1) 896-hp MTU model 12V1600 diesel engine powering an electric generator for standby emergency backup power rated at 600-kW.	2016
031-1124-9-1183	EU: 16-01H Emergency Generator	One (1) Cummins diesel-fired emergency generator rated at 755-hp.	2021
031-1124-9-1184	EU: 16-02H Emergency Generator	One (1) Cummins diesel-fired emergency generator rated at 755-hp.	2021
031-1124-9-1185	EU: 55-05A Emergency	One (1) MTU diesel-fired emergency generator rated at 2,328-	2020

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

MDE - ARA Registration Number	Emission Unit Number	Emissions Unit Name and Description	Date of Installation
	Generator	hp.	
031-1124-9-1186	EU: 55-06A Emergency Generator	One (1) MTU diesel-fired emergency generator rated at 2,328- hp.	2020
031-1124-9-1252	EU: 54-01A	One (1) Caterpillar diesel-fired emergency generator rated at 546 horsepower.	2021

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

GREENHOUSE GAS (GHG) EMISSIONS

NSAB emits the following greenhouse gases (GHGs): carbon dioxide, methane, and nitrous oxide. The GHGs are generated by numerous installations ranging from boilers and diesel engine powered emergency generators - the main sources of combustion related emissions at the plant – to gasoline dispensing stations and underground storage tanks. There are currently no greenhouse gas related Clean Air Act requirements applicable to NSAB. NSAB has not triggered Prevention of Significant Deterioration (PSD) requirements for GHG emissions. NSAB has added many installations, mainly emergency generators, to its facility in recent years. However, there has not been a major construction or modification of any existing installations, which would have warranted a major modification for PSD and/or NA-NSR review. As a result, there were no significant GHGs emissions increases associated with the constructions. With respect to PSD applicability, GHGs are a regulated pollutant for PSD purposes only if another PSD pollutant has a significant increase. Although, there have been no GHGs permitting requirements triggered at NSAB vis-à-vis the construction projects, NSAB is still required to quantify, annually, its facility wide GHGs emissions and report them as part of the Emissions Certification Report required under Section 3 of the Part 70 permit.

The following Table 5 summarizes the actual GHG emissions by NSAB based on its Annual Emission Certification Reports:

Table 5: Greenhouse Gases Emissions Summary

GHG	Conversion Factor	2018 (tpy)	2019 (tpy)	2020 (tpy)	2021 (tpy)	2022 (tpy)
Carbon dioxide (CO ₂)	1	42,921	42,134	41,933	37,445	41,811
Methane (CH ₄)	28	0.78	0.79	0.77	0.72	0.84
Nitrous Oxide (N ₂ O)	298	0.83	0.75	0.72	0.68	0.74
Total GHG CO_{2eq}		43,189	42,380	42,169	37,446	41,812

COMPLIANCE ASSURANCE MONITORING (CAM) REQUIREMENTS

CAM is intended to provide a reasonable assurance of compliance with applicable requirements under the Clean Air Act for emission units that rely on air pollution control (APC) equipment to achieve compliance. The CAM approach establishes monitoring requires for the purpose of: (1) documenting continued operation of the control measures within ranges of specified indicators of performance (such as emissions, control device parameters, and process parameters) that are designed to provide a reasonable assurance of compliance with applicable requirements; (2) indicating any excursions from these ranges; and (3) responding to the data so that the cause or causes of the excursions are corrected. In order for a unit to be subject to CAM, the unit must be located at a major source, be subject to an emission limitation or standard; use a control device to achieve compliance; have pre-control emissions of at least 100% of the major source amount;

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

and must not otherwise be exempt from CAM. Applicability determinations are made on a pollutant-by-pollutant basis for each emissions unit.

The boilers, engines, and gasoline storage tanks at NSAB are not subject to CAM because the pollution control systems do not meet the definition of a control device under §64.1.

Overview of the Part 70 Permit

Section I of the Part 70 Permit contains a brief description of the facility and an inventory list of the emissions units for which applicable requirements are identified in Section IV of the permit.

Section II of the Part 70 Permit contains the general requirements that relate to administrative permit actions. This section includes the procedures for renewing, amending, reopening, and transferring permits, the relationship to permits to construct and approvals, and the general duty to provide information and to comply with all applicable requirements.

Section III of the Part 70 Permit contains the general requirements for testing, record keeping and reporting; and requirements that affect the facility as a whole, such as open burning, air pollution episodes, particulate matter from construction and demolition activities, asbestos provisions, ozone depleting substance provisions, general conformity, and acid rain permit. This section includes the requirement to report excess emissions and deviations, to submit an annual emissions certification report and an annual compliance certification report, and results of sampling and testing.

Section IV of the Part 70 Permit identifies the emissions standards, emissions limitations, operational limitations, and work practices applicable to each emissions unit located at the facility. For each standard, limitation, and work practice, the permit identifies the basis upon which the Permittee will demonstrate compliance. The basis will include testing, monitoring, record keeping, and reporting requirements. The demonstration may include one or more of these methods.

Section V of the Part 70 Permit contains a list of insignificant activities. These activities emit very small quantities of regulated air pollutants and do not require a permit to construct or registration with the Department. For insignificant activities that are subject to a requirement under the Clean Air Act, the requirement is listed under the activity.

Section VI of the Part 70 Permit contains State-only enforceable requirements. Section VI identifies requirements that are not based on the Clean Air Act, but solely on Maryland air pollution regulations. These requirements generally relate to the prevention of nuisances and implementation of Maryland's Air Toxics Program.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

REGULATORY REVIEW/TECHNICAL REVIEW/COMPLIANCE METHODOLOGY

I: Emission Unit(s): Boilers Rated less than 10 MMBtu/hr

EU: 52-01D - One (1) Aerco INN 1060 natural gas-fired water heater rated at 1.06 MMBtu/hr. heat input.

EU: 82-01A – One (1) RBI Futera III MB natural gas-fired boiler rated at 1.5 MMBtu/hr.

EU: 82-02A – One (1) RBI Futera III MB natural gas-fired boiler rated at 1.5 MMBtu/hr.

EU: 82-03A – One (1) RBI Futera III MB natural gas-fired boiler rated at 1.5 MMBtu/hr.

EU: 51-01B – One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr.

EU: 51-02B – One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr.

EU: 51-03B – One (1) Lochinvar FNB1751 natural gas-fired boiler rated at 1.75 MMBtu/hr.

Applicable Standards/Limits:

A. Control of Visible Emissions

1. COMAR 26.11.09.05A(2), Fuel Burning Equipment. “Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.”
2. COMAR 26.11.09.05A(3), Exceptions. “Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
 - a. The visible emissions are not greater than 40 percent opacity; and
 - b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty-minute period.

Compliance Demonstration for Visible Emissions

- The Permittee shall properly operate and maintain the boilers in a manner to prevent visible emissions.
- The Permittee shall maintain an operations manual and preventive maintenance plan. The Permittee shall maintain a log of maintenance performed that relates to combustion performance.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

- The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, “Report of Excess Emissions and Deviations”.

[Authority: COMAR 26.11.03.06C]

Rationale for Periodic Monitoring Strategy for Visible Emissions

Natural gas boilers during normal operation rarely cause visible emissions. Visible emissions would only occur if the boilers were not maintained or operated properly. The Permittee is required to maintain the boilers in good working order in accordance with an operations manual and preventive maintenance plan. Records of maintenance performed are sufficient to confirm that the boilers are maintained in a manner to prevent visible emissions.

B. Control of Nitrogen Oxides

1. COMAR 26.11.09.08B(5), Operator Training.
 - a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
 - b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.
2. COMAR 26.11.09.08E, Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less shall:
 - a. Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each;
 - b. Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;
 - c. Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request;
 - d. Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
 - e. Prepare and maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request.

Compliance Demonstration for Control of NO_x

- The Permittee shall perform a combustion analysis once a year. **[Authority: COMAR 26.11.09.08E(2)]**
- The Permittee shall optimize combustion based on the annual combustion analysis. **[Authority: COMAR 26.11.09.08E(2)]**
- The Permittee shall maintain:
 - a. Records of the results of the annual combustion analysis on site.
 - b. Record of training program attendance for each operator at the site. **[Authority: COMAR 26.11.09.08E(5)]**

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

- The Permittee shall submit:
 - a. The results of combustion analysis to the department and the EPA upon request. **[Authority: COMAR 26.11.09.08E(3)]**
 - b. A record of training program attendance for each operator to the Department upon request. **[Authority: COMAR 26.11.09.08E(5)]**

Rationale for Periodic Monitoring Strategy for Control of NO_x

COMAR 26.11.09.08 outlines the exact monitoring methods and procedures to demonstrate compliance with these requirements. No additional monitoring requirements are necessary.

C. Operational Limits

The Permittee shall burn natural gas only in the boilers unless the Permittee applies for and obtains an approval from the Department to burn an alternate fuel. **[Authority: COMAR 26.11.02.09A]**

Compliance Demonstration

- The Permittee shall maintain records of the quantity and types of fuel burned. **[Authority: COMAR 26.11.02.19C(1)(c)]**
- The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III.

Rationale for Periodic Monitoring Strategy for Operational Limits

Fuel records are sufficient to demonstrate compliance. No periodic monitoring is required.

II: Emissions Unit(s): NSPS Boilers

EU: 16-01B through 16-04B – Four (4) natural gas-fired Cleaver Brooks DL-68 boilers with No. 2 fuel oil as backup rated at 73.1 MMBtu/hr equipped with 30PPM Power Flame low-NO_x burners.

EU: 16-05B – One (1) natural gas-fired Cleaver Brooks DL-68E boiler with No. 2 fuel oil as backup rated at 73.1 MMBtu/hr equipped with 30PPM Power Flame low-NO_x burners.

These boilers are subject to the requirements of the New Source Performance Standard (NSPS) for Small Industrial-Commercial-Institutional Steam Generalizing Units (40 CFR Part 60, Subpart Dc) because the boilers were installed after June 9, 1989. In 2011, Subpart Dc was modified to include additional opacity monitoring when burning fuel oil for boilers rated at 30 million Btu/hr or greater. These requirements were inadvertently omitted in past permits and are now included as applicable requirements in this renewal permit. Since the boilers only burn fuel oil as a back-up fuel, the requirements include an initial opacity compliance demonstration the next time each boiler is tested using fuel oil and subsequent Method 9 or Method 22 opacity testing each year or the next time the boiler burns oil as specified in their Department-approved

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

site-specific monitoring plan. If the facility burns oil unexpectedly due to a gas interruption and was not able to conduct an observation, the facility should document why the observation could not be conducted and then conduct the observation the next time they test the boiler when burning oil.

The boilers burn natural gas and only burn fuel oil during natural gas curtailments, gas supply interruptions, or period testing, maintenance, or operator training as specified under §63.11195(e). Therefore, the boilers are considered “gas-fired” boilers and are exempt from the National Emission Standards for Hazardous Air Pollutant (NESHAPs) for Industrial, Commercial, Institutional Boilers at Area Sources (40 CFR Part 63, Subpart JJJJJ). [**Authority: §63.11195(e)**]

If at a later date, NSAB decides to combust fuel-oil other than periods of natural gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training, it would have 180 days to comply with the requirements of the subpart. [**Authority: §63.11210(h)**].

The boilers were modified in 2021 to be equipped with low NOx burners. Permit to Construct No. 031-1124-5-1241 through 5-1264 and 5-2233 issued on September 27, 2021 supersedes all previous permits issued for the boilers. Past NOx limits from previous permits and stack testing requirements to demonstrate compliance with those NOx limits are no longer applicable.

Applicable Standards/Limits:

A. Control of Visible Emissions

1. COMAR 26.11.09.05A(2), Fuel Burning Equipment. “Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.”
2. COMAR 26.11.09.05A(3), Exceptions. “Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
 - a. The visible emissions are not greater than 40 percent opacity; and
 - b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty-minute period.
3. The Permittee shall not cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. The opacity

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

standards apply at all times except during periods of startup, shutdown, or malfunction.
[Authority: 40 CFR §60.43c(c) and (d)]

The Permittee that is subject to an opacity standard in § 60.43c(c) is not required to operate a continuous opacity monitoring system (COMS) if the Permittee burns only gaseous fuels and/or fuel oils that contain no greater than 0.5 weight percent sulfur, and the Permittee operates the boilers according to the site-specific monitoring plan approved by the Department. **[Authority: 40 CFR 60.47c(f)(3)]**

Compliance Demonstration for Visible Emissions and Opacity

- The Permittee shall properly operate and maintain the boilers in a manner to prevent visible emissions. **[Authority: COMAR 26.11.03.06C]**
- The Permittee shall maintain an operations manual and preventive maintenance plan. The Permittee shall maintain a log of maintenance performed that relates to combustion performance. **[Authority: COMAR 26.11.03.06C]**
- The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, “Report of Excess Emissions and Deviations”. **[Authority: COMAR 26.11.03.06C]**
- When burning fuel oil, the Permittee shall conduct periodic Method 9 performance tests or periodic Method 22 observations as specified in the Permittee’s site-specific monitoring plan approved by the Department as allowed under 40 CFR §60.47c(f)(3). **[Authority: 40 CFR §60.47c(f)(3)]**

Rationale for Periodic Monitoring for Visible Emissions and Opacity

Natural gas boilers during normal operation rarely cause visible emissions. Visible emissions would only occur if the boilers were not maintained or operated properly or when burning fuel oil. The Permittee is required to maintain the boilers in good working order in accordance with an operations manual and preventive maintenance plan. Records of maintenance performed are sufficient to confirm that the boilers are maintained in a manner to prevent visible emissions when burning natural gas. Since low-sulfur content fuel oil is only burned as a back-up fuel when natural gas is not available, a continuous opacity monitoring system (COMS) is not required provided that a site-specific monitoring plan is in place. Periodic opacity tests when burning oil are sufficient to ensure that the opacity standard is met.

B. Control of Nitrogen Oxides

1. COMAR 26.11.09.08B(5), Operator Training.
 - a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
 - b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

2. COMAR 26.11.09.08E, Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less shall:
 - a. Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each;
 - b. Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;
 - c. Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request;
 - d. Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
 - e. Prepare and maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request.
3. The combined NO_x emissions from the five (5) Cleaver Brooks boilers shall be less than 25 tons in any rolling consecutive 12-month period. **[Authority: Permit to Construct No. 031-1124-5-1241 through 5-1264 and 5-2233 issued on September 27, 2021]**

Compliance Demonstration for Control of NO_x

- The Permittee shall perform a combustion analysis once a year. The Permittee shall optimize combustion based on the annual combustion analysis. **[Authority: COMAR 26.11.09.08E(2)]**
- The Permittee shall maintain:
 - a. Records of the results of the annual combustion analysis on site.
 - b. Record of training program attendance for each operator at the site. **[Authority: COMAR 26.11.09.08E(5)]**
- The Permittee shall submit:
 - a. The results of combustion analysis to the department and the EPA upon request. **[Authority: COMAR 26.11.09.08E(3)]**
 - b. A record of training program attendance for each operator to the Department upon request. **[Authority: COMAR 26.11.09.08E(5)]**
- The Permittee shall calculate and record total NO_x emissions from the five (5) boilers for the previous calendar month and the total for the previous consecutive 12 calendar months. The calculations and records shall be updated monthly, within the first 15 days of each following month. **[Authority: Permit to Construct No. 031-1124-5-1241 through 5-1264 and 5-2233 issued on September 27, 2021]**

Periodic Monitoring Strategy for Control of NO_x

COMAR 26.11.09.08 outlines the exact monitoring methods and procedures to demonstrate compliance with these requirements. Calculations and records of monthly and rolling 12-month NO_x emissions from the boilers will show whether the boilers are in compliance with the 25 tons per rolling 12-month period NO_x limit.

C. Control of Sulfur Oxides

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

1. COMAR 26.11.09.07A(2) - Sulfur Content Limitations for Fuel.

“A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent.”

***Note:** This condition only applies when these boilers are firing No. 2 fuel oil which may only occur during times of natural gas curtailment gas supply interruption, startups, or periodic testing maintenance on liquid fuel and operator training.*

2. The Permittee shall not cause to be discharged into the atmosphere any gases that contain SO₂ in excess of 215 ng/J (0.5 lb/million Btu) heat input; or, as an alternative, the Permittee shall not combust oil that contains greater than 0.5 weight percent sulfur. Fuel oil sulfur limits apply at all times, including periods of startup, shutdown, and malfunction. **[Authority: 40 CFR §60.42c(d) and (i)]**

Note:** Compliance with COMAR 26.11.09.07A(2), demonstrates compliance with this requirement through fuel supplier certifications. **[Authority: 40 CFR §60.42c(h)(1) and §60.48c(f)]

Compliance Demonstration for Control of SO_x

- The Permittee shall obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil.
- The Permittee shall maintain records of fuel use and fuel supplier’s certifications and shall report this information to the Department semiannually. **[Authority: 40 CFR §60.48c(e)(1), (e)(11), (f)(1), (g)(2), and (j)]**

Rationale for Periodic Monitoring Strategy for SO_x

40 CFR 60, Subpart Dc requires semiannual reports demonstrating that the fuel meets the applicable sulfur content requirements. No additional monitoring requirements are necessary to demonstrate compliance.

D. Operational Limitations

1. The Permittee shall burn only natural gas or No. 2 fuel oil in the boilers unless the Permittee applies for and obtains a Permit to Construct from the Department to burn an alternate fuel. **[Authority: COMAR 26.11.02.09A]**
2. The Permittee shall burn gaseous fuel in the boiler not combined with any solid fuels and burn liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. **[Authority: 40 CFR §63.11237]**

Compliance Demonstration for Operational Limit

- The Permittee shall maintain records of the quantity and types of fuel burned.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

- The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report.
[Authority: COMAR 26.11.02.19C(1)(c)]

Rationale for Periodic Monitoring Strategy for Operational Limit

Records of the quantity and type of fuels burned are sufficient to demonstrate compliance with this operational limit.

III: Emissions Unit Number(s) – Diesel-Fired Emergency Generators Exempt from NSPS

EU 07-01G – One (1) 680-hp Caterpillar diesel engine emergency generator ID No.M03837, model number 3412 powering a Caterpillar model 3412 DIST electric generator for standby emergency backup power rated at 400-kW.

EU 53-01G – One (1) 536-hp Rolls Royce model 1 diesel engine powering a Katolight model D400FRR4 electric generator for standby emergency backup power rated at 400-kW.

Note: These Emission Units were constructed before July 11, 2005 and are not subject to NSPS requirements under 40 CFR Part 60 Subpart IIII because of NSPS applicability date of July 11, 2005. [Authority: §60.4200(a)(2)(i)].

Applicable Standards/Limits:

A. Control of Visible Emissions

1. **COMAR 26.11.09.05E(2), Emissions During Idle Mode.** “A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.”
2. **COMAR 26.11.09.05E(3), Emissions During Operating Mode.** “A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.”
3. **COMAR 26.11.09.05E(4), Exceptions.**
 - a. “Section E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
 - b. Section E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
 - i. Engines that are idled continuously when not in service: 30 minutes;
 - ii. All other engines: 15 minutes.
 - c. Section E(2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics.”

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

Compliance Demonstration for Visible Emissions

- The Permittee shall properly operate and maintain the engine in a manner to minimize visible emissions.
- The Permittee shall retain records of preventive maintenance on site for at least five years and make these records available to the Department upon request.
- The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations"

[Authority: COMAR 26.11.03.06C]

Rationale for Periodic Monitoring Strategy for Visible Emissions

The emergency generators will only be used for emergency loss of power. In order to be available whenever there is a loss of power, the emergency generators must be maintained and tested regularly to ensure proper operation. When properly operated, the emergency generators will not cause visible emissions in excess of the applicable standards. Any excess emissions must be reported and the Permittee must keep records of maintenance performed. No additional monitoring requirements are necessary to demonstrate compliance.

B. Control of Sulfur Oxides

COMAR 26.11.09.07A(2), Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent."

Compliance Demonstration for Control of Sulfur Oxides

- The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Authority: COMAR 26.11.03.06C]**
- The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years.
- The Permittee shall report annual fuel supplier certification to the Department upon request. **[Authority: COMAR 26.11.09.07C]**

Rationale for Periodic Monitoring Strategy for Control of Sulfur Oxides

Records of fuel supplier certifications showing the sulfur content of the fuel supplied to the facility are sufficient to demonstrate compliance with this requirement.

C. Control of Nitrogen Oxides

1. COMAR 26.11.09.08B(5) - Operator Training.

- a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

- b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. **COMAR 26.11.09.08G – Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less.**

- a. A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:
- i. Provide certification of the capacity factor of the equipment to the Department in writing;
 - ii. For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
 - iii. Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
 - iv. Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
 - v. Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

Compliance Demonstration for Control of NO_x

- The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the engines that operates more than 500 hours during a calendar year. **[Authority: COMAR 26.11.09.08G(1)(b)]**
- For engines that operate more than 500 hours during a calendar year, the Permittee shall perform a combustion analysis and optimize combustion. **[Authority: COMAR 26.11.03.06C].**
- The Permittee shall:
 - a. Maintain the results of the combustion analysis at the site for at least 5 years and make these results available to the Department and the EPA upon request. **[Authority: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C].**
 - b. Retain records of training program attendance for each operator at the site for at least 5 years and make these records available to the Department upon request. **[Authority: COMAR 26.11.09.08G(1)(e) and COMAR 26.11.03.06C].**
- The Permittee shall provide certification of the capacity factor of the equipment to the Department in writing as part of the April 1 certification report. **[Authority: COMAR 26.11.09.08G(1)(a) & COMAR 26.11.03.06C]**
- The Permittee shall submit a list of trained operators to the Department upon request. **[Authority: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C]**
- The Permittee shall require each installation operators to attend operator training program on combustion optimization that are sponsored by the Department, U.S. EPA, or equipment vendors, once every three years. **[Authority: COMAR 26.11.09.08G(1)(d)]**

Rationale for Periodic Monitoring Strategy for Control of NO_x

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

COMAR 26.11.09.08 outlines the exact monitoring methods and procedures to demonstrate compliance with these requirements.

D. Operational Limits

1. The Permittee shall use diesel fuel only in each emergency generator unless the Permittee applies for and obtain approval from the Department to burn an alternate fuel.
[Authority: COMAR 26.11.02.09A]
2. In order for the emergency generators to be considered institutional emergency stationary RICE exempt from the requirements of 40 CFR 63, Subpart ZZZZ, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in (a) through (c) below, is prohibited.
 - (a) There is no time limit on the use of emergency stationary RICE in emergency situations.
 - (b) For a maximum of 100 hours per calendar year, emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.
 - (c) The Permittee may operate the emergency stationary RICE for up to 50 hours per year in non-emergency situations, but those 50 hours are counted toward the 100 hours per year provided for the maintenance and testing and emergency response. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. **[Authority: 40 CFR §63.6640(f)(1), (2), and (4)]**

Compliance Demonstration for Operational Limits

- The Permittee shall maintain on site for the life of the source the following records for each emergency generator:
 - a. Documentation of the manufacture date of the diesel engine, if manufactured prior to April 1, 2006, and the manufacturer model year of the diesel engine; and
 - b. The installation date of the emergency generator.
- For each emergency generator, the Permittee shall maintain a log of the hours of operation, and the reason for generator operation and shall submit the logs to the Department upon request. **[Authority: COMAR 26.11.03.06C]**

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

Rationale for Periodic Monitoring Strategy for Operational Limits

Records of the engine specifications and logs of engine operation are sufficient to demonstrate compliance with these operational limits. In addition, the Permittee tracks all fuel deliveries to the facility to ensure that only diesel fuel is used in the emergency generators.

IV: Emissions Unit Number(s): NSPS Emergency Generators

EU: 27-01A – One (1) 1245-hp Caterpillar model C27 diesel engine powering a Caterpillar model SR4B electric generator for standby emergency backup power rated 800-kW.

EU: 71B-01H – One (1) 619-hp Caterpillar model C15 diesel engine (Serial No. FSE 03146) powering a Caterpillar model LC6 electric generator for standby emergency backup power rated 400-kW.

EU: 72C-02H – One (1) 619-hp Caterpillar model C15 diesel engine (Serial No. FSE 03148) powering a Caterpillar model LC6 electric generator for standby emergency backup power rated 400-kW.

EU: 55-03H – One (1) 2206-hp Caterpillar model 3512C GD diesel engine (Serial No. EBG00722) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 1500-kW.

EU: 63-01G – One (1) 2923-hp Cummins model QSK60-G6 diesel engine (Serial No. 75779-1005) powering a Cummins model DQKAA-AO30G129 electric generator for standby emergency backup power rated at 1750-kW.

EU: 55-01H – One (1) 2206-hp Caterpillar model 3512C diesel engine (Serial No. EBG00724) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 600-kW.

EU: 55-02H – One (1) 2206-hp Caterpillar model 3512C diesel engine (Serial No. EBG00723) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 600-kW.

EU: 51-01G – One (1) 685-hp Detroit model 9DDXL14.0VLD diesel engine powering a Kohler Model 400 REOZDD electric generator for standby emergency backup power rated at 405-kW.

EU: 17-01 – One (1) 903-hp Volvo model TWD1643GE diesel engine powering a Kohler Model 600 REOZ electric generator for standby emergency backup power rated at 600-kW.

EU: 62-02G – One (1) 90-hp Volvo model TWD1643GE diesel engine powering a Kohler Model 600REOZ electric generator for standby emergency backup power rated at 600-kW.

EU: 63-02H – One (1) 2923-hp Cummins model QSK60-G6 diesel engine (Serial No. 6113-5) powering a Cummins model DQKAA-A040A134 electric generator for standby emergency backup power rated at 1750-kW.

EU: 70A-01H – One (1) 546-hp Caterpillar model C15 diesel engine powering a Caterpillar model LC6 electric generator for standby emergency backup power rated at 350-kW.

EU: 44-02G – One (1) 1490-hp Cummins model QST30-G5 diesel engine powering a Cummins model DQFAD-576145 electric generator for standby emergency backup power rated at 1000-kW.

EU: 44-01G – One (1) 122-hp Cummins model QSK23-G7 NR2 diesel engine (Serial No.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

00320155) powering a Cummins model DQCB-576141 electric generator for standby emergency backup power rated at 750-kW.

EU: 47-01G – One (1) 1220-hp Cummins model QSK23-G7 NR2 diesel engine (Serial No. 00320174) powering a Cummins model DQCB-576143 electric generator for standby emergency backup power rated at 750-kW.

EU: 55-04H – One (1) 2206-hp Caterpillar model 3512C diesel engine (Serial No. EBG00941) powering a Caterpillar model SR4B-GD electric generator for standby emergency backup power rated at 1500-kW.

EU: 16-01C – One (1) 4023-hp Caterpillar model C175 diesel engine powering a Cummins model SR5 electric generator for standby emergency backup power rated at 3000-kW.

EU: 202-01H – One (1) 752-hp MTU model 10V1600 G80S diesel engine powering an electric generator for standby emergency backup power rated at 500-kW.

EU: 01-01H – One (1) 896-hp MTU model 12V1600 diesel engine powering an electric generator for standby emergency backup power rated at 600-kW.

EU: 16-01H – One (1) Cummins diesel-fired emergency generator rated at 755-hp.

EU: 16-02H – One (1) Cummins diesel-fired emergency generator rated at 755-hp.

EU: 54-01A – One (1) Caterpillar diesel-fired emergency generator rated at 546 horsepower.

EU: 55-05A – One (1) MTU diesel-fired emergency generator rated at 2,328-hp.

EU: 55-06A – One (1) MTU diesel-fired emergency generator rated at 2,328-hp.

Note: These units are subject to the NSPS requirements under 40 CFR Part 60 Subpart IIII because they were constructed after NSPS applicability date of July 11, 2005. The earliest unit (27-01A) was constructed in November 2009. As specified in the NESHAP 40 CFR 63, Subpart ZZZZ, §63.6590(c) (1) -Stationary RICE subject to Regulations under 40 CFR 60 - “An affected source that meets any of the criteria in paragraphs (c) (1) through (7) of this section must meet the requirements of this part by meeting the requirement of 40 CFR part 60 Subpart IIII, for compression ignition engine or 40 CFR part 60 Subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.” Therefore, these emergency generators meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII.

Applicable Standards/Limits:

A. Control of Visible Emissions

1. **COMAR 26.11.09.05E(2), Emissions During Idle Mode.** “A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.”
2. **COMAR 26.11.09.05E(3), Emissions During Operating Mode.** “A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.”
3. **COMAR 26.11.09.05E(4), Exceptions.**

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

- a. "Section E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
- b. Section E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
 - i. Engines that are idled continuously when not in service: 30 minutes;
 - ii. All other engines: 15 minutes.
- c. Section E(2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics."

Compliance Demonstration for Visible Emissions

- The Permittee shall properly operate and maintain the engine in a manner to minimize visible emissions.
- The Permittee shall retain records of preventive maintenance on site for at least five years and make these records available to the Department upon request.
- The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations"

[Authority: COMAR 26.11.03.06C]

Rationale for Periodic Monitoring Strategy for Visible Emissions

The emergency generators will only be used for emergency loss of power. In order to be available whenever there is a loss of power, the emergency generators must be maintained and tested regularly to ensure proper operation. When properly operated, the emergency generators will not cause visible emissions in excess of the applicable standards. Any excess emissions must be reported and the Permittee must keep records of maintenance performed. No additional monitoring requirements are necessary to demonstrate compliance.

B. Control of Sulfur Oxides

COMAR 26.11.09.07A(2), Sulfur Content Limitations for Fuel.

"A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent."

Note: *Installations subject to 40 CFR Part 60 Subpart IIII must comply with the diesel fuel standards of §60.4207 which limits the maximum sulfur content of fuel to 15 ppm.*

Compliance Demonstration for Control of Sulfur Oxides

- The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Authority: COMAR 26.11.03.06C]**
- The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

- The Permittee shall report annual fuel supplier certification to the Department upon request. [Authority: COMAR 26.11.09.07C]

Rationale for Periodic Monitoring Strategy for Control of Sulfur Oxides

Records of fuel supplier certifications showing the sulfur content of the fuel supplied to the facility are sufficient to demonstrate compliance with this requirement.

C. Control of Nitrogen Oxides

1. **COMAR 26.11.09.08B(5), Operator Training.**
 - a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
 - b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.
2. **COMAR 26.11.09.08G, Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less.**
 - a. A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:
 - i. Provide certification of the capacity factor of the equipment to the Department in writing;
 - ii. For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
 - iii. Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
 - iv. Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
 - v. Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

Compliance Demonstration

- The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the engines that operates more than 500 hours during a calendar year. [Authority: COMAR 26.11.09.08G(1)(b)]
- For engines that operate more than 500 hours during a calendar year, the Permittee shall perform a combustion analysis and optimize combustion.
- The Permittee shall calculate the capacity factor of the engine within 30 days after the end of each month. [Authority: COMAR 26.11.03.06C]
- The Permittee shall maintain records of the results of the combustion analyses and any stack tests on site for at least five years and make them available to the Department and

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

EPA upon request. **[Authority: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C].**

- The Permittee shall maintain a record of the calculated capacity factor. **[Authority: COMAR 26.11.09.08G(1)(a)].**
- The Permittee shall maintain record of training program attendance for each operator on site for at least five years and make the records available to the Department upon request. **[Authority: COMAR 26.11.09.08G(1)(e) & COMAR 26.11.03.06C]**
- The Permittee shall provide certification of the capacity factor of the equipment to the Department in writing as part of the April 1 certification report. **[Authority: COMAR 26.11.03.06C and COMAR 26.11.09.08G(1)(a)].**
- The Permittee shall submit a list of trained operators to the Department upon request. **[Authority: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C]**

Rationale for Periodic Monitoring Strategy for Control of NO_x

COMAR 26.11.09.08 outlines the exact monitoring methods and procedures to demonstrate compliance with these requirements.

D. Operational Limits

1. The Permittee shall use diesel fuel only in the emergency generator unless the Permittee applies for and obtains a Permit to Construct from the Department to burn alternate fuel. **[Authority: COMAR 26.11.02.09A]**
2. The Permittee must operate and maintain the generators in a manner that achieve the emissions standards over the entire life of the engine. **[Authority: 40 CFR §60.4206]**
3. The Permittee must meet the ultra-low sulfur diesel (ULSD) fuel sulfur requirements of 40 CFR §1090.305 as follows:
 - a. Maximum sulfur content 15 ppm and
 - b. Minimum cetane index of 40; or
 - c. Maximum aromatic content of 35 volume percent. **[Authority: 40 CFR §60.4207(b) and 40 CFR §1090.305]**
4. The Permittee must operate and maintain the stationary compression ignition internal combustion engines and control devices according to the manufacturer's emission related written instruction. **[Authority: 40 CFR §60.4211(a)(1)]**
5. The Permittee may change only those emission related settings that are permitted by the manufacturer. **[Authority: 40 CFR §60.4211(a)(2)]**
6. The Permittee must purchase an engine certified to the emission standards in 40 CFR §60.4205(b). The engine must be installed and configured according to the manufacturer's emissions related specifications. **[Authority: 40 CFR §60.4211(c)]**
7. The Permittee must not exceed the following opacity emission standards:

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

- a. 20 percent during the acceleration mode;
- b. 15 percent during the lugging mode; and
- c. 50 percent during the peaks in either the acceleration or lugging modes.

[Authority: 40 CFR §60.4205(b), §60.4202(a)(2), and §1090.305]

8. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in (a) through (c) below, is prohibited.

(a) There is no time limit on the use of the engine in emergency situations.

(b) For a maximum of 100 hours per calendar year, the emergency engine may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency engine beyond 100 hours per calendar year.

(c) The Permittee may operate the emergency engine for up to 50 hours per year in non-emergency situations, but those 50 hours are counted toward the 100 hours per year provided for the maintenance and testing and emergency response. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[Authority: 40 CFR §60.4211(f)(1), (2)(i) and (3)]

Compliance Demonstration for Operational Limits

The Permittee shall maintain records of each engine model year, maximum engine power, displacement, installation date, and documentation from the manufacturer that the engines are certified to meet the emission standards in 40 CFR §60.4205(a) or (b), as applicable, for the same model year and maximum engine power. The Permittee shall maintain records of the hours of operation of the emergency generators that are recorded through the non-resettable hour meter. The Permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency, and how many hours are spent for non-emergency operation.

Rationale for Periodic Monitoring Strategy for Operational Limits

40 CFR 60, Subpart IIII outlines the specific records that must be kept to demonstrate compliance with the requirements of the subpart. Records of the engine certifications and logs of engine operation are sufficient to demonstrate compliance with these operational limits. In addition, the Permittee tracks all fuel deliveries to the facility to ensure that only diesel fuel is used in the emergency generators.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

V: Emissions Unit Number(s): Gasoline Storage Tanks

EU: 51A-01 – Two (2) 20,000-gallon gasoline storage tanks.

Applicable Standards and Limits

Control of VOC Emissions

1. **COMAR 26.11.13.04C(2)** – Small Storage Tanks – Stage I Recovery. An owner or operator of a gasoline tank truck or an owner or operator of a stationary storage tank subject to this regulation may not cause or permit gasoline to be loaded into a stationary tank unless the loading system is equipped with a vapor balance line that is properly installed, maintained and used.
2. **COMAR 26.11.13.04D** – Small Storage Tanks - General Standards. A person may not cause or permit gasoline or VOC having a TVP greater than 1.5 psia or greater be loaded into any tank truck, railroad tank car, or other contrivance unless:
 - a. Loading connections on the vapor lines are equipped with fittings that have no leaks and that automatically and immediately close upon disconnection to prevent release of gasoline or VOC from these fittings; and
 - b. The equipment is maintained and operated in a manner to prevent avoidable liquid leaks during loading or unloading operations.
3. **COMAR 26.11.24.03E** – Vapor Recovery at Gasoline Dispensing Facilities - General Requirements. After the applicable dates established in §§A-C of this regulation, an operator may not use or allow the use of defective equipment associated with the transfer of gasoline from a stationary gasoline storage tank to motor vehicle fuel tanks.
4. **COMAR 26.11.24.03F** – Vapor Recovery at Gasoline Dispensing Facilities - General Requirements. The operator may not install or use a replacement part in an approved system unless that part has been certified by CARB or approved by the Department for the approved system.
5. **COMAR 26.11.24.03G** – Vapor Recovery at Gasoline Dispensing Facilities - General Requirements. The owner shall ensure that all underground piping is installed in accordance with the Department's requirements related to underground storage tanks, which are set forth in COMAR 26.10.03.
6. **COMAR 26.11.24.03H** – Vapor Recovery at Gasoline Dispensing Facilities - General Requirements. Gasoline storage tanks serving a gasoline dispensing facility that is subject

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

to this chapter shall be equipped with a properly designed and installed pressure and vacuum valve with minimum pressure and vacuum settings as specified in the CARB Executive Order for that system.

7. **COMAR 26.11.24.03J** – Vapor Recovery at Gasoline Dispensing Facilities - General Requirements. Stage I Vapor Recovery. An owner or operator of a gasoline tank truck or an owner or operator of a gasoline dispensing facility subject to this regulation may not cause or permit gasoline to be loaded into a stationary tank unless the loading system is equipped with a Stage I vapor balance system that is properly installed, maintained, and operated
8. **COMAR 26.11.24.06A** – Training Requirements for Operation and Maintenance of Approved Systems. General. An operator shall ensure that:
 - a. At least one employee at each facility subject to this regulation is trained in accordance with the requirements of Sec. B of this regulation; and
 - b. The trained employee assists in the training of each of the other employees at that facility who are involved in the operation or maintenance of the approved system.
9. **COMAR 26.11.24.06B** – Training Requirements for Operation and Maintenance of Approved Systems. Approved Training Course Contents and Duration.
 - a. An approved training course shall contain, at a minimum, a discussion of the following:
 - i. Daily inspection requirements and development and maintenance of records and files; and
 - ii. Equipment warranties and spare parts.
 - b. The approved training course shall be of a duration sufficient to properly train persons in the requirements of this chapter.
10. **COMAR 26.11.24.08** – Instructional Signs.
 - a. An operator who is subject to this chapter shall place instructional signs in conspicuous locations at each gasoline dispenser.
 - b. The instructional signs shall include:
 - i. Instructions, with illustrations, on how to insert the nozzle, dispensing gasoline, and how to remove the nozzle;
 - ii. A warning against attempts to continue refueling after automatic shutoff of the gasoline (that is, topping off); and
 - iii. The Department's toll-free telephone number, which may be used for complaints or comments concerning the use of the Stage II vapor recovery systems.
11. The Permittee must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:
 - a. Minimize gasoline spills;
 - b. Clean up spills as expeditiously as practicable;

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

- c. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
 - d. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.
[Authority: 40 CFR §63.11116(a) and 40 CFR §63.11118(a)]
12. The Permittee must only load gasoline into storage tanks at your facility by utilizing submerged filling, as defined in 40 CFR §63.11132, and as specified in paragraphs below of this section. The applicable distances in paragraphs a and b shall be measured from the point in the opening of the submerged fill pipe that is the greatest distance from the bottom of the storage tank.
- a. Submerged fill pipes installed on or before November 9, 2006, must be no more than 12 inches from the bottom of the tank.
 - b. Submerged fill pipes installed after November 9, 2006, must be no more than 6 inches from the bottom of the tank.
 - c. Submerged fill pipes not meeting the specifications of paragraphs a or b of this section are allowed if the owner or operator can demonstrate that the liquid level in the tank is always above the entire opening of the fill pipe. Documentation providing such demonstration must be made available for inspection by the Administrator's delegated representative during the course of a site visit. [Authority: 40 CFR §63.11117(b) and 40 CFR §63.11118(a)]
13. The Permittee must either (1) adhere to the applicable management practices in 40 CFR Part 63, subpart CCCCCC, Table 1 or (2) prior to January 10, 2008: operate a vapor balance system that achieves 90 percent emissions reduction or operates using management practices at least as stringent as those in 40 CFR Part 63, subpart CCCCCC, Table 1; and operate a gasoline dispensing facility in compliance with an enforceable State, local, or tribal rule or permit that contains requirements either operating a vapor balance system that achieves emission reductions of 90 percent or operates using management practices at least as stringent as those in 40 CFR Part 63, subpart CCCCCC, Table 1. [Authority: 40 CFR §63.11118(b)]

Compliance Demonstration for Control of VOC

- **COMAR 26.11.24.04A – Testing Requirements for Stage II Stations.** Except as provided in §§E and F of this regulation, an owner subject to this chapter shall perform the following CARB-approved tests.
 - a. A leak test in accordance with the Vapor Recovery Test Procedure TP-201.3 Authority in Regulation .01-1B(1) of this chapter;
 - b. An air to liquid volume ratio test in accordance with the Vapor Recovery Test Procedure TP-201.5 Authority in Regulation .01-1B(2) of this chapter.
 - c. A dynamic pressure performance test in accordance with the Vapor Recovery Test Procedure TP-201.4 Authority in Regulation .01-1B(3) of this chapter;
 - d. A vapor return line vacuum integrity test for the Healy Model 400 ORVR System in accordance with Executive Order G-70-186, Exhibit 4 Authority in Regulation .01-1B(4) of this chapter; and

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

- e. A vapor return line vacuum integrity test for the Healy Model 600 System in accordance with Executive Order G-70-165 Exhibit 4 Authority in Regulation .01-1B(5) of this chapter.
- **COMAR 26.11.24.04A-1** – Testing Requirements for Decommissioned Stations and New Stations Installed after the effective date of this regulation that did not Install Stage II. Except as provided in §§E and F of this regulation, an owner or operator of a gasoline dispensing facility subject to this chapter who does not operate a Stage II Vapor Recovery system shall perform the testing requirements of §A(1), (6), and (7) of this regulation as specified in §C(2) of this regulation and repeat annually.
 - **COMAR 26.11.24.04B** – Testing Requirements. The leak and liquid blockage tests required in §A of this regulation shall be performed on each approved system before the gasoline dispensing facility is initially used to refuel motor vehicles, or by the applicable dates in Regulation .03 of this chapter, whichever occurs later.
 - **COMAR 26.11.24.04C** – Stage II Vapor Recovery System. An owner of a Stage II vapor recovery system subject to this chapter shall repeat the required tests:
 - a. In accordance with the test schedule in §C (2) of this regulation; and
 - b. Upon replacement of 75 percent or more of an approved system.
 - **COMAR 26.11.24.04D** – Testing Requirements. If a gasoline dispensing facility fails any test required by this chapter, the owner shall notify the Department of the failure in writing within 5 working days after the test and before retesting.
 - **COMAR 26.11.24.04E** – Testing Requirements. Alternative test methods approved by CARB may be used in place of the test methods specified in §A of this regulation, if the alternative test methods are approved by the U.S. Environmental Protection Agency (EPA) as a revision to the State Implementation Plan, which is Maryland's plan for meeting the National Ambient Air Quality Standards.
 - **COMAR 26.11.24.04F** – Testing Requirements. Test methods and the frequency of testing required by this regulation may be modified for vapor assist systems, if the test methods and testing frequency are approved by the Department and the EPA.
 - The Permittee shall, at all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **[Authority: 40 CFR §63.11115(a)]**

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

- The Permittee must keep applicable records and submit reports as specified in §63.11125(d) and §63.11126(b). [**Authority: 40 CFR §63.11115(b)**]
- The Permittee, at the time of installation and every 3 years thereafter, must: (1) demonstrate compliance with the leak rate and cracking pressure requirements, specified in item 1(g) of Table 1 to this subpart, for pressure-vacuum vent valves installed on gasoline storage tanks using CARB TP-201.1E or an alternative test method and procedure in accordance with the alternative test method requirements in §63.7(f); (2) demonstrate compliance with the static pressure performance requirement specified in item 1(h) of Table 1 to this subpart by conducting a static pressure test on your gasoline storage tanks using CARB TP-201.3, and alternative test method and procedure in accordance with the alternative test method requirements in §63.7(f), or BAAQMD ST-30. The testing frequency of this federal requirement is superseded by COMAR requirements. [**Authority: 40 CFR §63.11120**]
- **COMAR 26.11.24.07A – Record Keeping Requirements and Reporting.**
 - a. An operator subject to this chapter shall create and maintain a record file at the facility.
 - b. The record file shall contain copies of all test reports, permits, violation notices, correspondence with the Department, equipment maintenance records, training records, and other information pertinent to the requirements of this chapter. Verification of training shall be maintained in the facility file. Equipment maintenance records shall be maintained for at least 2 years. Test records shall be maintained for at least 5 years.
 - c. The equipment maintenance records shall include:
 - i. The date on which defective equipment was found, a description of each defect, a description of the corrective action and the date on which the defect was corrected, and the probable cause of the defect;
 - ii. If parts are replaced, the location within the approved system of the part, the part number, and assurance that the replacement part does not degrade the efficiency of the system; and
 - iii. Inspection reports and any other information relating to maintenance or care of the system.
- The Permittee must keep records of all tests performed under §63.11120(a) and (b) for a period of 5 years and they shall be made available for inspection by the Administrator's delegated representatives during the course of a site visit. [**Authority: 40 CFR §63.11125(a) and (b)**]
- The Permittee shall keep records of the occurrence and duration of each malfunction of operation, or the air pollution control and monitoring equipment and records of actions taken during periods of malfunction to minimize emissions in accordance with §63.11115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [**Authority: 40 CFR §63.11125(d)**]

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

- **COMAR 26.11.24.07E – Record-Keeping and Reporting Requirements.** The following reporting requirements apply to a test under this chapter:
 - a. The Department shall be notified 5 days before a test is to be conducted;
 - b. A test protocol shall be available at the test site during testing;
 - c. Copies of all test results shall be forwarded to the Department within 30 days of the test; and
 - d. Test failures shall be reported to the Department in writing within 5 days following the date of the failure.
- The Permittee shall report to the Administrator the results of all volumetric efficiency test required under 40 CFR §63.11120(b). Reports submitted under this paragraph must be submitted within 180 days of the completion of the performance testing. **[Authority: 40 CFR §63.11126(a)]**
- The Permittee shall report, by March 15 of each year, the number, duration, and a brief description of each type of malfunction which occurred during the previous calendar year, and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by the Permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR §63.11115(a), including actions taken to correct a malfunction. No report is necessary for a calendar year in which no malfunctions occurred. **[Authority: 40 CFR §63.11126(b)]**

Rationale for Periodic Monitoring Strategy for Control of VOC

The two (2) gasoline storage tanks are equipped with Stage I vapor recovery and piping to meet all applicable requirements in COMAR 26.11.13, COMAR 26.11.24, and 40 CFR 63, Subpart CCCCCC. Stage II Vapor Recovery System was decommissioned on 20 to 22 April 2020. No additional periodic monitoring is required than what is prescribed in the applicable regulations.

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

COMPLIANCE SCHEDULE

Naval Support Activity Bethesda is currently in compliance with all applicable air quality regulations.

TITLE IV – ACID RAIN

Naval Support Activity Bethesda is not subject to Acid Rain requirements.

TITLE VI – OZONE DEPLETING SUBSTANCES

Naval Support Activity Bethesda is not subject to Title VI requirements.

SECTION 112(r) – ACCIDENTAL RELEASE

Naval Support Activity Bethesda is not subject to the requirements of Section 112(r).

PERMIT SHIELD

The Naval Support Activity Bethesda facility requested that a permit shield be expressly included in the Permittee's Part 70 permit. Permit shields are granted on an emission unit by emission unit basis. If an emission unit is covered by a permit shield, a permit shield statement will follow the emission unit table in Section IV - Plant Specific Conditions of the permit. In this case, a permit shield was granted for each emission unit covered by the permit.

INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

- (1) No. 27 Fuel burning equipment using gaseous fuels or no. 1 or no. 2 fuel oil, and having a heat input less than 1,000,000 Btu (1.06 gigajoules) per hour;

The applicable fuel burning units are subject to the following requirements:

COMAR 26.11.09.05A(2), which establishes that the Permittee may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers.

Exceptions: COMAR 26.11.09.05A(2) does not apply to emissions during load changing, soot blowing, start-up, or adjustments or occasional cleaning of control equipment if:

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

- (a) The visible emissions are not greater than 40 percent opacity; and
- (b) The visible emissions do not occur for more than 6 consecutive minutes in any sixty-minute period.

- (2) No. 21 Stationary internal combustion engines with an output less than 500 brake horsepower (373 kilowatts) and which are not used to generate electricity for sale or for peak or load shaving;

Note: Twenty (20) engines have been installed and one (1) engine is scheduled to be installed before issuance of this permit.

The affected units are subject to the following requirements:

- (A) COMAR 26.11.09.05E(2), Emissions During Idle Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.
- (B) COMAR 26.11.09.05E(3), Emissions During Operating Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.
- (C) Exceptions:
 - (i) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
 - (ii) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
 - (a) Engines that are idled continuously when not in service: 30 minutes
 - (b) all other engines: 15 minutes.
 - (iii) COMAR 26.11.09.05E(2) & (3) do not apply while maintenance, repair or testing is being performed by qualified mechanics.
 - (iv) 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ as applicable.

- (3) ✓ Space heaters utilizing direct heat transfer and used solely for comfort heat;

DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET

- (4) ✓ Water cooling towers and water-cooling ponds unless used for evaporative cooling of water from barometric jets or barometric condensers, or used in conjunction with an installation requiring a permit to operate;
- (5) No. 18 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;
- (6) ✓ Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;
- (7) ✓ Brazing, soldering, or welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals and not directly related to plant maintenance, upkeep and repair or maintenance shop activities;
- (8) Containers, reservoirs, or tanks used exclusively for:
- (a) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;
- (b) No. 57 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;
- (9) ✓ Charbroilers and pit barbecues as defined in COMAR 26.11.18.01 with a total cooking area of 5 square feet (0.46 square meter) or less;
- (10) ✓ First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;
- (11) ✓ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;
- (12) ✓ Laboratory fume hoods and vents;
- (13) any other emissions unit, not listed in this section, with a potential to emit less than the “de minimus” levels listed in COMAR 26.11.02.10X (list and describe units):

No. 10 Oil/Water Separator

**DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA (NSAB)
PART 70 OPERATING PERMIT No. 24-031-1124
FACT SHEET**

STATE ONLY ENFORCEABLE CONDITIONS

The Permittee is subject to the following State-only enforceable requirements:

Applicable Regulations:

- a. **COMAR 26.11.06.08 – Nuisance.** An installation or premises may not be operated or maintained in such a manner that nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution.”
- b. **COMAR 26.11.06.09 – Odors.** “A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.”
- c. **COMAR 26.11.15.05A – Control Technology Requirements.** "New or Reconstructed Installations. A person may not construct, operate, or cause to be constructed reconstructed, or operated, any new installation or source that will discharge a toxic air pollutant to the atmosphere without installing and operating T-BACT."
- d. **COMAR 26.11.15.06A – Ambient Impact Requirement.** (1) "Except as provided in §A(2), of this regulation, a person may not construct, modify, or operate or cause to be constructed, modified, or operated any new installation or source without first demonstrating to the satisfaction of the Department using procedures established in this chapter that total allowable emissions from the premises of each toxic air pollutant discharged by the new installation or source will not unreasonably endanger human health."



DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA
4655 TAYLOR ROAD
BETHESDA MARYLAND 20889-5639

5090
Ser N4/0202
June 15, 2020

Ms. Suna Sariscak
Air Quality Permits Program
Maryland Department of the Environment
Air and Radiation Administration
1800 Washington Boulevard, Ste. 720
Baltimore, MD 21230-1720

Dear Ms. Sariscak:

SUBJECT: NAVAL SUPPORT ACTIVITY BETHESDA TITLE V PART 70 OPERATING
PERMIT RENEWAL APPLICATION

Naval Support Activity (NSA) Bethesda administers various tenants including Walter Reed National Military Medical Center (WRNMMC), Armed Forces Radiobiology Research Institute (AFRRI), and the Uniformed Services University of the Health Sciences (USUHS). The majority of equipment at NSA Bethesda is used for utility, medical, research, and instructional purposes. The Public Works Department, located at 4655 Taylor Road, Bethesda Maryland 20889, is responsible for ensuring the equipment is operated and maintained in accordance with the facility's Part 70 Permit.

The NSA Bethesda Part 70 Permit expires on June 30, 2021. NSA Bethesda hereby submits an application to renew the Part 70 Permit No. 24-031-01124 at least 12 months prior to permit expiration. As part of this application, NSA Bethesda requests a permit shield to cover applicable requirements for all registered emission units.

Per the Department's instruction, three application packages are enclosed (two hard copies and one CD copy). The following information provides additional instruction on items addressed throughout the permit application.

a. Complete Application

1. The application includes all required forms (Sections 1 – 7) and supporting documentation including: facility equipment list (Appendix A); facility plot plan (Appendix B); facility process flow diagrams (Appendix C); potential to emit (PTE) calculations (Appendix D); 2019 annual emissions certification report (Appendix E); and 2019 annual compliance certification report (Appendix F).
2. Thirteen (13) permits to construct (PTC), for Registration Numbers 031-1124-5-2492, 5-2493, 5-2494, 5-2407, 5-2408, 5-2409, 4-1428, 4-1427, 9-1183, 9-1184, 9-1179, 9-1185, and 9-1186, issued within the last five years are to be incorporated into the Part 70 Permit. Additionally, NSA Bethesda has submitted a PTC application on February 25, 2020 for one number 2 fuel oil (No. 2 FO) - fired temporary boiler, emission unit (EU) 70A-03A, which, if issued, is to be incorporated into the Part 70 Permit. A copy of the

thirteen issued permits and associated permit conditions to be included are provided in Appendix G. These sources to be incorporated into the reissued Part 70 Permit are described further in Section c. below.

b. Emission Sources to be Removed from the Part 70 Permit

1. Two emergency generators, EUs 16-01G and 16-02G, located at the Central Utility Plant/Building 16, were removed in 2018. The units were replaced by 16-01H and 16-02H.
2. One emergency generator, EU 16-03G, located at the Central Utility Plant/Building 16, was removed in 2016 and not replaced.
3. One emergency generator, EU 01-02G, was removed in 2016 and not replaced.
4. One emergency generator, EU 01-01G, was removed in 2016 and was replaced by EU 01-01H, which is a significant emissions unit in the current Part 70 permit.
5. One gasoline dispensing station, EU 155-01, was removed in 2019 and not replaced. The associated gasoline storage tank was removed in 2020.

c. Emission Sources Added or Modified in the Part 70 Permit

1. In 2011, NSA Bethesda installed three RBI Futera III MB 1500 natural gas (NG)-fired boilers, EUs 82-01A, 82-02A, and 82-03A, rated at 1.5 MMBtu/hr each on the roof of Building 82. The boilers were permitted in 2018 under Permit Nos. 031-1124-5-2407, 5-2408, and 5-2409.
2. NSA Bethesda installed three Lochinvar FNB1751 NG-fired boilers, EUs 51-01B, 51-02B, and 51-03B, rated at 1.75 MMBtu/hr each at Building 51. The boilers were permitted and installed in 2019 under Permit Nos. 031-1124-5-2492, 5-2493, and 5-2494.
3. NSA Bethesda installed six temporary boilers in 2020 due to malfunction of the facility steam distribution lines; however, only three of the six remain on site. While NSA Bethesda intends to remove the three remaining boilers once the needed repairs are completed, it is not clear if that will occur within 12 months. As such, NSA Bethesda submitted a permit to construct application for these temporary boilers on February 25, 2020 and is including them for incorporation in this renewal application. One Kewanee H35-400-G0 No. 2 FO-fired boiler, EU 42C-01A, rated at 18.1 MMBtu/hr is located at Building 42. One Cleaver Brooks CB-350 No. 2 FO-fired boiler, EU 70A-02A, rated at 14.3 MMBtu/hr is located at Building 70. MDE issued PTCs for both EUs 42C-01A and 70A-02A on May 13, 2020, under Registration Numbers 031-1124-4-1428 and 4-1427, respectively. One Kewanee H35-1000 No. 2 FO-fired boiler, EU 70A-03A, rated at 42.0 MMBtu/hr is also located at Building 70. NSA Bethesda submitted an application for this boiler on February 25, 2020, but MDE has not yet issued a PTC.

4. NSA Bethesda installed two Cummins DFEJ emergency generators, EUs 16-01H and 16-02H, rated at 450 kW. The generators are each powered by a 755-hp engine. These units replaced EUs 16-01G and 16-02G at Building 16. The emergency generators were permitted and installed in 2018 under Permit Nos. 031-1124-9-1183 and 9-1184.
5. NSA Bethesda installed one Caterpillar SR4B emergency generator, EU 45-01A, rated at 400 kW. The generator is powered by a 546-hp Caterpillar 3456 engine. The emergency generator was permitted in 2018 and installed in 2019 at Building 45 under Permit No. 031-1124-9-1179. While the engine was originally permitted at 601 hp, it was later confirmed to be rated at *546 hp*.
6. NSA Bethesda installed two MTU emergency generators, EUs 55-05A and 55-06A, rated at 1,500 kW at Building 55. The generators are each be powered by a 2,328-hp MTU engine. The generators were permitted in 2018 and installed in 2020 under Permit Nos. 031-1124-9-1185 and 031-1124-9-1186.
7. NSA Bethesda plans to replace the existing emergency stack, emission point 16-P5, for EUs 16-01B, 16-02B, 16-03B, 16-04B, and 16-05B in 2020 with a new stack placed at the same location. The stack is 7 ft x 7 ft x 9 ft and located on the rooftop of Building 16. This emission point will only be used during maintenance or failure to the primary stack (16-P1). NSA Bethesda notified MDE of this replacement and MDE provided approval for the installation on August 7, 2019. NSAB provided 100 percent drawings to MDE on January 24, 2020.
8. Additionally, NSA Bethesda made minor corrections to horsepower and kilowatt ratings to reflect the actual ratings for units as verified on site. This will be shown in the updated inventory.

d. Permit Conditions Requested for Removal or Alternation

1. Conditions 4.1 B2 and 4.1a (4) of Section IV of the current permit state that the generators are subject to the fuel requirements of 40 CFR 510(b) if they are 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) or operate for the purposes specified in §63.6640(f)(4)(ii). As no generator at NSA Bethesda is contractually obligated to be available for these purposes, nor does it operate for the purposes specified in §63.6640(f)(4)(ii), NSA Bethesda is requesting that these conditions be removed to prevent any confusion of the applicable fuel oil requirements.
2. Conditions (3)A(1) and (3)A(5) of Section VI of the current permit state that emergency generators may not operate except for emergencies, testing, and maintenance. Additionally, the permit conditions state that emergency generators may not operate for testing and maintenance purposes between 12:01 a.m. and 2:00 p.m. on any day on which the Department forecasts that the air quality will be a code orange, red, or purple, unless the engine fails a test and engine maintenance and a re-test are necessary. These conditions reference COMAR 26.11.36.03, which was revised in February 2018 to

remove these regulations. NSA Bethesda is requesting that these permit conditions be removed consistent with the changes to the State regulation COMAR 26.11.36.03.

3. Per 40 CFR 63.6640(f)(4) and 40 CFR 60.4211(f)(3), emergency generators are allowed to operate for up to 50 hours per year for non-emergency reasons. NSA Bethesda is requesting that Conditions 4.1a (6) and 5.3a (3) be updated to match the federal regulatory language.
4. Conditions 2.3 C(1)(a) and 3.3 C(2) of the current permit state that EUs 16-01B, 16-02B, 16-03B, 16-04B, and 16-05B shall have the NOx emissions analyzed for 15 minutes at every 168 hours of operation for each boiler. NSA Bethesda is requesting that these conditions be changed to require NOx emissions be analyzed for 15 minutes, for each boiler, *once every calendar quarter* that the boiler operates.

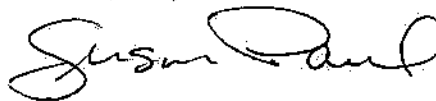
e. Compliance Assurance Monitor Plan Applicability

NSA Bethesda is not subject to a Compliance Assurance Monitoring (CAM) Plan as there are not any emissions units with pre-control device emissions, as defined in 40 CFR §§64.2 and 64.1, greater than major source thresholds.

EUs 16-01B, 16-02B, 16-03B, 16-04B, and 16-05B each contain flue gas recirculation control device equipment for oxides of nitrogen (NOx), but the pre-control device NOx emissions from each unit are less than 25 tons per year. Therefore, the units do not meet the criteria of 40 CFR §64.2(a)(3) and are not subject to a CAM Plan. No other emission units at NSA Bethesda contain control devices, as defined in 40 CFR §64.1, and are exempt from Compliance Assurance Monitoring plans as they do not meet the criteria of 40 CFR §64.2(a)(2).

We look forward to working with MDE in confirming these applicability determinations, as submitted for your review of the enclosed Part 70 Permit renewal application. If you have questions or require additional information, please contact NSA Bethesda's Air Quality Compliance Program Manager, Mrs. Alexia Martinez at (301) 295-6398.

Sincerely,



Susan Paul
Installation Environmental Program Director
By direction of the Commanding Officer

Enclosure: Submittal of hard copy binder (2 copies) and electronic CD (1 copy)

TABLE OF CONTENTS

<i>APPLICATION COMPLETENESS CHECKLIST</i>	<i>AC-1</i>
<i>APPLICATION COVER PAGE</i>	<i>C-1</i>
<i>SECTION 1 CERTIFICATION STATEMENTS</i>	<i>1-1</i>
<i>SECTION 2 FACILITY DESCRIPTION SUMMARY</i>	<i>2-1</i>
<i>SECTION 3A EMISSIONS UNIT DESCRIPTIONS</i>	<i>3A-1</i>
<i>SECTION 3B CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS</i>	<i>3B-1</i>
<i>SECTION 3C OBSOLETE, EXTRANEIOUS, OR INSIGNIFICANT PERMIT CONDITIONS</i>	<i>3C-1</i>
<i>SECTION 3D ALTERNATE OPERATING SCENARIOS</i>	<i>3D-1</i>
<i>SECTION 3E CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS FOR AN ALTERNATE OPERATING SCENARIO</i>	<i>3E-1</i>
<i>SECTION 4 CONTROL EQUIPMENT</i>	<i>4-1</i>
<i>SECTION 5 SUMMARY SHEET OF POTENTIAL EMISSIONS</i>	<i>5-1</i>
<i>SECTION 6 EXPLANATION OF PROPOSED EXEMPTIONS FROM OTHERWISE APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS</i>	<i>6-1</i>
<i>SECTION 7 COMPLIANCE SCHEDULE FOR NON- COMPLYING EMISSIONS UNITS</i>	<i>7-1</i>
<i>STATE-ONLY ENFORCEABLE REQUIREMENTS</i>	<i>SO-1</i>
<i>CHECK-OFF LIST OF EMISSION UNITS AND ACTIVITIES EXEMPT FROM THE PART 70 PERMIT APPLICATION</i>	<i>IA-1</i>

TABLE OF CONTENTS (CONTINUED)

APPENDICES

- A FACILITY EQUIPMENT LIST***
- B SITE PLOT PLAN***
- C PROCESS FLOW DIAGRAMS***
- D FACILITY POTENTIAL-TO-EMIT CALCULATIONS***
- E EMISSIONS CERTIFICATION REPORT (2019)***
- F COMPLIANCE CERTIFICATION REPORT (2019)***
- G PERMITS TO CONSTRUCT***

VI .Application Completeness Checklist

The purpose of this part is to list the information required to achieve a Part 70 application shield.

Cover Page

- (✓) Name and address of owner or operator, including telephone number.
- (✓) Name and address of facility, including the plant manager's name and telephone number.
- (✓) A 24-hour emergency telephone number for air pollution matters.

Section 1 CERTIFICATION STATEMENTS

- (✓) The certification statement completed and signed by a responsible official.

Section 2 FACILITY DESCRIPTION SUMMARY

- (✓) A brief description of each of the source's process(es), including all applicable SIC codes and end products.
- (✓) Flow diagrams indicating all emissions units, emission points, and control devices.
- (✓) A plot plan of the entire facility.
- (✓) Emission Certification Report.
- (✓) General Emissions Information.

Section 3 EMISSIONS UNIT DESCRIPTIONS –

This section must be completed for each emissions unit.

Part A

- (✓) Emissions unit number.
- (✓) Detailed description of unit, including all emission points.
- (✓) Federally enforceable limit(s) on the operating schedule.

- (✓) Fuel consumption information for any emissions unit that consumes fuel including the type of fuel, percent sulfur, and annual usage of fuel.

Part B

- (✓) A citation and description of each federally enforceable requirement, including all emission standards, for each emissions unit.
- (✓) A statement of compliance demonstration techniques for each requirement, including a description of monitoring, record keeping, reporting requirements, and test methods.
- (✓) The frequency of submittal of the compliance demonstration during the permit term.

Part C

- (✓) Emissions unit number.
- (✓) Permit to construct number.
- (✓) Emissions point number(s).
- (✓) Date(s) the permit to construct was issued.
- (✓) Condition number(s) as indicated on the permit to construct.
- (✓) Description of the permit condition(s) and the reason(s) why they are believed to be obsolete, extraneous, or insignificant.

N/A

Part D

- (✓) Description of all alternate operating scenarios that apply to an emissions unit.
- (✓) Number assigned to each scenario.
- (✓) Emissions unit number.
- (✓) Description of the operating parameters for the emissions unit and other information which describes the how the operation of the unit will change under the different scenario.

N/A

Part E

- (✓) A citation and description of each federally enforceable requirement triggered by an operating scenario, including all emission standards, for each emissions unit.
- (✓) As an attachment, the date and results of the most recent compliance demonstration for each emission standard and/or emissions certification report with relevant supporting documentation.
- (✓) A statement of compliance demonstration techniques for each requirement, including a description of monitoring, record keeping, reporting requirements, and test methods.
- (✓) The frequency of submittal of the compliance demonstration during the permit term.

Section 4 CONTROL EQUIPMENT

- (✓) The type of each piece of air pollution control equipment
- (✓) The capture and control efficiencies of the control equipment.

Section 5 SUMMARY SHEET OF POTENTIAL EMISSIONS

- (✓) Quantity of potential emissions for criteria pollutants and HAPs emitted in tons per year for each emissions unit.
- (✓) Fugitive emission estimations for the entire facility for criteria pollutants and HAPs emitted in tons per year.
- (✓) Basis for all emission calculations.

Section 6 AN EXPLANATION OF PROPOSED EXEMPTIONS FROM OTHERWISE APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

- (✓) An explanation of the proposed exemption.

Section 7 COMPLIANCE SCHEDULE FOR NONCOMPLYING EMISSIONS UNITS

- (✓) Identification of emissions unit(s) not in compliance, including the requirement being violated and the effective compliance date.
- (✓) Detailed description of methods to be used to achieve compliance.
- (✓) A schedule of remedial measures, including an enforceable sequence of actions with milestones.

Attachment

- (✓) Checklist of Insignificant Activities
- (✓) CAM Plan (If Applicable) N/A

2020 NSAB Title V Part 70 Operating Permit Renewal Application



NAVAL SUPPORT ACTIVITY BETHESDA

BETHESDA, MARYLAND

(PREVIOUSLY NATIONAL NAVAL MEDICAL CENTER)

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230

(410) 537-3000 • 1-800-633-6101 • <http://www.mde.state.md.us>**PART 70 PERMIT INITIAL APPLICATION**
AIR AND RADIATION MANAGEMENT ADMINISTRATION

Facilities required to obtain a Part 70 permit under COMAR 26.11.03.01 must complete and return this form. Applications are incomplete unless all applicable information required by COMAR 26.11.03.03 is supplied. Failure to supply additional information required by the Department to enable it to act on the application may result in loss of the application shield and denial of this application.

Owner and Operator:

Name of Owner or Operator: Naval Support Activity Bethesda (NSAB)		
Street Address: 4655 Taylor Road, Bldg. 27		
City: Bethesda	State: MD	Zip Code: 20889
Telephone Number (301) 295-3964		Fax Number

Facility Information:

Name of Facility: Naval Support Activity Bethesda (NSAB)		
Street Address: Public Works Department, 4655 Taylor Road, Bldg. 27		
City: Bethesda	State: MD	Zip Code: 20889
Plant Manager: Susan Paul	Telephone Number: (301) 295-2482	Fax Number:
24-Hour Emergency Telephone Number for Air Pollution Matters: Command Duty Officer (CDO) 202-359-0456		
E-mail Address: susan.paul@navy.mil		

List, on a separate page, the names and telephone numbers of other facility owners and persons with titles.



SECTION 1. CERTIFICATION STATEMENTS

1. Compliance Status with Applicable Enhanced Monitoring and Compliance Certification Requirements

The emissions units identified in this application are in compliance with applicable enhanced monitoring and compliance certification requirements.

2. Certification of Current Compliance with All Applicable Federally Enforceable Requirements

Except for the requirements identified in Section 7 of this application, for which compliance is not achieved, I hereby certify, based on information and belief formed after reasonable inquiry, that the facility is currently in compliance with all applicable federally enforceable requirements and agree that the facility will continue to comply with those requirements during the permit term.

You must complete a Section 7 form for each non-complying emissions unit.

3. Statement of Compliance with Respect to All New Applicable Requirements Effective During the Permit Term

I hereby state, based on information and belief formed after reasonable inquiry, that the facility agrees to meet, in a timely manner, all applicable federally enforceable requirements that become effective during the permit term, unless a more detailed schedule is expressly required by the applicable requirement.

4. Risk Management Plan Compliance

I hereby certify that, based on information and belief formed after reasonable inquiry, that a Risk Management Plan as required under n112(r) of the Clean Air Act:

☐ has been submitted;

☐ will be submitted at a future date; or

☒ does not need to be submitted.



5. Statement of Truth, Accuracy, and Completeness

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision and in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

RESPONSIBLE OFFICIAL:

X Susan Paul 11 June 2020
SIGNATURE DATE

Susan Paul

PRINTED NAME

Installation Environmental Program Director

Title



SECTION 2. FACILITY DESCRIPTION SUMMARY

1. Major Activities of Facility

Briefly describe the major activities, including the applicable SIC Code(s) and end product(s).

Briefly describe the major activities, including the applicable SIC Code(s) and end product(s).

Naval Support Activity Bethesda (NSAB) is located in Montgomery County, Maryland, approximately 10 miles north of downtown Washington, D.C. NSAB hosts a medical school, hospital, and research facility. The primary SIC Code for NSAB aboard the Bethesda complex is 9711. Secondary SIC Codes would be 8062 for General Medical and Surgical Hospitals, National Defense, 8071 for Medical Laboratories, 8072 for Dental Laboratories, and 8221 for Colleges, Universities, and Professional Schools. The registered emissions sources located at the facility include one (1) natural gas-fired water heater, six (6) natural gas-fired boilers, five (5) natural gas-fired and number 2 fuel oil-fired boilers, three (3) number 2 fuel oil-fired boilers, 26 diesel fueled emergency generators, and one (1) gasoline dispensing operation.

2. Facility-Wide Emissions

- A. This facility is required to obtain a Part 70 Operating Permit because it is:
Check appropriate box:

Actual Major
✓ Potential Major
Solid Waste Incineration Unit Requiring Permit Under § 129(e) of CAA

- B. List the actual facility-wide emissions below: (Emissions are shown in tpy)

PM10 2.89 NOx 20.4 VOC 4.73 SOx 1.22 CO 31.1 HAPs 0.781

Source: 2019 Emission Certification Report

3. Include With the Application:

- A. Flow Diagrams showing all emissions units, emission points, and control devices;
B. Plot plan of the entire facility;
C. Emissions Certification Report (copy of the most recent submitted to the Department.)



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 52-01C 1a. Date of installation (month/year): August 2011	2. MDE Registration No.:(if applicable) 031-1124-5-2256												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is referred to as the Navy Lodge Water Heater. The unit is a 1.06 MMBtu/hr Aerco</u> <u>INN 1060 natural gas-fired water heater equipped with a low NOx burner. The water heater provides the</u> <u>hot water needs for the Navy Lodge, which is Building No. 52 at the NSAB site. The emission point for</u> <u>this boiler is 52-P1.</u>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Natural gas</td> <td>N/A</td> <td>0.379 MMscf/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Natural gas	N/A	0.379 MMscf/yr	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Natural gas	N/A	0.379 MMscf/yr											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>0.009</u> SOx <u>1.14E-4</u> VOC <u>0.001</u> PM10 <u>1.44E-3</u> HAPs <u>3.63E-4</u> Source: 2019 Emission Calculations													



1. Emissions Unit No.: EU 51-01B 1a. Date of installation (month/year): December 2019		2. MDE Registration No.:(if applicable) 031-1124-5-2492													
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is referred to as Lochinvar Boiler 1. The unit is a 1.75 MMBtu/hr Lochinvar natural gas-fired boiler equipped with a low NOx burner. The boiler provides the heating needs for the National Intrepid Center of Excellence, which is Building No. 51 at the NSAB site. The emission point for this boiler is 51-P2.</u>															
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year															
5. Fuel Consumption: <table border="1"> <thead> <tr> <th>Type(s) of Fuel</th> <th>% Sulfur</th> <th>Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Natural gas</td> <td>N/A</td> <td>N/A; Unit has not operated</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table>				Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Natural gas	N/A	N/A; Unit has not operated	2. _____			3. _____		
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2. _____															
3. _____															
6. Emissions in Tons: <table border="1"> <tbody> <tr> <td>A. Actual Major: _____</td> <td>Potential Major: _____</td> <td>(note: before control device)</td> </tr> <tr> <td>B. Actual Emissions:</td> <td>NOx <u>N/A</u></td> <td>SOx <u>N/A</u> VOC <u>N/A</u></td> </tr> <tr> <td></td> <td>PM10 <u>N/A</u> HAPs <u>N/A</u></td> <td>Source: Unit has not operated</td> </tr> </tbody> </table>				A. Actual Major: _____	Potential Major: _____	(note: before control device)	B. Actual Emissions:	NOx <u>N/A</u>	SOx <u>N/A</u> VOC <u>N/A</u>		PM10 <u>N/A</u> HAPs <u>N/A</u>	Source: Unit has not operated			
A. Actual Major: _____	Potential Major: _____	(note: before control device)													
B. Actual Emissions:	NOx <u>N/A</u>	SOx <u>N/A</u> VOC <u>N/A</u>													
	PM10 <u>N/A</u> HAPs <u>N/A</u>	Source: Unit has not operated													



EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 51-02B		2. MDE Registration No.:(if applicable) 031-1124-5-2493	
1a. Date of installation (month/year): December 2019			
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is referred to as Lochinvar Boiler 2. The unit is a 1.75 MMBtu/hr Lochinvar natural gas-fired boiler equipped with a low NOx burner. The boiler provides the heating needs for the National Intrepid Center of Excellence, which is Building No. 51 at the NSAB site. The emission point for this boiler is 51-P3.</u>			
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year			
5. Fuel Consumption:			
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	
1. Natural gas	N/A	N/A; Unit has not operated	
2. _____			
3. _____			
6. Emissions in Tons:			
A. Actual Major: _____ Potential Major: _____ (note: before control device)			
B. Actual Emissions: NOx <u>N/A</u> SOx <u>N/A</u> VOC <u>N/A</u> PM10 <u>N/A</u> HAPs <u>N/A</u> Source: Unit has not operated			



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A.

EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 51-03B 1a. Date of installation (month/year): December 2019	2. MDE Registration No.:(if applicable) 031-1124-5-2494												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is referred to as Lochinvar Boiler 3. The unit is a 1.75 MMBtu/hr Lochinvar natural gas-fired boiler equipped with a low NOx burner. The boiler provides the heating needs for the National Intrepid Center of Excellence, which is Building No. 51 at the NSAB site. The emission point for this boiler is 51-P4.</u>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Natural gas</td> <td>N/A</td> <td>N/A; Unit has not operated</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Natural gas	N/A	N/A; Unit has not operated	2. _____			3. _____		
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2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>N/A</u> SOx <u>N/A</u> VOC <u>N/A</u> PM10 <u>N/A</u> HAPs <u>N/A</u> Source: Unit has not operated													



EMISSIONS UNIT DESCRIPTIONS



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A.

EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 70A-02A 1a. Date of installation (month/year): January 2020	2. MDE Registration No.:(if applicable) 031-1124-4-1427												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is a temporary boiler located at building 70. The unit is a 14.3 MMBtu/hr Cleaver</u> <u>Brooks oil-fired boiler. The boiler provides the heating needs for the Uniformed Services University of</u> <u>the Health Sciences while the steam lines are being repaired at the NSAB site. The emission point for this</u> <u>boiler is 70-P2.</u>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
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Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Distillate Fuel (No. 2 fuel oil)	<0.3	N/A; Unit has not operated											
2. _____													
3. _____													
8. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>N/A</u> SOx <u>N/A</u> VOC <u>N/A</u> PM10 <u>N/A</u> HAPs <u>N/A</u> Source: Unit has not operated													



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A.

EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 70A-03A 1a. Date of installation (month/year): January 2020	2. MDE Registration No.:(if applicable) N/A												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is a temporary boiler located at building 70. The unit is a 42.0 MMBtu/hr Cleaver</u> <u>Brooks oil-fired boiler. The boiler provides the heating needs for the Uniformed Services University of</u> <u>the Health Sciences while the steam lines are being repaired at the NSAB site. The emission point for this</u> <u>boiler is 70-P3.</u>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
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2. _____													
3. _____													
9. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>N/A</u> SOx <u>N/A</u> VOC <u>N/A</u> PM10 <u>N/A</u> HAPs <u>N/A</u> Source: Unit has not operated													



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A.

EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 16-01B 1a. Date of installation (month/year): November 2002	2. MDE Registration No.:(if applicable) 031-1124-5-1264 N															
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is referred to as Boiler No. 1. This unit is a Cleaver Brooks Model DL-68E</u> <u>dual-fired 67 MMBtu/hr boiler located at the Heating Plant, Building No.16 at the NSAB site.</u> <u>The boiler generates high temperature hot water that is used for heating purposes throughout the</u> <u>NSAB facility. The unit is equipped with flue gas recirculation (FGR) and low NOx burners.</u> <u>The primary fuel for the boiler is natural gas. If natural gas supply is interrupted, the boiler can</u> <u>operate using No. 2 fuel oil. The emission point for the boiler is 16-P1. The emergency emission point</u> <u>for the boiler is 16-P5.</u>																
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year																
<table style="width:100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">5. Fuel Consumption:</th> <th></th> <th></th> </tr> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> <tr> <td>1. Natural gas</td> <td>N/A</td> <td>272 MMscf/yr</td> </tr> <tr> <td>2. Distillate fuel (No. 2 fuel oil)</td> <td>< 0.3</td> <td>21.0 Mgal/yr</td> </tr> <tr> <td>3.</td> <td></td> <td>Source: 2019 Emissions Calculations</td> </tr> </table>		5. Fuel Consumption:			Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Natural gas	N/A	272 MMscf/yr	2. Distillate fuel (No. 2 fuel oil)	< 0.3	21.0 Mgal/yr	3.		Source: 2019 Emissions Calculations
5. Fuel Consumption:																
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)														
1. Natural gas	N/A	272 MMscf/yr														
2. Distillate fuel (No. 2 fuel oil)	< 0.3	21.0 Mgal/yr														
3.		Source: 2019 Emissions Calculations														
6. Emissions in Tons: A. Actual Major: _____ Potential Major: <u>X</u> (note: before control device) B. Actual Emissions: NOx <u>4.23</u> SOx <u>0.084</u> VOC <u>0.752</u> PM10 <u>1.06</u> HAPs <u>0.262</u> Source: 2019 Emission Calculations																



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 16-02B 1a. Date of installation (month/year): November 2002	2. MDE Registration No.:(if applicable) 031-1124-5-1263 N												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is referred to as Boiler No. 2. This unit is a Cleaver Brooks Model DL-68E</u> <u>dual-fired 67 MMBtu/hr boiler located at the Heating Plant, which is Building No.16 at the NSAB site.</u> <u>The boiler generates high temperature hot water that is used for heating purposes throughout the</u> <u>NSAB facility. The unit is equipped with flue gas recirculation (FGR) and low NOx burners.</u> <u>The primary fuel for the boiler is natural gas. If natural gas supply is interrupted, the boiler can</u> <u>operate using No. 2 fuel oil. The emission point for the boiler is 16-P1. The emergency emission point</u> <u>for the boiler is 16-P5.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Natural gas</td> <td>N/A</td> <td>164 MMscf/yr</td> </tr> <tr> <td>2. Distillate fuel (No. 2 fuel oil)</td> <td>< 0.3</td> <td>25.3 Mgal/yr</td> </tr> <tr> <td colspan="3">3. _____ Source: 2019 Emissions Calculations</td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Natural gas	N/A	164 MMscf/yr	2. Distillate fuel (No. 2 fuel oil)	< 0.3	25.3 Mgal/yr	3. _____ Source: 2019 Emissions Calculations		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Natural gas	N/A	164 MMscf/yr											
2. Distillate fuel (No. 2 fuel oil)	< 0.3	25.3 Mgal/yr											
3. _____ Source: 2019 Emissions Calculations													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: <u> X </u> (note: before control device) B. Actual Emissions: NOx <u>2.68</u> SOx <u>0.052</u> VOC <u>0.455</u> PM10 <u>0.653</u> HAPs <u>0.158</u> Source: 2019 Emission Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 16-03B 1a. Date of installation (month/year): January 2002	2. MDE Registration No.:(if applicable) 031-1124-5-1241 M															
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is referred to as Boiler No. 3. This unit is a Cleaver Brooks Model DL-68E</u> <u>dual-fired 67 MMBtu/hr boiler located at the Heating Plant, which is Building No.16 at the NSAB site.</u> <u>The boiler generates high temperature hot water that is used for heating purposes throughout the</u> <u>NSAB facility. The unit is equipped with flue gas recirculation (FGR) and low NOx burners.</u> <u>The primary fuel for the boiler is natural gas. If natural gas supply is interrupted, the boiler can</u> <u>operate using No. 2 fuel oil. The emission point for the boiler is 16-P1. The emergency emission point</u> <u>for the boiler is 16-P5.</u>																
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year																
<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left; width: 40%;">5. Fuel Consumption:</th> <th style="width: 30%;"></th> <th style="width: 30%;"></th> </tr> <tr> <td style="padding-left: 20px;">Type(s) of Fuel</td> <td>% Sulfur</td> <td>Annual Usage (specify units)</td> </tr> <tr> <td>1. Natural gas</td> <td>N/A</td> <td>113 MMscf/yr</td> </tr> <tr> <td>2. Distillate fuel (No. 2 fuel oil)</td> <td><0.3</td> <td>9.18 Mgal/yr</td> </tr> <tr> <td>3. _____</td> <td colspan="2">Source: 2019 Emissions Calculations</td> </tr> </table>		5. Fuel Consumption:			Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Natural gas	N/A	113 MMscf/yr	2. Distillate fuel (No. 2 fuel oil)	<0.3	9.18 Mgal/yr	3. _____	Source: 2019 Emissions Calculations	
5. Fuel Consumption:																
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)														
1. Natural gas	N/A	113 MMscf/yr														
2. Distillate fuel (No. 2 fuel oil)	<0.3	9.18 Mgal/yr														
3. _____	Source: 2019 Emissions Calculations															
6. Emissions in Tons: A. Actual Major: _____ Potential Major: <u>X</u> (note: before control device) B. Actual Emissions: NOx <u>1.46</u> SOx <u>0.035</u> VOC <u>0.311</u> PM10 <u>0.439</u> HAPs <u>0.108</u> Source: 2019 Emission Calculations																



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 16-04B 1a. Date of installation (month/year): April 2002	2. MDE Registration No.:(if applicable) 031-1124-5-1242 M												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is referred to as Boiler No. 4. This unit is a Cleaver Brooks Model DL-68E</u> <u>dual-fired 67 MMBtu/hr boiler located at the Heating Plant, which is Building No.16 at the NSAB site.</u> <u>The boiler generates high temperature hot water that is used for heating purposes throughout the</u> <u>NSAB facility. The unit is equipped with flue gas recirculation (FGR) and low NOx burners.</u> <u>The primary fuel for the boiler is natural gas. If natural gas supply is interrupted, the boiler can</u> <u>operate using No. 2 fuel oil. The emission point for the boiler is 16-P1. The emergency emission point</u> <u>for the boiler is 16-P5.</u>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:N/A General Reference:_____ Continuous Processes: _____hours/day _____days/year Batch Processes: _____hours/batch _____batches/day _____days/year													
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Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Natural gas	N/A	74.1 MMscf/yr											
2. Distillate fuel (No. 2 fuel oil)	< 0.3	12.2 Mgal/yr											
3. _____ Source: 2019 Emissions Calculations													
6. Emissions in Tons: A. Actual Major:_____ Potential Major:_____ X _____(note: before control device) B. Actual Emissions: NOx <u>1.09</u> SOx <u>0.024</u> VOC <u>0.206</u> PM10 <u>0.296</u> HAPs <u>0.071</u> Source: 2019 Emissions Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 16-05B 1a. Date of installation (month/year): June 2010	2. MDE Registration No.:(if applicable) 031-1124-5-2233												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is referred to as Boiler No. 5. This unit is a Cleaver Brooks Model DL-68E</u> <u>dual-fired 71 MMBtu/hr boiler located at the Heating Plant, which is Building No.16 at the NSAB site.</u> <u>The boiler generates high temperature hot water that is used for heating purposes throughout the</u> <u>NSAB facility. The unit is equipped with flue gas recirculation (FGR) and low NOx burners.</u> <u>The primary fuel for the boiler is natural gas. If natural gas supply is interrupted, the boiler can</u> <u>operate using No. 2 fuel oil. The emission point for the boiler is 16-P1. The emergency emission point</u> <u>for the boiler is 16-P5.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
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Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Natural Gas	N/A	54.5 MMscf/yr											
2. Distillate fuel (No. 2 fuel oil)	< 0.3	9.80 Mgal/yr											
3. _____ Source: 2019 Emissions Calculations													
6. Emissions in Tons: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;">A. Actual Major: _____</td> <td style="width:30%;">Potential Major: <u> X </u> (note: before control device)</td> <td style="width:40%;"></td> </tr> <tr> <td>B. Actual Emissions:</td> <td>NOx <u>0.757</u> SOx <u>0.017</u> VOC <u>0.151</u></td> <td></td> </tr> <tr> <td></td> <td>PM10 <u>0.219</u> HAPs <u>0.052</u></td> <td>Source: 2019 Emissions Calculations</td> </tr> </table>		A. Actual Major: _____	Potential Major: <u> X </u> (note: before control device)		B. Actual Emissions:	NOx <u>0.757</u> SOx <u>0.017</u> VOC <u>0.151</u>			PM10 <u>0.219</u> HAPs <u>0.052</u>	Source: 2019 Emissions Calculations			
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	PM10 <u>0.219</u> HAPs <u>0.052</u>	Source: 2019 Emissions Calculations											



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 82-01A 1a. Date of installation (month/year): November 2011	2. MDE Registration No.:(if applicable) 031-1124-5-2407												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is referred to as Futera III Boiler #1. The unit is a 1.50 MMBtu/hr Futera III MB</u> <u>1500 natural gas-fired boiler and is located on the rooftop of the NEX Gas Station, which is Building No.</u> <u>82 at the NSAB site. The emission point for this boiler is 82-P1.</u>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Natural Gas</td> <td>N/A</td> <td>0.709 MMscf/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Natural Gas	N/A	0.709 MMscf/yr	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Natural Gas	N/A	0.709 MMscf/yr											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>0.035</u> SOx <u>2.13E-4</u> VOC <u>0.002</u> PM10 <u>0.003</u> HAPs <u>0.001</u> Source: 2019 Emissions Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 82-02A 1a. Date of installation (month/year): November 2011	2. MDE Registration No.:(if applicable) 031-1124-5-2408															
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is referred to as Futera III Boiler #2. The unit is a 1.50 MMBtu/hr Futera III MB</u> <u>1500 natural gas-fired boiler and is located on the rooftop of the NEX Gas Station, which is Building No.</u> <u>82 at the NSAB site. The emission point for this boiler is 82-P2.</u>																
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year																
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">5. Fuel Consumption:</th> <th style="width: 30%;"></th> <th style="width: 30%;"></th> </tr> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th>% Sulfur</th> <th>Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>4. Natural Gas</td> <td>N/A</td> <td>0.709 MMscf/yr</td> </tr> <tr> <td>5. _____</td> <td></td> <td></td> </tr> <tr> <td colspan="3">1. _____ Source: 2019 Emissions Calculations</td> </tr> </tbody> </table>		5. Fuel Consumption:			Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	4. Natural Gas	N/A	0.709 MMscf/yr	5. _____			1. _____ Source: 2019 Emissions Calculations		
5. Fuel Consumption:																
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)														
4. Natural Gas	N/A	0.709 MMscf/yr														
5. _____																
1. _____ Source: 2019 Emissions Calculations																
7. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>0.035</u> SOx <u>2.13E-4</u> VOC <u>0.002</u> PM10 <u>0.003</u> HAPs <u>0.001</u> Source: 2019 Emissions Calculations																



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 82-03A 1a. Date of installation (month/year): November 2011	2. MDE Registration No.:(if applicable) 031-1124-5-2409									
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>This emission unit is referred to as Futera III Boiler #3. The unit is a 1.50 MMBtu/hr Futera III MB</u> <u>1500 natural gas-fired boiler and is located on the rooftop of the NEX Gas Station, which is Building No.</u> <u>82 at the NSAB site. The emission point for this boiler is 82-P3.</u> 										
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year										
5. Fuel Consumption: <table style="width:100%; border: none;"> <tr> <td style="width:40%;">Type(s) of Fuel</td> <td style="width:20%;">% Sulfur</td> <td style="width:40%;">Annual Usage (specify units)</td> </tr> <tr> <td>6. Natural Gas</td> <td>N/A</td> <td>0.709 MMscf/yr</td> </tr> <tr> <td colspan="3">7. _____</td> </tr> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	6. Natural Gas	N/A	0.709 MMscf/yr	7. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)								
6. Natural Gas	N/A	0.709 MMscf/yr								
7. _____										
1. _____ Source: 2019 Emissions Calculations										
8. Emissions in Tons: <table style="width:100%; border: none;"> <tr> <td style="width:40%;">A. Actual Major: _____</td> <td style="width:60%;">Potential Major: _____ (note: before control device)</td> </tr> <tr> <td>B. Actual Emissions:</td> <td>NOx <u>0.035</u> SOx <u>2.13E-4</u> VOC <u>0.002</u></td> </tr> <tr> <td></td> <td>PM10 <u>0.003</u> HAPs <u>0.001</u></td> </tr> </table> Source: 2019 Emissions Calculations		A. Actual Major: _____	Potential Major: _____ (note: before control device)	B. Actual Emissions:	NOx <u>0.035</u> SOx <u>2.13E-4</u> VOC <u>0.002</u>		PM10 <u>0.003</u> HAPs <u>0.001</u>			
A. Actual Major: _____	Potential Major: _____ (note: before control device)									
B. Actual Emissions:	NOx <u>0.035</u> SOx <u>2.13E-4</u> VOC <u>0.002</u>									
	PM10 <u>0.003</u> HAPs <u>0.001</u>									



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 07-01G 1a. Date of installation (month/year): June 1982	2. MDE Registration No.:(if applicable) 031-1124-9-0804												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 680 hp Caterpillar Model 3412 diesel engine powering a Caterpillar Model 3412DIST</u> <u>electric generator for standby emergency backup power rated at 400 kW for Bldg. 7 at the hospital. The</u> <u>emission point for this emergency generator is 07-P1.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Ultra Low Sulfur Diesel (ULSD)</td> <td>0.0015</td> <td>156 gal/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Ultra Low Sulfur Diesel (ULSD)	0.0015	156 gal/yr	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	156 gal/yr											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>0.038</u> SOx <u>0.004</u> VOC <u>0.001</u> PM10 <u>6.27E-4</u> HAPs <u>1.72E-5</u> Source: 2019 Emission Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 53-01G 1a. Date of installation (month/year): 1988	2. MDE Registration No.:(if applicable) 031-1124-9-0805												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 536 hp Rolls Royce Model 3008-TAG1 diesel engine powering a Katolight Model</u> <u>D400FRR4 electric generator for standby emergency backup power rated at 400 kW for the Env/Health</u> <u>Effects Lab (Bldg. 53). The emission point for this emergency generator is 53-P1.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Ultra Low Sulfur Diesel (ULSD)</u></td> <td><u>0.0015</u></td> <td><u>391 gal/yr</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>391 gal/yr</u>	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>391 gal/yr</u>											
2. _____													
3. _____													
6. Emissions in Tons: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;">A. Actual Major: _____</td> <td style="width:33%;">Potential Major: _____</td> <td style="width:34%; text-align: right;">(note: before control device)</td> </tr> <tr> <td colspan="3">B. Actual Emissions: NOx <u>0.121</u> SOx <u>0.008</u> VOC <u>0.010</u></td> </tr> <tr> <td colspan="3"> PM10 <u>0.017</u> HAPs <u>1.06E-4</u></td> </tr> <tr> <td colspan="3" style="text-align: right;">Source: 2019 Emission Calculations</td> </tr> </table>		A. Actual Major: _____	Potential Major: _____	(note: before control device)	B. Actual Emissions: NOx <u>0.121</u> SOx <u>0.008</u> VOC <u>0.010</u>			PM10 <u>0.017</u> HAPs <u>1.06E-4</u>			Source: 2019 Emission Calculations		
A. Actual Major: _____	Potential Major: _____	(note: before control device)											
B. Actual Emissions: NOx <u>0.121</u> SOx <u>0.008</u> VOC <u>0.010</u>													
PM10 <u>0.017</u> HAPs <u>1.06E-4</u>													
Source: 2019 Emission Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 16-01H 1a. Date of installation (month/year): July 2018	2. MDE Registration No.:(if applicable) 031-1124-9-1183												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 755 hp Stamford diesel engine (Serial No. X18A013625) powering a Cummins Model DFEJ-1816309 electric generator for standby emergency backup power rated at 450 kW for the Heating Plant (Bldg. 16). The emission point for this emergency generator is 16-P2.</u> _____ _____ _____ _____ _____													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Ultra Low Sulfur Diesel (ULSD)</td> <td>0.0015</td> <td>378 gal/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td colspan="3">3. _____ Source: 2019 Emissions Calculations</td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Ultra Low Sulfur Diesel (ULSD)	0.0015	378 gal/yr	2. _____			3. _____ Source: 2019 Emissions Calculations		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	378 gal/yr											
2. _____													
3. _____ Source: 2019 Emissions Calculations													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>0.091</u> SOx <u>0.009</u> VOC <u>0.002</u> PM10 <u>0.002</u> HAPs <u>4.16E-5</u> Source: 2019 Emission Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 16-02H 1a. Date of installation (month/year): August 2018	2. MDE Registration No.:(if applicable) 031-1124-9-1184												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 755 hp Stamford diesel engine (Serial No. X18A033612) powering a Cummins Model</u> <u>DFEJ-1816309 electric generator for standby emergency backup power rated at 450 kW for the Heating</u> <u>Plant (Bldg. 16). The emission point for this emergency generator is 16-P3.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Ultra Low Sulfur Diesel (ULSD)</td> <td>0.0015</td> <td>396 gal/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Ultra Low Sulfur Diesel (ULSD)	0.0015	396 gal/yr	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	396 gal/yr											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>0.095</u> SOx <u>0.010</u> VOC <u>0.003</u> PM10 <u>0.002</u> HAPs <u>4.37E-5</u> Source: 2019 Emission Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 202-01H 1a. Date of installation (month/year): January 2016	2. MDE Registration No.:(if applicable) 031-1124-9-1138												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a Cummins Model 752 hp diesel engine powering a Caterpillar Model LC6 electric</u> <u>generator for standby emergency backup power rated at 500 kW. The unit is located between</u> <u>Buildings 55 and 54. The emission point for this emergency generator is 202-P1.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Ultra Low Sulfur Diesel (ULSD)</u></td> <td><u>0.0015</u></td> <td><u>71 gal/yr</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>71 gal/yr</u>	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>71 gal/yr</u>											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>0.017</u> SOx <u>0.002</u> VOC <u>4.58E-4</u> PM10 <u>2.87E-4</u> HAPs <u>7.87E-6</u> Source: 2019 Emissions Calculations													



1. Emissions Unit No.: EU 01-01H		2. MDE Registration No.:(if applicable) 031-1124-9-1140	
1a. Date of installation (month/year): 2016			
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 896 horsepower (hp) Caterpillar Model 3412 diesel engine powering a Caterpillar</u> <u>Model SR-4 electric generator for standby emergency backup power rated at 600 (kilowatts) kW for</u> <u>the dental clinic at Bldg. 1. The emission point for this emergency generator is 01-P1.</u> 			
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A			
General Reference:_____			
Continuous Processes:		_____hours/day	_____days/year
Batch Processes:		_____hours/batch	_____batches/day
		_____days/year	
5. Fuel Consumption:			
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	482 gal/yr	
2. _____			
3. _____		Source: 2019 Emissions Calculations	
6. Emissions in Tons:			
A. Actual Major:_____		Potential Major:_____ (note: before control device)	
B. Actual Emissions:		NOx <u>0.116</u> SOx <u>0.012</u> VOC <u>0.003</u>	
		PM10 <u>0.002</u> HAPs <u>5.30E-5</u>	
		Source: 2019 Emissions Calculations	



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 27-01A 1a. Date of installation (month/year): November 2009	2. MDE Registration No.:(if applicable) 031-1124-9-0949												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 1214 hp Caterpillar Model C27 diesel engine powering a Cummins Model SR4B</u> <u>electric generator for standby emergency backup power rated at 800 kW for the Public Works</u> <u>Building (Bldg. 27). The emission point for this emergency generator is 27-P1.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Ultra Low Sulfur Diesel (ULSD)</u></td> <td><u>0.0015</u></td> <td><u>1,481 gal/yr</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>1,481 gal/yr</u>	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>1,481 gal/yr</u>											
2. _____													
3. _____													
6. Emissions in Tons: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;">A. Actual Major: _____</td> <td style="width:30%;">Potential Major: _____</td> <td style="width:40%;">(note: before control device)</td> </tr> <tr> <td colspan="3">B. Actual Emissions: NOx <u>0.355</u> SOx <u>0.036</u> VOC <u>0.010</u></td> </tr> <tr> <td colspan="3"> PM10 <u>0.006</u> HAPs <u>1.63E-4</u></td> </tr> <tr> <td colspan="2"></td> <td align="right">Source: 2019 Emission Calculations</td> </tr> </table>		A. Actual Major: _____	Potential Major: _____	(note: before control device)	B. Actual Emissions: NOx <u>0.355</u> SOx <u>0.036</u> VOC <u>0.010</u>			PM10 <u>0.006</u> HAPs <u>1.63E-4</u>					Source: 2019 Emission Calculations
A. Actual Major: _____	Potential Major: _____	(note: before control device)											
B. Actual Emissions: NOx <u>0.355</u> SOx <u>0.036</u> VOC <u>0.010</u>													
PM10 <u>0.006</u> HAPs <u>1.63E-4</u>													
		Source: 2019 Emission Calculations											



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 71B-01H 1a. Date of installation (month/year): April 2010	2. MDE Registration No.:(if applicable) 031-1124-9-0961												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 619 hp Caterpillar Model C15 diesel engine (Serial No. FSE03146) powering a Caterpillar Model LC6 electric generator for standby emergency backup power rated at 400 kW for the University Building B (Bldg. 71). The emission point for this emergency generator is 71-P1.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Ultra Low Sulfur Diesel (ULSD)</td> <td>0.0015</td> <td>480 gal/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td colspan="3">3. _____ Source: 2019 Emissions Calculations</td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Ultra Low Sulfur Diesel (ULSD)	0.0015	480 gal/yr	2. _____			3. _____ Source: 2019 Emissions Calculations		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	480 gal/yr											
2. _____													
3. _____ Source: 2019 Emissions Calculations													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>0.115</u> SOx <u>0.012</u> VOC <u>0.003</u> PM10 <u>0.002</u> HAPs <u>5.28E-5</u> Source: 2019 Emission Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 72C-02H 1a. Date of installation (month/year): June 2010	2. MDE Registration No.:(if applicable) 031-1124-9-0962												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 619 hp Caterpillar Model C15 diesel engine (Serial No. FSE03148) powering a</u> <u>Caterpillar Model LC6 electric generator for standby emergency backup power rated at 400 kW for the</u> <u>University Building C (Bldg. 72). The emission point for this emergency generator is 72-P1.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Ultra Low Sulfur Diesel (ULSD)</td> <td>0.0015</td> <td>963 gal/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Ultra Low Sulfur Diesel (ULSD)	0.0015	963 gal/yr	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	963 gal/yr											
2. _____													
3. _____													
6. Emissions in Tons: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;">A. Actual Major: _____</td> <td style="width:30%;">Potential Major: _____</td> <td style="width:40%;">(note: before control device)</td> </tr> <tr> <td>B. Actual Emissions:</td> <td>NOx <u>0.231</u> SOx <u>0.023</u> VOC <u>0.006</u></td> <td></td> </tr> <tr> <td></td> <td>PM10 <u>0.004</u> HAPs <u>1.06E-4</u></td> <td></td> </tr> </table> Source: 2019 Emissions Calculations		A. Actual Major: _____	Potential Major: _____	(note: before control device)	B. Actual Emissions:	NOx <u>0.231</u> SOx <u>0.023</u> VOC <u>0.006</u>			PM10 <u>0.004</u> HAPs <u>1.06E-4</u>				
A. Actual Major: _____	Potential Major: _____	(note: before control device)											
B. Actual Emissions:	NOx <u>0.231</u> SOx <u>0.023</u> VOC <u>0.006</u>												
	PM10 <u>0.004</u> HAPs <u>1.06E-4</u>												



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 55-03H 1a. Date of installation (month/year): June 2010	2. MDE Registration No.:(if applicable) 031-1124-9-0963												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 2206 hp Caterpillar Model 3512C GD diesel engine (Serial No. EBG00722) powering a</u> <u>Caterpillar Model SR4B-GD electric generator for standby emergency backup power rated at 1500 kW</u> <u>for the hospital. The unit is located in a parking garage (Bldg. 55) and the emission point for this</u> <u>emergency generator is 55-P3.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Ultra Low Sulfur Diesel (ULSD)</td> <td>0.0015</td> <td>4,269 gal/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Ultra Low Sulfur Diesel (ULSD)	0.0015	4,269 gal/yr	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	4,269 gal/yr											
2. _____													
3. _____													
6. Emissions in Tons: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;">A. Actual Major: _____</td> <td style="width:30%;">Potential Major: _____</td> <td style="width:40%;">(note: before control device)</td> </tr> <tr> <td>B. Actual Emissions:</td> <td>NOx <u>1.02</u> SOx <u>0.104</u> VOC <u>0.027</u></td> <td></td> </tr> <tr> <td></td> <td>PM10 <u>0.017</u> HAPs <u>4.70E-4</u></td> <td></td> </tr> </table> Source: 2019 Emissions Calculations		A. Actual Major: _____	Potential Major: _____	(note: before control device)	B. Actual Emissions:	NOx <u>1.02</u> SOx <u>0.104</u> VOC <u>0.027</u>			PM10 <u>0.017</u> HAPs <u>4.70E-4</u>				
A. Actual Major: _____	Potential Major: _____	(note: before control device)											
B. Actual Emissions:	NOx <u>1.02</u> SOx <u>0.104</u> VOC <u>0.027</u>												
	PM10 <u>0.017</u> HAPs <u>4.70E-4</u>												



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 63-01G 1a. Date of installation (month/year): June 2010	2. MDE Registration No.:(if applicable) 031-1124-9-0964												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 2923 hp Cummins Model QSK60-G6 diesel engine (Serial No. 75779-1005) powering a Cummins Model DQKAA-A030G129 electric generator for standby emergency backup power rated at 1750 kW for the hospital. The unit is located in a parking garage (Bldg. 63) and the emission point for this emergency generator is 63-P1.</u>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Ultra Low Sulfur Diesel (ULSD)</td> <td>0.0015</td> <td>5,875 gal/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Ultra Low Sulfur Diesel (ULSD)	0.0015	5,875 gal/yr	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	5,875 gal/yr											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>1.41</u> SOx <u>0.143</u> VOC <u>0.038</u> PM10 <u>0.024</u> HAPs <u>6.47E-4</u> Source: 2019 Emissions Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 55-01H 1a. Date of installation (month/year): June 2010	2. MDE Registration No.:(if applicable) 031-1124-9-0966												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 2206 hp Caterpillar Model 3512C diesel engine (Serial No. EBG00724) powering a</u> <u>Caterpillar Model SR4B-GD electric generator for standby emergency backup power rated at 1500</u> <u>kW for the hospital. The unit is located in a parking garage (Bldg. 55) and the emission point for this</u> <u>emergency generator is 55-P1.</u>													
2. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:N/A General Reference:_____ Continuous Processes: _____hours/day _____days/year Batch Processes: _____hours/batch _____batches/day _____days/year													
5. Fuel Consumption: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Ultra Low Sulfur Diesel (ULSD)</td> <td>0.0015</td> <td>4,379 gal/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emission Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Ultra Low Sulfur Diesel (ULSD)	0.0015	4,379 gal/yr	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	4,379 gal/yr											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major:_____ Potential Major:_____(note: before control device) B. Actual Emissions: NOx <u>1.05</u> SOx <u>0.106</u> VOC <u>0.028</u> PM10 <u>0.018</u> HAPs <u>4.82E-4</u> Source: 2019 Emission Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 55-02H 1a. Date of installation (month/year): June 2010	2. MDE Registration No.:(if applicable) 031-1124-9-0967												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 2206 hp Caterpillar Model 3512C diesel engine (Serial No. EBG00723) powering a</u> <u>Caterpillar Model SR4B-GD electric generator for standby emergency backup power rated at 1500 kW</u> <u>for the hospital. The unit is located in a parking garage (Bldg. 55) and the emission point for this</u> <u>emergency generator is 55-P2.</u>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Ultra Low Sulfur Diesel (ULSD)</u></td> <td><u>0.0015</u></td> <td><u>4,291 gal/yr</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emission Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>4,291 gal/yr</u>	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>4,291 gal/yr</u>											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>1.03</u> SOx <u>0.104</u> VOC <u>0.028</u> PM10 <u>0.017</u> HAPs <u>4.73E-4</u> Source: 2019 Emissions Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 51-01G 1a. Date of installation (month/year): May 2010	2. MDE Registration No.:(if applicable) 031-1124-9-0970												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 685 hp Detroit Model 9DDXL14.0VLD diesel engine powering a Kohler Model</u> <u>400REOZDD electric generator for standby emergency backup power rated at 405 kW for NICOE</u> <u>(Bldg. 51). The emission point for this emergency generator is 51-P1.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Ultra Low Sulfur Diesel (ULSD)</u></td> <td><u>0.0015</u></td> <td><u>99 gal/yr</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>99 gal/yr</u>	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>99 gal/yr</u>											
2. _____													
3. _____													
6. Emissions in Tons: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">A. Actual Major: _____</td> <td style="width: 30%;">Potential Major: _____</td> <td style="width: 40%;">(note: before control device)</td> </tr> <tr> <td>B. Actual Emissions:</td> <td>NOx <u>0.024</u> SOx <u>0.002</u> VOC <u>0.001</u></td> <td></td> </tr> <tr> <td></td> <td>PM10 <u>3.98E-4</u> HAPs <u>1.09E-5</u></td> <td></td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;">Source: 2019 Emission Calculations</td> </tr> </table>		A. Actual Major: _____	Potential Major: _____	(note: before control device)	B. Actual Emissions:	NOx <u>0.024</u> SOx <u>0.002</u> VOC <u>0.001</u>			PM10 <u>3.98E-4</u> HAPs <u>1.09E-5</u>				Source: 2019 Emission Calculations
A. Actual Major: _____	Potential Major: _____	(note: before control device)											
B. Actual Emissions:	NOx <u>0.024</u> SOx <u>0.002</u> VOC <u>0.001</u>												
	PM10 <u>3.98E-4</u> HAPs <u>1.09E-5</u>												
		Source: 2019 Emission Calculations											



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 17-01 1a. Date of installation (month/year): July 2011	2. MDE Registration No.:(if applicable) 031-1124-9-1008												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 903 hp Volvo Model TWD1643GE diesel engine powering a Kohler Model 600REOZ</u> <u>electric generator for standby emergency backup power rated at 600 kW for the Fitness Center</u> <u>(Bldg. 17). The emission point for this emergency generator is 17-P1.</u>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Ultra Low Sulfur Diesel (ULSD)</u></td> <td><u>0.0015</u></td> <td><u>1,436 gal/yr</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>1,436 gal/yr</u>	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>1,436 gal/yr</u>											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>0.345</u> SOx <u>0.035</u> VOC <u>0.009</u> PM10 <u>0.006</u> HAPs <u>1.58E-4</u> Source: 2019 Emission Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 62-02G 1a. Date of installation (month/year): July 2011	2. MDE Registration No.:(if applicable) 031-1124-9-1009												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 903 hp Volvo Model TWD1643GE diesel engine powering a Kohler Model 600REOZ electric generator for standby emergency backup power rated at 600 kW for the Barracks (Bldg. 62).</u> <u>The emission point for this emergency generator is 62-P1.</u>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Ultra Low Sulfur Diesel (ULSD)</td> <td>0.0015</td> <td>2,063 gal/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td colspan="3">3. _____ Source: 2019 Emission Calculations</td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Ultra Low Sulfur Diesel (ULSD)	0.0015	2,063 gal/yr	2. _____			3. _____ Source: 2019 Emission Calculations		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	2,063 gal/yr											
2. _____													
3. _____ Source: 2019 Emission Calculations													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>0.495</u> SOx <u>0.050</u> VOC <u>0.013</u> PM10 <u>0.008</u> HAPs <u>2.27E-4</u> Source: 2019 Emission Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 63-02H 1a. Date of installation (month/year): July 2011	2. MDE Registration No.:(if applicable) 031-1124-9-1010												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 2923 hp Cummins Model QSK60-G6 diesel engine (Serial No. 61113-5) powering a</u> <u>Cummins Model DQKAA-A040A134 electric generator for standby emergency backup power rated</u> <u>at 1750 kW for the hospital. The unit is located in a parking garage (Bldg. 63) and the emission point</u> <u>for this emergency generator is 63-P2.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Ultra Low Sulfur Diesel (ULSD)</td> <td>0.0015</td> <td>6,138 gal/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Ultra Low Sulfur Diesel (ULSD)	0.0015	6,138 gal/yr	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	6,138 gal/yr											
2. _____													
3. _____													
6. Emissions in Tons: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:40%;">A. Actual Major: _____</td> <td style="width:40%;">Potential Major: _____ (note: before control device)</td> <td style="width:20%;"></td> </tr> <tr> <td colspan="2">B. Actual Emissions: NOx <u>1.47</u> SOx <u>0.149</u> VOC <u>0.039</u></td> <td rowspan="2">Source: 2019 Emissions Calculations</td> </tr> <tr> <td colspan="2"> PM10 <u>0.025</u> HAPs <u>6.76E-4</u></td> </tr> </table>		A. Actual Major: _____	Potential Major: _____ (note: before control device)		B. Actual Emissions: NOx <u>1.47</u> SOx <u>0.149</u> VOC <u>0.039</u>		Source: 2019 Emissions Calculations	PM10 <u>0.025</u> HAPs <u>6.76E-4</u>					
A. Actual Major: _____	Potential Major: _____ (note: before control device)												
B. Actual Emissions: NOx <u>1.47</u> SOx <u>0.149</u> VOC <u>0.039</u>		Source: 2019 Emissions Calculations											
PM10 <u>0.025</u> HAPs <u>6.76E-4</u>													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 70A-01H 1a. Date of installation (month/year): June 2010	2. MDE Registration No.:(if applicable) 031-1124-9-0960												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 546 hp Caterpillar Model C15 diesel engine powering a Caterpillar Model LC6</u> <u>electric generator for standby emergency backup power rated at 350 kW for the University Building A</u> <u>(Bldg. 70). The emission point for this emergency generator is 70-P1.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Ultra Low Sulfur Diesel (ULSD)</u></td> <td><u>0.0015</u></td> <td><u>617 gal/yr</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>617 gal/yr</u>	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>617 gal/yr</u>											
2. _____													
3. _____													
6. Emissions in Tons: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;">A. Actual Major: _____</td> <td style="width:30%;">Potential Major: _____</td> <td style="width:40%;">(note: before control device)</td> </tr> <tr> <td colspan="3">B. Actual Emissions: NOx <u>0.191</u> SOx <u>0.013</u> VOC <u>0.016</u></td> </tr> <tr> <td colspan="3"> PM10 <u>0.027</u> HAPs <u>1.67E-4</u></td> </tr> <tr> <td colspan="3" style="text-align: right;">Source: 2019 Emissions Calculations</td> </tr> </table>		A. Actual Major: _____	Potential Major: _____	(note: before control device)	B. Actual Emissions: NOx <u>0.191</u> SOx <u>0.013</u> VOC <u>0.016</u>			PM10 <u>0.027</u> HAPs <u>1.67E-4</u>			Source: 2019 Emissions Calculations		
A. Actual Major: _____	Potential Major: _____	(note: before control device)											
B. Actual Emissions: NOx <u>0.191</u> SOx <u>0.013</u> VOC <u>0.016</u>													
PM10 <u>0.027</u> HAPs <u>1.67E-4</u>													
Source: 2019 Emissions Calculations													



1. Emissions Unit No.: EU 44-02G		2. MDE Registration No.:(if applicable) 031-1124-9-1003	
1a. Date of installation (month/year): August 2010			
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 1490 hp Cummins Model QST30-G5 diesel engine powering a Cummins Model</u> <u>DQFAD-576145 electric generator for standby emergency backup power rated at 1000 kW located</u> <u>between Buildings 43 and 44. The emission point for this emergency generator is 44-P2.</u>			
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A			
General Reference:_____			
Continuous Processes:		_____hours/day	_____days/year
Batch Processes:		_____hours/batch	_____batches/day
		_____days/year	
5. Fuel Consumption:			
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	194 gal/yr	
2. _____			
3. _____		Source: 2018 Emissions Calculations	
		Unit did not operate in 2019	
6. Emissions in Tons:			
A. Actual Major:_____		Potential Major:_____ (note: before control device)	
B. Actual Emissions:		NOx <u>0.046</u> SOx <u>0.005</u> VOC <u>0.001</u>	
		PM10 <u>6.73E-4</u> HAPs <u>2.13E-5</u> Source: 2018 Emission Calculations	
		Unit did not operate in 2019	



1. Emissions Unit No.: EU 44-01G		2. MDE Registration No.:(if applicable) 031-1124-9-1004	
1a. Date of installation (month/year): August 2010			
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 1220 hp Cummins Model QSK23-G7 NR2 diesel engine (Serial No. 00320155) powering</u> <u>a Cummins Model DQCB-576141 electric generator for standby emergency backup power rated at</u> <u>750 kW located behind Buildings 47. The emission point for this emergency generator is 44-P1.</u> 			
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A			
General Reference:_____			
Continuous Processes:		_____hours/day	_____days/year
Batch Processes:		_____hours/batch	_____batches/day
		_____days/year	
5. Fuel Consumption:			
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	183 gal/yr	
2. _____			
3. _____		Source: 2019 Emissions Calculations	
6. Emissions in Tons:			
A. Actual Major:_____		Potential Major:_____ (note: before control device)	
B. Actual Emissions:	NOx <u>0.044</u> SOx <u>0.004</u> VOC <u>0.001</u>		
	PM10 <u>7.34E-4</u> HAPs <u>2.02E-5</u>	Source: 2019 Emission Calculations	



1. Emissions Unit No.: EU 47-01G		2. MDE Registration No.:(if applicable) 031-1124-9-1005	
1a. Date of installation (month/year): August 2010			
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 1220 hp Cummins Model QSK23-G7 NR2 diesel engine (Serial No. 00320174) powering</u> <u>a Cummins Model DQCB-576143 electric generator for standby emergency backup power rated at</u> <u>750 kW for the Animal Research Building (Bldg. 47). The emission point for this emergency</u> <u>generator is 47-P1.</u>			
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A			
General Reference:_____			
Continuous Processes:		_____hours/day	_____days/year
Batch Processes:		_____hours/batch	_____batches/day
		_____days/year	
5. Fuel Consumption:			
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	976 gal/yr	
2. _____			
3. _____		Source: 2019 Emissions Calculations	
6. Emissions in Tons:			
A. Actual Major:_____		Potential Major:_____(note: before control device)	
B. Actual Emissions:	NOx <u>0.234</u> SOx <u>0.024</u> VOC <u>0.006</u>		
	PM10 <u>0.004</u> HAPs <u>1.08E-4</u>	Source: 2019 Emission Calculations	



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 55-04H 1a. Date of installation (month/year): November 2011	2. MDE Registration No.:(if applicable) 031-1124-9-1024												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 2206 hp Caterpillar Model 3512C diesel engine (Serial No. EBG00941) powering a</u> <u>Caterpillar Model SR4B-GD electric generator for standby emergency backup power rated at</u> <u>1500 kW for the hospital. The unit is located in a parking garage (Bldg. 55) and the emission point</u> <u>for this emergency generator is 55-P4.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Ultra Low Sulfur Diesel (ULSD)</td> <td>0.0015</td> <td>4,224 gal/yr</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emission Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Ultra Low Sulfur Diesel (ULSD)	0.0015	4,224 gal/yr	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	4,224 gal/yr											
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6. Emissions in Tons: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;">A. Actual Major: _____</td> <td style="width:30%;">Potential Major: _____</td> <td style="width:40%;">(note: before control device)</td> </tr> <tr> <td colspan="3">B. Actual Emissions: NOx <u>1.01</u> SOx <u>0.103</u> VOC <u>0.027</u></td> </tr> <tr> <td colspan="3"> PM10 <u>0.017</u> HAPs <u>4.65E-4</u></td> </tr> <tr> <td colspan="2"></td> <td align="right">Source: 2019 Emission Calculations</td> </tr> </table>		A. Actual Major: _____	Potential Major: _____	(note: before control device)	B. Actual Emissions: NOx <u>1.01</u> SOx <u>0.103</u> VOC <u>0.027</u>			PM10 <u>0.017</u> HAPs <u>4.65E-4</u>					Source: 2019 Emission Calculations
A. Actual Major: _____	Potential Major: _____	(note: before control device)											
B. Actual Emissions: NOx <u>1.01</u> SOx <u>0.103</u> VOC <u>0.027</u>													
PM10 <u>0.017</u> HAPs <u>4.65E-4</u>													
		Source: 2019 Emission Calculations											



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 16-01C 1a. Date of installation (month/year): February 2012	2. MDE Registration No.:(if applicable) 031-1124-9-1034												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 4423 hp Caterpillar Model C175 diesel engine powering a Cummins Model SR5</u> <u>electric generator for standby emergency backup power rated at 3000 kW for the heating plant</u> <u>(Bldg. 16). The unit is located in Bldg. 252D and the emission point for this emergency generator is 16-</u> <u>P4.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Ultra Low Sulfur Diesel (ULSD)</u></td> <td><u>0.0015</u></td> <td><u>2,234 gal/yr</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table> Source: 2019 Emissions Calculations		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>2,234 gal/yr</u>	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>2,234 gal/yr</u>											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>0.536</u> SOx <u>0.054</u> VOC <u>0.014</u> PM10 <u>0.009</u> HAPs <u>2.46E-4</u> Source: 2019 Emissions Calculations													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 45-01A 1a. Date of installation (month/year): July 2019	2. MDE Registration No.:(if applicable) 031-2676-9-1179												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 546 hp Caterpillar Model 3456 diesel engine powering a Caterpillar Model SR4B</u> <u>electric generator for standby emergency backup power rated at 400 kW. This is a new emission unit</u> <u>that was installed in 2019. The Permit-to-Construct (PTC) is included in Appendix E of this renewal</u> <u>submittal. The emission point for this emergency generator is 45-P1.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Ultra Low Sulfur Diesel (ULSD)</u></td> <td><u>0.0015</u></td> <td><u>N/A; Unit has not operated</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>N/A; Unit has not operated</u>	2. _____			3. _____		
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6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>N/A</u> SOx <u>N/A</u> VOC <u>N/A</u> PM10 <u>N/A</u> HAPs <u>N/A</u> Source: Unit has not operated													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 55-05A 1a. Date of installation (month/year): 2020	2. MDE Registration No.:(if applicable) 031-1124-9-1185												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 2328 hp MTU diesel engine Model 12V-4000G43 powering an MTU Model</u> <u>12V4000DS1500 electric generator for standby emergency backup power rated at 1500 kW. This is a</u> <u>new emission unit that was installed in 2020. The PTC is included in Appendix E of this renewal</u> <u>submittal. The emission point for this emergency generator is 55-P5.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Ultra Low Sulfur Diesel (ULSD)</u></td> <td><u>0.0015</u></td> <td><u>N/A; Unit has not operated</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>N/A; Unit has not operated</u>	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. <u>Ultra Low Sulfur Diesel (ULSD)</u>	<u>0.0015</u>	<u>N/A; Unit has not operated</u>											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>N/A</u> SOx <u>N/A</u> VOC <u>N/A</u> PM10 <u>N/A</u> HAPs <u>N/A</u> Source: Unit has not operated													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 55-06A 1a. Date of installation (month/year): 2020	2. MDE Registration No.:(if applicable) 031-1124-9-1186												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit is a 2328 hp MTU diesel engine Model 12V-4000G43 powering an MTU Model</u> <u>12V4000DS1500 electric generator for standby emergency backup power rated at 1500 kW. This is a</u> <u>new emission unit that was installed in 2020. The PTC is included in Appendix E of this renewal</u> <u>submittal. The emission point for this emergency generator is 55-P6.</u>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Ultra Low Sulfur Diesel (ULSD)</td> <td>0.0015</td> <td>N/A; Unit has not operated</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Ultra Low Sulfur Diesel (ULSD)	0.0015	N/A; Unit has not operated	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Ultra Low Sulfur Diesel (ULSD)	0.0015	N/A; Unit has not operated											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions: NOx <u>N/A</u> SOx <u>N/A</u> VOC <u>N/A</u> PM10 <u>N/A</u> HAPs <u>N/A</u> Source: Unit has not operated													



SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU 51A-01 1a. Date of installation (month/year): 1995	2. MDE Registration No.:(if applicable) 031-1124-9-0628 N												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <u>The unit consists of two (2) 20,000-gallon gasoline underground storage tanks with an associated</u> <u>dispensing station located at Bldg. 58. One 20,000-gallon tank (Tank ID No. 299A) is used to store</u> <u>premium gasoline and the other 20,000-gallon tank (Tank ID No. 298A) is used to store regular</u> <u>gasoline. The emission point for this emission unit is 51A-P1.</u> 													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: N/A General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Gasoline</td> <td>N/A</td> <td>1,648,971 gal/yr</td> </tr> <tr> <td colspan="3">2. *Annual usage represents the combined annual gasoline throughput for both tanks at the gas station.</td> </tr> <tr> <td colspan="3">3. _____ Source: 2019 Emissions Calculations</td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Gasoline	N/A	1,648,971 gal/yr	2. *Annual usage represents the combined annual gasoline throughput for both tanks at the gas station.			3. _____ Source: 2019 Emissions Calculations		
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3. _____ Source: 2019 Emissions Calculations													
6. Emissions in Tons: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;">A. Actual Major: _____</td> <td style="width:30%;">Potential Major: _____</td> <td style="width:40%;">(note: before control device)</td> </tr> <tr> <td colspan="3">B. Actual Emissions: NOx <u>0.0</u> SOx <u>0.0</u> VOC <u>2.56</u></td> </tr> <tr> <td colspan="3" style="text-align: center;">PM10 <u>0.0</u> HAPs <u>0.146</u></td> </tr> <tr> <td colspan="3" style="text-align: right;">Source: 2019 Emissions Calculations</td> </tr> </table>		A. Actual Major: _____	Potential Major: _____	(note: before control device)	B. Actual Emissions: NOx <u>0.0</u> SOx <u>0.0</u> VOC <u>2.56</u>			PM10 <u>0.0</u> HAPs <u>0.146</u>			Source: 2019 Emissions Calculations		
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PM10 <u>0.0</u> HAPs <u>0.146</u>													
Source: 2019 Emissions Calculations													



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: Facility Wide **General Reference:** COMAR 26.11.06.03D

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall not cause or permit any building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
☐ Annual Compliance Certification: ☒
☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: Facility Wide **General Reference:** COMAR 26.11.07

Briefly describe the Emission Standard/Limit or Operational Limitation:

Except as provided in COMAR 26.11.07.04, the Permittee shall not cause or permit an open fire from June 1 through August 31 of any calendar year. Prior to any open burning, the Permittee shall request and receive approval from the Department.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ☒
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Annual



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Facility Wide General Reference: COMAR 26.11.05.04

Briefly describe the Emission Standard/Limit or Operational Limitation:

When requested by the Department, the Permittee shall prepare in writing standby emissions reduction plans, consistent with good industrial practice and safe operating procedures, for reducing emissions creating air pollution during periods of Alert, Warning, and Emergency of an air pollution episode.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
☐ Annual Compliance Certification: ☒
☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference COMAR 26.11.05.04 Describe:

When requested by the Department, the Permittee shall prepare in writing standby emissions reduction plans, consistent with good industrial practice and safe operating procedures, for reducing emissions creating air pollution during periods of Alert, Warning, and Emergency of an air pollution episode.

Frequency of submittal of the compliance demonstration: Annual



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Facility Wide General Reference: COMAR 26.11.01.07 & 26.11.03.06C(7)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall report any deviation that could endanger human health or the environment.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ☒
- ☐ Semi-Annual Monitoring Report: ☒

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference COMAR 26.11.01.07 Describe:

The Permittee shall: (a) orally notify the Department immediately upon discovery of the deviation; (b) promptly orally report all occurrences of excess emissions expected to last one hour or longer; (c) submit a written report listing all deviations from permit conditions within 5 days of receiving a request from the Department to submit a report; (d) submit semiannual monitoring reports that confirm monitoring was performed and provide accounts of all deviations; and (e) when requested by the Department, submit a written report concerning an occurrence of excess emissions within 10 days of receiving the request.

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Notification upon occurrence; written report of deviation within 5 or 10 days; Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: Facility Wide **General Reference:** COMAR 26.11.03.03B(23) & 40 CFR 68

Briefly describe the Emission Standard/Limit or Operational Limitation:

Should the Permittee become subject to 40 CFR 68 during the term of this permit, the Permittee shall submit a risk management plan by the date specified in 40 CFR 68.150 and shall certify compliance with the requirements of 40 CFR 68 as part of the annual compliance certification as required by 40 CFR 70. The Permittee shall initiate a permit revision or reopening according to the procedures of 40 CFR 70.7 to incorporate appropriate permit conditions into the Permittee's Part 70 permit.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ☒
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: Facility Wide **General Reference:** COMAR 26.11.01.04

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Department may require the Permittee to conduct, or have conducted, testing to determine compliance with this Part 70 permit. The Department, at its option, may witness or conduct these tests. This testing shall be done at a reasonable time, and all information gathered during a testing operation shall be provided to the Department.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ☒
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Annual



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Facility Wide General Reference: COMAR 26.11.01.04

Briefly describe the Emission Standard/Limit or Operational Limitation:

Compliance with emissions standards and limitations shall be determined by the following test methods: (a) 40 CFR 60, Appendix A; (b) 40 CFR 51, Appendix M; or (c) The Department's Technical Memorandum 91-01 "Test Methods and Equipment Specifications for Stationary Sources", (January 1991), as amended through Supplement 3, (October 1, 1997) or other test methods submitted to and approved by the Department.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
☐ Annual Compliance Certification: ☒
☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference COMAR 26.11.01.04A(1) Describe:

The Department may require any person to conduct or have conducted testing to determine compliance with this subtitle. The Department, at its option, may witness or conduct these tests. This testing will be done at a reasonable time, and all information gathered during a testing operation will be provided to both parties.

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Annual



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Facility Wide General Reference: COMAR 26.11.01.05-1 &
COMAR 26.11.02.19 C & D

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall certify actual emissions of regulated pollutants from the facility on a calendar year basis by April 1 of each year.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
☐ Annual Compliance Certification: ☒
☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference COMAR 26.11.02.19C Describe:

The Permittee shall maintain records including: the total amount of actual emissions; operating schedules and data used to determine emissions; significant assumptions; amounts, types, and analyses of all fuels used; emissions data from continuous emissions monitors; records of all air pollution control equipment; operational limitations and other relevant information as required by the Department. All records shall be kept for at least 5 years.

Reporting: Reference COMAR 26.11.02.19D Describe:

The certification shall be on forms obtained from the Department and submitted to the Department not later than April 1 of the year following the year for which the certification is required; the individual making the certification shall certify that the information is accurate to the individual's best knowledge.

Frequency of submittal of the compliance demonstration: Annual



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Facility Wide General Reference: COMAR 26.11.03.06G(6) & (7)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall submit to the Department and EPA Region III a report certifying compliance with each term of the Part 70 permit including each applicable standard, emissions limitation, and work practice for the previous calendar year by April 1 of each year.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
☐ Annual Compliance Certification: ☒
☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference COMAR 26.11.03.06C(6) & (7) Describe:

The Permittee shall submit the compliance certification report to the Department and EPA simultaneously by April 1 of each year. The compliance certification shall include the identification of each term, the compliance status, the compliance schedule, the methods used to determine compliance status, and any other information required to be reported to the Department, which is necessary to determine the compliance status of the Permittee with the permit.

Frequency of submittal of the compliance demonstration: Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: Facility Wide **General Reference:** COMAR 26.11.02.02F

Briefly describe the Emission Standard/Limit or Operational Limitation:

All application forms, reports, and compliance certifications submitted pursuant to the permit shall be certified by a responsible official as to truth, accuracy, and completeness. The Permittee shall expeditiously notify the Department of an appointment of a new responsible official.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ☒
- ☐ Semi-Annual Monitoring Report: ☒

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference COMAR 26.11.02.02F Describe:

Certifications shall state "I certify under the penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Frequency of submittal of the compliance demonstration: Upon Occurrence



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Facility Wide General Reference: COMAR 26.11.03.06C(5)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall gather and retain required information when sampling and testing for compliance demonstrations.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
☐ Annual Compliance Certification: ☒
☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference COMAR 26.11.03.06C(5) Describe:

The Permittee shall retain: (a) the location, date, and time of samples; (b) operating conditions at the time of samples; (c) the date of analysis of the sample; (d) the individual performing the analysis; (e) the techniques and methods used; and (f) the results of each analysis.

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: Facility Wide **General Reference:** COMAR 26.11.03.06C(6)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall retain records of all monitoring data and information that support the compliance certification for a period of five years from the date that the monitoring, sample measurement, application, report or emissions test was completed or submitted to the Department.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☒ Annual Compliance Certification: **✓**
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference COMAR 26.11.03.06C(5) & (6) Describe:

Records and support information shall include: (a) all calibration and maintenance records; (b) all original data collected from continuous monitoring instrumentation; (c) records which support the annual emissions certification; and (d) copies of all reports required by this permit.

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Annual



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Facility Wide General Reference: COMAR 26.11.26.09

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall comply with the General Conformity requirements of 40 CFR 93, Subpart B and COMAR 26.11.26.09.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
☐ Annual Compliance Certification: ☒
☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Annual



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Facility Wide General Reference: 40 CFR 61, Subpart M

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall comply with 40 CFR 61, Subpart M when conducting any renovation or demolition activities at the facility.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
☐ Annual Compliance Certification: ☒
☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: Facility Wide **General Reference:** 40 CFR 82, Subpart F

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for MVACs in Subpart B.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ☒
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 82.156 & 161 Describe:

Persons opening appliances for maintenance, service, repair, or disposal shall comply with the prohibitions and required practices pursuant to 40 CFR 82.154 and 82.156. Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.

Testing: Reference 40 CFR 82.156 Describe:

Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair and testing requirements pursuant to 40 CFR 82.156.

Record Keeping: Reference 40 CFR 82.166 Describe:

Persons disposing of small appliances, MVACs, and MVAC-like appliances, as defined in 40 CFR 82.152, must comply with recordkeeping requirements pursuant to 40 CFR 82.166. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

Reporting: Reference 40 CFR 82.166 Describe:

Owners/operators of appliance shall submit reports as specified in 40 CFR 82.166.

Frequency of submittal of the compliance demonstration: Annual



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Facility Wide General Reference:

Briefly describe the Emission Standard/Limit or Operational Limitation:

Acid Rain Permit not applicable

Permit Shield Request:

Compliance Demonstration: N/A

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
☐ Annual Compliance Certification: _____
☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: N/A



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: Facility Wide **General Reference:** 40 CFR 52.21(b)(49)(iv)(b)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The pollutant GHGs shall also be subject to regulation at an existing stationary source when such stationary source has an emissions increase for a regulated NSR pollutant of 75,000 tpy CO₂e or more.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration: N/A

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: _____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: N/A



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 51-01B, 51-02B, 51-03B, 52-01C, 82-01A, 82-02A, and 82-03A General
Reference: COMAR 26.11.09.05A(2) - (3)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee may not cause or permit the discharge of emissions from any fuel burning equipment other than water in an uncombined form, which is visible to human observers, except during load changes, soot blowing, start-up, or adjustments or occasional cleaning of control equipment. During those times, visible emissions cannot be greater than 40 percent opacity and cannot occur for more than 6 consecutive minutes in any sixty minute period.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference COMAR 26.11.03.06C Describe:

The Permittee shall maintain records of visible emissions on site for at least five years.

Reporting: Reference COMAR 26.11.03.06C Describe:

The Permittee shall report incidents of the occurrences of visible emissions in accordance with Permit Condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations."

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 51-01B, 51-02B, 51-03B, 52-01C, 82-01A, 82-02A, and 82-03A **General**

Reference: COMAR 26.11.09.08E

Briefly describe the Emission Standard/Limit or Operational Limitation:

For each unit of fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less, the Permittee shall: (i) Submit to the Department an identification of each affected unit and the type of fuel burned in each; (ii) Perform a combustion analysis for each unit at least once each calendar year and optimize combustion based on the analysis; (iii) Maintain the results of the analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request; (iv) Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and (v) Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference COMAR 26.11.09.08E(2) Describe:

The Permittee shall perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis.

Testing: Reference None Describe: N/A

Record Keeping: Reference COMAR 26.11.09.08E & K Describe:

The Permittee shall maintain the results of the combustion analysis at the site for at least two years and make the results available to the Department upon request. The Permittee shall prepare and maintain a record of training program attendance for each operator at the site and make the record available to the Department upon request. The Permittee shall maintain annual fuel use records on site for at least three years and make the



MARYLAND DEPARTMENT OF THE ENVIRONMENT

records available to the Department upon request.

Reporting: Reference COMAR 26.11.03.06C & 26.11.09.08K(3) Describe:

The Permittee shall make the result of the combustion analysis available to the Department upon request. The Permittee shall make records of training program attendance for each operator available to the Department upon request. The Permittee shall make annual fuel use records available to the Department upon request.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 51-01B, 51-02B, 51-03B, 52-01C, 82-01A, 82-02A, and 82-03A General
Reference: COMAR 26.11.09.08B(5)

Briefly describe the Emission Standard/Limit or Operational Limitation:

For the NOx training required under COMAR 26.11.09.08E, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ☒
- ☐ Semi-Annual Monitoring Report: ☒

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 51-01B, 51-02B, 51-03B, 52-01C, 82-01A, 82-02A, and 82-03A General
Reference: COMAR 26.11.02.09A

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall only burn natural gas unless the Permittee applies for and receives an approval or permit from the Department to burn an alternate fuel.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☒ Annual Compliance Certification: ✓
- ☒ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference COMAR 26.11.03.06C Describe:

The Permittee shall maintain records of the fuels utilized at the installation for at least five years and make the records available to the Department upon request.

Reporting: Reference COMAR 26.11.02.19D Describe:

The annual emissions certification report shall contain the type, quantities, and analyses of all fuels burned.

Frequency of submittal of the compliance demonstration: Semi Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 16-01B, 16-02B, 16-03B, 16-04B, and 16-05B

General Reference: COMAR 26.11.09.05A(2) - (3)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee may not cause or permit the discharge of emissions from any fuel burning equipment other than water in an uncombined form, which is visible to human observers, except during load changes, soot blowing, start-up, or adjustments or occasional cleaning of control equipment. During those times, visible emissions cannot be greater than 40 percent opacity and cannot occur for more than 6 consecutive minutes in any sixty minute period.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☒ Annual Compliance Certification: ✓
- ☒ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference COMAR 26.11.03.06C Describe:

The Permittee shall properly operate and maintain the boilers in a manner to prevent visible emissions; maintain an operations manual and preventive maintenance plan; and verify that there are no visible emissions when burning No. 2 fuel oil. The Permittee shall perform a visual observation of stack emissions for a 6-minute period once for each 168 hours that the boiler burns oil. The Permittee shall perform the following, if emissions are visible: (1) inspect combustion control system and boiler operations, (2) perform all necessary adjustments and/or repairs to the boiler within 48 hours, so that visible emissions are eliminated; (3) document in writing the results of the inspections, adjustments and/or repairs to the boiler; and (4) after 48 hours, if the required adjustments and/or repairs have not eliminated emissions, perform Method 9 observations once daily for 18 minutes until corrective actions have eliminated the visible emissions. If a boiler operates for less than 168 hours in a calendar year, the visual observation requirement for that year is waived.

Testing: Reference COMAR 26.11.03.06C Describe:

See Monitoring Requirements.

Record Keeping: Reference COMAR 26.11.03.06C Describe:

The Permittee shall maintain a log of maintenance performed on the boilers and training provided to the boiler operators. The Permittee shall maintain a log of visible emissions observations performed onsite for at least five (5) years and make these records available to the Department upon request.



Reporting: Reference COMAR 26.11.03.06C Describe:

The Permittee shall report incidents of visible emissions in accordance with Condition 4 of Section III "Report of Excess Emissions and Deviations."

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 16-01B, 16-02B, 16-03B, 16-04B, and 16-05B

General Reference: 40 CFR 60.43c(c)

Briefly describe the Emission Standard/Limit or Operational Limitation:

For boilers with a heat input capacity less than 100 million Btu/hour but greater than 30 million Btu/hour, for which construction began after June 9, 1989, the Permittee shall not cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. These requirements apply at all times, except during periods of startup, shutdown, or malfunction.

Note: Compliance with the "No Visible Emission" requirements of COMAR 26.11.09.05A(2)-(3) will be used to show compliance with this NSPS standard.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 60.47c(c) Describe:

Owners and operators of an affected facility that burns only distillate oil that contains no more than 0.5 weight percent sulfur or gaseous fuel with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO₂ or PM emissions and that are subject to an opacity standard in 60.43c(c) are not required to operate a COMS if they follow the applicable procedures in 60.48c(f). Fuel supplier certification shall include the following information: the name of the oil supplier; a statement from the oil supplier that the oil complies with the specification under the definition of distillate oil in 60.41c; and the sulfur content of the oil.

Testing: Reference COMAR 26.11.01.04A(1) Describe:

The Department may require any person to conduct or have conducted testing to determine compliance with this subtitle. The Department, at its option, may witness or conduct these tests. The testing will be done at a reasonable time, and all information gathered during a testing operation will be provided to both parties.



Record Keeping: Reference None Describe: N/A

Reporting: Reference 40 CFR 60.48c Describe:

The reporting period for this subpart is each six-month period. All six-month reports shall be submitted to the Administrator (the Department) and shall be postmarked by the 30th day following the end of the reporting period.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 16-01B, 16-02B, 16-03B16-04B, and 16-05B,

General Reference: COMAR 26.11.09.07A(2)(b)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of, or which otherwise exceeds, the following limitations: Distillate fuel oils, 0.3 percent.

Note: Since the sulfur emissions limitation specified in COMAR 26.11.09.07A is more stringent than 40 CFR 60, Subpart Dc, the State standard will supersede the federal standard. However, the testing, monitoring, record keeping, and reporting requirements under NSPS Subpart Dc will be used to demonstrate compliance with both COMAR 26.11.09.07A and the NSPS sulfur standards.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 60.46c(e) Describe:

The Permittee shall demonstrate compliance with the SO₂ standards based on fuel supplier certification that includes the name of the oil supplier, a statement from the oil supplier that the oil complied with the specifications under the definition of distillate oil in 60.41c, and the sulfur content or maximum sulfur content of the oil.

Testing: Reference 40 CFR 60.44c(h) Describe:

Where the Permittee seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described under §60.48c(f) as applicable.

Record Keeping: Reference 40 CFR 60.48c Describe:

The Permittee shall maintain records of fuel supplier's certification for at least five years. The Permittee shall maintain records of the type and amount of fuel combusted during each calendar month.



Reporting: Reference 40 CFR 60.48c Describe:

The Permittee shall submit semi-annual reports of the fuel supplier's certifications. The reports shall include the following information: (1) Calendar dates covered in the reporting period; (2) fuel supplier's certifications including all information listed in 40 CFR 60.48c(f)(1)-(4); and (3) a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

Frequency of submittal of the compliance demonstration: Semi –Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 16-01B, 16-02B, 16-03B, 16-04B, and 16-05B

General Reference: 40 CFR 60.42c(d)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall not cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 215 ng/J (0.50 lb/million Btu) heat input; or, as an alternative, the Permittee shall not combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. These limits apply at all times, including periods of startup, shutdown, or malfunctions.

Note: Since the sulfur emissions limitation specified in COMAR 26.11.09.07A is more stringent than 40 CFR 60, Subpart Dc, the State standard will supersede the federal standard.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 60.46c(e) Describe:

The Permittee shall demonstrate compliance with the SO₂ standards based on fuel supplier certification that includes the name of the oil supplier, a statement from the oil supplier that the oil complied with the specifications under the definition of distillate oil in 60.41c, and the sulfur content or maximum sulfur content of the oil.

Testing: Reference 40 CFR 60.44c(h) Describe:

Where the Permittee seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in §60.48c(f) as applicable.

Record Keeping: Reference 40 CFR 60.48c Describe:

The Permittee shall maintain records of fuel supplier's certification for at least five years. The Permittee shall maintain records of the type and amount of fuel combusted during each calendar month.



Reporting: Reference 40 CFR 60.48c Describe:

The Permittee shall submit semi-annual reports of the fuel supplier's certifications. The reports shall include the following information: (1) Calendar dates covered in the reporting period; (2) fuel supplier's certifications including all information listed in 40 CFR 60.48c(f)(1)-(4); and (3) a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 16-01B, 16-02B, 16-03B and 16-04B,

General Reference: PTC 031-5-1241-1242M, 031-5-1263-1264N; and COMAR
26.11.09.08B(1)(c)

Briefly describe the Emission Standard/Limit or Operational Limitation:

(1) The NOx emissions from the boilers are limited to 0.036 lb per MMBtu of heat input when burning natural gas and 0.1 lb per MMBtu of heat input when burning No. 2 fuel oil. (2) The combined NOx emissions from the four Cleaver Brooks boilers shall be less than 50 tons in any rolling 12-month period unless the Permittee applies for and obtains a New Source Review Approval. (3) The operation of the Cleaver Brooks boilers, when burning No. 2 fuel oil, is limited to 1.6 million gallons per year for any 12 month rolling period, in order to maintain a synthetic minor status, unless the Permittee can demonstrate to the satisfaction of the Department that operating beyond this limit will not result in NOx emissions equal to or greater than 50 tons on a rolling 12 month rolling basis. If a gas supply interruption will require fuel oil use above the 1.6 million gallon limit, the Permittee shall notify the Department and request approval to burn additional fuel. Upon approval, additional fuel may be burned, but the 50-ton NOx must not be exceeded.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference COMAR 26.11.03.06C Describe:

The Permittee shall use a NOx analyzer to check and record the NOx emissions in the exhaust gases from the boilers for 15 minutes for every calendar quarter. If the NOx readings exceed the permit limit, the Permittee shall: (a) Perform all necessary adjustments and/or repairs within fourteen business days so that NOx emissions in the exhaust gas are below the permit limit. Re-analyze the boiler once repairs are completed, until the emissions are below the permit limit. (b) Document in writing any observations, adjustments, and/or repairs made to the boiler to reduce emissions below the permit limit. If a boiler does not operate in the quarter, the Permittee is exempt from analyzer checks for that boiler for that quarter. To verify that the boilers are being operated in a consistent manner with the most recent stack tests, the Permittee shall continuously monitor the excess oxygen in the exhaust gases. The Permittee shall calculate, at the end of each calendar month, the NOx emissions from the boilers for the prior rolling twelve month period.



Testing: Reference COMAR 26.11.03.06C Describe:

The Permittee shall perform calibration checks and QA/QC procedures on the portable NOx analyzer as recommended by the analyzer manufacturer. The Permittee shall conduct a performance test for NOx emissions on each boiler at least once during the term of the operating permit. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent peak load. The Permittee may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. The Permittee must conduct three separate test runs for each performance test. The minimum time per run is 60 minutes. The emission factors determined as a result of the stack testing shall be used for emissions certification reports. (a) At least 30 days prior to conducting any performance test, the Permittee shall submit a testing protocol to ARA for review. (b) The Permittee shall perform all testing at a reasonable time and with at least 30-calendar days' notice to allow for representation by the Department personnel. (c) Final testing results shall be submitted to the Department within 60 days of completion of the test.

Record Keeping: Reference COMAR 26.11.03.06C Describe:

The Permittee shall maintain the following records for at least five years: (1) The record of the hours of operation for each boiler; NOx emissions and O2 readings of the analyzer for each boiler; the type and quantity of fuels used by each boiler; and the record of NOx analyzer calibration/QA/QC checks. (2) The records of the calculations and supporting documentation for the NOx emissions from the boilers during any 12-month rolling period. (3) Consumption of natural gas and No. 2 fuel oil during any 12-month rolling period.

Reporting: Reference COMAR 26.11.02.19D Describe:

The Permittee shall report on a semi-annual basis incidence of excess emissions when NOx emissions rate as measured by the NOx monitor, exceed the applicable limits in accordance with Condition 4 of Section III "Report of Excess Emissions and Deviations." The Permittee shall submit the 12-month rolling NOx emissions that were calculated at the end of each month in a semi-annual monitoring report due by July 31 for the January 1 - June 30 period and by January 31 for the July 1 - December 31 period. The Permittee shall submit monthly consumption of both natural gas and No. 2 fuel oil for each boiler on a rolling 12 months basis included with the semi-annual monitoring reports.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 16-05B **General Reference:** PTC 031-1124-5-2233 & COMAR 26.11.09.08B(1)(c)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall ensure that the NOx emissions from the boiler are less than 25 tons for any rolling 12-month rolling period unless the source applies for and obtains a New Source Review approval.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference COMAR 26.11.03.06C Describe:

The Permittee shall use a NOx analyzer to check and record the NOx emissions in the exhaust gases from the boiler for 15 minutes for every calendar quarter. If the NOx readings exceed the permit limit, the Permittee shall: (a) Perform all necessary adjustments and/or repairs within fourteen business days so that NOx emissions in the exhaust gas are below the permit limit. Re-analyze the boiler once repairs are completed, until the emissions are below the permit limit. (b) Document in writing any observations, adjustments, and/or repairs made to the boiler to reduce emissions below the permit limit. If the boiler does not operate in the quarter, the Permittee is exempt from analyzer checks for that quarter. To verify that the boilers are being operated in a consistent manner with the most recent stack tests, the Permittee shall continuously monitor the excess oxygen in the exhaust gases. The Permittee shall calculate, at the end of each calendar month, the NOx emissions from the boiler for the prior rolling twelve month period.

Testing: Reference COMAR 26.11.03.06C Describe:

The Permittee shall perform calibration checks and QA/QC procedures on the portable NOx analyzer as recommended by the analyzer manufacturer. The Permittee shall conduct a performance test for NOx emissions at least once during the term of the operating permit. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent peak load. The Permittee may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. The Permit must conduct three separate test runs for each performance test. The minimum time per run is 60 minutes. The emission factors determined as a result of the stack testing shall be used for emissions certification reports. (a) At least 30 days prior to conducting any performance test, the Permittee shall submit a testing protocol to ARA for review. (b) The Permittee shall perform all testing at a reasonable time and with at least 30-calendar days' notice to allow for representation by the Department personnel. (c) Final testing results shall be submitted to the Department within 60 days of completion of the test.



Record Keeping: Reference COMAR 26.11.03.06C Describe:

The Permittee shall maintain the following records for at least five years: (1) The record of the hours of operation for the boiler; NOx emissions and O2 readings of the analyzer for the boiler; the type and quantity of fuels used by the boiler; and the record of NOx analyzer calibration/QA/QC checks. (2) The records of the calculations and supporting documentation for the NOx emissions from the boiler during any 12-month rolling period.

Reporting: Reference COMAR 26.11.02.19D Describe:

The Permittee shall report on a semi-annual basis incidence of excess emissions when NOx emissions rate as measured by the NOx monitor, exceed the applicable limits in accordance with Condition 4 of Section III "Report of Excess Emissions and Deviations." The Permittee shall submit the 12-month rolling NOx emissions that were calculated at the end of each month in a semi-annual monitoring report due by July 31 for the January 1 - June 30 period and by January 31 for the July 1 - December 31 period. The Permittee shall submit monthly consumption of both natural gas and No. 2 fuel oil for the boiler on a rolling 12 months basis included with the semi-annual monitoring reports.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 16-01B,16-02B,16-03B,16-04B, and 16-05B **General Reference:** COMAR 26.11.09.08B(1)(c) and COMAR 26.11.09.08B(5)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee or operator of a source with a potential to emit 25 tons or more of NOx shall comply with the NOx emissions standard set forth in COMAR 26.11.09.08B(1)(c), which is 0.25 lb of NOx per MMBtu of heat input.

Note: Since the NOx emissions limitation specified in PTCs 031-5-1241-1242M, 031-5-1263-1264N, and 031-1124-5-2233 are at least as stringent as COMAR 26.11.09.08B(1), the PTC standards will supersede the State standard.

For the NOx training required under COMAR 26.11.09.08E, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operations. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☒ Annual Compliance Certification: ✓
- ☒ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference COMAR 26.11.03.06C Describe:

The Permittee shall use a NOx analyzer to check and record the NOx emissions in the exhaust gases from the boilers for 15 minutes for every calendar quarter. If the NOx readings exceed the permit limit, the Permittee shall: (a) Perform all necessary adjustments and/or repairs within fourteen business days so that NOx emissions in the exhaust gas are below the permit limit. Re-analyze the boiler once repairs are completed, until the emissions are below the permit limit. (b) Document in writing any observations, adjustments, and/or repairs made to the boiler to reduce emissions below the permit limit. If the boiler does not operate in the quarter, the Permittee is exempt from analyzer checks for that boiler for that quarter. To verify that the boilers are being operated in a consistent manner with the most recent stack tests, the Permittee shall continuously monitor the excess oxygen in the exhaust gases. The Permittee shall calculate, at the end of each calendar month, the NOx emissions from the boilers for the prior rolling twelve month period.



Testing: Reference COMAR 26.11.03.06C Describe:

The Permittee shall perform calibration checks and QA/QC procedures on the portable NOx analyzer as recommended by the analyzer manufacturer. The Permittee shall conduct a performance test for NOx emissions at least once during the term of the operating permit. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent peak load. The Permittee may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. The Permit must conduct three separate test runs for each performance test. The minimum time per run is 60 minutes. The emission factors determined as a result of the stack testing shall be used for emissions certification reports. (a) At least 30 days prior to conducting any performance test, the Permittee shall submit a testing protocol to ARA for review. (b) The Permittee shall perform all testing at a reasonable time and with at least 30-calendar days' notice to allow for representation by the Department personnel. (c) Final testing results shall be submitted to the Department within 60 days of completion of the test.

Record Keeping: Reference COMAR 26.11.03.06C Describe:

The Permittee shall maintain the following records for at least five years: (1) The record of the hours of operation for each boiler; NOx emissions and O2 readings of the analyzer for each boiler; the type and quantity of fuels used by each boiler; and the record of NOx analyzer calibration/QA/QC checks. (2) The records of the calculations and supporting documentation for the NOx emissions from the boilers during any 12-month rolling period. (3) Consumption of natural gas and No. 2 fuel oil during any 12-month rolling period.

Reporting: Reference COMAR 26.11.02.19D Describe:

The Permittee shall report on a semi-annual basis incidence of excess emissions when NOx emissions rate as measured by the NOx monitor, exceed the applicable limits in accordance with Condition 4 of Section III "Report of Excess Emissions and Deviations." The Permittee shall submit the 12-month rolling NOx emissions that were calculated at the end of each month in a semi-annual monitoring report due by July 31 for the January 1 - June 30 period and by January 31 for the July 1 - December 31 period. The Permittee shall submit monthly consumption of both natural gas and No. 2 fuel oil for each boiler on a rolling 12 months basis included with the semi-annual monitoring reports.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 16-01B, 16-02B, 16-03B, 16-04B, and 16-05B General Reference: PTC
031-5-1241-1242M, 031-5-1263-1264N, and 031-1124-5-2233

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall only burn natural gas in the boilers during normal operation and only burn No. 2 fuel oil during maintenance, testing, training, or periods of gas curtailment or interruption.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference COMAR 26.11.03.06C Describe:

The Permittee shall maintain annual fuel use records on site for at least five years and make records available to the Department upon request.

Reporting: Reference COMAR 26.11.02.19D Describe:

The annual emissions certification report shall contain the type, quantities, and analyses of all fuels burned.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 16-01C, 17-01, 27-01A, 44-01G, 44-02G, 45-01A, 47-01G, 51-01G, 55-01H, 55-02H, 55-03H, 55-04H, 55-05A, 55-06A, 62-02G, 63-01G, 63-02H, 70A-01H, 71B-01H, 72C-02H, 01-01H, 07-01G, 16-01H, 16-02H, 53-01G, and 202-01H.

General Reference: COMAR 26.11.09.05E(2)-(4)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity. The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity. The 10-percent opacity limit during idling operations does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system. The 10-percent opacity limit also does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods: (i) Engines that are idled continuously when not in service (30 minutes); All other engines (15 minutes). None of the above-listed opacity limits apply while maintenance, repair, or testing is being performed by qualified mechanics.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ☒
- ☐ Semi-Annual Monitoring Report: ☒

Methods used to demonstrate compliance:

Monitoring: Reference COMAR 26.11.03.06C Describe:

The Permittee shall properly operate and maintain the engines in a manner to minimize visible emissions. The Permittee shall maintain an operations manual and preventive maintenance plan.

Testing: Reference None Describe: N/A

Record Keeping: Reference COMAR 26.11.03.06C Describe:

The Permittee shall maintain records of the combustion process-related preventive maintenance performed on the engines on site for at least 5 years and make the records available to the Department upon request. The Permittee shall also retain the operations manual and preventive maintenance plan on site and make these available to the Department upon request.



Reporting: Reference COMAR 26.11.03.06C Describe:

The Permittee shall report incidents of the occurrence of visible emissions in accordance with Condition 4 of Section III "Report of Excess Emissions and Deviation."

Frequency of submittal of the compliance demonstration: Semi-Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 16-01C, 17-01, 27-01A, 44-01G, 44-02G, 45-01A, 47-01G, 51-01G, 55-01H, 55-02H, 55-03H, 55-04H, 55-05A, 55-06A, 62-02G, 63-01G, 63-02H, 70A-01H, 71B-01H, 72C-02H, 01-01H, 07-01G, 16-01H, 16-02H, 53-01G, and 202-01H.

General Reference: COMAR 26.11.09.07A(2)(b)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitation: Distillate fuel oils, 0.3 percent.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference COMAR 26.11.03.06C Describe:

The Permittee shall obtain fuel supplier's certifications, which include the name of the oil supplier and a statement from the fuel supplier that the distillate fuel oil complies with the limitation of 0.3% by weight.

Testing: Reference None Describe: N/A

Record Keeping: Reference COMAR 26.11.09.07C and 26.11.03.06C Describe:

The Permittee shall maintain records of fuel suppliers' certifications of the percent sulfur content in the fuel on site for at least five years and shall make the records available to the Department upon request. The fuel oil certification report must contain the type, quantities, and analyses of all fuels burned.

Reporting: Reference COMAR 26.11.09.07C & 26.11.03.06C Describe:

The Permittee shall submit the fuel supplier certification or a copy of the sulfur in fuel analyses to the Department upon request.

Frequency of submittal of the compliance demonstration: Semi Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 16-01C, 17-01, 27-01A, 44-01G, 44-02G, 45-01A, 47-01G, 51-01G, 55-01H, 55-02H, 55-03H, 55-04H, 55-05A, 55-06A, 62-02G, 63-01G, 63-02H, 70A-01H, 71B-01H, 72C-02H, 01-01H, 07-01G, 16-01H, 16-02H, 53-01G, and 202-01H.

General Reference: COMAR 26.11.09.08G

Briefly describe the Emission Standard/Limit or Operational Limitation:

For fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less, the Permittee shall: (a) Provide certification of the capacity factor to the Department in writing; (b) for equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually; (c) maintain the results of any combustion analysis at the site for at least 2 years and make these available to the Department upon request; (d) require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendor; and (e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☒ Annual Compliance Certification: ✓
- ☒ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference COMAR 26.11.03.06C Describe:

The Permittee shall calculate the capacity factor of the engines for each calendar year within 30 days after the end of each year.

Testing: Reference COMAR 26.11.09.08G(1)(b) Describe:

The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the engines that operate more than 500 hours during a calendar year.

Record Keeping: Reference COMAR 26.11.09.08G(1), 26.11.02.19C(1)(b) & 26.11.03.06C Describe:

The Permittee shall maintain the following records for each engine on site for at least five years and make these records available to the Department upon request: (1) calculated capacity factors; (2) hours of operation; (3) annual fuel use; (4) combustion analysis performed, if the hours of operation for a given calendar year exceeded 500; and (5) training program attendance for each operator.



Reporting: Reference COMAR 26.11.09.08G(e), 26.11.09.08K(3) & 26.11.03.06C Describe:

The Permittee shall provide certification of the capacity factor of the equipment to the Department in writing as part of the April 1 certification report. The Permittee shall submit the annual fuel use records to the Department upon request.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 07-01G and 53-01G

General Reference: 40 CFR 63 Subpart ZZZZ

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall meet the requirements for emergency CI engines in Table 2b and Table 2d of Subpart ZZZZ. Specifically, the Permittee shall change the oil and filter every 500 hours of operation or annually (whichever comes first); inspect the air cleaner every 1,000 hours of operation or annually (whichever comes first); replace the air cleaner as necessary; inspect all hoses and belts every 500 hours of operation or annually (whichever comes first); and replace any hoses and belts as necessary. Operation of the emergency engine for the purposes of maintenance and testing is limited to 100 hours per year. Each engine may be operated for 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response. The Permittee must be in compliance with the operational limits and all other applicable requirements of Subpart ZZZZ at all times.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☒ Annual Compliance Certification: ✓
- ☒ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 63.6625(e), (f), (h), and (i) Describe:

The Permittee must operate and maintain the stationary RICE according to the manufacturer's emission-related written instructions or develop a maintenance plan consistent with good air pollution control practice for minimizing emissions. The Permittee must install a non-resettable hour meter (if one is not already installed). The Permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. The Permittee has the option to utilize an oil analysis program in order to extend the oil change frequency requirement in Table 2d. The oil analysis program must be completed at the same frequency specified in Table 2d for changing oil (500 hours or annually). The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. An oil change is required if any of the following results are obtained: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5.

Testing: Reference None Describe: N/A



Record Keeping: Reference 40 CFR 63.6655 and COMAR 26.11.36 Describe:

The Permittee must keep a copy of each notification and report that is submitted to comply with Subpart ZZZZ, including all supporting documentation. The Permittee must also keep a copy of: (1) the operation and maintenance plan for each RICE; (2) the maintenance conducted on each RICE; (3) the hours of operation of each RICE (via the non-resettable hour meter), including documentation of how many hours are spent for emergency operation (and what classified the operation as emergency) and for non-emergency operation; and (4) the notification of an emergency situation (including date, start time, and end time of engine operation) if an engine is used for an emergency demand/ load response program.

Reporting: Reference 40 CFR 63.6650; & Footnote 2 to Table 2d Describe:

The Permittee must report any failure to perform the management practice on the schedule required (i.e., if an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law) and report the federal, state or local law under which the risk was deemed unacceptable. The Permittee must submit an annual report on use under an emergency demand/load response program, according to the requirements of 40 CFR 63.6650(h).

Frequency of submittal of the compliance demonstration: Semi-Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 16-01C, 17-01, 27-01A, 44-01G, 44-02G, 45-01A, 47-01G, 51-01G, 55-01H,
55-02H, 55-03H, 55-04H, 55-05A, 55-06A, 62-02G, 63-01G, 63-02H, 70A-01H, 71B-01H, 72C-
02H, 01-01H, 16-01H, 16-02H, and 202-01H.

General Reference: 40 CFR 63, Subpart ZZZZ

Briefly describe the Emission Standard/Limit or Operational Limitation:

Per 40 CFR §63.6590, a new or reconstructed stationary reciprocating internal combustion engine shall comply with the requirements of 40 CFR 63, Subpart ZZZZ by meeting the Standards Of Performance For Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII).

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference None Describe:

See requirements of 40 CFR 60 Subpart IIII.

Testing: Reference None Describe:

See requirements of 40 CFR 60 Subpart IIII.

Record Keeping: Reference None Describe:

See requirements of 40 CFR 60 Subpart IIII.

Reporting: Reference None Describe:

See requirements of 40 CFR 60 Subpart IIII.

Frequency of submittal of the compliance demonstration: Semi-Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 16-01C, 17-01, 27-01A, 44-01G, 44-02G, 45-01A, 47-01G, 51-01G, 55-01H, 55-02H, 55-03H, 55-04H, 55-05A, 55-06A, 62-02G, 63-01G, 63-02H, 70A-01H, 71B-01H, 72C-02H, 01-01H, 16-01H, 16-02H, and 202-01H.

General Reference: 40 CFR 60 Subpart IIII

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall operate and maintain each engine to achieve the emission standards of 40 CFR 60 Subpart IIII, over the entire life of the engine. Each engine must comply with the emission standards for new nonroad CI engines in 40 CFR 60.4202, which for these engines are the emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 89.113 for all pollutants beginning in model year 2007. The Permittee must install a non-resettable hours meter prior to the startup of each engine. Beginning October 1, 2010, the Permittee shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. Each engine may only be operated for the following situations: emergencies, maintenance and testing, and emergency demand response. There is no time limit on emergency use. Operation for maintenance and testing, and emergency demand response is limited to 100 hours per year. Each engine may be operated for 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 60.4209(a)-(b) and 60.4211(a) Describe:

The Permittee shall install a non-resettable hour meter. For engines equipped with a diesel particulate filter to comply with the emission standards, the filter must be installed with a backpressure monitor that notifies the Permittee when the backpressure limit of the engine is approached. The Permittee must operate and maintain the engine and control device according to the manufacturer's emission-related written instructions, change only those emission-related settings that are permitted by the manufacturer, and meet all applicable requirements of 40 CFR 89 and 1068.

Testing: Reference 40 CFR 60.4211(c) Describe:

The Permittee shall meet the emission limits for 40 CFR 60 Subpart IIII, over the entire life of the engine (refer



to 40 CFR 89.112 and 89.113 for specific limits), by purchasing an engine certified to the applicable emission standards (based on model year and maximum engine power). The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g).

Record Keeping: Reference 40 CFR 60.4214(b)-(c) and COMAR 26.11.36 Describe:

The Permittee must keep records of the operation of the engine in emergency and non-emergency (e.g., maintenance) service that are recorded through the non-resettable hour meter. The Permittee must record the time of operation of the engine and the reason the engine was in operation during that time. If the engine is equipped with a diesel particulate filter, the Permittee must keep records of any corrective action taken after the backpressure monitor has notified that the engine's limit is approached.

Reporting: Reference 40 CFR 60.4214(d) Describe:

For engines that are part of an emergency demand response program, the Permittee shall submit an annual report identifying the facility, dates of the reporting period, applicable emergency generator(s); documenting the number of hours that the generator is contractually obligated to be available; and documenting the hours that the generator was actually operated for demand/load response. The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

Frequency of submittal of the compliance demonstration: Semi-Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 51A-01 **General Reference:** COMAR 26.11.13.04C & D

Briefly describe the Emission Standard/Limit or Operational Limitation:

Stage I Vapor Recovery: An owner or operator of a gasoline tank truck or an owner or operator of a stationary storage tank subject to this regulation may not cause or permit gasoline to be loaded into a stationary tank unless the loading system is equipped with a vapor balance line that is properly installed, maintained, and used.
General Standard: A person may not cause or permit gasoline or VOC having a TVP of 1.5 psia or greater to be loaded into any tank truck, railroad tank car, or other contrivance unless the: (1) loading connections on the vapor lines are equipped with fittings that have no leaks and that automatically and immediately close upon disconnection to prevent the release of gasoline or VOC; and (2) equipment is maintained and operated in a manner to prevent avoidable liquid leaks during loading or unloading operations.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☒ Annual Compliance Certification: ✓
- ☒ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference COMAR 26.11.24.05 Describe:

The Permittee is considered in violation of this regulation during any period of time that the facility is operated while there is defective equipment on site, unless the operator establishes, to the satisfaction of the Department, that nozzles associated with defective equipment were tagged out of service and none of these nozzles were used during that time. For defective equipment that was identified by the Department, the Permittee shall inform the Department by telephone within 72 hours after repair or replacement.

Testing: Reference COMAR 26.11.24.04 Describe:

Except as provided in COMAR 26.11.24.04E and F, the Permittee shall perform the following CARB-approved tests: (1) A leak test in accordance with the Vapor Recovery Test Procedure TP-201.3; (6) A leak rate and cracking pressure test in accordance with TP-201.1E; and (7) A tie tank test in accordance with TP-201.3C. The Permittee shall repeat the required tests annually. If a gasoline dispensing facility fails any test required by this chapter, the owner shall notify the Department of the failure in writing within 5 working days after the test and before retesting. Alternative test methods and test frequencies may be used in accordance with COMAR 26.11.24.04E and F.

Record Keeping: Reference COMAR 26.11.24.07A-C Describe:

The Permittee shall create and maintain a record file at each facility. The record file shall contain copies of all



test reports, permits, violation notices, correspondence with the Department, equipment maintenance records, training records, and other information pertinent to the requirements of COMAR 26.11.24. Verification of training shall be maintained in the facility file. Equipment maintenance records shall be maintained for at least 2 years. All other records shall be maintained for at least 5 years. The equipment maintenance records shall include: (1) the date on which defective equipment was found, a description of each defect, a description of the corrective action and the date on which the defect was corrected, and the probable cause of the defect; (2) If parts are replaced, the location within the approved system of the part, the part number, and assurance that the replacement part does not degrade the efficiency of the system; and (3) Inspection reports and any other information relating to maintenance or care of the approved system.

Reporting: Reference COMAR 26.11.24.07E Describe:

The following reporting requirements apply to any test required under COMAR 26.11.24: (1) The Department shall be notified 5 days before a test is to be conducted; (2) A test protocol shall be available at the test site during testing; (3) Copies of all test results shall be forwarded to the Department within 30 days of the test; and (4) Test failures shall be reported to the Department in writing within 5 days following the date of the failure.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 51A-01 **General Reference:** COMAR 26.11.24.06 and COMAR 26.11.24.08

Briefly describe the Emission Standard/Limit or Operational Limitation:

An operator shall ensure that: (1) At least one employee at each facility subject to this regulation is trained in accordance with the requirements of COMAR 26.11.24.06B; and (2) The trained employee assists in the training of each of the other employees at that facility who are involved in the operation or maintenance of the approved system. An operator who is subject to this chapter shall place instructional signs in conspicuous locations at each gasoline dispenser. The signs shall include: (1) Instructions, with illustrations, on how to insert the nozzle, dispensing gasoline, and how to remove the nozzle and (2) A warning against attempts to continue refueling after automatic shutoff of the gasoline (that is, topping off).

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☒ Annual Compliance Certification: ✓
- ☒ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference COMAR 26.11.24.05 Describe:

The Permittee is considered in violation of this regulation during any period of time that the facility is operated while there is defective equipment on site, unless the operator establishes, to the satisfaction of the Department, that nozzles associated with defective equipment were tagged out of service and none of these nozzles were used during that time. For defective equipment that was identified by the Department, the Permittee shall inform the Department by telephone within 72 hours after repair or replacement.

Testing: Reference COMAR 26.11.24.04 Describe:

Except as provided in COMAR 26.11.24.04E and F, the Permittee shall perform the following CARB-approved tests: (1) A leak test in accordance with the Vapor Recovery Test Procedure TP-201.3; (6) A leak rate and cracking pressure test in accordance with TP-201.1E; and (7) A tie tank test in accordance with TP-201.3C. The Permittee shall repeat the required tests annually. If a gasoline dispensing facility fails any test required by this chapter, the owner shall notify the Department of the failure in writing within 5 working days after the test and before retesting. Alternative test methods and test frequencies may be used in accordance with COMAR 26.11.24.04E and F.

Record Keeping: Reference COMAR 26.11.24.07A-C Describe:

The Permittee shall create and maintain a record file at each facility. The record file shall contain copies of all



test reports, permits, violation notices, correspondence with the Department, equipment maintenance records, training records, and other information pertinent to the requirements of COMAR 26.11.24. Verification of training shall be maintained in the facility file. Equipment maintenance records shall be maintained for at least 2 years. All other records shall be maintained for at least 5 years. The equipment maintenance records shall include: (1) the date on which defective equipment was found, a description of each defect, a description of the corrective action and the date on which the defect was corrected, and the probable cause of the defect; (2) If parts are replaced, the location within the approved system of the part, the part number, and assurance that the replacement part does not degrade the efficiency of the system; and (3) Inspection reports and any other information relating to maintenance or care of the approved system.

Reporting: Reference COMAR 26.11.24.07E Describe:

The following reporting requirements apply to any test required under COMAR 26.11.24: (1) The Department shall be notified 5 days before a test is to be conducted; (2) A test protocol shall be available at the test site during testing; (3) Copies of all test results shall be forwarded to the Department within 30 days of the test; and (4) Test failures shall be reported to the Department in writing within 5 days following the date of the failure.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 51A-01 **General Reference:** 40 CFR 63.11111 and 40 CFR 63.11118

Briefly describe the Emission Standard/Limit or Operational Limitation:

The affected source to which this subpart applies is each GDF that is located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank.

If you GDF has a monthly throughput of 100,000 gallons of gasoline or more, you must comply with the requirements in §63.11118.

The Permittee must comply with the requirements in §§63.11116(a) and 63.11117(b). The Permittee must either (1) adhere to the applicable management practices in Table 1 of this subpart or (2) prior to January 10, 2008: operate a vapor balance system that achieves 90 percent emissions reduction or operates using management practices at least as stringent as those in Table 1 to this subpart; and operate a gasoline dispensing facility in compliance with an enforceable State, local, or tribal rule or permit that contains requirements either operating a vapor balance system that achieves emission reductions of 90 percent or operates using management practices at least as stringent as those in Table 1 to this subpart.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 63.11115 Describe:

The Permittee shall, at all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

Testing: Reference 40 CFR 63.11120 Describe:

The Permittee, at the time of installation and every 3 years thereafter, must: (1) demonstrate compliance with the leak rate and cracking pressure requirements, specified in item 1(g) of Table 1 to this subpart, for pressure-vacuum vent valves installed on gasoline storage tanks using CARB TP-201.1E or an alternative test method and procedure in accordance with the alternative test method requirements in §63.7(f); (2) demonstrate



compliance with the static pressure performance requirement specified in item 1(h) of Table 1 to this subpart by conducting a static pressure test on your gasoline storage tanks using CARB TP-201.3, and alternative test method and procedure in accordance with the alternative test method requirements in §63.7(f), or BAAQMD ST-30. The testing frequency of this federal requirement is superseded by COMAR requirements.

Record Keeping: Reference 40 CFR 63.11125 Describe:

The Permittee must keep records of all tests performed under §63.11120(a) and (b) for a period of 5 years and they shall be made available for inspection by the Administrator's delegated representatives during the course of a site visit. The Permittee shall keep (1) records of the occurrence and duration of each malfunction of operation or the air pollution control and monitoring equipment and (2) records of actions taken during periods of malfunction to minimize emissions in accordance with §63.1115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

Reporting: Reference 40 CFR 63.11126 Describe:

The Permittee shall (a) report to the Administrator the results of all volumetric efficiency test required under §63.11120(b). Reports submitted under this paragraph must be submitted within 180 days of the completion of the performance testing; and (b) report, by March 15 of each year, the number, duration, and a brief description of each type of malfunction which occurred during the previous calendar year and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by the Permittee during a malfunction of an affected source to minimize emissions in accordance with §63.1115(a), including actions taken to correct a malfunction. No report is necessary for a calendar year in which no malfunctions occurred.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Insignificant Activities – Stationary External Combustion Sources **General**
Reference: COMAR 26.11.09.05A(2) - (3)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee may not cause or permit the discharge of emissions from any fuel burning equipment other than water in an uncombined form, which is visible to human observers, except during load changes, soot blowing, start-up, or adjustments or occasional cleaning of control equipment. During those times, visible emissions cannot be greater than 40 percent opacity and cannot occur for more than 6 consecutive minutes in any sixty minute period.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ☒
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Annual



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Insignificant Activities – Diesel fuel burning equipment

General Reference: COMAR 26.11.09.07A(2)(b)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of, or which otherwise exceeds, the following limitations: Distillate fuel oils, 0.3 percent.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
☐ Annual Compliance Certification: ☒
☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: Insignificant Activities – Stationary Internal Combustion Engines

General Reference: COMAR 26.11.09.05E(2)-(4)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity. The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity. The 10-percent opacity limit during idling operations does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system. The 10-percent opacity limit also does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods: (i) Engines that are idled continuously when not in service (30 minutes); All other engines (15 minutes). None of the above-listed opacity limits apply while maintenance, repair, or testing is being performed by qualified mechanics.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ☒
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: None Describe: N/A

Frequency of submittal of the compliance demonstration: Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: Insignificant Activities – Stationary Internal Combustion Engines
General Reference: 40 CFR 63 Subpart ZZZZ

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall meet the requirements for emergency CI engines in Table 2b and Table 2d of Subpart ZZZZ. Specifically, the Permittee shall change the oil and filter every 500 hours of operation or annually (whichever comes first); inspect the air cleaner every 1,000 hours of operation or annually (whichever comes first); replace the air cleaner as necessary; inspect all hoses and belts every 500 hours of operation or annually (whichever comes first); and replace any hoses and belts as necessary. Operation of the emergency engine for the purposes of maintenance and testing is limited to 100 hours per year. Each engine may be operated for 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing. The Permittee must be in compliance with the operational limits and all other applicable requirements of Subpart ZZZZ at all times.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 63.6625(e), (f),(h), and (i) Describe:

The Permittee must operate and maintain the stationary RICE according to the manufacturer's emission-related written instructions or develop a maintenance plan consistent with good air pollution control practice for minimizing emissions. The Permittee must install a non-resettable hour meter (if one is not already installed). The Permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. The Permittee has the option to utilize an oil analysis program in order to extend the oil change frequency requirement in Table 2d. The oil analysis program must be completed at the same frequency specified in Table 2d for changing oil (500 hours or annually). The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. An oil change is required if any of the following results are obtained: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5.



Testing: Reference None Describe: N/A

Record Keeping: Reference 40 CFR 63.6655 Describe:

The Permittee must keep a copy of each notification and report that is submitted to comply with Subpart ZZZZ, including all supporting documentation. The Permittee must also keep a copy of: (1) the operation and maintenance plan for each RICE; (2) the maintenance conducted on each RICE; (3) the hours of operation of each RICE (via the non-resettable hour meter), including documentation of how many hours are spent for emergency operation (and what classified the operation as emergency) and for non-emergency operation; and (4) the notification of an emergency situation (including date, start time, and end time of engine operation) if an engine is used for an emergency demand/ load response program.

Reporting: Reference 40 CFR 63.6650; & Footnote 2 to Table 2d Describe:

The Permittee must report any failure to perform the management practice on the schedule required (i.e., if an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law) and report the federal, state or local law under which the risk was deemed unacceptable. The Permittee must submit an annual report on use under an emergency demand/load response program, according to the requirements of 40 CFR 63.6650(h).

Frequency of submittal of the compliance demonstration: Semi-Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: Insignificant Activities – Stationary Internal Combustion Engines

General Reference: 40 CFR 60 Subpart IIII

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall operate and maintain each engine to achieve the emission standards of 40 CFR 60 Subpart IIII, over the entire life of the engine. Each engine must comply with the emission standards for new nonroad CI engines in 40 CFR 60.4202, which for these engines are the emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 89.113 for all pollutants beginning in model year 2007. The Permittee must install a non-resettable hour meter prior to the startup of each engine. Beginning October 1, 2010, the Permittee shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. Each engine may only be operated for the following situations: emergencies, maintenance and testing, and emergency demand response. There is no time limit on emergency use. Operation for maintenance and testing, and emergency demand response is limited to 100 hours per year. Each engine may be operated for 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 60.4209(a) and 60.4211(a) Describe:

The Permittee shall install a non-resettable hour meter. The Permittee must operate and maintain the engine and control device according to the manufacturer's emission-related written instructions, change only those emission-related settings that are permitted by the manufacturer, and meet all applicable requirements of 40 CFR 89 and 1068.

Testing: Reference 40 CFR 60.4211(c) Describe:

The Permittee shall meet the emission limits for 40 CFR 60 Subpart IIII, over the entire life of the engine (refer to 40 CFR 89.112 and 89.113 for specific limits), by purchasing an engine certified to the applicable emission standards (based on model year and maximum engine power). The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g).



Record Keeping: Reference 40 CFR 60.4214(b)-(c) Describe:

The Permittee must keep records of the operation of the engine in emergency and non-emergency (e.g., maintenance) service that are recorded through the non-resettable hour meter. The Permittee must record the time of operation of the engine and the reason the engine was in operation during that time. If the engine is equipped with a diesel particulate filter, the Permittee must keep records of any corrective action taken after the backpressure monitor has notified that the engine's limit is approached.

Reporting: Reference 40 CFR 60.4214(d) Describe:

For engines that are part of an emergency demand response program, the Permittee shall submit an annual report identifying the facility, dates of the reporting period, applicable emergency generator(s); documenting the number of hours that the generator is contractually obligated to be available; and documenting the hours that the generator was actually operated for demand/load response. The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

Frequency of submittal of the compliance demonstration: Semi-Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 42C-01A, 70A-02A, 70A-03A **General Reference:** COMAR
26.11.09.05A(2) - (3)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee may not cause or permit the discharge of emissions from any fuel burning equipment other than water in an uncombined form, which is visible to human observers, except during load changes, soot blowing, start-up, or adjustments or occasional cleaning of control equipment. During those times, visible emissions cannot be greater than 40 percent opacity and cannot occur for more than 6 consecutive minutes in any sixty minute period.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ☒
- ☐ Semi-Annual Monitoring Report: ☒

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: N/A

Testing: Reference None Describe: N/A

Record Keeping: Reference None Describe: N/A

Reporting: Reference None Describe: N/A

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 42C-01A, 70A-02A, 70A-03A **General Reference:** COMAR 26.11.09.07A(2)(b)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of, or which otherwise exceeds, the following limitations: Distillate fuel oils, 0.3 percent.

Note: Since the sulfur emissions limitation specified in COMAR 26.11.09.07A is more stringent than 40 CFR 60, Subpart Dc, the State standard will supersede the federal standard. However, the testing, monitoring, record keeping, and reporting requirements under NSPS Subpart Dc will be used to demonstrate compliance with both COMAR 26.11.09.07A and the NSPS sulfur standards.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 60.46c(e) Describe:

The Permittee shall demonstrate compliance with the SO₂ standards based on fuel supplier certification that includes the name of the oil supplier, a statement from the oil supplier that the oil complied with the specifications under the definition of distillate oil in 60.41c, and the sulfur content or maximum sulfur content of the oil.

Testing: Reference 40 CFR 60.44c(h) Describe:

Where the Permittee seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described under §60.48c(f) as applicable.

Record Keeping: Reference 40 CFR 60.48c Describe:

The Permittee shall maintain records of fuel supplier's certification for at least five years. The Permittee shall maintain records of the type and amount of fuel combusted during each calendar month.



Reporting: Reference 40 CFR 60.48c Describe:

The Permittee shall submit semi-annual reports of the fuel supplier's certifications. The reports shall include the following information: (1) Hours of operation of the boilers; (2) Calendar dates covered in the reporting period; (3) Records of the amounts of each fuel combusted during each calendar month; (4) Fuel supplier's certifications including all information listed in 40 CFR 60.48c(f)(1)-(4); and (5) A certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

Frequency of submittal of the compliance demonstration: Semi –Annual and Annual.



SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 42C-01A, 70A-02A, 70A-03A General Reference: COMAR 26.11.09.08

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee or operator of a source with a potential to emit 25 tons or more of NO_x shall comply with the NO_x emissions standard set forth in COMAR 26.11.09.08F.

For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference COMAR 26.11.03.06C Describe:

The Permittee shall operate the boilers in accordance with the operating and maintenance plan.

Testing: Reference None Describe: N/A

Record Keeping: Reference COMAR 26.11.09.08F, COMAR 26.11.03.06C, and COMAR 26.11.09.08K.(3)
Describe:

The Permittee shall maintain the operating and maintenance plan developed to minimize NO_x emissions and records of all maintenance performed on each boiler for at least five years and make the results available to the Department upon request. The Permittee shall maintain records of training program attendance for each operator at the site and make the records available to the Department upon request.

The Permittee shall maintain annual fuel use records on site for not less than five years, and make these records available to the Department upon request.



Reporting: Reference COMAR 26.11.03.06C & 26.11.09.08K(3) Describe:

The Permittee shall make the operating and maintenance plan and all records of maintenance performed over the last five years available to the Department upon request. The Permittee shall make records of training program attendance for each operator available to the Department upon request. The Permittee shall make monthly fuel records over the last five years available to the Department upon request.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 42C-01A, 70A-02A, 70A-03A **General Reference:** 40 CFR 60.42c

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall not cause to be discharged into the atmosphere from the affected facility any gases containing SO₂ in excess of 215 ng/J (0.50 lb/MMBtu) heat input from oil; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur.

Note: Since the sulfur emissions limitation specified in COMAR 26.11.09.07A is more stringent than 40 CFR 60, Subpart DC, the State standard will supersede the federal standard.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ✓
- ☐ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 60.46c(e) Describe:

The Permittee shall demonstrate compliance with the SO₂ standards based on fuel supplier certification that includes the name of the oil supplier, a statement from the oil supplier that the oil complied with the specifications under the definition of distillate oil in 60.41c, and the sulfur content or maximum sulfur content of the oil.

Testing: Reference 40 CFR 60.44c(h) Describe:

Where the Permittee seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in §60.48c(f) as applicable.

Record Keeping: Reference 40 CFR 60.48c Describe:

The Permittee shall maintain records of fuel supplier's certification for at least five years. The Permittee shall maintain records of the type and amount of fuel combusted during each calendar month.



Reporting: Reference 40 CFR 60.48c Describe:

The Permittee shall submit semi-annual reports of the fuel supplier's certifications. The reports shall include the following information: (1) Hours of operation of the boiler; (2) Calendar dates covered in the reporting period; (3) Records of the amounts of each fuel combusted during each calendar month; (4) Fuel supplier's certifications including all information listed in 40 CFR 60.48c(f)(1)-(4); and (5) A certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 70A-03A **General Reference:** 40 CFR 60.43c(c)

Briefly describe the Emission Standard/Limit or Operational Limitation:

For boilers with a heat input capacity less than 100 million Btu/hour but greater than 30 million Btu/hour, for which construction began after June 9, 1989, the Permittee shall not cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. These requirements apply at all times, except during periods of startup, shutdown, or malfunction.

Note: Compliance with the "No Visible Emission" requirements of COMAR 26.11.09.05A(2)-(3) will be used to show compliance with this NSPS standard.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☐ Annual Compliance Certification: ☒
- ☐ Semi-Annual Monitoring Report: ☒

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 60.47c(c) Describe:

Owners and operators of an affected facility that burns only distillate oil that contains no more than 0.5 weight percent sulfur or gaseous fuel with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO₂ or PM emissions and that are subject to an opacity standard in 60.43c(c) are not required to operate a COMS if they follow the applicable procedures in 60.48c(f). Fuel supplier certification shall include the following information: the name of the oil supplier; a statement from the oil supplier that the oil complies with the specification under the definition of distillate oil in 60.41c; and the sulfur content of the oil.

Testing: Reference COMAR 26.11.01.04A(1) Describe:

The Department may require any person to conduct or have conducted testing to determine compliance with this subtitle. The Department, at its option, may witness or conduct these tests. The testing will be done at a reasonable time, and all information gathered during a testing operation will be provided to both parties.



Record Keeping: Reference None Describe: N/A

Reporting: Reference 40 CFR 60.48c Describe:

The reporting period for this subpart is each six-month period. All six-month reports shall be submitted to the Administrator (the Department) and shall be postmarked by the 30th day following the end of the reporting period.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



**SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS**

Emissions Unit No.: 42C-01A, 70A-02A, 70A-03A **General Reference:** 40 CFR 63.11201 and Table 1 to Part 63 Subpart JJJJJ

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall not exceed 0.03 lb/MMBtu of PM (filterable), except during periods of startup and shutdown.

Note: Per 40 CFR §63.11210(f), the exclusive use of ultra-low-sulfur liquid fuel exempts the Permittee from this condition and the subsequent testing requirements. Monitoring, record keeping, and reporting requirements remain.

Permit Shield Request: NSAB requests a permit shield to cover this requirement.

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☒ Annual Compliance Certification: ✓
- ☒ Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring: Reference 40 CFR 63.11205, 40 CFR 63.11210(f), 40 CFR 63.11201, 40 CFR 63.11214(b), 40 CFR 63.11223(b), and 40 CFR Part 63 Subpart JJJJJ Table 2 Describe:

At all times the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if the levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

The Permittee is not subject to the PM emission limit in Table 1 to Part 63 Subpart JJJJJ, so long as the boilers combust only ultra-low-sulfur liquid fuel as defined in 40 CFR §63.11237 provided that the Permittee monitor and record on a monthly basis the type of fuel combusted. If the Permittee intends to burn a fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in §63.11237, the Permittee must conduct a performance test within 60 days of burning the new fuel

The Permittee is required to complete a biennial tune-up as specified in 40 CFR §63.11223 beginning no later than 25 months after the initial startup of the boilers.



Testing: Reference 40 CFR 63.11210 and 40 CFR 63.11220 Describe:

If the Permittee previously burned ultra-low-sulfur fuel and intends to burn a fuel other than ultra-low-sulfur liquid fuel as defined in §63.11237, the Permittee must conduct a performance test within 60 days of burning the new fuel. If the Permittee did not initially burn ultra-low-sulfur fuel, the Permittee must demonstrate initial compliance with the applicable emission limit within 180 days after startup of the source. The Permittee must conduct all applicable performance (stack) tests on a triennial basis. Triennial performance tests must be completed no more than 37 months after the previous performance test. If, during the initial performance test, PM emissions are equal to or less than half of the PM emission limit, the Permittee may choose to conduct performance tests for PM every fifth year, but must continue to comply with all applicable operating limits and monitoring requirements and must comply with the following provisions: (1) Each such performance test must be conducted no more than 61 months after the previous performance test; (2) If you intent to burn a new type of fuel other than ultra-low-sulfur liquid fuel as defined in §63.11237, you must conduct a performance test within 60 days of burning the new fuel type; and (3) If you performance test results show that your PM emissions are greater than half of the PM emission limit, you must conduct subsequent performance tests on a triennial basis.

Record Keeping: Reference 40 CFR 63.11225(c) Describe:

The Permittee shall maintain: (1) Each notification and report that the Permittee submitted and all documentation supporting any Initial Notification or Notification of Compliance Status that the Permittee submitted; (2) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment; and (3) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

Reporting: Reference 40 CFR 63.11225 Describe:

The Permittee must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information in paragraphs (b)(1), (b)(2)(i), and (b)(2)(ii) of §63.11225.

Frequency of submittal of the compliance demonstration: Semi-Annual and Annual.



SECTION 3C. OBSOLETE, EXTRANEEOUS, OR INSIGNIFICANT PERMIT CONDITIONS

List permit to construct conditions which should be considered to be obsolete, extraneous, or environmentally insignificant.

Emissions Unit No.: 07-01G and 53-01G **Permit to Construct No.** N/A - requirements in current Title V permit

Emissions Point No.	Date Permit Issued	Condition No.	Brief Description of Condition and Reason for Exclusion
Various	06/2016	Section IV – 4.1B2	The generators 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) nor does it operate for the purpose specified in §63.6640(f)(4)(ii). As such, these engines should not be subject to the fuel requirements in 40 CFR 80.510(b).
Various	06/2016	Section IV – 4.1a(4)	The generators 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) nor does it operate for the purpose specified in §63.6640(f)(4)(ii). As such, these engines should not be subject to the fuel requirements in 40 CFR 80.510(b).



**SECTION 3E. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS FOR AN
ALTERNATE OPERATING SCENARIO**

Scenario No.: Not Applicable

Emissions Unit No.: _____ **General Reference:** _____

Briefly describe any applicable Emissions Standard/Limits/Operational Limitations:

Compliance Demonstration:

Methods used to demonstrate compliance:

Monitoring: Reference _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference _____ Describe: _____

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: _____

Check appropriate reports required to be submitted:

☐ Quarterly Monitoring Report: _____

☐ Annual Compliance Certification: _____

☐ Semi-Annual Monitoring Report: _____



SECTION 4. CONTROL EQUIPMENT

1. <u>Associated Emissions Units No.</u> : 16-01B, 16-02B, 16-03B, 16-04B, and 16-05B	2. <u>Emissions Point No.:</u> 16-P1 and 16-P5
3. <u>Type and Description of Control Equipment:</u>	
Each of the five boilers are equipped with a low NOx burner and a Flue Gas Recirculation (FGR) system.	
4. <u>Pollutants Controlled:</u>	<u>Control Efficiency:</u>
NOx	68%
5. <u>Capture Efficiency:</u> 100%	



SECTION 4. CONTROL EQUIPMENT

1. <u>Associated Emissions Units No. :</u> 51-01B, 51-02B, 51-03B		2. <u>Emissions Point No.:</u> 51-P2, 51-P3, and 51-P4	
3. <u>Type and Description of Control Equipment:</u>			
Each of the three boilers are equipped with a low NOx burner.			
4. Pollutants Controlled:		Control Efficiency:	
NOx		50%	
5. Capture Efficiency:			
100%			



SECTION 4. CONTROL EQUIPMENT

1. <u>Associated Emissions Units No. :</u> 52-01C		2. <u>Emissions Point No.:</u> 52-P1	
3. <u>Type and Description of Control Equipment:</u>			
The boiler is equipped with a low NOx burner.			
4. Pollutants Controlled:		Control Efficiency:	
NOx		50%	
5. Capture Efficiency: 100%			



SECTION 5. SUMMARY SHEET OF POTENTIAL EMISSIONS

List all applicable pollutants in tons per year (tpy) pertaining to this facility. The Emissions Unit No. should be consistent with numbers used in Section 3. Attach a copy of all calculations.

Pollutant	NOx	CO	SO2	VOC	PM-Tot
CAS Number	[N/A]	630-08-0	7446-09-5	[total]	[N/A]
Emissions Unit #51-01B	0.376	0.631	0.005	0.041	0.057
Emissions Unit #51-02B	0.376	0.631	0.005	0.041	0.057
Emissions Unit #51-03B	0.376	0.631	0.005	0.041	0.057
Emissions Unit #52-01C	0.228	0.382	0.003	0.025	0.035
Emissions Unit #42C-01A	11.3	2.83	24.1	0.192	1.86
Emissions Unit #70A-02A	8.94	2.24	19.1	0.152	1.48
Emissions Unit #70A-03A	25.0	6.25	53.3	0.425	4.13
Emissions Unit #16-01B	9.25	24.2	8.68	1.58	2.64
Emissions Unit #16-02B	9.69	24.2	8.68	1.58	2.64
Emissions Unit #16-03B	7.76	24.2	8.68	1.58	2.64
Emissions Unit #16-04B	8.55	24.2	8.68	1.58	2.64
Emissions Unit #16-05B	8.48	25.6	4.95	1.68	2.57
Emissions Unit #82-01A	0.644	0.541	0.004	0.035	0.049
Emissions Unit #82-02A	0.644	0.541	0.004	0.035	0.049
Emissions Unit #82-03A	0.644	0.541	0.004	0.035	0.049
Emissions Unit #01-01H	1.08	0.247	0.001	0.029	0.022
Emissions Unit #07-01G	0.816	0.187	0.083	0.022	0.017
Emissions Unit #16-01H	0.906	0.208	0.0005	0.024	0.018
Emissions Unit #16-02H	0.906	0.208	0.0005	0.024	0.018
Emissions Unit #17-01	1.08	0.249	0.001	0.029	0.022
Emissions Unit #27-01A	1.46	0.334	0.001	0.039	0.030
Emissions Unit #44-01G	1.46	0.336	0.001	0.039	0.030
Fugitive Emissions					
Continue onto next page					



SECTION 5. SUMMARY SHEET OF POTENTIAL EMISSIONS

List all applicable pollutants in tons per year (tpy) pertaining to this facility. The Emissions Unit No. should be consistent with numbers used in Section 3. Attach a copy of all calculations.

Pollutant	NOx	CO	SO2	VOC	PM-Tot
CAS Number	[N/A]	630-08-0	7446-09-5	[total]	[N/A]
Emissions Unit #44-02G	1.79	0.410	0.001	0.048	0.036
Emissions Unit #45-01A	0.847	0.183	0.056	0.069	0.060
Emissions Unit #47-01G	1.46	0.336	0.001	0.039	0.030
Emissions Unit #51-01G	0.822	0.189	0.0004	0.022	0.017
Emissions Unit #53-01G	0.831	0.179	0.055	0.068	0.059
Emissions Unit #55-04H	2.65	0.607	0.001	0.071	0.054
Emissions Unit #55-03H	2.65	0.607	0.001	0.071	0.054
Emissions Unit #55-02H	2.65	0.607	0.001	0.071	0.054
Emissions Unit #55-01H	2.65	0.607	0.001	0.071	0.054
Emissions Unit #55-05A	2.79	0.640	0.001	0.075	0.057
Emissions Unit #55-06A	2.79	0.640	0.001	0.075	0.057
Emissions Unit #62-02G	1.08	0.249	0.001	0.029	0.022
Emissions Unit #63-01G	3.51	0.804	0.002	0.094	0.071
Emissions Unit #63-02H	3.51	0.804	0.002	0.094	0.071
Emissions Unit #70A-01H	0.847	0.183	0.069	0.069	0.060
Emissions Unit #71B-01H	0.743	0.170	0.0004	0.020	0.015
Emissions Unit #72C-02H	0.743	0.170	0.0004	0.020	0.015
Emissions Unit #202-01H	0.903	0.207	0.0005	0.024	0.018
Emissions Unit #16-01C	5.31	1.22	0.003	0.142	0.108
Fugitive Emissions					
Continue onto next page					



SECTION 5. SUMMARY SHEET OF POTENTIAL EMISSIONS

List all applicable pollutants in tons per year (tpy) pertaining to this facility. The Emissions Unit No. should be consistent with numbers used in Section 3. Attach a copy of all calculations.

Pollutant	NOx	CO	SO2	VOC	PM-Tot
CAS Number	[N/A]	630-08-0	7446-09-5	[total]	[N/A]
Emissions Unit #51A-01	-	-	-	5.64	-
Insignificant Units	9.70	4.22	0.455	0.851	0.720
Fugitive Emissions					
Total	128	147	93.7	16.6	19.4

Notes:

For additional details, see Appendix D - Facility Potential-to-Emit Calculations.



SECTION 5. SUMMARY SHEET OF POTENTIAL EMISSIONS

List all applicable pollutants in tons per year (tpy) pertaining to this facility. The Emissions Unit No. should be consistent with numbers used in Section 3. Attach a copy of all calculations.

Pollutant	PM10	PM2.5	CO ₂ e	HAPs
CAS Number	[N/A]	[N/A]	[total]	[total]
Emissions Unit #51-01B	0.057	0.057	907	0.014
Emissions Unit #51-02B	0.057	0.057	907	0.014
Emissions Unit #51-03B	0.057	0.057	907	0.014
Emissions Unit #52-01C	0.035	0.035	546	0.009
Emissions Unit #42C-01A	1.34	1.20	12,647	0.028
Emissions Unit #70A-02A	1.06	0.953	10,010	0.022
Emissions Unit #70A-03A	2.98	2.66	27,978	0.062
Emissions Unit #16-01B	2.45	2.40	35,896	0.561
Emissions Unit #16-02B	2.45	2.40	35,896	0.561
Emissions Unit #16-03B	2.45	2.40	35,896	0.561
Emissions Unit #16-04B	2.45	2.40	35,896	0.561
Emissions Unit #16-05B	2.47	2.44	37,457	0.591
Emissions Unit #82-01A	0.049	0.049	778	0.012
Emissions Unit #82-02A	0.049	0.049	778	0.012
Emissions Unit #82-03A	0.049	0.049	778	0.012
Emissions Unit #01-01H	0.018	0.017	52.0	0.0005
Emissions Unit #07-01G	0.014	0.013	39.5	0.0004
Emissions Unit #16-01H	0.015	0.015	43.8	0.0004
Emissions Unit #16-02H	0.015	0.015	43.8	0.0004
Emissions Unit #17-01	0.018	0.018	52.4	0.0005
Emissions Unit #27-01A	0.024	0.024	70.5	0.001
Emissions Unit #44-01G	0.024	0.024	70.9	0.001
Fugitive Emissions				
Continue onto next page				



SECTION 5. SUMMARY SHEET OF POTENTIAL EMISSIONS

List all applicable pollutants in tons per year (tpy) pertaining to this facility. The Emissions Unit No. should be consistent with numbers used in Section 3. Attach a copy of all calculations.

Pollutant	PM10	PM2.5	CO ₂ e	HAPs
CAS Number	[N/A]	[N/A]	[total]	[total]
Emissions Unit #44-02G	0.030	0.029	86.5	0.001
Emissions Unit #45-01A	0.060	0.060	31.4	0.014
Emissions Unit #47-01G	0.024	0.024	70.9	0.001
Emissions Unit #51-01G	0.014	0.013	39.8	0.0004
Emissions Unit #53-01G	0.059	0.059	30.8	0.014
Emissions Unit #55-04H	0.044	0.043	128	0.001
Emissions Unit #55-03H	0.044	0.043	128	0.001
Emissions Unit #55-02H	0.044	0.043	128	0.001
Emissions Unit #55-01H	0.044	0.043	128	0.001
Emissions Unit #55-05A	0.047	0.045	135	0.001
Emissions Unit #55-06A	0.047	0.045	135	0.001
Emissions Unit #62-02G	0.018	0.018	52.4	0.0005
Emissions Unit #63-01G	0.059	0.057	170	0.002
Emissions Unit #63-02H	0.059	0.057	170	0.002
Emissions Unit #70A-01H	0.060	0.060	31.4	0.014
Emissions Unit #71B-01H	0.012	0.012	36.0	0.0003
Emissions Unit #72C-02H	0.012	0.012	36.0	0.0003
Emissions Unit #202-01H	0.015	0.015	43.7	0.0004
Emissions Unit #16-01C	0.089	0.086	257	0.002
Fugitive Emissions				
Continue onto next page				



SECTION 5. SUMMARY SHEET OF POTENTIAL EMISSIONS

List all applicable pollutants in tons per year (tpy) pertaining to this facility. The Emissions Unit No. should be consistent with numbers used in Section 3. Attach a copy of all calculations.

Pollutant	PM10	PM2.5	CO ₂ e	HAPs
CAS Number	[N/A]	[N/A]	[total]	[total]
Emissions Unit #51A-01	-	-	-	0.321
Insignificant Units	0.720	0.720	4,277	0.174
Fugitive Emissions				
Total	17.2	16.7	221,109	3.55

Notes:

For additional details, see Appendix D - Facility Potential-to-Emit Calculations. Values reported for both PM10 and PM2.5 include PM Condensable.



SECTION 6.

EXPLANATION OF PROPOSED EXEMPTIONS FROM
OTHERWISE APPLICABLE FEDERALLY ENFORCEABLE
REQUIREMENTS

Describe and cite the applicable requirements to be exempted. Complete this Section only if the facility is claiming exemptions from or the non-applicability of any federally enforceable requirements.

1. Applicable Requirement: 40 CFR 63 Subpart JJJJJJ

2. Brief Description:

Subpart JJJJJJ establishes compliance requirements for industrial, commercial, and institutional boilers
located at area sources for hazardous air pollutants (HAPs).

3. Reasons for Proposed Exemption or Justification of Non-applicability:

Per 40 CFR §63.11195 and §63.11237, EU: 16-01B, 16-02B, 16-03B, 16-04B, and 16-05B are exempt
from this subpart because they each meet the definition of a "gas-fired boiler." These boilers only
use fuel oil for maintenance, testing, training, or periods of gas curtailment or interruption. Fuel oil use for
maintenance, testing, and training will not exceed 48 hours per calendar year per boiler.
EU: 51-01A, 51-02A, 51-03A, 52-01C, 82-01A, 82-02A, and 82-03A are also exempt from this subpart because
these units only burn natural gas.



**SECTION 7. COMPLIANCE SCHEDULE FOR NONCOMPLYING EMISSIONS
UNITS**

1. Emissions Unit #	Anticipated Compliance Date
16-01B, 16-02B, 16-03B, 16-04B, and 16-05B	See Plan of Action for Notice of Violation
Applicable Federally Enforceable Requirement being Violated: Permit Terms 2.1B(1) [Authority: COMAR 26.11.09.05A(2)], 2.2C(1)(a), 2.3C(1)(a), 3.1B(1), 3.2C(2), and 3.3B(a)	

2. Description of Plan to Achieve Compliance: <u>Please refer to the Plan of Action for Notice of Violation, submitted by Naval Support Activity Bethesda on March 30, 2020, for actions and estimated dates to reach compliance with these permit terms.</u> _____ _____ _____ _____ _____ _____ _____

Certified Progress Reports for sources in noncompliance shall be submitted at least quarterly to the Department.



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STATE-ONLY ENFORCEABLE REQUIREMENTS

Facility Information:

Name of Facility:	County
Naval Support Activity Bethesda (NSAB)	Montgomery
Premises Number:	
24-031-01124	
Street Address:	
Public Works Office, 4655 Taylor Road, Bldg. 27	
24-hour Emergency Telephone Number for Air Pollution Matters:	
Central Heating Plant Control Room Phone Number - 301-295-0169	
Type of Equipment (List Significant Units):	
Five (5) natural gas and no. 2 fuel oil-fired boilers (EU: 16-01B, 16-02B, 16-03B, 16-04B, and 16-05B).	
One (1) natural gas-fired water heater (EU: 52-01C).	
Six (6) natural gas-fired boilers (EU: 51-01B, 51-02B, 51-03B, 82-01A, 82-02A, and 82-03A).	
One (1) gasoline dispensing station (EU: 51A-01).	
26 No. 2 fuel oil/diesel emergency generators (01-01H, 07-01G, 16-01H, 16-02H, 53-01G,	
202-01H, 16-01C, 17-01, 27-01A, 44-01G, 44-02G, 45-01A, 47-01G, 51-01G, 55-01H, 55-02H, 55-03H,	
55-04H, 55-05A, 55-06A, 62-02G, 63-01G, 63-02H, 70A-01H, 71B-01H, 72C-02H).	
Three (3) No. 2 fuel oil-fired boilers (EU: 42C-01A, 70A-02A, and 70A-03A).	



CITATION TO AND DESCRIPTION OF APPLICABLE STATE-
ONLY ENFORCEABLE REQUIREMENTS

Registration No.: 031-01124

Emissions Unit No.: Facility wide

General Reference: COMAR 26.11.06.08
and 26.11.06.09

Briefly describe the requirement and the emissions limit (if applicable):

The Permittee is generally prohibited from the discharge of nuisance and odor emissions beyond the property line in such a manner that a nuisance or air pollution is created.

Methods used to demonstrate compliance:

None



III. Check-off List of Emissions Units and Activities Exempt from the Part 70 Permit Application

Insignificant Activities

Place a check mark beside each type of emissions unit or activity that is located at the facility. Where noted, please indicate the number of that type of emissions unit or activity located at the facility.

- (1) No. 21 Fuel burning equipment using gaseous fuels or no. 1 or no. 2 fuel oil, and having a heat input less than 1,000,000 Btu (1.06 gigajoules) per hour; All 21 units are natural gas fired units; 8 space heaters (i.e. furnaces), 1 air-conditioner/furnace, and 12 water heaters, all less than 1 MMBtu/hr.
- (2) No. 0 Fuel-burning equipment using solid fuel and having a heat input of less than 350,000 Btu (0.37 gigajoule) per hour;
- (3) No. 21 Stationary internal combustion engines with less than 500 brake horsepower (373 kilowatts) of power output
- (4) X Space heaters utilizing direct heat transfer and used solely for comfort heat; Kerosene fired mobile space heaters.
- (5) X Water cooling towers and water cooling ponds unless used for evaporative cooling of water from barometric jets or barometric condensers, or used in conjunction with an installation requiring a permit to operate;
- (6) No. 18 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less; The reported number refers to 18 VOC storage cabinets or areas that store various VOC containing products under 60 gallons.
- (7) Commercial bakery ovens with a rated heat input capacity of less than 2,000,000 Btu per hour;
- (8) Kilns used for firing ceramic ware, heated exclusively by natural gas, liquefied petroleum gas, electricity, or any combination of these;
- (9) Confection cookers where the products are edible and intended for human consumption;
- (10) Die casting machines;
- (11) Photographic process equipment used to reproduce an image upon sensitized material through the use of radiant energy;
- (12) X Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;

- (13) ☒ Brazing, soldering, or welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals and not directly related to plant maintenance, upkeep and repair or maintenance shop activities;
- (14) ☐ Equipment for washing or drying products fabricated from metal or glass, provided that no VOC is used in the process and that no oil or solid fuel is burned;
- (15) ☐ Containers, reservoirs, or tanks used exclusively for electrolytic plating work, or electrolytic polishing, or electrolytic stripping of brass, bronze, cadmium, copper, iron, lead, nickel, tin, zinc, and precious metals;
- (16) Containers, reservoirs, or tanks used exclusively for:
- (a) ☐ Dipping operations for applying coatings of natural or synthetic resins that contain no VOC;
 - (b) ☐ Dipping operations for coating objects with oils, waxes, or greases, and where no VOC is used;
 - (c) ☒ Storage of butane, propane, or liquefied petroleum, or natural gas;
 - (d) No. ☐ Storage of lubricating oils:
 - (e) No. ☐ Unheated storage of VOC with an initial boiling point of 300 °F
 - (f) No. ⁵⁷ ☐ Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet
☐ engine fuel, 41 small day/belly tanks used as primary fuel tanks for generators.
16 large ASTs or USTs used as secondary fuel tanks for generators.
 - (g) No. ☐ Storage of motor vehicle gasoline and having individual tank capacities of 2,000 gallons (7.6 cubic meters) or less;
 - (h) No. ☐ The storage of VOC normally used as solvents, diluents, thinners, inks, colorants, paints, lacquers, enamels, varnishes, liquid resins, or other surface coatings and having individual capacities of 2,000 gallons (7.6 cubic meters) or less;
- (17) ☐ Gaseous fuel-fired or electrically heated furnaces for heat treating glass or metals, the use of which does not involve molten materials;
- (18) Crucible furnaces, pot furnaces, or induction furnaces, with individual capacities of 1,000 pounds (454 kilograms) or less each, in which no sweating or distilling is conducted, or any fluxing is conducted using chloride, fluoride,

or ammonium compounds, and from which only the following metals are poured or in which only the following metals are held in a molten state:

- (a) ____ Aluminum or any alloy containing over 50 percent aluminum, if no gaseous chloride compounds, chlorine, aluminum chloride, or aluminum fluoride is used;
- (b) ____ Magnesium or any alloy containing over 50 percent magnesium;
- (c) ____ Lead or any alloy containing over 50 percent lead;
- (d) ____ Tin or any alloy containing over 50 percent tin;
- (e) ____ Zinc or any alloy containing over 50 percent zinc;
- (f) ____ Copper;
- (g) ____ Precious metals;
- (19) X Charbroilers and pit barbecues as defined in COMAR 26.11.18.01 with a total cooking area of 5 square feet (0.46 square meter) or less;
- (20) X First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;
- (21) X Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;
- (22) ____ Potable water treatment equipment, not including air stripping equipment;
- (23) ____ Firing and testing of military weapons and explosives;
- (24) ____ Emissions resulting from the use of explosives for blasting at quarrying operations and from the required disposal of boxes used to ship the explosive;
- (25) ____ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act;
- (26) ____ Grain, metal, or mineral extrusion presses;
- (27) ____ Breweries with an annual beer production less than 60,000 barrels;

(28)____ Natural draft hoods or natural draft ventilators that exhaust air pollutants into the ambient air from manufacturing/industrial or commercial processes;

(29) X Laboratory fume hoods and vents;

(30)No.____Sheet-fed letter or lithographic printing press(es) with a cylinder width of less than 18 inches;

For the following, attach additional pages as necessary:

(31) any other emissions unit, not listed in this section, with a potential to emit less than the “de minimus” levels listed in COMAR 26.11.02.10X (list and describe units):

No. 10 Oil/Water Separator

No. 1 Ethylene Oxide Sterilizer

No. ____

No. ____

(32) any other emissions unit at the facility which is not subject to an applicable requirement of the Clean Air Act (list and describe):

No. ____

No. ____

No. ____

Appendix A
Facility Equipment List

Identification Number	MDE Registration Number	Equipment Description	Building	Capacity	Units	Secondary Capacity	Secondary Units	Location Description	Tenant	Rooftop Unit?	Inventory Status	Notes
Title V Registered Emission Units (EUs)												
16-01B	5-1264 N	Steam Boiler #1	16	67.0	MMBtu/hr	---	---	Heat Plant Boiler Room	Utilities (UEM)	No	Existing	
16-02B	5-1263 N	Steam Boiler #2	16	67.0	MMBtu/hr	---	---	Heat Plant Boiler Room	Utilities (UEM)	No	Existing	
16-03B	5-1241 M	Steam Boiler #3	16	67.0	MMBtu/hr	---	---	Heat Plant Boiler Room	Utilities (UEM)	No	Existing	
16-04B	5-1242 M	Steam Boiler #4	16	67.0	MMBtu/hr	---	---	Heat Plant Boiler Room	Utilities (UEM)	No	Existing	
16-05B	5-2233	Steam Boiler #5	16	71.0	MMBtu/hr	---	---	Heat Plant Boiler Room	Utilities (UEM)	No	Existing	
42C-01A	4-1428	AFRRRI Kewanee Boiler 1	42	18.1	MMBtu/hr	---	---	Road	AFRRRI	No	New	Temporary boiler
70A-02A	4-1427	USUHS Cleaver Brooks Boiler 1	70	14.3	MMBtu/hr	---	---	Road	USUHS	No	New	Temporary boiler
70A-03A	-	USUHS Kewanee Boiler 1	70	42.0	MMBtu/hr	---	---	Road	USUHS	No	New	Temporary boiler
51-01B	5-2492	Lochinvar Boiler #1	51	1.8	MMBtu/hr	---	---	Mechanical Room	NICoE	No	New	Installed 2019
51-02B	5-2493	Lochinvar Boiler #2	51	1.8	MMBtu/hr	---	---	Mechanical Room	NICoE	No	New	Installed 2019
51-03B	5-2494	Lochinvar Boiler #3	51	1.8	MMBtu/hr	---	---	Mechanical Room	NICoE	No	New	Installed 2019
52-01C	5-2256	Water Heater	52	1.06	MMBtu/hr	---	---	Navy Lodge Expansion (Basement)	Navy Lodge	No	Existing	
82-01A	5-2407	Futera III Boiler #1	82	1.50	MMBtu/hr	---	---	NEX Rooftop	NEX	Yes	New	
82-02A	5-2408	Futera III Boiler #2	82	1.50	MMBtu/hr	---	---	NEX Rooftop	NEX	Yes	New	
82-03A	5-2409	Futera III Boiler #3	82	1.50	MMBtu/hr	---	---	NEX Rooftop	NEX	Yes	New	
01-01G	9-0811	Emergency Generator	1	600	kW	890	hp	Dental Clinic (outside building)	WRNMMC	Ne	Removed	Replaced by 01-01H
01-01H	9-1140	Emergency Generator	1	600	kW	896	hp	Dental Clinic (outside building)	WRNMMC	No	New	
01-02G	9-1128	Emergency Generator	1	800	kW	1490	hp	Dental Clinic (outside building)	WRNMMC	Ne	Removed	Unit removed in 2016; permit says 1,038 kW
07-01G	9-0804	Emergency Generator	7	400	kW	680	hp	Hospital (Basement)	WRNMMC	No	Existing	
16-01G	9-0806	Emergency Generator	16	410	kW	550	hp	Heating Plant (Second Floor)	Utilities (UEM)	Ne	Removed	Unit removed
16-02G	9-0807	Emergency Generator	16	410	kW	550	hp	Heating Plant (Second Floor)	Utilities (UEM)	Ne	Removed	Unit removed May 2018
16-03G	9-1132	Emergency Generator	16	1275	kW	1884	hp	Outside building near temporary cooling towers	Utilities (UEM)	Ne	Removed	Unit removed (no replacement)
16-01C	9-1034	Emergency Generator	252	3000	kW	4423	hp	Cooling Towers (outside, east of building, in enclosure)	Utilities (UEM)	No	Existing	
16-01H	9-1183	Emergency Generator	16	450	kW	755	hp	Heating Plant (second floor)	Utilities (UEM)	No	New	New unit began operating in July 2018; EU is proposed
16-02H	9-1184	Emergency Generator	16	450	kW	755	hp	Heating Plant (second floor)	Utilities (UEM)	No	New	New unit began operating in August 2018; EU is proposed
17-01	9-1008	Emergency Generator	17	600	kW	903	hp	Fitness Center (outside, west of building)	DHA	No	Existing	
27-01A	9-0949	Emergency Generator	27	800	kW	1214	hp	Facilities Maintenance (outside, north of building)	NSAB	No	Existing	
44-01G	9-1004	Emergency Generator	47	750	kW	1220	hp	Located behind Building 47	AFRRRI	Yes	Existing	
44-02G	9-1003	Emergency Generator	44	1000	kW	1490	hp	Modulator Building (outside on roof/patio of Bldg 44)	AFRRRI	Yes	Existing	Moved to substation (between Bldgs 43, 47, and 48)
45-01A	9-1179	Emergency Generator	45	400	kW	546	hp	AFRRRI Lab (outside on roof/patio of Bldg 45)	AFRRRI	Yes	New	New unit in 2018, not installed; EU is proposed
47-01G	9-1005	Emergency Generator	47	750	kW	1220	hp	Located behind Building 47	AFRRRI	Yes	Existing	Moved to substation (between Bldgs 43, 47, and 48)
51-01G	9-0970	Emergency Generator	51	405	kW	685	hp	NICOE (outside, southwest of building)	NICOE	No	Existing	
53-01G	9-0805	Emergency Generator	53	400	kW	536	hp	USUHS Env/Health Effects Lab (outside, south of building)	USU	No	Existing	
55-04H	9-1024	Emergency Generator	55	1500	kW	2206	hp	Parking Building (inside mech. room, ground level, SE corner)	WRNMMC	No	Existing	
55-03H	9-0963	Emergency Generator	55	1500	kW	2206	hp	Parking Building (inside mech. room, ground level, SE corner)	WRNMMC	No	Existing	
55-02H	9-0967	Emergency Generator	55	1500	kW	2206	hp	Parking Building (inside mech. room, ground level, SE corner)	WRNMMC	No	Existing	Permit says 600 kW
55-01H	9-0966	Emergency Generator	55	1500	kW	2206	hp	Parking Building (inside mech. room, ground level, SE corner)	WRNMMC	No	Existing	Permit says 600 kW
55-05A	9-1185	Emergency Generator	55	1500	kW	2328	hp	Parking Building (central area, ground level)	WRNMMC	No	New	Installed 2020
55-06A	9-1186	Emergency Generator	55	1500	kW	2328	hp	Parking Building (central area, ground level)	WRNMMC	No	New	Installed 2020
62-02G	9-1009	Emergency Generator	62	600	kW	903	hp	BEQ E1/E4 Barracks Wounded Warriors (outside, north of bldg)	DHA	No	Existing	
63-01G	9-0964	Emergency Generator	63	1750	kW	2923	hp	Patient Parking Garage (inside)	WRNMMC	No	Existing	
63-02H	9-1010	Emergency Generator	63	1750	kW	2923	hp	Patient Parking Garage (inside)	WRNMMC	No	Existing	
70A-01H	9-0960	Emergency Generator	70	350	kW	546	hp	University Building A (mechanical room)	USU	No	Existing	
71B-01H	9-0961	Emergency Generator	71	400	kW	619	hp	University Building B (mechanical room)	USU	No	Existing	
72C-02H	9-0962	Emergency Generator	72	400	kW	619	hp	University Building C (mechanical room)	USU	No	Existing	
202-01G	9-0810	Emergency Generator	202	500	kW	671	hp	Electrical Station	WRNMMC	Ne	Removed	Replaced by 202-01H
202-01H	9-1138	Emergency Generator	202	500	kW	752	hp	Electrical Station	WRNMMC	No	New	
155-01	9-0628 N	Regular Gasoline Fuel - UST 272 A--	99	10,000	Gallons	---	---	Government Gas Station	NSAB	Ne	Removed	Dispenser taken out of service December 2017
51A-01	9-0628 N	Regular Gasoline Fuel - UST 298 A	58	20,000	Gallons	---	---	NEX Gas Station	NEX	No	Existing	
51A-01	9-0628 N	Premium Gasoline Fuel - UST 299 A	58	20,000	Gallons	---	---	NEX Gas Station	NEX	No	Existing	

Identification Number	MDE Registration Number	Equipment Description	Building	Capacity	Units	Secondary Capacity	Secondary Units	Location Description	Tenant	Rooftop Unit?	Inventory Status	Notes
Title V Insignificant Sources												
INS-B1	-	Water Heater	26	0.250	MMBtu/hr	---	---	Child Development Center (Mechanical Room)	CDC	No	Existing	
INS-B2	-	Water Heater	26	0.250	MMBtu/hr	---	---	Child Development Center (Mechanical Room)	CDC	No	Existing	
INS-B3	-	Boiler	26	0.935	MMBtu/hr	---	---	Child Development Center (Mechanical Room)	CDC	No	Existing	
INS-B4	-	Water Heater	52	0.600	MMBtu/hr	---	---	Navy Lodge Expansion (Mech Room)	Navy Lodge	No	Existing	
INS-B5	-	Water Heater	52	0.600	MMBtu/hr	---	---	Navy Lodge Expansion (Mech Room)	Navy Lodge	No	Existing	
INS-B6	-	Boiler	56	0.787	MMBtu/hr	---	---	Bowling Alley (Mechanical Room)	Bowling Alley	No	Existing	
INS-B7	-	Water Heater	65	0.199	MMBtu/hr	---	---	Fisher House 3 (Mechanical Room)	Fisher House	No	Existing	
INS-B8	-	Water Heater	65	0.199	MMBtu/hr	---	---	Fisher House 3 (Mechanical Room)	Fisher House	No	Existing	
INS-B9	-	Boiler	65	0.500	MMBtu/hr	---	---	Fisher House 3 (Mechanical Room)	Fisher House	No	Existing	
INS-B10	-	Water Heater	66	0.199	MMBtu/hr	---	---	Fisher House 4 (Mechanical Room)	Fisher House	No	Existing	
INS-B11	-	Water Heater	66	0.199	MMBtu/hr	---	---	Fisher House 4 (Mechanical Room)	Fisher House	No	Existing	
INS-B12	-	Boiler	66	0.500	MMBtu/hr	---	---	Fisher House 4 (Mechanical Room)	Fisher House	No	Existing	
INS-B13	-	Water Heater	67	0.199	MMBtu/hr	---	---	Fisher House 5 (Mechanical Room)	Fisher House	No	Existing	
INS-B14	-	Water Heater	67	0.199	MMBtu/hr	---	---	Fisher House 5 (Mechanical Room)	Fisher House	No	Existing	
INS-B15	-	Boiler	67	0.500	MMBtu/hr	---	---	Fisher House 5 (Mechanical Room)	Fisher House	No	Existing	
INS-B16	-	Water Heater	87	0.300	MMBtu/hr	---	---	Child Development Center (Mechanical Room)	CDC	No	Existing	
INS-B17	-	Boiler	87	0.750	MMBtu/hr	---	---	Child Development Center (Mechanical Room)	CDC	No	Existing	
INS-B18	-	Boiler	87	0.750	MMBtu/hr	---	---	Child Development Center (Mechanical Room)	CDC	No	Existing	
INS-B19	-	Water Heater	31	0.750	MMBtu/hr	---	---	Former McDonalds	NEX	No	Existing	
INS-B20	-	Air Conditioner & Furnace	52	0.120	MMBtu/hr	---	---	Navy Lodge (Roof)	Navy Lodge	Yes	New	
INS-B21	-	Boiler	241	0.999	MMBtu/hr	---	---	Blood Bank	Blood Bank	No	New	
INS-G1	-	Emergency Generator	1	125	kW	207	hp	Dental Clinic (outside building)	WRNMMC	No	Existing	
INS-G2	-	Emergency Generator	11	300	kW	465	hp	Administrative Office (outside in front of building)	NSAB	No	Existing	
INS-G3	-	Emergency Generator	20	80	kW	107	hp	Fire Station (outside, east of building)	NSAB	No	Existing	
INS-G4	-	Emergency Generator	27	100	kW	150	hp	Facilities Maintenance (outside, north of building)	NSAB	No	Existing	Unit out of service since 2013
INS-G5	-	Emergency Generator	32	300	kW	480	hp	Multi Use Parking Structure (generator room)	NSAB	No	Existing	Unit out of service since 3/28/16
INS-G6	-	Emergency Generator	45	84	kW	433	hp	AFRRRI Lab (outside on roof/patio of Bldg 45)	AFRRRI	Yes	Removed	Unit out of service as of June 2018, unit to be removed
INS-G7	-	Emergency Generator	52	80	kW	107	hp	Navy Lodge Expansion (outside, south of building)	Navy Lodge	No	Existing	
INS-G8	-	Emergency Generator	54	150	kW	201	hp	Parking Building (inside)	WRNMMC	No	Existing	To be replaced with new 150 kW generator that will be on site one year
INS-G9	-	Emergency Generator	102	125	kW	275	hp	Gate 1 Guard House	NSAB	No	Existing	
INS-G10	-	Emergency Generator	104	72	kW	157	hp	Gate 2 Guard House	NSAB	No	Existing	
INS-G11	-	Emergency Generator	105	40	kW	79	hp	Gate 3 Guard House	NSAB	No	Existing	
INS-G12	-	Emergency Generator	106	35	kW	79	hp	Gate 4 Guard House	NSAB	No	Existing	
INS-G13	-	Emergency Generator	203	100	kW	158	hp	Medical Warehouse (outside, southeast of building)	WRNMMC	No	Existing	
INS-G14	-	Emergency Generator	241	300	kW	490	hp	Blood Bank (outside, southeast of building)	DOD - Blood Bank	No	Existing	
INS-G15	-	Emergency Generator	107A	80	kW	158	hp	Gate 5 Guard House	NSAB	No	Existing	
INS-G16	-	Emergency Generator	20T	128	kW	197	hp	Fire Station Expansion (outside, east of building)	NSAB	No	Existing	
INS-G17	-	Emergency Generator	16	100	kW	134	hp	Utilities (outside, west of building)	Utilities (UEM)	No	New	Generator is not in service
INS-G18	-	Emergency Generator	Trailer	180	kW	284	hp	Emergency Management Plans, Training & Exercises Trailer	WRNMMC	No	New	
INS-G19	-	Emergency Generator	Trailer	180	kW	284	hp	Emergency Management Plans, Training & Exercises Trailer	WRNMMC	No	New	
INS-G20	-	Emergency Generator	76	40	kW	43	hp	Laydown area northeast of building 76	USU	No	Removed	Temporary unit for construction
INS-G23	-	Lights Engine	16	13	kW	17	hp	Outside front of bldg. 16	Utilities (UEM)	No	New	Portable lights
INS-G24	-	Compressor Engine	16	36	kW	48	hp	Outside front of bldg. 16	Utilities (UEM)	No	New	Portable air compressor
INS-617	-	Emergency Generator	54	125	kW	164	hp	East side of building	WRNMMC	No	New	Temporary unit replacing INS-G8
INS-G20	-	Emergency Generator	82	476	kW	322	hp	Temporary Trailer Mounted Generator	WRNMMC	No	Removed	Information provided after site visit, units reportedly onsite for 2 weeks
INS-G21	-	Emergency Generator	82	329	kW	542.3	hp	Temporary Trailer Mounted Generator	WRNMMC	No	Removed	Information provided after site visit, units reportedly onsite for 2 weeks; replaced by INS-G22
INS-G22	-	Emergency Generator	82	476	kW	322	hp	Temporary Trailer Mounted Generator	WRNMMC	No	Removed	Information provided after site visit, units reportedly onsite for 2 weeks
INS-V1	-	VOC Storage Areas	13	2	No. of Units	---	---	PW Maintenance Storage	NAVFAC	No	Existing	
INS-V2	-	VOC Storage Areas	42	1	No. of Units	---	---	First floor shop	AFFRI	No	Existing	
INS-V3	-	VOC Storage Areas	53	2	No. of Units	---	---	Basement of Bldg. 53	USU	No	Existing	
INS-V4	-	VOC Storage Areas	71	6	No. of Units	---	---	University	USU	No	Existing	
INS-V5	-	VOC Storage Areas	71	1	No. of Units	---	---	First Floor of Bldg. 71	USU	No	Existing	
INS-V6	-	VOC Storage Areas	72	1	No. of Units	---	---	Ground floor garage	USU	No	Existing	
INS-V7	-	VOC Storage Areas	74	4	No. of Units	---	---	University	USU	No	Existing	
INS-V8	-	VOC Storage Areas	256	1	No. of Units	---	---	Hazardous Waste Storage	NAVFAC	No	Existing	
INS-OW1	-	Oil/Water Separator	58	1	No. of Units	---	---	NEX Gas Station	NEX	No	Existing	
INS-OW2	-	Oil/Water Separator	63	1	No. of Units	---	---	Outside Parking Garage	WRNMMC	No	Existing	
INS-OW3	-	Oil/Water Separator	99	1	No. of Units	---	---	Government Gas Station	NSAB	No	Existing	
INS-OW4	-	Oil/Water Separator	68	1	No. of Units	---	---	Outside Parking Garage	NSAB	No	Existing	
INS-OW5	-	Oil/Water Separator	32	1	No. of Units	---	---	Outside Parking Garage	NSAB	No	Existing	
INS-OW6	-	Oil/Water Separator	33	1	No. of Units	---	---	Outside Parking Garage	NEX	No	Existing	
INS-OW7	-	Oil/Water Separator	17	1	No. of Units	---	---	Outside Bldg. 17	Fitness Center	No	Existing	
INS-OW8	-	Oil/Water Separator	98A	1	No. of Units	---	---	Outside Bldg. 98A	NSAB	No	New	Installed 2019
INS-OW9	-	Oil/Water Separator	98A	1	No. of Units	---	---	Outside Bldg. 98A	NSAB	No	New	Installed 2019
INS-OW10	-	Oil/Water Separator	98A	1	No. of Units	---	---	Outside Bldg. 98A	NSAB	No	New	Installed 2019
INS-M1	-	Built in Grill (NG)	42	1	No. of Units	---	---	Outside Bldg. 42	AFRRRI	No	Existing	
INS-M2	-	Built in Grill (NG)	64	3	No. of Units	---	---	Outside Hotel (back)	WRNMMC	No	Existing	
INS-M3	-	Built in Grill (NG)	83	2	No. of Units	---	---	Outside NSO	NSAB	No	Existing	
INS-M4	-	Built in Grill (Charcoal)	257	1	No. of Units	---	---	Park Shelter	MWR	No	Existing	
INS-M5	-	Built in Grill (Charcoal)	258	1	No. of Units	---	---	Park Shelter	MWR	No	Existing	
INS-M6	-	Fireplace (NG)	64	1	No. of Units	---	---	Hotel Lobby	WRNMMC	No	Existing	
INS-M7	-	Fireplace (NG)	83	1	No. of Units	---	---	NSO Lobby	NSAB	No	Existing	
INS-M8	-	Wood Stove	62	1	No. of Units	---	---	Cafeteria	WRNMMC	No	Existing	
INS-M9	-	Paint Booth	74	4	No. of Units	---	---	University, Bay 5 (emissions being evaluated)	USU	No	Removed	

Key:

Removed from facility

Inventory Status:

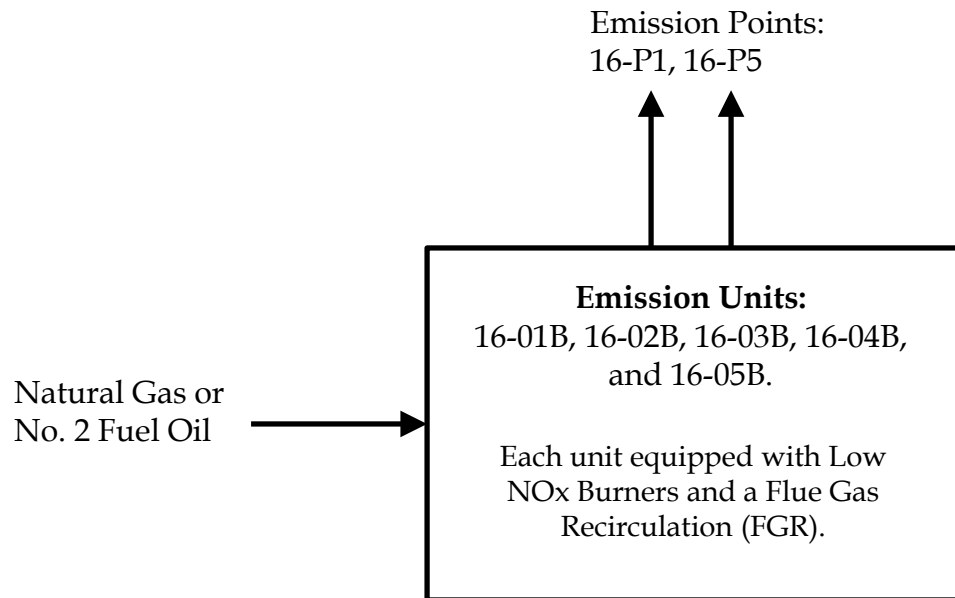
Existing - Source listed in 2015 Emission Inventory

New - Source not listed in 2015 Emission Inventory and has since been added

Removed - Source listed in 2015 Emission Inventory and has since been removed

Appendix B
Site Plot

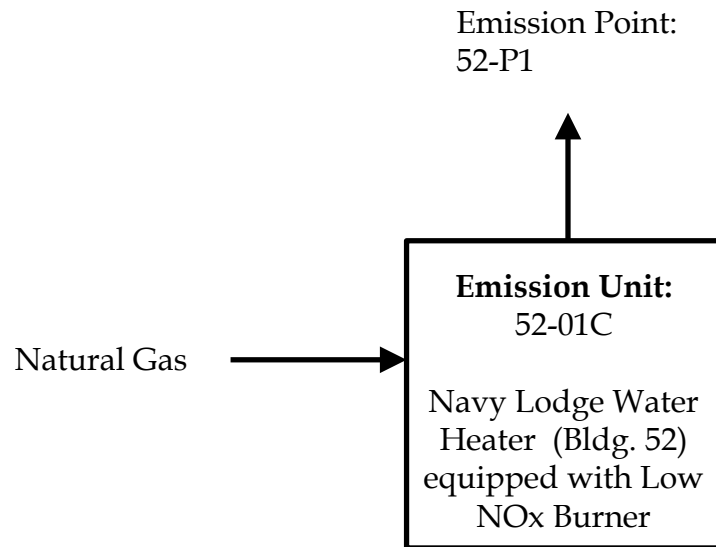
Appendix C
Facility Diagrams



Process Flow Diagram for Cleaver Brooks Boilers
4655 Taylor Rd Bldg. 27
Bethesda, MD 20889

Figure

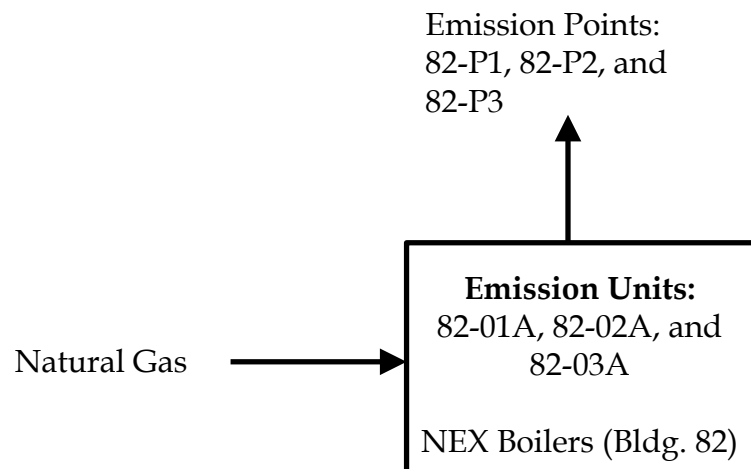
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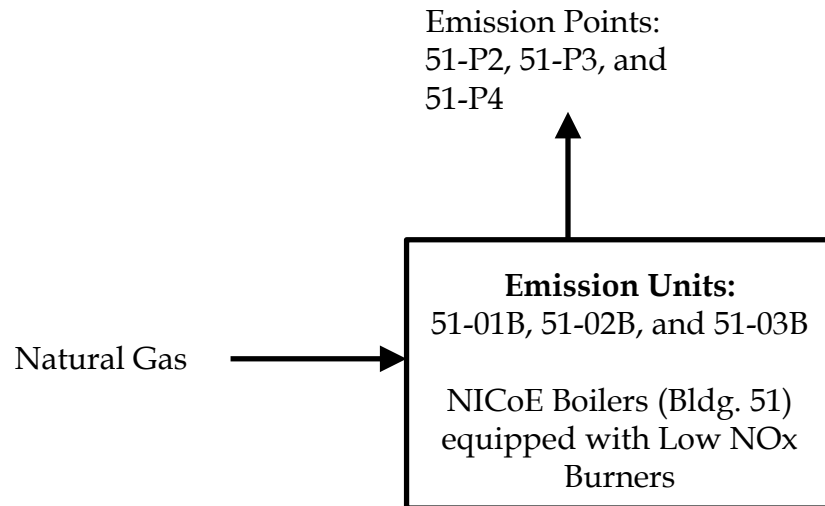


Process Flow Diagram for Navy Lodge Water Heater
4655 Taylor Rd Bldg. 27
Bethesda, MD 20889

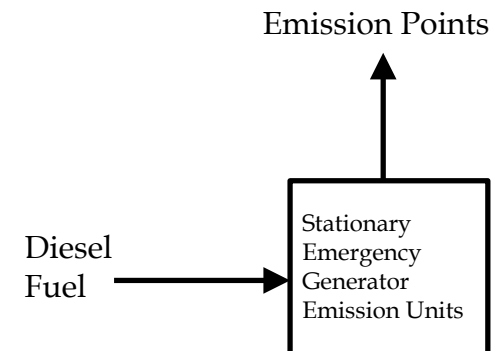
Figure

2





Emission Unit Number	Building	Location Description	Emission Point
01-01H	1	Dental Clinic (outside building)	01-P1
07-01G	7	Hospital (Basement)	07-P1
16-01H	16	Heating Plant (Second Floor)	16-P2
16-02H	16	Heating Plant (Second Floor)	16-P3
17-01	17	Fitness Center (outside)	17-P1
27-01A	27	Facilities Maintenance (outside behind building)	27-P1
44-01G	47	Located behind B47	44-P1
44-02G	44	Modulator Building (outside on roof/patio between B43 & B44)	44-P2
45-01A	45	Patio/roof of B45	45-P1
47-01G	47	Located behind B47	47-P1
51-01G	51	NICOE (outside behind building)	51-P1
53-01G	53	USUHS Env/Health Effects Lab (outside behind building)	53-P1
55-04H	55	Parking Building (inside)	55-P4
55-03H	55	Parking Building (inside)	55-P3
55-02H	55	Parking Building (inside)	55-P2
55-01H	55	Parking Building (inside)	55-P1
55-05A	55	Parking Building (inside)	55-P5
55-06A	55	Parking Building (inside)	55-P6
62-02G	62	BEQ E1/E4 Barracks Wounded Warriors (outside)	62-P1
63-01G	63	Patient Parking Garage (Inside)	63-P1
63-02H	63	Patient Parking Garage (Inside)	63-P2
70A-01H	70	University Building A mechanical room	70-P1
71B-01H	71	University Building B mechanical room	71-P1
72C-02H	72	University Building C, mechanical room	72-P1
202-01H	202	Electrical Station	202-P1
16-01C	252D	Emergency Generator Bldg. (out side heating plant)	16-P4



Process Flow Diagram for Diesel Emergency Generators
 4655 Taylor Rd Bldg. 27
 Bethesda, MD 20889

Figure

5

NEX Gas Station

Premium
Gasoline



Emission Unit: 51A-01
20,000-gallon UST (Tank ID 299A)

Regular
Gasoline



Emission Unit: 51A-01
20,000-gallon UST (Tank ID 298A)

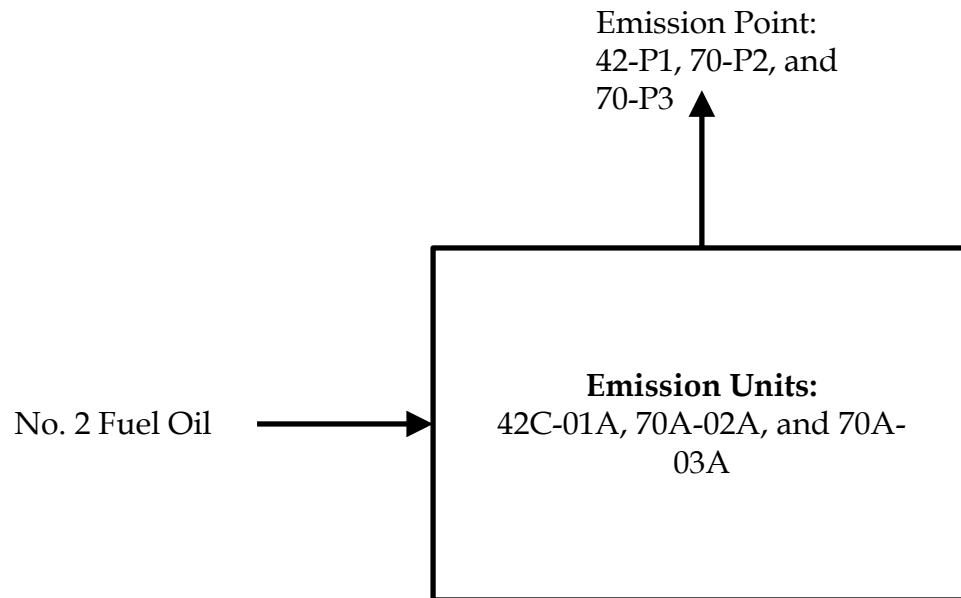
Emission Point:
51A-P1



Process Flow Diagram for NSAB Gas Stations
4655 Taylor Rd Bldg. 27
Bethesda, MD 20889

Figure

6



Appendix D
Facility Potential-to-Emit Calculations

Table 1 - 2020 Potential-to-Emit (PTE) Summary
 Naval Support Activity Bethesda (NSAB), Bethesda, MD

Equipment Type	Criteria Pollutants (tons/year)								GHG (tons/year)				Total HAPS (tpy)
	NO _x	CO	VOC	SO ₂	PM - Filterable	PM10 - Filterable	PM2.5 - Filterable	PM Condensable	CO ₂	CH ₄	N ₂ O	CO ₂ e	
Combustion Sources													
External Combustion Sources	75.1	135	8.87	93.0	7.00	5.01	4.47	10.8	217,456	3.80	3.70	218,654	3.05
Internal Combustion Sources	52.9	12.0	1.91	0.706	1.44	1.28	1.26	0.098	2,452	0.116	0.00	2,455	0.172
Total	128	147	10.8	93.7	8.44	6.29	5.73	10.9	219,908	3.92	3.70	221,109	3.22
Non-combustion Sources													
Tanks & Fueling Sources	-	-	5.64	-	-	-	-	-	-	-	-	-	0.321
All Sources													
All Sources Total	128	147	16.4	93.7	8.44	6.29	5.73	10.9	219,908	3.92	3.70	221,109	3.55

Table 2 - PTE Calculations for External Combustion Sources
Naval Support Activity Bethesda (NSAB), Bethesda, MD

All Emissions Calculated as:	
PTE = (Emission Factor) * (Equipment Size) * (Max Operating Schedule)	
PTE = (lb/MMBtu) * (MMBtu/hr) * (hrs/year) * (ton/2000 lb) = TPY	
Example Calculations:	
Example PTE calculation for natural gas AP-42 emission factor for EU: 52-01C (Navy Lodge Water Heater)	
PTE CO = (0.0824 lb/MMBtu) * (1.06 MMBtu/hr) * (8760 hrs/year) = 765 lbs/yr	
Example PTE calculation for dual-fired stack test emission factors for EU: 16-01B (Boiler #1)	
PTE NO _x (NG-only) = (0.03 lb/MMBtu) * (67 MMBtu/hr) * (8760 hrs/year) = 17,608 lbs/yr	
PTE NO _x (dual-fired) = (0.03 lb/MMBtu) * (67 MMBtu/hr) * (7924 hrs/year) + (0.046 lb/MMBtu) * (67 MMBtu/hr) * (836 hrs/year) = 15,928 + 2,576 = 18,504 lb/yr	
The 18,504 lbs/year of NO _x from firing natural gas + no. 2 oil is included in the total PTE for Boiler #1.	
Example fuel oil hours per year calculation for dual-fired boiler EU: 16-01B (Boiler #1)	
Hours per year (Fuel Oil) = (Fuel Oil Limit)*(1/Number of Boilers)*(Fuel Oil Heating Value)*(1/Boiler Size)	
Hours per year (Fuel Oil) = (1,600,000 gallons/year)*(1/4 boilers)*(0.140 MMBtu/gallon)*(1 hr/67 MMBtu) = 836 hours/year	

									Criteria Pollutants (lbs/year)								GHG (lbs/year)				Total HAPs (lbs/year)
Equipment Description	Emission Unit No.	Bldg. No.	Location Description	Heat Input (MMBtu)	Fuel	Maximum Operating Schedule (hr/year)	Controls	Emission Factor Source	NOx	CO	NMTOC/ VOC	SO ₂	PM - Filterable	PM10 - Filterable	PM2.5 - Filterable	PM Condensable	CO ₂	CH ₄	N ₂ O	CO ₂ e	
Registered Units																					
Lochinvar Boiler #1	51-01B	51	Mechanical Room	1.75	NG	8760	LNB	AP-42 Chapter 1.4	751	1,262	82.7	9.02	28.6	28.6	28.6	85.7	1,803,529	34.6	33.1	1,814,247	28.9
Lochinvar Boiler #2	51-02B	51	Mechanical Room	1.75	NG	8760	LNB	AP-42 Chapter 1.4	751	1,262	82.7	9.02	28.6	28.6	28.6	85.7	1,803,529	34.6	33.1	1,814,247	28.9
Lochinvar Boiler #3	51-03B	51	Mechanical Room	1.75	NG	8760	LNB	AP-42 Chapter 1.4	751	1,262	82.7	9.02	28.6	28.6	28.6	85.7	1,803,529	34.6	33.1	1,814,247	28.9
AFFRI Kewanee Boiler 1	42C-01A	42	Road (Temporary)	18.1	No. 2 Oil	8760	None	AP-42 Chapter 1.3	22,601	5,650	384	48,140	2,260	1,220	938	1,469	25,199,892	244	294	25,293,550	55.7
USUHS Cleaver Brooks Boiler 1	70A-02A	70	Road (Temporary)	14.3	No. 2 Oil	8760	None	AP-42 Chapter 1.3	17,888	4,472	304	38,101	1,789	966	742	1,163	19,945,031	193	233	20,019,158	44.1
USUHS Kewanee Boiler 1	70A-03A	70	Road (Temporary)	42	No. 2 Oil	8760	None	AP-42 Chapter 1.3	52,560	13,140	894	111,953	5,256	2,838	2,181	3,416	58,604,400	568	683	58,822,209	129.5
Temporary Boilers			Cumulative Temporary Boilers		No. 2 Oil	8760	None	AP-42 Chapter 1.3	50,000	12,500	850	106,500	5,000	2,700	2,075	3,250	55,750,000	540	650	55,957,200	123.2
Water Heater	52-01C	52	Navy Lodge Expansion (Basement)	1.06	NG	8760	LNB	AP-42 Chapter 1.4	455	765	50.1	5.46	17.3	17.3	17.3	51.9	1,092,424	20.9	20.0	1,098,915	17.5
Futera III Boiler #1	82-01A	82	NEX Rooftop	1.50	NG	8760	None	AP-42 Chapter 1.4	1,288	1,082	70.9	7.73	24.5	24.5	24.5	73.4	1,545,882	29.6	28.3	1,555,069	24.8
Futera III Boiler #2	82-02A	82	NEX Rooftop	1.50	NG	8760	None	AP-42 Chapter 1.4	1,288	1,082	70.9	7.73	24.5	24.5	24.5	73.4	1,545,882	29.6	28.3	1,555,069	24.8
Futera III Boiler #3	82-03A	82	NEX Rooftop	1.50	NG	8760	None	AP-42 Chapter 1.4	1,288	1,082	70.9	7.73	24.5	24.5	24.5	73.4	1,545,882	29.6	28.3	1,555,069	24.8
Boiler #1 (NG)	16-01B	16	Heat Plant Boiler Room	67	NG only	8760	FGR / LNB	AP-42 Chapter 1.4 & Stack Test (NOx)	17,608	48,335	3,165	345	1,093	1,093	1,093	3,280	69,049,412	1,323	1,266	69,459,738	-
Boiler #1 (NG)	16-01B	16	Heat Plant Boiler Room	67	NG (dual fired scenario)	7924	FGR / LNB	AP-42 Chapter 1.4 & Stack Test (NOx)	15,928	43,723	2,863	312	989	989	989	2,967	62,461,176	1,197	1,145	62,832,352	-
Boiler #1 (No. 2 oil)	16-01B	16	Heat Plant Boiler Room	67	No. 2 Oil (dual fired scenario)	836	FGR / LNB	AP-42 Chapter 1.3 & Stack Test (NOx)	2,576	2,000	136	17,040	800	432	332	520	8,920,000	86.4	104	8,953,152	-
Boiler #1 (Total)	16-01B	16	Heat Plant Boiler Room	67	NG / No. 2 Fuel Oil	8760	FGR / LNB	AP-42 Chapters 1.3, 1.4 and Stack Test	18,504	48,335	3,165	17,352	1,789	1,421	1,321	3,487	71,381,176	1,323	1,266	71,791,503	1,123
Boiler #2 (NG)	16-02B	16	Heat Plant Boiler Room	67	NG only	8760	FGR / LNB	AP-42 Chapter 1.4 & Stack Test (NOx)	18,195	48,335	3,165	345	1,093	1,093	1,093	3,280	69,049,412	1,323	1,266	69,459,738	-
Boiler #2 (NG)	16-02B	16	Heat Plant Boiler Room	67	NG (dual fired scenario)	7924	FGR / LNB	AP-42 Chapter 1.4 & Stack Test (NOx)	16,459	43,723	2,863	312	989	989	989	2,967	62,461,176	1,197	1,145	62,832,352	-
Boiler #2 (No. 2 oil)	16-02B	16	Heat Plant Boiler Room	67	No. 2 Oil (dual fired scenario)	836	FGR / LNB	AP-42 Chapter 1.3 & Stack Test (NOx)	2,912	2,000	136	17,040	800	432	332	520	8,920,000	86.4	104	8,953,152	-
Boiler #2 (Total)	16-02B	16	Heat Plant Boiler Room	67	NG / No. 2 Fuel Oil	8760	FGR / LNB	AP-42 Chapters 1.3, 1.4 and Stack Test	19,371	48,335	3,165	17,352	1,789	1,421	1,321	3,487	71,381,176	1,323	1,266	71,791,503	1,123
Boiler #3 (NG)	16-03B	16	Heat Plant Boiler Room	67	NG only	8760	FGR / LNB	AP-42 Chapter 1.4 & Stack Test (NOx)	14,673	48,335	3,165	345	1,093	1,093	1,093	3,280	69,049,412	1,323	1,266	69,459,738	-
Boiler #3 (NG)	16-03B	16	Heat Plant Boiler Room	67	NG (dual fired scenario)	7924	FGR / LNB	AP-42 Chapter 1.4 & Stack Test (NOx)	13,273	43,723	2,863	312	989	989	989	2,967	62,461,176	1,197	1,145	62,832,352	-
Boiler #3 (No. 2 oil)	16-03B	16	Heat Plant Boiler Room	67	No. 2 Oil (dual fired scenario)	836	FGR / LNB	AP-42 Chapter 1.3 & Stack Test (NOx)	2,240	2,000	136	17,040	800	432	332	520	8,920,000	86.4	104	8,953,152	-
Boiler #3 (Total)	16-03B	16	Heat Plant Boiler Room	67	NG / No. 2 Fuel Oil	8760	FGR / LNB	AP-42 Chapters 1.3, 1.4 and Stack Test	15,513	48,335	3,165	17,352	1,789	1,421	1,321	3,487	71,381,176	1,323	1,266	71,791,503	1,123
Boiler #4 (NG)	16-04B	16	Heat Plant Boiler Room	67	NG only	8760	FGR / LNB	AP-42 Chapter 1.4 & Stack Test (NOx)	16,434	48,335	3,165	345	1,093	1,093	1,093	3,280	69,049,412	1,323	1,266	69,459,738	-
Boiler #4 (NG)	16-04B	16	Heat Plant Boiler Room	67	NG (dual fired scenario)	7924	FGR / LNB	AP-42 Chapter 1.4 & Stack Test (NOx)	14,866	43,723	2,863	312	989	989	989	2,967	62,461,176	1,197	1,145	62,832,352	-
Boiler #4 (No. 2 oil)	16-04B	16	Heat Plant Boiler Room	67	No. 2 Oil (dual fired scenario)	836	FGR / LNB	AP-42 Chapter 1.3 & Stack Test (NOx)	2,240	2,000	136	17,040	800	432	332	520	8,920,000	86.4	104	8,953,152	-
Boiler #4 (Total)	16-04B	16	Heat Plant Boiler Room	67	NG / No. 2 Fuel Oil	8760	FGR / LNB	AP-42 Chapters 1.3, 1.4 and Stack Test	17,106	48,335	3,165	17,352	1,789	1,421	1,321	3,487	71,381,176	1,323	1,266	71,791,503	1,123
Boiler #5 (NG)	16-05B	16	Heat Plant Boiler Room	71	NG only	8760	FGR / LNB	AP-42 Chapter 1.4 & Stack Test (NOx)	16,171	51,220	3,354	366	1,159	1,159	1,159	3,476	73,171,765	1,402	1,341	73,606,588	-
Boiler #5 (NG)	16-05B	16	Heat Plant Boiler Room	71	NG (dual fired scenario)	8318	FGR / LNB	AP-42 Chapter 1.4 & Stack Test (NOx)	15,355	48,636	3,184	347	1,100	1,100	1,100	3,300	69,479,765	1,332	1,274	69,892,648	-
Boiler #5 (No. 2 oil)	16-05B	16	Heat Plant Boiler Room	71	No. 2 Oil	442	FGR / LNB	AP-42 Chapter 1.3 & Stack Test (NOx)	1,600	1,121	76.2	9,549	448	242	186	291	4,998,704	48.4	58.3	5,017,282	-
Boiler #5 (Total)	16-05B	16	Heat Plant Boiler Room	71	NG / No. 2 Fuel Oil	8760	FGR / LNB	AP-42 Chapters 1.3, 1.4 and Stack Test	16,956	51,220	3,354	9,896	1,548	1,342	1,286	3,592	74,478,469	1,402	1,341	74,913,292	1,183
Insignificant Units																					
Water Heater	INS-B4	52	Navy Lodge Expansion (Mech Room)	0.6	NG	8760	None	AP-42 Chapter 1.4	515	433	28.3	3.09	9.79	9.79	9.79	29.4	618,353	11.9	11.3	622,028	9.93
Water Heater	INS-B5	52	Navy Lodge Expansion (Mech Room)	0.6	NG	8760	None	AP-42 Chapter 1.4	515	433	28.3	3.09	9.79	9.79	9.79	29.4	618,353	11.9	11.3	622,028	9.93
Air Conditioner & Furnace	INS-B20	52	Navy Lodge (Roof)	0.12	NG	8760	None	AP-42 Chapter 1.4	103	87	5.67	0.62	1.96	1.96	1.96	5.87	123,671	2.37	2.27	124,406	1.99
Water Heater	INS-B10	66	Fisher House 4 (Mechanical Room)	0.199	NG	8760	None	AP-42 Chapter 1.4	171	144	9.40	1.03	3.25	3.25	3.25	9.74	205,087	3.93	3.76	206,306	3.29
Water Heater	INS-B11	66	Fisher House 4 (Mechanical Room)	0.199	NG	8760	None	AP-42 Chapter 1.4	171	144	9.40	1.03	3.25	3.25	3.25	9.74	205,087	3.93	3.76	206,306	3.29
Space Heater	INS-B12	66	Fisher House 4 (Mechanical Room)	0.5	NG	5040	None	AP-42 Chapter 1.4	247	208	13.6	1.48	4.69	4.69	4.69	14.1	296,471	5.68	5.44	298,232	4.76
Water Heater	INS-B13	67	Fisher House 5 (Mechanical Room)	0.199	NG	8760	None	AP-42 Chapter 1.4	171	144	9.40	1.03	3.25	3.25	3.25	9.74	205,087	3.93	3.76	206,306	3.29
Water Heater	INS-B14	67	Fisher House 5 (Mechanical Room)	0.199	NG	8760	None	AP-42 Chapter 1.4	171	144	9.40	1.03	3.25	3.25	3.25	9.74	205,087	3.93	3.76	206,306	3.29
Space Heater	INS-B15	67	Fisher House 5 (Mechanical Room)	0.5	NG	5040	None	AP-42 Chapter 1.4	247	208	13.6	1.48	4.69	4.69	4.69	14.1	296,471	5.68	5.44	298,232	4.76
Water Heater	INS-B7	65	Fisher House 3 (Mechanical Room)	0.199	NG	8760	None	AP-42 Chapter 1.4	171	144	9.40	1.03	3.25	3.25	3.25	9.74	205,087	3.93	3.76	206,306	3.29
Water Heater	INS-B8	65	Fisher House 3 (Mechanical Room)	0.199	NG	8760	None	AP-42 Chapter 1.4	171	144	9.40	1.03	3.25	3.25	3.25	9.74	205,087	3.93	3.76	206,306	3.29
Space Heater	INS-B9	65	Fisher House 3 (Mechanical Room)	0.5	NG	5040	None	AP-42 Chapter 1.4	247	208	13.6	1.48	4.69	4.69	4.69	14.1	296,471	5.68	5.44	298,232	4.76
Space Heater	INS-B6	56	Bowling Alley (Mechanical Room)	0.787	NG	5040	None	AP-42 Chapter 1.4	389	327	21.4	2.33	7.39	7.39	7.39	22.2	466,645	8.94	8.56	469,418	7.49
Water Heater	INS-B16	87	Child Development Center (Mechanical Room)	0.3	NG	8760	None	AP-42 Chapter 1.4	258	216	14.2	1.55	4.90	4.90	4.90	14.7	309,176	5.93	5.67	311,014	4.96
Space Heater	INS-B17	87	Child Development Center (Mechanical Room)	0.75	NG	5040	None	AP-42 Chapter 1.4	371	311	20.4	2.22	7.04	7.04	7.04	21.1	444,706	8.52	8.15	447,349	7.14
Space Heater	INS-B18	87	Child Development Center (Mechanical Room)	0.75	NG	5040	None	AP-42 Chapter 1.4	371	311	20.4	2.22	7.04	7.04	7.04	21.1	444,706	8.52	8.15	447,349	7.14
Water Heater	INS-B1	26	Child Development Center (Mechanical Room)	0.25	NG	8760	None	AP-42 Chapter 1.4	215	180	11.8	1.29	4.08	4.08	4.08	12.2	257,647	4.94	4.72	259,178	4.14
Water Heater	INS-B2	26	Child Development Center (Mechanical Room)	0.25	NG	8760	None	AP-42 Chapter 1.4	215	180	11.8	1.29	4.08	4.08	4.08	12.2	257,647	4.94	4.72	259,178	4.14
Water Heater	INS-B3	26	Child Development Center (Mechanical Room)	0.935	NG	5040															

Table 2 - PTE Calculations for External Combustion Sources
Naval Support Activity Bethesda (NSAB), Bethesda, MD

All Emissions Calculated as:	
PTE = (Emission Factor) * (Equipment Size) * (Max Operating Schedule)	
PTE = (lb/MMBtu) * (MMBtu/hr) * (hrs/year) * (ton/2000 lb) = TPY	
Example Calculations:	
Example PTE calculation for natural gas AP-42 emission factor for EU: 52-01C (Navy Lodge Water Heater)	
PTE CO = (0.0824 lb/MMBtu) * (1.06 MMBtu/hr) * (8760 hrs/year) = 765 lbs/yr	
Example PTE calculation for dual-fired stack test emission factors for EU: 16-01B (Boiler #1)	
PTE NO _x (NG-only) = (0.03 lb/MMBtu) * (67 MMBtu/hr) * (8760 hrs/year) = 17,608 lbs/yr	
PTE NO _x (dual-fired) = (0.03 lb/MMBtu) * (67 MMBtu/hr) * (7924 hrs/year) + (0.046 lb/MMBtu) * (67 MMBtu/hr) * (836 hrs/year) = 15,928 + 2,576 = 18,504 lb/yr	
The 18,504 lbs/year of NO _x from firing natural gas + no. 2 oil is included in the total PTE for Boiler #1.	
Example fuel oil hours per year calculation for dual-fired boiler EU: 16-01B (Boiler #1)	
Hours per year (Fuel Oil) = (Fuel Oil Limit)*(1/Number of Boilers)*(Fuel Oil Heating Value)*(1/Boiler Size)	
Hours per year (Fuel Oil) = (1,600,000 gallons/year)*(1/4 boilers)*(0.140 MMBtu/gallon)*(1 hr/67 MMBtu)	
=836 hours/year	

Hazardous Air Pollutants (lbs/year)																								
Equipment Description	Emission Unit No.	Bldg. No.	Location Description	Heat Input (MMBH)	1,1,1-Trichloroethane	2-Methylnaphthalene	3-Methylchloranthrene	7,12-Dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Arsenic	Barium	Benz(a)anthracene	Benzene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Beryllium	Cadmium	Chromium	Chrysene	Cobalt
Registered Units																								
Lochinvar Boiler #1	51-01B	51	Mechanical Room	1.75	-	3.61E-04	2.71E-05	2.40E-04	2.71E-05	2.71E-05	3.61E-05	3.01E-03	6.61E-02	2.71E-05	3.16E-02	1.80E-05	2.71E-05	1.80E-05	2.71E-05	1.80E-04	1.65E-02	2.10E-02	2.71E-05	1.26E-03
Lochinvar Boiler #2	51-02B	51	Mechanical Room	1.75	-	3.61E-04	2.71E-05	2.40E-04	2.71E-05	2.71E-05	3.61E-05	3.01E-03	6.61E-02	2.71E-05	3.16E-02	1.80E-05	2.71E-05	1.80E-05	2.71E-05	1.80E-04	1.65E-02	2.10E-02	2.71E-05	1.26E-03
Lochinvar Boiler #3	51-03B	51	Mechanical Room	1.75	-	3.61E-04	2.71E-05	2.40E-04	2.71E-05	2.71E-05	3.61E-05	3.01E-03	6.61E-02	2.71E-05	3.16E-02	1.80E-05	2.71E-05	1.80E-05	2.71E-05	1.80E-04	1.65E-02	2.10E-02	2.71E-05	1.26E-03
AFFRI Kewanee Boiler 1	42C-01A	42	Road (Temporary)	18.1	2.67E-01	-	-	-	2.38E-02	2.86E-04	1.38E-03	6.33E-01	-	4.53E-03	2.42E-01	-	1.67E-03	2.55E-03	1.67E-03	4.75E-01	4.75E-01	4.75E-01	2.69E-03	-
USUHS Cleaver Brooks Boiler 1	70A-02A	70	Road (Temporary)	14.3	2.11E-01	-	-	-	1.89E-02	2.26E-04	1.09E-03	5.01E-01	-	3.59E-03	1.91E-01	-	1.32E-03	2.02E-03	1.32E-03	3.76E-01	3.76E-01	2.13E-03	-	-
USUHS Kewanee Boiler 1	70A-03A	70	Road (Temporary)	42	6.20E-01	-	-	-	5.55E-02	6.65E-04	3.21E-03	1.47E+00	-	1.05E-02	5.62E-01	-	3.89E-03	5.94E-03	3.89E-03	1.10E+00	1.10E+00	1.10E+00	6.25E-03	-
Temporary Boilers			Cumulative Temporary Boilers		5.90E-01	-	-	-	5.28E-02	6.33E-04	3.05E-03	1.40E+00	-	1.00E-02	5.35E-01	-	3.70E-03	5.65E-03	3.70E-03	1.05E+00	1.05E+00	1.05E+00	5.95E-03	-
Water Heater	52-01C	52	Navy Lodge Expansion (Basement)	1.06	-	2.18E-04	1.64E-05	1.46E-04	1.64E-05	1.64E-05	2.18E-05	1.82E-03	4.01E-02	1.64E-05	1.91E-02	1.09E-05	1.64E-05	1.09E-05	1.64E-05	1.09E-04	1.00E-02	1.27E-02	1.64E-05	7.65E-04
Futera III Boiler #1	82-01A	82	NEX Rooftop	1.50	-	3.09E-04	2.32E-05	2.06E-04	2.32E-05	2.32E-05	3.09E-05	2.58E-03	5.67E-02	2.32E-05	2.71E-02	1.55E-05	2.32E-05	1.55E-05	2.32E-05	1.55E-04	1.42E-02	1.80E-02	2.32E-05	1.08E-03
Futera III Boiler #2	82-02A	82	NEX Rooftop	1.50	-	3.09E-04	2.32E-05	2.06E-04	2.32E-05	2.32E-05	3.09E-05	2.58E-03	5.67E-02	2.32E-05	2.71E-02	1.55E-05	2.32E-05	1.55E-05	2.32E-05	1.55E-04	1.42E-02	1.80E-02	2.32E-05	1.08E-03
Futera III Boiler #3	82-03A	82	NEX Rooftop	1.50	-	3.09E-04	2.32E-05	2.06E-04	2.32E-05	2.32E-05	3.09E-05	2.58E-03	5.67E-02	2.32E-05	2.71E-02	1.55E-05	2.32E-05	1.55E-05	2.32E-05	1.55E-04	1.42E-02	1.80E-02	2.32E-05	1.08E-03
Boiler #1 (NG)	16-01B	16	Heat Plant Boiler Room	67	-	1.38E-02	1.04E-03	9.21E-03	1.04E-03	1.04E-03	1.38E-03	1.15E-01	2.53E+00	1.04E-03	1.21E+00	6.90E-04	1.04E-03	6.90E-04	1.04E-03	6.90E-03	6.33E-01	8.06E-01	1.04E-03	4.83E-02
Boiler #1 (NG)	16-01B	16	Heat Plant Boiler Room	67	-	1.25E-02	9.37E-04	8.33E-03	9.37E-04	9.37E-04	1.25E-03	1.04E-01	2.29E+00	9.37E-04	1.09E+00	6.25E-04	9.37E-04	6.25E-04	9.37E-04	6.25E-03	5.73E-01	7.29E-01	9.37E-04	4.37E-02
Boiler #1 (No. 2 oil)	16-01B	16	Heat Plant Boiler Room	67	9.44E-02	-	-	-	8.44E-03	1.01E-04	4.88E-04	2.24E-01	-	1.60E-03	8.56E-02	-	5.92E-04	1.68E-01	5.92E-04	1.68E-01	9.04E-04	9.52E-04	-	-
Boiler #1 (Total)	16-01B	16	Heat Plant Boiler Room	67	0.094	0.014	0.001	0.009	0.009	0.001	0.002	0.328	2.532	0.003	1.208	0.001	0.002	0.002	0.002	0.174	0.741	0.897	0.002	0.048
Boiler #2 (NG)	16-02B	16	Heat Plant Boiler Room	67	-	1.38E-02	1.04E-03	9.21E-03	1.04E-03	1.04E-03	1.38E-03	1.15E-01	2.53E+00	1.04E-03	1.21E+00	6.90E-04	1.04E-03	6.90E-04	1.04E-03	6.90E-03	6.33E-01	8.06E-01	1.04E-03	4.83E-02
Boiler #2 (NG)	16-02B	16	Heat Plant Boiler Room	67	-	1.25E-02	9.37E-04	8.33E-03	9.37E-04	9.37E-04	1.25E-03	1.04E-01	2.29E+00	9.37E-04	1.09E+00	6.25E-04	9.37E-04	6.25E-04	9.37E-04	6.25E-03	5.73E-01	7.29E-01	9.37E-04	4.37E-02
Boiler #2 (No. 2 oil)	16-02B	16	Heat Plant Boiler Room	67	9.44E-02	-	-	-	8.44E-03	1.01E-04	4.88E-04	2.24E-01	-	1.60E-03	8.56E-02	-	5.92E-04	1.68E-01	5.92E-04	1.68E-01	9.04E-04	9.52E-04	-	-
Boiler #2 (Total)	16-02B	16	Heat Plant Boiler Room	67	0.094	0.014	0.001	0.009	0.009	0.001	0.002	0.328	2.532	0.003	1.208	0.001	0.002	0.002	0.002	0.174	0.741	0.897	0.002	0.048
Boiler #3 (NG)	16-03B	16	Heat Plant Boiler Room	67	-	1.38E-02	1.04E-03	9.21E-03	1.04E-03	1.04E-03	1.38E-03	1.15E-01	2.53E+00	1.04E-03	1.21E+00	6.90E-04	1.04E-03	6.90E-04	1.04E-03	6.90E-03	6.33E-01	8.06E-01	1.04E-03	4.83E-02
Boiler #3 (NG)	16-03B	16	Heat Plant Boiler Room	67	-	1.25E-02	9.37E-04	8.33E-03	9.37E-04	9.37E-04	1.25E-03	1.04E-01	2.29E+00	9.37E-04	1.09E+00	6.25E-04	9.37E-04	6.25E-04	9.37E-04	6.25E-03	5.73E-01	7.29E-01	9.37E-04	4.37E-02
Boiler #3 (No. 2 oil)	16-03B	16	Heat Plant Boiler Room	67	9.44E-02	-	-	-	8.44E-03	1.01E-04	4.88E-04	2.24E-01	-	1.60E-03	8.56E-02	-	5.92E-04	1.68E-01	5.92E-04	1.68E-01	9.04E-04	9.52E-04	-	-
Boiler #3 (Total)	16-03B	16	Heat Plant Boiler Room	67	0.094	0.014	0.001	0.009	0.009	0.001	0.002	0.328	2.532	0.003	1.208	0.001	0.002	0.002	0.002	0.174	0.741	0.897	0.002	0.048
Boiler #4 (NG)	16-04B	16	Heat Plant Boiler Room	67	-	1.38E-02	1.04E-03	9.21E-03	1.04E-03	1.04E-03	1.38E-03	1.15E-01	2.53E+00	1.04E-03	1.21E+00	6.90E-04	1.04E-03	6.90E-04	1.04E-03	6.90E-03	6.33E-01	8.06E-01	1.04E-03	4.83E-02
Boiler #4 (NG)	16-04B	16	Heat Plant Boiler Room	67	-	1.25E-02	9.37E-04	8.33E-03	9.37E-04	9.37E-04	1.25E-03	1.04E-01	2.29E+00	9.37E-04	1.09E+00	6.25E-04	9.37E-04	6.25E-04	9.37E-04	6.25E-03	5.73E-01	7.29E-01	9.37E-04	4.37E-02
Boiler #4 (No. 2 oil)	16-04B	16	Heat Plant Boiler Room	67	9.44E-02	-	-	-	8.44E-03	1.01E-04	4.88E-04	2.24E-01	-	1.60E-03	8.56E-02	-	5.92E-04	1.68E-01	5.92E-04	1.68E-01	9.04E-04	9.52E-04	-	-
Boiler #4 (Total)	16-04B	16	Heat Plant Boiler Room	67	0.094	0.014	0.001	0.009	0.009	0.001	0.002	0.328	2.532	0.003	1.208	0.001	0.002	0.002	0.002	0.174	0.741	0.897	0.002	0.048
Boiler #5 (NG)	16-05B	16	Heat Plant Boiler Room	71	-	1.46E-02	1.10E-03	9.76E-03	1.10E-03	1.10E-03	1.46E-03	1.22E-01	2.68E+00	1.10E-03	1.28E+00	7.32E-04	1.10E-03	7.32E-04	1.10E-03	7.32E-03	6.71E-01	8.54E-01	1.10E-03	5.12E-02
Boiler #5 (NG)	16-05B	16	Heat Plant Boiler Room	71	-	1.39E-02	1.04E-03	9.26E-03	1.04E-03	1.04E-03	1.39E-03	1.16E-01	2.55E+00	1.04E-03	1.22E+00	6.95E-04	1.04E-03	6.95E-04	1.04E-03	6.95E-03	6.37E-01	8.11E-01	1.04E-03	4.86E-02
Boiler #5 (No. 2 oil)	16-05B	16	Heat Plant Boiler Room	71	5.29E-02	-	-	-	4.73E-03	5.67E-05	2.73E-04	1.26E-01	-	8.99E-04	4.80E-02	-	3.32E-04	5.07E-04	3.32E-04	9.41E-02	9.41E-02	9.41E-02	5.33E-04	-
Boiler #5 (Total)	16-05B	16	Heat Plant Boiler Room	71	0.053	0.015	0.001	0.010	0.006	0.001	0.002	0.241	2.683	0.002	1.281	0.001	0.001	0.001	0.001	0.101	0.731	0.905	0.002	0.051
Insignificant Units																								
Water Heater	INS-B4	52	Navy Lodge Expansion (Mech Room)	0.6	-	1.24E-04	9.28E-06	8.24E-05	9.28E-06	9.28E-06	1.24E-05	1.03E-03	2.27E-02	9.28E-06	1.08E-02	6.18E-06	9.28E-06	6.18E-06	9.28E-06	6.18E-05	5.67E-03	7.21E-03	9.28E-06	4.33E-04
Water Heater	INS-B5	52	Navy Lodge Expansion (Mech Room)	0.6	-	1.24E-04	9.28E-06	8.24E-05	9.28E-06	9.28E-06	1.24E-05	1.03E-03	2.27E-02	9.28E-06	1.08E-02	6.18E-06	9.28E-06	6.18E-06	9.28E-06	6.18E-05	5.67E-03	7.21E-03	9.28E-06	4.33E-04
Air Conditioner & Furnace	INS-B20	52	Navy Lodge (Roof)	0.12	-	2.47E-05	1.86E-06	1.65E-05	1.86E-06	1.86E-06	2.47E-06	2.06E-04	4.53E-03	1.86E-06	2.16E-03	1.24E-06	1.86E-06	1.24E-06	1.86E-06	1.24E-05	1.13E-03	1.44E-03	1.86E-06	8.66E-05
Water Heater	INS-B10	66	Fisher House 4 (Mechanical Room)	0.199	-	4.10E-05	3.08E-06	2.73E-05	3.08E-06	3.08E-06	4.10E-06	3.42E-04	7.52E-03	3.08E-06	3.59E-03	2.05E-06	3.08E-06	2.05E-06	3.08E-06	2.05E-05	1.88E-03	2.39E-03	3.08E-06	1.44E-04
Water Heater	INS-B11	66	Fisher House 4 (Mechanical Room)	0.199	-	4.10E-05	3.08E-06	2.73E-05	3.08E-06	3.08E-06	4.10E-06	3.42E-04	7.52E-03	3.08E-06	3.59E-03	2.05E-06	3.08E-06	2.05E-06	3.08E-06	2.05E-05	1.88E-03	2.39E-03	3.08E-06	1.

Table 2 - PTE Calculations for External Combustion Sources
Naval Support Activity Bethesda (NSAB), Bethesda, MD

All Emissions Calculated as:	
PTE = (Emission Factor) * (Equipment Size) * (Max Operating Schedule)	
PTE = (lb/MMBtu) * (MMBtu/hr) * (hrs/year) * (ton/2000 lb) = TPY	
Example Calculations:	
Example PTE calculation for natural gas AP-42 emission factor for EU: 52-01C (Navy Lodge Water Heater)	
PTE CO = (0.0824 lb/MMBtu) * (1.06 MMBtu/hr) * (8760 hrs/year) = 765 lbs/yr	
Example PTE calculation for dual-fired stack test emission factors for EU: 16-01B (Boiler #1)	
PTE NO _x (NG-only) = (0.03 lb/MMBtu) * (67 MMBtu/hr) * (8760 hrs/year) = 17,608 lbs/yr	
PTE NO _x (dual-fired) = (0.03 lb/MMBtu) * (67 MMBtu/hr) * (7924 hrs/year) + (0.046 lb/MMBtu) * (67 MMBtu/hr) * (836 hrs/year) = 15,928 + 2,576 = 18,504 lb/yr	
The 18,504 lbs/year of NO _x from firing natural gas + no. 2 oil is included in the total PTE for Boiler #1.	
Example fuel oil hours per year calculation for dual-fired boiler EU: 16-01B (Boiler #1)	
Hours per year (Fuel Oil) = (Fuel Oil Limit)*(1/Number of Boilers)*(Fuel Oil Heating Value)*(1/Boiler Size)	
Hours per year (Fuel Oil) = (1,600,000 gallons/year)*(1/4 boilers)*(0.140 MMBtu/gallon)*(1 hr/67 MMBtu)	
=836 hours/year	

					Hazardous Air Pollutants (lbs/year)										Hazardous Air Pollutants (lbs/year)														
Equipment Description	Emission Unit No.	Bldg. No.	Location Description	Heat Input (MMBH)	Copper	Dibenzo(a,h)anthracene	Dichlorobenzene	Ethylbenzene	Fluoranthene	Fluorene	Formaldehyde	Hexane	Indeno(1,2,3-cd)pyrene	Lead	Manganese	Mercury	Molybdenum	Naphthalene	Nickel	OCDD (octachlorodibenzo-dioxin)	Phenanthrene	Pyrene	Selenium	Toluene	Vanadium	o-Xylene	Zinc		
Registered Units																													
Lochinvar Boiler #1	51-01B	51	Mechanical Room	1.75	1.28E-02	1.80E-05	1.80E-02	-	4.51E-05	4.21E-05	1.13E+00	2.71E+01	2.71E-05	7.51E-03	5.71E-03	3.91E-03	1.65E-02	9.17E-03	3.16E-02	-	2.56E-04	7.51E-05	3.61E-04	5.11E-02	3.46E-02	-	4.36E-01		
Lochinvar Boiler #2	51-02B	51	Mechanical Room	1.75	1.28E-02	1.80E-05	1.80E-02	-	4.51E-05	4.21E-05	1.13E+00	2.71E+01	2.71E-05	7.51E-03	5.71E-03	3.91E-03	1.65E-02	9.17E-03	3.16E-02	-	2.56E-04	7.51E-05	3.61E-04	5.11E-02	3.46E-02	-	4.36E-01		
Lochinvar Boiler #3	51-03B	51	Mechanical Room	1.75	1.28E-02	1.80E-05	1.80E-02	-	4.51E-05	4.21E-05	1.13E+00	2.71E+01	2.71E-05	7.51E-03	5.71E-03	3.91E-03	1.65E-02	9.17E-03	3.16E-02	-	2.56E-04	7.51E-05	3.61E-04	5.11E-02	3.46E-02	-	4.36E-01		
AFFRI Kewanee Boiler 1	42C-01A	42	Road (Temporary)	18.1	9.49E-01	1.89E-03	-	7.19E-02	5.47E-03	5.05E-03	3.73E+01	-	2.42E-03	1.42E+00	9.49E-01	4.75E-01	-	1.28E+00	4.75E-01	3.50E-06	1.19E-02	4.80E-03	2.37E+00	7.01E+00	-	1.23E-01	6.33E-01		
USUHS Cleaver Brooks Boiler 1	70A-02A	70	Road (Temporary)	14.3	7.51E-01	1.49E-03	-	5.69E-02	4.33E-03	4.00E-03	2.95E+01	-	1.91E-03	1.13E+00	7.51E-01	3.76E-01	-	1.01E+00	3.76E-01	2.77E-06	9.39E-03	3.80E-03	1.88E+00	5.55E+00	-	9.75E-02	5.01E-01		
USUHS Kewanee Boiler 1	70A-03A	70	Road (Temporary)	42	2.21E+00	4.39E-03	-	1.67E-01	1.27E-02	1.17E-02	8.67E+01	-	5.62E-03	3.31E+00	2.21E+00	1.10E+00	-	2.97E+00	1.10E+00	8.15E-06	2.76E-02	1.12E-02	5.52E+00	1.63E+01	-	2.86E-01	1.47E+00		
Temporary Boilers			Cumulative Temporary Boilers		2.10E+00	4.18E-03	-	1.59E-01	1.21E-02	1.12E-02	8.25E+01	-	5.35E-03	3.15E+00	2.10E+00	1.05E+00	-	2.83E+00	1.05E+00	7.75E-06	2.63E-02	1.06E-02	5.25E+00	1.55E+01	-	2.73E-01	1.40E+00		
Water Heater	52-01C	52	Navy Lodge Expansion (Basement)	1.06	7.74E-03	1.09E-05	1.09E-02	-	2.73E-05	2.55E-05	6.83E-01	1.64E+01	1.64E-05	4.55E-03	3.46E-03	2.37E-03	1.00E-02	5.55E-03	1.91E-02	-	1.55E-04	4.55E-05	2.18E-04	3.10E-02	2.09E-02	-	2.64E-01		
Futera III Boiler #1	82-01A	82	NEX Rooftop	1.50	1.10E-02	1.55E-05	1.55E-02	-	3.86E-05	3.61E-05	9.66E-01	2.32E+01	2.32E-05	6.44E-03	4.90E-03	3.35E-03	1.42E-02	7.86E-03	2.71E-02	-	2.19E-04	6.44E-05	3.09E-04	4.38E-02	2.96E-02	-	3.74E-01		
Futera III Boiler #2	82-02A	82	NEX Rooftop	1.50	1.10E-02	1.55E-05	1.55E-02	-	3.86E-05	3.61E-05	9.66E-01	2.32E+01	2.32E-05	6.44E-03	4.90E-03	3.35E-03	1.42E-02	7.86E-03	2.71E-02	-	2.19E-04	6.44E-05	3.09E-04	4.38E-02	2.96E-02	-	3.74E-01		
Futera III Boiler #3	82-03A	82	NEX Rooftop	1.50	1.10E-02	1.55E-05	1.55E-02	-	3.86E-05	3.61E-05	9.66E-01	2.32E+01	2.32E-05	6.44E-03	4.90E-03	3.35E-03	1.42E-02	7.86E-03	2.71E-02	-	2.19E-04	6.44E-05	3.09E-04	4.38E-02	2.96E-02	-	3.74E-01		
Boiler #1 (NG)	16-01B	16	Heat Plant Boiler Room	67	4.89E-01	6.90E-04	6.90E-01	-	1.73E-03	1.61E-03	4.32E+01	1.04E+03	1.04E-03	2.88E-01	2.19E-01	1.50E-01	6.33E-01	3.51E-01	1.21E+00	-	9.78E-03	2.88E-03	1.38E-02	1.96E+00	1.32E+00	-	1.67E+01		
Boiler #1 (NG)	16-01B	16	Heat Plant Boiler Room	67	4.42E-01	6.25E-04	6.25E-01	-	1.56E-03	1.46E-03	3.90E+01	9.37E+02	9.37E-04	2.60E-01	1.98E-01	1.35E-01	5.73E-01	3.18E-01	1.09E+00	-	8.85E-03	2.60E-03	1.25E-02	1.77E+00	1.20E+00	-	1.51E+01		
Boiler #1 (No. 2 oil)	16-01B	16	Heat Plant Boiler Room	67	3.36E-01	6.68E-04	-	2.54E-02	1.94E-03	1.79E-03	1.32E+01	-	8.56E-04	5.04E-01	3.36E-01	1.68E-01	-	4.52E-01	1.68E-01	1.24E-06	4.20E-03	1.70E-03	8.40E-01	2.48E+00	-	4.36E-02	2.24E-01		
Boiler #1 (Total)	16-01B	16	Heat Plant Boiler Room	67	0.778	0.001	0.690	0.025	0.003	0.003	52.2	1.036	0.002	0.764	0.534	0.303	0.633	0.770	1.26	1.24E-06	0.013	0.004	0.852	4.25	1.32	0.044	16.7		
Boiler #2 (NG)	16-02B	16	Heat Plant Boiler Room	67	4.89E-01	6.90E-04	6.90E-01	-	1.73E-03	1.61E-03	4.32E+01	1.04E+03	1.04E-03	2.88E-01	2.19E-01	1.50E-01	6.33E-01	3.51E-01	1.21E+00	-	9.78E-03	2.88E-03	1.38E-02	1.96E+00	1.32E+00	-	1.67E+01		
Boiler #2 (NG)	16-02B	16	Heat Plant Boiler Room	67	4.42E-01	6.25E-04	6.25E-01	-	1.56E-03	1.46E-03	3.90E+01	9.37E+02	9.37E-04	2.60E-01	1.98E-01	1.35E-01	5.73E-01	3.18E-01	1.09E+00	-	8.85E-03	2.60E-03	1.25E-02	1.77E+00	1.20E+00	-	1.51E+01		
Boiler #2 (No. 2 oil)	16-02B	16	Heat Plant Boiler Room	67	3.36E-01	6.68E-04	-	2.54E-02	1.94E-03	1.79E-03	1.32E+01	-	8.56E-04	5.04E-01	3.36E-01	1.68E-01	-	4.52E-01	1.68E-01	1.24E-06	4.20E-03	1.70E-03	8.40E-01	2.48E+00	-	4.36E-02	2.24E-01		
Boiler #2 (Total)	16-02B	16	Heat Plant Boiler Room	67	0.778	0.001	0.690	0.025	0.003	0.003	52.2	1.036	0.002	0.764	0.534	0.303	0.633	0.770	1.26	1.24E-06	0.013	0.004	0.852	4.25	1.32	0.044	16.7		
Boiler #3 (NG)	16-03B	16	Heat Plant Boiler Room	67	4.89E-01	6.90E-04	6.90E-01	-	1.73E-03	1.61E-03	4.32E+01	1.04E+03	1.04E-03	2.88E-01	2.19E-01	1.50E-01	6.33E-01	3.51E-01	1.21E+00	-	9.78E-03	2.88E-03	1.38E-02	1.96E+00	1.32E+00	-	1.67E+01		
Boiler #3 (NG)	16-03B	16	Heat Plant Boiler Room	67	4.42E-01	6.25E-04	6.25E-01	-	1.56E-03	1.46E-03	3.90E+01	9.37E+02	9.37E-04	2.60E-01	1.98E-01	1.35E-01	5.73E-01	3.18E-01	1.09E+00	-	8.85E-03	2.60E-03	1.25E-02	1.77E+00	1.20E+00	-	1.51E+01		
Boiler #3 (No. 2 oil)	16-03B	16	Heat Plant Boiler Room	67	3.36E-01	6.68E-04	-	2.54E-02	1.94E-03	1.79E-03	1.32E+01	-	8.56E-04	5.04E-01	3.36E-01	1.68E-01	-	4.52E-01	1.68E-01	1.24E-06	4.20E-03	1.70E-03	8.40E-01	2.48E+00	-	4.36E-02	2.24E-01		
Boiler #3 (Total)	16-03B	16	Heat Plant Boiler Room	67	0.778	0.001	0.690	0.025	0.003	0.003	52.2	1.036	0.002	0.764	0.534	0.303	0.633	0.770	1.26	1.24E-06	0.013	0.004	0.852	4.25	1.32	0.044	16.7		
Boiler #4 (NG)	16-04B	16	Heat Plant Boiler Room	67	4.89E-01	6.90E-04	6.90E-01	-	1.73E-03	1.61E-03	4.32E+01	1.04E+03	1.04E-03	2.88E-01	2.19E-01	1.50E-01	6.33E-01	3.51E-01	1.21E+00	-	9.78E-03	2.88E-03	1.38E-02	1.96E+00	1.32E+00	-	1.67E+01		
Boiler #4 (NG)	16-04B	16	Heat Plant Boiler Room	67	4.42E-01	6.25E-04	6.25E-01	-	1.56E-03	1.46E-03	3.90E+01	9.37E+02	9.37E-04	2.60E-01	1.98E-01	1.35E-01	5.73E-01	3.18E-01	1.09E+00	-	8.85E-03	2.60E-03	1.25E-02	1.77E+00	1.20E+00	-	1.51E+01		
Boiler #4 (No. 2 oil)	16-04B	16	Heat Plant Boiler Room	67	3.36E-01	6.68E-04	-	2.54E-02	1.94E-03	1.79E-03	1.32E+01	-	8.56E-04	5.04E-01	3.36E-01	1.68E-01	-	4.52E-01	1.68E-01	1.24E-06	4.20E-03	1.70E-03	8.40E-01	2.48E+00	-	4.36E-02	2.24E-01		
Boiler #4 (Total)	16-04B	16	Heat Plant Boiler Room	67	0.778	0.001	0.690	0.025	0.003	0.003	52.2	1.036	0.002	0.764	0.534	0.303	0.633	0.770	1.26	1.24E-06	0.013	0.004	0.852	4.25	1.32	0.044	16.7		
Boiler #5 (NG)	16-05B	16	Heat Plant Boiler Room	71	5.18E-01	7.32E-04	7.32E-01	-	1.83E-03	1.71E-03	4.57E+01	1.10E+03	1.10E-03	3.05E-01	2.32E-01	1.59E-01	6.71E-01	3.72E-01	1.28E+00	-	1.04E-02	3.05E-03	1.46E-02	2.07E+00	1.40E+00	-	1.77E+01		
Boiler #5 (NG)	16-05B	16	Heat Plant Boiler Room	71	4.92E-01	6.95E-04	6.95E-01	-	1.74E-03	1.62E-03	4.34E+01	1.04E+03	1.04E-03	2.89E-01	2.20E-01	1.51E-01	6.37E-01	3.53E-01	1.22E+00	-	9.84E-03	2.89E-03	1.39E-02	1.97E+00	1.33E+00	-	1.68E+01		
Boiler #5 (No. 2 oil)	16-05B	16	Heat Plant Boiler Room	71	1.88E-01	3.74E-04	-	1.43E-02	1.08E-03	1.00E-03	7.40E+00	-	4.80E-04	2.82E-01	1.88E-01	9.41E-02	-	2.53E-01	9.41E-02	6.95E-07	2.35E-03	9.53E-04	4.71E-01	1.39E+00	-	2.44E-02	1.26E-01		
Boiler #5 (Total)	16-05B	16	Heat Plant Boiler Room	71	0.680	0.001	0.732	0.014	0.003	0.003	50.8	1.098	0.002	0.572	0.408	0.245	0.671	0.606	1.31	6.95E-07	0.012	0.004	0.485	3.36	1.40	0.024	17.7		
Insignificant Units																													
Water Heater	INS-B4	52	Navy Lodge Expansion (Mech Room)	0.6	4.38E-03	6.18E-06	6.18E-03	-	1.55E-05	1.44E-05	3.86E-01	9.28E+00	9.28E-06	2.58E-03	1.96E-03	1.34E-03	5.67E-03	3.14E-03	1.08E-02	-	8.76E-05	2.58E-05	1.24E-04	1.75E-02	1.19E-02	-	1.49E-01		
Water Heater	INS-B5	52	Navy Lodge Expansion (Mech Room)	0.6	4.38E-03	6.18E-06	6.18E-03	-	1.55E-05	1.44E-05	3.86E-01	9.28E+00	9.28E-06	2.58E-03	1.96E-03	1.34E-03	5.67E-03	3.14E-03	1.08E-02	-	8.76E-05	2.58E-05	1.24E-04	1.75E-02	1.19E-02	-	1.49E-01		
Air Conditioner & Furnace	INS-B20	52	Navy Lodge (Roof)	0.12	8.76E-04	1.24E-06	1.24E-03	-	3.09E-06	2.89E-06	7.73E-02	1.86E+00	1.86E-06	5.15E-04	3.92E-04	2.68E-04	1.13E-03	6.29E-04	2.16E-03	-	1.75E-05	5.15E-06	2.47E-05	3.50E-03	2.37E-03	-	2.99E-02		
Water Heater	INS-B10	66																											

Table 3 - PTE Calculations for Internal Combustion Sources
Naval Support Activity Bethesda (NSAB), Bethesda, MD

All Emissions Calculated as:
PTE = (Emission Factor) * (Equipment Size) * (Max Operating Schedule)
PTE = (lb/hp-hr) * (hp) * (hrs/yr) * (ton/2000 lb) = TPY
Example Calculations:
Example PTE calculation for No. 2 fuel oil AP-42 (>600 HP) emission factor for EU: 01-01H
PTE CO = (0.0055 lb/hp-hr) * (896 hp) * (100 hrs/year) = 493 lbs/yr
Example PTE calculation for No. 2 fuel oil AP-42 (<600 HP) emission factor for EU: 70A-01H
PTE NO _x = (0.031 lb/hp-hr) * (546 hp) * (100 hrs/year) = 1,693 lbs/yr

									Criteria Pollutants (lbs/year)							
Equipment Type	Emission Unit No.	Bldg. No.	Location Description	Generator Output (kW)	Engine Output (hp)	Fuel	Maximum Operating Schedule (hr/year) ⁽³⁾	Emission Factor Source	NOx	CO	NMTOC / VOC	SO ₂	PM - Filterable	PM10 - Filterable	PM2.5 - Filterable	PM Condensable
Registered Units																
Emergency Generator	01-01H	1	Dental Clinic (outside building)	600	896	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	2,150	493	57.5	1.09	38.9	31.1	30.0	4.83
Emergency Generator	07-01G	7	Hospital (Basement)	400	680	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	1,632	374	43.6	165	29.5	23.6	22.8	3.67
Emergency Generator	16-01H	16	Heating Plant (Second Floor)	450	755	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	1,812	415	48.4	0.916	32.8	26.2	25.3	4.07
Emergency Generator	16-02H	16	Heating Plant (Second Floor)	450	755	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	1,812	415	48.4	0.916	32.8	26.2	25.3	4.07
Emergency Generator	17-01	17	Fitness Center (outside)	600	903	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	2,167	497	57.9	1.10	39.2	31.4	30.3	4.87
Emergency Generator	27-01A	27	Facilities Maintenance (outside behind building)	800	1214	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	2,914	668	77.9	1.47	52.7	42.2	40.7	6.54
Emergency Generator	44-01G	47	Rad Effects Lab (outside on roof/patio between B43 & B44)	750	1220	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	2,928	671	78.3	1.48	52.9	42.4	40.9	6.58
Emergency Generator	44-02G	44	Modulator Building (outside on roof/patio between B43 & B44)	1000	1490	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	3,576	820	95.6	1.81	64.7	51.7	50.0	8.03
Emergency Generator	45-01A	45	AFRRI Lab (outside on roof/patio of Bldg 45)	400	546	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	1,693	365	137	112	120	120	120	-
Emergency Generator	47-01G	47	Animal Research Building (outside on roof/patio)	750	1220	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	2,928	671	78.3	1.48	52.9	42.4	40.9	6.58
Emergency Generator	51-01G	51	NICOE (outside behind building)	405	685	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	1,644	377	43.9	0.831	29.7	23.8	23.0	3.69
Emergency Generator	53-01G	53	USUHS Env/Health Effects Lab (outside behind building)	400	536	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	1,663	358	135	110	118	118	118	-
Emergency Generator	55-04H	55	Parking Building (inside)	1500	2206	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	5,294	1,213	142	2.68	95.7	76.6	74.0	11.9
Emergency Generator	55-03H	55	Parking Building (inside)	1500	2206	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	5,294	1,213	142	2.68	95.7	76.6	74.0	11.9
Emergency Generator	55-02H	55	Parking Building (inside)	1500	2206	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	5,294	1,213	142	2.68	95.7	76.6	74.0	11.9
Emergency Generator	55-01H	55	Parking Building (inside)	1500	2206	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	5,294	1,213	142	2.68	95.7	76.6	74.0	11.9
Emergency Generator	55-05A	55	Parking Building (central area, ground level)	1500	2328	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	5,587	1,280	149	2.83	101	80.8	78.1	12.5
Emergency Generator	55-06A	55	Parking Building (central area, ground level)	1500	2328	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	5,587	1,280	149	2.83	101	80.8	78.1	12.5
Emergency Generator	62-02G	62	BEQ E1/E4 Barracks Wounded Warriors (outside)	600	903	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	2,167	497	57.9	1.10	39.2	31.4	30.3	4.87
Emergency Generator	63-01G	63	Patient Parking Garage (Inside)	1750	2923	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	7,016	1,608	188	3.55	127	101	98.0	15.8
Emergency Generator	63-02H	63	Patient Parking Garage (Inside)	1750	2923	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	7,016	1,608	188	3.55	127	101	98.0	15.8
Emergency Generator	70A-01H	70	University Building A mechanical room	350	546	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	1,693	365	137	112	120	120	120	-
Emergency Generator	71B-01H	71	University Building B mechanical room	400	619	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	1,486	340	39.7	0.751	26.9	21.5	20.8	3.34
Emergency Generator	72C-02H	72	University Building C, mechanical room	400	619	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	1,486	340	39.7	0.751	26.9	21.5	20.8	3.34
Emergency Generator	202-01H	202	Electrical Station	500	752	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	1,805	414	48.2	0.913	32.6	26.1	25.2	4.05
Emergency Generator	16-01C	252	Cooling Towers (outside, east of building, in enclosure)	3000	4423	No. 2 Diesel Fuel	100	AP-42 Chapter 3.4	10,615	2,433	284	5.37	192	154	148	23.8
Insignificant Units																
Emergency Generator	INS-G1	1	Dental Clinic (outside building)	125	207	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	642	138	52.0	42.4	45.5	45.5	45.5	-
Emergency Generator	INS-G2	11	Administrative office (outside in front of building)	300	465	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	1,442	311	117	95.3	102	102	102	-
Emergency Generator	INS-G3	20	Fire Station (outside behind building)	80	107	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	333	71.7	27.0	22.0	23.6	23.6	23.6	-
Emergency Generator	INS-G4	27	Facilities Maintenance (outside behind building)	100	150	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	465	100	37.7	30.8	33.0	33.0	33.0	-
Emergency Generator	INS-G5	32	Multi Use Parking Structure (Generator Room)	300	480	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	1,488	321	121	98.4	106	106	106	-
Emergency Generator	INS-G7	52	Navy Lodge Expansion (outside behind building)	80	107	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	333	71.7	27.0	22.0	23.6	23.6	23.6	-
Emergency Generator	INS-G8	54	Parking Building (inside)	150	201	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	623	134	50.5	41.2	44.2	44.2	44.2	-
Emergency Generator	INS-G9	102	Gate 1 Guard House	125	275	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	853	184	69.1	56.4	60.5	60.5	60.5	-
Emergency Generator	INS-G10	104	Gate 2 Guard House	72	157	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	486	105	39.4	32.1	34.5	34.5	34.5	-
Emergency Generator	INS-G11	105	Gate 3 Guard House	40	79	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	245	52.8	19.9	16.2	17.4	17.4	17.4	-
Emergency Generator	INS-G12	106	Gate 4 Guard House	35	79	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	245	52.8	19.9	16.2	17.4	17.4	17.4	-
Emergency Generator	INS-G13	203	Medical Warehouse (outside behind building)	100	158	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	490	106	39.7	32.4	34.8	34.8	34.8	-
Emergency Generator	INS-G14	241	Blood Bank (outside behind building)	300	490	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	1,519	327	123	100	108	108	108	-
Emergency Generator	INS-G15	107A	Gate 5 Guard House	80	158	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	490	106	39.7	32.4	34.8	34.8	34.8	-
Emergency Generator	INS-G16	20T	Fire Station Expansion (outside next to building)	128	197	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	611	132	49.5	40.4	43.3	43.3	43.3	-
Emergency Generator	INS-G17	16	Utilities (outside, west of building)	100	134	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	415	89.5	33.7	27.5	29.5	29.5	29.5	-
Emergency Generator	INS-G18	Trailer	Emergency Management Plans, Training & Exercises Trailer	180	284	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	880	190	71.4	58.2	62.5	62.5	62.5	-
Emergency Generator	INS-G19	Trailer	Emergency Management Plans, Training & Exercises Trailer	180	284	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	880	190	71.4	58.2	62.5	62.5	62.5	-
Lights Engine	INS-G23	16	Outside front of bldg. 16	13	17	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	52.7	11.4	4.27	3.49	3.74	3.74	3.74	-
Compressor Engine	INS-G24	16	Outside front of bldg. 16	36	48	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	149	32.1	12.1	9.84	10.6	10.6	10.6	-
Emergency Generator	INS-617	54	East side of building	125	164	No. 2 Diesel Fuel	100	AP-42 Chapter 3.3	508	110	41.2	33.6	36.1	36.1	36.1	-
Total Combined Emissions (tons/year)									52.9	12.0	1.91	0.706	1.44	1.28	1.26	0.0983

Notes:

(1) Equipment details for registered emissions units are listed in BOLD. Insignificant units are shown in non-bold text.

(2) Emissions are shown in lbs/yr for individual units. Total combined emissions for all units is given in tons/year.

(3) Emissions are calculated based on a maximum of 100 hrs/year for all emergency units.

Table 3 - PTE Calculations for Internal Combustion Sources
Naval Support Activity Bethesda (NSAB), Bethesda, MD

All Emissions Calculated as:																		
PTE = (Emission Factor) * (Equipment Size) * (Max Operating Schedule)																		
PTE = (lb/hp-hr) * (hp) * (hrs/yr) * (ton/2000 lb) = TPY																		
Example Calculations:																		
Example PTE calculation for No. 2 fuel oil AP-42 (>600 HP) emission factor for EU: 01-01H																		
PTE CO = (0.0055 lb/hp-hr) * (896 hp) * (100 hrs/year) = 493 lbs/yr																		
Example PTE calculation for No. 2 fuel oil AP-42 (<600 HP) emission factor for EU: 70A-01H																		
PTE NO _x = (0.031 lb/hp-hr) * (546 hp) * (100 hrs/year) = 1,693 lbs/yr																		
				GHG (lbs/year)				Total HAPs (lbs/year)	Hazardous Air Pollutants (lbs/year)									
Equipment Type	Emission Unit No.	Bldg. No.	Location Description	CO ₂	CH ₄	N ₂ O	CO ₂ e		1,3-Butadiene	Acenaphthene	Acenaphthylene	Acetaldehyde	Acrolein	Aldehydes	Anthracene	Benz(a)anthracene	Benzene	Benzo(a)pyrene
Registered Units																		
Emergency Generator	01-01H	1	Dental Clinic (outside building)	103,936	5.69	-	104,078	0.987	-	2.94E-03	5.79E-03	1.58E-02	4.94E-03	-	7.71E-04	3.90E-04	4.87E-01	1.61E-04
Emergency Generator	07-01G	7	Hospital (Basement)	78,880	4.31	-	78,988	0.749	-	2.23E-03	4.39E-03	1.20E-02	3.75E-03	-	5.85E-04	2.96E-04	3.69E-01	1.22E-04
Emergency Generator	16-01H	16	Heating Plant (Second Floor)	87,580	4.79	-	87,700	0.832	-	2.47E-03	4.88E-03	1.33E-02	4.16E-03	-	6.50E-04	3.29E-04	4.10E-01	1.36E-04
Emergency Generator	16-02H	16	Heating Plant (Second Floor)	87,580	4.79	-	87,700	0.832	-	2.47E-03	4.88E-03	1.33E-02	4.16E-03	-	6.50E-04	3.29E-04	4.10E-01	1.36E-04
Emergency Generator	17-01	17	Fitness Center (outside)	104,748	5.73	-	104,891	0.99	-	2.96E-03	5.83E-03	1.59E-02	4.98E-03	-	7.77E-04	3.93E-04	4.91E-01	1.62E-04
Emergency Generator	27-01A	27	Facilities Maintenance (outside behind building)	140,824	7.70	-	141,017	1.34	-	3.98E-03	7.84E-03	2.14E-02	6.70E-03	-	1.05E-03	5.29E-04	6.59E-01	2.18E-04
Emergency Generator	44-01G	47	Rad Effects Lab (outside on roof/patio between B43 & B44)	141,520	7.74	-	141,714	1.34	-	4.00E-03	7.88E-03	2.15E-02	6.73E-03	-	1.05E-03	5.31E-04	6.63E-01	2.19E-04
Emergency Generator	44-02G	44	Modulator Building (outside on roof/patio between B43 & B44)	172,840	9.45	-	173,076	1.64	-	4.88E-03	9.63E-03	2.63E-02	8.22E-03	-	1.28E-03	6.49E-04	8.09E-01	2.68E-04
Emergency Generator	45-01A	45	AFRRI Lab (outside on roof/patio of Bldg 45)	62,790	-	-	62,790	28.2	1.49E-02	5.43E-04	1.93E-03	2.93E-01	3.54E-02	2.68E+01	7.15E-04	6.42E-04	3.57E-01	7.19E-05
Emergency Generator	47-01G	47	Animal Research Building (outside on roof/patio)	141,520	7.74	-	141,714	1.34	-	4.00E-03	7.88E-03	2.15E-02	6.73E-03	-	1.05E-03	5.31E-04	6.63E-01	2.19E-04
Emergency Generator	51-01G	51	NICOE (outside behind building)	79,460	4.35	-	79,569	0.754	-	2.24E-03	4.43E-03	1.21E-02	3.78E-03	-	5.90E-04	2.98E-04	3.72E-01	1.23E-04
Emergency Generator	53-01G	53	USUHS Env/Health Effects Lab (outside behind building)	61,686	-	-	61,686	27.7	1.47E-02	5.33E-04	1.90E-03	2.88E-01	3.47E-02	2.63E+01	7.02E-04	6.31E-04	3.50E-01	7.06E-05
Emergency Generator	55-04H	55	Parking Building (inside)	255,896	14.0	-	256,246	2.43	-	7.23E-03	1.43E-02	3.89E-02	1.22E-02	-	1.90E-03	9.60E-04	1.20E+00	3.97E-04
Emergency Generator	55-03H	55	Parking Building (inside)	255,896	14.0	-	256,246	2.43	-	7.23E-03	1.43E-02	3.89E-02	1.22E-02	-	1.90E-03	9.60E-04	1.20E+00	3.97E-04
Emergency Generator	55-02H	55	Parking Building (inside)	255,896	14.0	-	256,246	2.43	-	7.23E-03	1.43E-02	3.89E-02	1.22E-02	-	1.90E-03	9.60E-04	1.20E+00	3.97E-04
Emergency Generator	55-01H	55	Parking Building (inside)	255,896	14.0	-	256,246	2.43	-	7.23E-03	1.43E-02	3.89E-02	1.22E-02	-	1.90E-03	9.60E-04	1.20E+00	3.97E-04
Emergency Generator	55-05A	55	Parking Building (central area, ground level)	270,048	14.8	-	270,417	2.56	-	7.63E-03	1.50E-02	4.11E-02	1.28E-02	-	2.00E-03	1.01E-03	1.26E+00	4.19E-04
Emergency Generator	55-06A	55	Parking Building (central area, ground level)	270,048	14.8	-	270,417	2.56	-	7.63E-03	1.50E-02	4.11E-02	1.28E-02	-	2.00E-03	1.01E-03	1.26E+00	4.19E-04
Emergency Generator	62-02G	62	BEQ E1/E4 Barracks Wounded Warriors (outside)	104,748	5.73	-	104,891	0.995	-	2.96E-03	5.83E-03	1.59E-02	4.98E-03	-	7.77E-04	3.93E-04	4.91E-01	1.62E-04
Emergency Generator	63-01G	63	Patient Parking Garage (Inside)	339,112	18.5	-	339,576	3.22	-	9.58E-03	1.89E-02	5.16E-02	1.61E-02	-	2.52E-03	1.27E-03	1.59E+00	5.26E-04
Emergency Generator	63-02H	63	Patient Parking Garage (Inside)	339,112	18.5	-	339,576	3.22	-	9.58E-03	1.89E-02	5.16E-02	1.61E-02	-	2.52E-03	1.27E-03	1.59E+00	5.26E-04
Emergency Generator	70A-01H	70	University Building A mechanical room	62,790	-	-	62,790	28.2	1.49E-02	5.43E-04	1.93E-03	2.93E-01	3.54E-02	2.68E+01	7.15E-04	6.42E-04	3.57E-01	7.19E-05
Emergency Generator	71B-01H	71	University Building B mechanical room	71,804	3.93	-	71,902	0.682	-	2.03E-03	4.00E-03	1.09E-02	3.41E-03	-	5.33E-04	2.70E-04	3.36E-01	1.11E-04
Emergency Generator	72C-02H	72	University Building C, mechanical room	71,804	3.93	-	71,902	0.682	-	2.03E-03	4.00E-03	1.09E-02	3.41E-03	-	5.33E-04	2.70E-04	3.36E-01	1.11E-04
Emergency Generator	202-01H	202	Electrical Station	87,232	4.77	-	87,351	0.828	-	2.46E-03	4.86E-03	1.33E-02	4.15E-03	-	6.47E-04	3.27E-04	4.08E-01	1.35E-04
Emergency Generator	16-01C	252	Cooling Towers (outside, east of building, in enclosure)	513,068	28.1	-	513,770	4.87	-	1.45E-02	2.86E-02	7.80E-02	2.44E-02	-	3.81E-03	1.93E-03	2.40E+00	7.96E-04
Insignificant Units																		
Emergency Generator	INS-G1	1	Dental Clinic (outside building)	23,805	-	-	23,805	10.7	5.67E-03	2.06E-04	7.33E-04	1.11E-01	1.34E-02	1.01E+01	2.71E-04	2.43E-04	1.35E-01	2.72E-05
Emergency Generator	INS-G2	11	Administrative office (outside in front of building)	53,475	-	-	53,475	24.0	1.27E-02	4.62E-04	1.65E-03	2.50E-01	3.01E-02	2.28E+01	6.09E-04	5.47E-04	3.04E-01	6.12E-05
Emergency Generator	INS-G3	20	Fire Station (outside behind building)	12,337	-	-	12,337	5.55	2.94E-03	1.07E-04	3.80E-04	5.76E-02	6.95E-03	5.26E+00	1.40E-04	1.26E-04	7.01E-02	1.41E-05
Emergency Generator	INS-G4	27	Facilities Maintenance (outside behind building)	17,250	-	-	17,250	7.76	4.11E-03	1.49E-04	5.31E-04	8.05E-02	9.71E-03	7.35E+00	1.96E-04	1.76E-04	9.80E-02	1.97E-05
Emergency Generator	INS-G5	32	Multi Use Parking Structure (Generator Room)	55,200	-	-	55,200	24.8	1.31E-02	4.77E-04	1.70E-03	2.58E-01	3.11E-02	2.35E+01	6.28E-04	5.64E-04	3.13E-01	6.32E-05
Emergency Generator	INS-G7	52	Navy Lodge Expansion (outside behind building)	12,337	-	-	12,337	5.55	2.94E-03	1.07E-04	3.80E-04	5.76E-02	6.95E-03	5.26E+00	1.40E-04	1.26E-04	7.01E-02	1.41E-05
Emergency Generator	INS-G8	54	Parking Building (inside)	23,115	-	-	23,115	10.4	5.50E-03	2.00E-04	7.12E-04	1.08E-01	1.30E-02	9.85E+00	2.63E-04	2.36E-04	1.31E-01	2.65E-05
Emergency Generator	INS-G9	102	Gate 1 Guard House	31,625	-	-	31,625	14.2	7.53E-03	2.73E-04	9.74E-04	1.48E-01	1.78E-02	1.35E+01	3.60E-04	3.23E-04	1.80E-01	3.62E-05
Emergency Generator	INS-G10	104	Gate 2 Guard House	18,028	-	-	18,028	8.11	4.29E-03	1.56E-04	5.55E-04	8.42E-02	1.02E-02	7.68E+00	2.05E-04	1.84E-04	1.02E-01	2.06E-05
Emergency Generator	INS-G11	105	Gate 3 Guard House	9,085	-	-	9,085	4.09	2.16E-03	7.85E-05	2.80E-04	4.24E-02	5.12E-03	3.87E+00	1.03E-04	9.29E-05	5.16E-02	1.04E-05
Emergency Generator	INS-G12	106	Gate 4 Guard House	9,085	-	-	9,085	4.09	2.16E-03	7.85E-05	2.80E-04	4.24E-02	5.12E-03	3.87E+00	1.03E-04	9.29E-05	5.16E-02	1.04E-05
Emergency Generator	INS-G13	203	Medical Warehouse (outside behind building)	18,170	-	-	18,170	8.17	4.32E-03	1.57E-04	5.60E-04	8.48E-02	1.02E-02	7.74E+00	2.07E-04	1.86E-04	1.03E-01	2.08E-05
Emergency Generator	INS-G14	241	Blood Bank (outside behind building)	56,350	-	-	56,350	25.3	1.34E-02	4.87E-04	1.74E-03	2.63E-01	3.17E-02	2.40E+01	6.41E-04	5.76E-04	3.20E-01	6.45E-05
Emergency Generator	INS-G15	107A	Gate 5 Guard House	18,170	-	-	18,170	8.17	4.32E-03	1.57E-04	5.60E-04	8.48E-02	1.02E-02	7.74E+00	2.07E-04	1.86E-04	1.03E-01	2.08E-05
Emergency Generator	INS-G16	20T	Fire Station Expansion (outside next to building)	22,655	-	-	22,655	10.2	5.39E-03	1.96E-04	6.98E-04	1.06E-01	1.28E-02	9.65E+00	2.58E-04	2.32E-04	1.29E-01	2.59E-05
Emergency Generator	INS-G17	16	Utilities (outside, west of building)	15,410	-	-	15,410	6.93	3.67E-03	1.33E-04	4.75E-04	7.19E-02	8.68E-03	6.57E+00	1.75E-04	1.58E-04	8.75E-02	1.76E-05
Emergency Generator	INS-G18	Trailer	Emergency Management Plans, Training & Exercises Trailer	32,660	-	-	32,660	14.7	7.77E-03	2.82E-04	1.01E-03	1.52E-01	1.84E-02	1.39E+01	3.72E-04	3.34E-04	1.85E-01	3.74E-05
Emergency Generator	INS-G19	Trailer	Emergency Management Plans, Training & Exercises Trailer	32,660	-	-	32,660	14.7	7.77E-03	2.82E-04	1.01E-03	1.52E-01	1.84E-02	1.39E+01	3.72E-04	3.34E-04	1.85E-01	3.74E-05

Table 3 - PTE Calculations for Internal Combustion Sources
Naval Support Activity Bethesda (NSAB), Bethesda, MD

All Emissions Calculated as:
PTE = (Emission Factor) * (Equipment Size) * (Max Operating Schedule)
PTE = (lb/hp-hr) * (hp) * (hrs/yr) * (ton/2000 lb) = TPY
Example Calculations:
Example PTE calculation for No. 2 fuel oil AP-42 (>600 HP) emission factor for EU: 01-01H
PTE CO = (0.0055 lb/hp-hr) * (896 hp) * (100 hrs/year) = 493 lbs/yr
Example PTE calculation for No. 2 fuel oil AP-42 (<600 HP) emission factor for EU: 70A-01H
PTE NO _x = (0.031 lb/hp-hr) * (546 hp) * (100 hrs/year) = 1,693 lbs/yr

				Hazardous Air Pollutants (lbs/year)													
Equipment Type	Emission Unit No.	Bldg. No.	Location Description	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Formaldehyde	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenathrene	Pyrene	Toluene	Xylenes
Registered Units																	
Emergency Generator	01-01H	1	Dental Clinic (outside building)	6.96E-04	3.49E-04	1.37E-04	9.60E-04	2.17E-04	2.53E-03	8.03E-03	4.95E-02	2.60E-04	8.15E-02	2.56E-02	2.33E-03	1.76E-01	1.21E-01
Emergency Generator	07-01G	7	Hospital (Basement)	5.28E-04	2.65E-04	1.04E-04	7.28E-04	1.65E-04	1.92E-03	6.09E-03	3.76E-02	1.97E-04	6.19E-02	1.94E-02	1.77E-03	1.34E-01	9.19E-02
Emergency Generator	16-01H	16	Heating Plant (Second Floor)	5.87E-04	2.94E-04	1.15E-04	8.09E-04	1.83E-04	2.13E-03	6.76E-03	4.17E-02	2.19E-04	6.87E-02	2.16E-02	1.96E-03	1.49E-01	1.02E-01
Emergency Generator	16-02H	16	Heating Plant (Second Floor)	5.87E-04	2.94E-04	1.15E-04	8.09E-04	1.83E-04	2.13E-03	6.76E-03	4.17E-02	2.19E-04	6.87E-02	2.16E-02	1.96E-03	1.49E-01	1.02E-01
Emergency Generator	17-01	17	Fitness Center (outside)	7.02E-04	3.51E-04	1.38E-04	9.67E-04	2.19E-04	2.55E-03	8.09E-03	4.99E-02	2.62E-04	8.22E-02	2.58E-02	2.35E-03	1.78E-01	1.22E-01
Emergency Generator	27-01A	27	Facilities Maintenance (outside behind building)	9.43E-04	4.72E-04	1.85E-04	1.30E-03	2.94E-04	3.42E-03	1.09E-02	6.70E-02	3.52E-04	1.10E-01	3.47E-02	3.15E-03	2.39E-01	1.64E-01
Emergency Generator	44-01G	47	Rad Effects Lab (outside on roof/patio between B43 & B44)	9.48E-04	4.75E-04	1.86E-04	1.31E-03	2.95E-04	3.44E-03	1.09E-02	6.74E-02	3.54E-04	1.11E-01	3.48E-02	3.17E-03	2.40E-01	1.65E-01
Emergency Generator	44-02G	44	Modulator Building (outside on roof/patio between B43 & B44)	1.16E-03	5.80E-04	2.27E-04	1.60E-03	3.61E-04	4.20E-03	1.34E-02	8.23E-02	4.32E-04	1.36E-01	4.26E-02	3.87E-03	2.93E-01	2.01E-01
Emergency Generator	45-01A	45	AFRRI Lab (outside on roof/patio of Bldg 45)	3.79E-05	1.87E-04	5.92E-05	1.35E-04	2.23E-04	2.91E-03	1.12E-02	4.51E-01	1.43E-04	3.24E-02	1.12E-02	1.83E-03	1.56E-01	1.09E-01
Emergency Generator	47-01G	47	Animal Research Building (outside on roof/patio)	9.48E-04	4.75E-04	1.86E-04	1.31E-03	2.95E-04	3.44E-03	1.09E-02	6.74E-02	3.54E-04	1.11E-01	3.48E-02	3.15E-03	2.40E-01	1.65E-01
Emergency Generator	51-01G	51	NICOE (outside behind building)	5.32E-04	2.67E-04	1.05E-04	7.34E-04	1.66E-04	1.93E-03	6.14E-03	3.78E-02	1.99E-04	6.23E-02	1.96E-02	1.78E-03	1.35E-01	9.25E-02
Emergency Generator	53-01G	53	USUHS Env/Health Effects Lab (outside behind building)	3.72E-05	1.84E-04	5.82E-05	1.33E-04	2.19E-04	2.86E-03	1.10E-02	4.43E-01	1.41E-04	3.18E-02	1.10E-02	1.79E-03	1.54E-01	1.07E-01
Emergency Generator	55-04H	55	Parking Building (inside)	1.71E-03	8.59E-04	3.37E-04	2.36E-03	5.34E-04	6.22E-03	1.98E-02	1.22E-01	6.39E-04	2.01E-01	6.30E-02	5.73E-03	4.34E-01	2.98E-01
Emergency Generator	55-03H	55	Parking Building (inside)	1.71E-03	8.59E-04	3.37E-04	2.36E-03	5.34E-04	6.22E-03	1.98E-02	1.22E-01	6.39E-04	2.01E-01	6.30E-02	5.73E-03	4.34E-01	2.98E-01
Emergency Generator	55-02H	55	Parking Building (inside)	1.71E-03	8.59E-04	3.37E-04	2.36E-03	5.34E-04	6.22E-03	1.98E-02	1.22E-01	6.39E-04	2.01E-01	6.30E-02	5.73E-03	4.34E-01	2.98E-01
Emergency Generator	55-01H	55	Parking Building (inside)	1.71E-03	8.59E-04	3.37E-04	2.36E-03	5.34E-04	6.22E-03	1.98E-02	1.22E-01	6.39E-04	2.01E-01	6.30E-02	5.73E-03	4.34E-01	2.98E-01
Emergency Generator	55-05A	55	Parking Building (central area, ground level)	1.81E-03	9.06E-04	3.55E-04	2.49E-03	5.64E-04	6.57E-03	2.09E-02	1.29E-01	6.75E-04	2.12E-01	6.65E-02	6.05E-03	4.58E-01	3.15E-01
Emergency Generator	55-06A	55	Parking Building (central area, ground level)	1.81E-03	9.06E-04	3.55E-04	2.49E-03	5.64E-04	6.57E-03	2.09E-02	1.29E-01	6.75E-04	2.12E-01	6.65E-02	6.05E-03	4.58E-01	3.15E-01
Emergency Generator	62-02G	62	BEQ E1/E4 Barracks Wounded Warriors (outside)	7.02E-04	3.51E-04	1.38E-04	9.67E-04	2.19E-04	2.55E-03	8.09E-03	4.99E-02	2.62E-04	8.22E-02	2.58E-02	2.35E-03	1.78E-01	1.22E-01
Emergency Generator	63-01G	63	Patient Parking Garage (Inside)	2.27E-03	1.14E-03	4.46E-04	3.13E-03	7.08E-04	8.25E-03	2.62E-02	1.61E-01	8.47E-04	2.66E-01	8.35E-02	7.59E-03	5.75E-01	3.95E-01
Emergency Generator	63-02H	63	Patient Parking Garage (Inside)	2.27E-03	1.14E-03	4.46E-04	3.13E-03	7.08E-04	8.25E-03	2.62E-02	1.61E-01	8.47E-04	2.66E-01	8.35E-02	7.59E-03	5.75E-01	3.95E-01
Emergency Generator	70A-01H	70	University Building A mechanical room	3.79E-05	1.87E-04	5.92E-05	1.35E-04	2.23E-04	2.91E-03	1.12E-02	4.51E-01	1.43E-04	3.24E-02	1.12E-02	1.83E-03	1.56E-01	1.09E-01
Emergency Generator	71B-01H	71	University Building B mechanical room	4.81E-04	2.41E-04	9.45E-05	6.63E-04	1.50E-04	1.75E-03	5.55E-03	3.42E-02	1.79E-04	5.63E-02	1.77E-02	1.61E-03	1.22E-01	8.36E-02
Emergency Generator	72C-02H	72	University Building C, mechanical room	4.81E-04	2.41E-04	9.45E-05	6.63E-04	1.50E-04	1.75E-03	5.55E-03	3.42E-02	1.79E-04	5.63E-02	1.77E-02	1.61E-03	1.22E-01	8.36E-02
Emergency Generator	202-01H	202	Electrical Station	5.84E-04	2.93E-04	1.15E-04	8.05E-04	1.82E-04	2.12E-03	6.74E-03	4.15E-02	2.18E-04	6.84E-02	2.15E-02	1.95E-03	1.48E-01	1.02E-01
Emergency Generator	16-01C	252	Cooling Towers (outside, east of building, in enclosure)	3.44E-03	1.72E-03	6.75E-04	4.74E-03	1.07E-03	1.25E-02	3.96E-02	2.44E-01	1.28E-03	4.02E-01	1.26E-01	1.15E-02	8.70E-01	5.98E-01
Insignificant Units																	
Emergency Generator	INS-G1	1	Dental Clinic (outside building)	1.44E-05	7.09E-05	2.25E-05	5.11E-05	8.45E-05	1.10E-03	4.23E-03	1.71E-01	5.43E-05	1.23E-02	4.26E-03	6.93E-04	5.93E-02	4.13E-02
Emergency Generator	INS-G2	11	Administrative office (outside in front of building)	3.23E-05	1.59E-04	5.05E-05	1.15E-04	1.90E-04	2.48E-03	9.50E-03	3.84E-01	1.22E-04	2.76E-02	9.57E-03	1.56E-03	1.33E-01	9.28E-02
Emergency Generator	INS-G3	20	Fire Station (outside behind building)	7.44E-06	3.67E-05	1.16E-05	2.65E-05	4.38E-05	5.71E-04	2.19E-03	8.86E-02	2.82E-05	6.37E-03	2.21E-03	3.59E-04	3.07E-02	2.14E-02
Emergency Generator	INS-G4	27	Facilities Maintenance (outside behind building)	1.04E-05	5.13E-05	1.63E-05	3.71E-05	6.12E-05	7.99E-04	3.07E-03	1.24E-01	3.94E-05	8.90E-03	3.09E-03	5.02E-04	4.29E-02	2.99E-02
Emergency Generator	INS-G5	32	Multi Use Parking Structure (Generator Room)	3.33E-05	1.64E-04	5.21E-05	1.19E-04	1.96E-04	2.56E-03	9.81E-03	3.96E-01	1.26E-04	2.85E-02	9.88E-03	1.61E-03	1.37E-01	9.58E-02
Emergency Generator	INS-G7	52	Navy Lodge Expansion (outside behind building)	7.44E-06	3.67E-05	1.16E-05	2.65E-05	4.38E-05	5.71E-04	2.19E-03	8.86E-02	2.82E-05	6.37E-03	2.21E-03	3.59E-04	3.07E-02	2.14E-02
Emergency Generator	INS-G8	54	Parking Building (inside)	1.39E-05	6.88E-05	2.18E-05	4.97E-05	8.20E-05	1.07E-03	4.11E-03	1.66E-01	5.28E-05	1.19E-02	4.14E-03	6.73E-04	5.75E-02	4.01E-02
Emergency Generator	INS-G9	102	Gate 1 Guard House	1.91E-05	9.41E-05	2.98E-05	6.80E-05	1.12E-04	1.46E-03	5.62E-03	2.27E-01	7.22E-05	1.63E-02	5.66E-03	9.20E-04	7.87E-02	5.49E-02
Emergency Generator	INS-G10	104	Gate 2 Guard House	1.09E-05	5.37E-05	1.70E-05	3.87E-05	6.40E-05	8.35E-04	3.20E-03	1.29E-01	4.12E-05	9.31E-03	3.23E-03	5.25E-04	4.49E-02	3.13E-02
Emergency Generator	INS-G11	105	Gate 3 Guard House	5.48E-06	2.70E-05	8.57E-06	1.95E-05	3.22E-05	4.21E-04	1.61E-03	6.53E-02	2.07E-05	4.69E-03	1.63E-03	2.64E-04	2.26E-02	1.58E-02
Emergency Generator	INS-G12	106	Gate 4 Guard House	5.48E-06	2.70E-05	8.57E-06	1.95E-05	3.22E-05	4.21E-04	1.61E-03	6.53E-02	2.07E-05	4.69E-03	1.63E-03	2.64E-04	2.26E-02	1.58E-02
Emergency Generator	INS-G13	203	Medical Warehouse (outside behind building)	1.10E-05	5.41E-05	1.71E-05	3.90E-05	6.45E-05	8.42E-04	3.23E-03	1.31E-01	4.15E-05	9.38E-03	3.25E-03	5.29E-04	4.52E-02	3.15E-02
Emergency Generator	INS-G14	241	Blood Bank (outside behind building)	3.40E-05	1.68E-04	5.32E-05	1.21E-04	2.00E-04	2.61E-03	1.00E-02	4.05E-01	1.29E-04	2.91E-02	1.01E-02	1.64E-03	1.40E-01	9.78E-02
Emergency Generator	INS-G15	107A	Gate 5 Guard House	1.10E-05	5.41E-05	1.71E-05	3.90E-05	6.45E-05	8.42E-04	3.23E-03	1.31E-01	4.15E-05	9.38E-03	3.25E-03	5.29E-04	4.52E-02	3.15E-02
Emergency Generator	INS-G16	20T	Fire Station Expansion (outside next to building)	1.37E-05	6.74E-05	2.14E-05	4.87E-05	8.04E-05	1.05E-03	4.03E-03	1.63E-01	5.17E-05	1.17E-02	4.05E-03	6.59E-04	5.64E-02	3.93E-02
Emergency Generator	INS-G17	16	Utilities (outside, west of building)	9.30E-06	4.59E-05	1.45E-05	3.31E-05	5.47E-05	7.14E-04	2.74E-03	1.11E-01	3.52E-05	7.95E-03	2.76E-03	4.48E-04	3.84E-02	2.67E-02
Emergency Generator	INS-G18	Trailer	Emergency Management Plans, Training & Exercises Trailer	1.97E-05	9.72E-05	3.08E-05	7.02E-05	1.16E-04	1.51E-03	5.80E-03	2.35E-01	7.46E-05	1.69E-02	5.84E-03	9.50E-04	8.13E-02	5.67E-02
Emergency Generator	INS-G19	Trailer	Emergency Management Plans, Training & Exercises Trailer	1.97E-05	9.72E-05	3.08E-05	7.02E-05	1.16E-04	1.51E-03	5.80E-03	2.35E-01	7.46E-05	1.69E-02	5.84E-03	9.50E-04	8.13E-02	5.67E-02
Lights Engine	INS-G23	16	Outside front of bldg. 16	1.18E-06	5.82E-06	1.84E-06	4.20E-06	6.94E-06	9.06E-05	3.47E-04	1.40E-02	4.46E-06	1.01E-03	3.50E-04	5.69E-05	4.87E-03	3.39E-03
Compressor Engine	INS-G24	16	Outside front of bldg. 16	3.33E-06	1.64E-05	5.21E-06	1.19E-05	1.96E-05	2.56E-04	9.81E-04	3.96E-02	1.26E-05	2.85E-03	9.88E-04	1.61E-04	1.37E-02	9.58E-03
Emergency Generator	INS-617	54	East side of building	1.14E-05	5.61E-05	1.78E-05	4.05E-05	6.69E-05	8.74E-04	3.35E-01	4.31E-01	4.31E-05	9.74E-03	3.38E-03	5.49E-04	4.70E-02	3.27E-02
Total Combined Emissions (tons/year)				1.44E-05	8.10E-06	3.10E-06	2.02E-05	5.61E-06	6.71E-05	2.23E-04	3.43E-03	6.05E-06	1.83E-03	5.81E-04	5.72E-05	4.43E-03	3.05E-03

- Notes:
- (1) Equipment details for registered emissions units are listed in BOLD. Insignificant units are shown in non-bold text.
 - (2) Emissions are shown in lbs/yr for individual units. Total combined emissions for all units is given in tons/year.
 - (3) Emissions are calculated based on a maximum of 100 hrs/year for all emergency units.

Table 4 - PTE Calculations for Tanks & Fueling Sources
Naval Support Activity Bethesda (NSAB), Bethesda, MD

All Emissions Calculated as:
PTE = (Emission Factor) * (Max Annual Throughput)
PTE = (lb/10^3 gals) * (gal) / (1000) * (ton / 2000 lbs) = TPY
Example Calculations:
Example PTE calculation for AP-42 emission factor for EU: 155-01
PTE VOC = (3.1 lb/1000 gal) * (518,400 gal/year) * (1/1000) = 1,607 lbs/yr
PTE Hexane = (0.0496 lb/1000 gal) * (518,400 gal/year) * (1/1000) = 25.7 lbs/yr

Equipment	Emission Unit No.	Bldg.	Location Description	Tank ID #	Type	Volume (gals)	Max Throughput per dispenser (gals/yr) ⁽⁴⁾	No. of Dispenser Units ⁽⁵⁾	MAX Annual Throughput (gals)	Emission Factor Source ⁽³⁾	VOC (lbs/year)	Total HAPs (lbs/year)	HAPs (lbs/year) ⁽⁶⁾							
													2,2,4 - Trimethylp entane	Benzene	Ethylbenzene	Hexane	POM as 16- PAH	Toluene	Xylenes	
Gasoline Fuel Tank/Pump (Premium Gasoline)	51A-01	58	NEX Gas Station	299A	Fuel UST	20,000	303,135	6	1,818,808	AP-42 Chapter 5.2	5,638	321	45.1	50.7	5.64	90.2	28.2	73.3	28.2	
Gasoline Fuel Tank/Pump (Regular Gasoline)	51A-01	58	NEX Gas Station	298A	Fuel UST	20,000	303,135	6	1,818,808	AP-42 Chapter 5.2	5,638	321	45.1	50.7	5.64	90.2	28.2	73.3	28.2	
Total Combined Emissions (tons/year)												5.64	0.321	0.045	0.051	0.006	0.090	0.028	0.073	0.028

- Notes:
- (1) Emissions generated by gasoline tanks/pumps consists of VOCs and organic HAPs.
 - (2) Emissions are shown in lbs/yr for individual units. Total combined emissions for all units is given in tons/year.
 - (3) Emission factor includes factors for balanced submerged fillings, Underground tank breathing and emptying, displacement losses (controlled), and spillage.
A controlled factor was used for displacement losses due to the prevelance of onboard fueling vapor recovery systems in modern cars.
 - (4) Max annual throughputs are estimated based on two times the max annual throughput over the past five years.
 - (5) NEX gas station equipped with 12 dispensers. For the purposes of PTE calculations, assumed 6 dispensers on each tank.
 - (6) HAP Speciation retrieved from: <http://www.epa.gov/ttnchie1/conference/ei12/area/johnson.pdf>
 - (7) The Government Gas Station was removed from NSAB in 2019.

Table 5 - External Combustion Sources Emissions Factors
Naval Support Activity Bethesda (NSAB), Bethesda, MD
Last Updated - 10/3/2019

Example - AP-42 Emission Factor Conversions:
Table 1.4-2: SO ₂ Emission Factor = 0.6 lb / 10 ⁶ scf
(0.6 lb / 10 ⁶ scf) * (10 ⁶ scf / 1020 MMBtu) = 0.0006 lb / MMBtu
Table 1.4-3: Benzene Emission Factor = 2.1E-3 lb / 10 ⁶ scf
(0.0021 lb / 10 ⁶ scf) * (10 ⁶ scf / 1020 MMBtu) = 2.06E-6 lb / MMBtu

	Emission Unit	EU: 16-01B (Boiler 1)		EU: 16-02B (Boiler 2)		EU: 16-03B (Boiler 3)		EU: 16-04B (Boiler 4)		EU: 16-05B (Boiler 5)		Boilers < 100 MMBH	Boilers < 100 MMBH with LNB	Boilers < 100 MMBH	
	Fuel Type	Natural Gas	No. 2 Oil	Natural Gas	No. 2 Oil	Natural Gas	No. 2 Oil	Natural Gas	No. 2 Oil	Natural Gas	No. 2 Oil	No. 2 Fuel Oil	Natural Gas	Natural Gas	
	Source	Stack Test (NOx), AP-42 Chapter 1.4: Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4	Stack Test (NOx), AP-42 Chapter 1.3: Tables 1.3-1, 1.3-2, 1.3-3, 1.3-7, 1.3-8, 1.3-9, 1.3-10, and 1.3-12	Stack Test (NOx), AP-42 Chapter 1.4: Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4	Stack Test (NOx), AP-42 Chapter 1.3: Tables 1.3-1, 1.3-2, 1.3-3, 1.3-7, 1.3-8, 1.3-9, 1.3-10, and 1.3-12	Stack Test (NOx), AP-42 Chapter 1.4: Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4	Stack Test (NOx), AP-42 Chapter 1.3: Tables 1.3-1, 1.3-2, 1.3-3, 1.3-7, 1.3-8, 1.3-9, 1.3-10, and 1.3-12	Stack Test (NOx), AP-42 Chapter 1.4: Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4	Stack Test (NOx), AP-42 Chapter 1.3: Tables 1.3-1, 1.3-2, 1.3-3, 1.3-7, 1.3-8, 1.3-9, 1.3-10, and 1.3-12	Stack Test (NOx), AP-42 Chapter 1.4: Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4	Stack Test (NOx), AP-42 Chapter 1.3: Tables 1.3-1, 1.3-2, 1.3-3, 1.3-7, 1.3-8, 1.3-9, 1.3-10, and 1.3-12	Stack Test (NOx), AP-42 Chapter 1.4: Tables 1.4-1, 1.4-2, 1.3-7, 1.3-8, 1.3-9, 1.3-10, and 1.3-12	Ap-42 Chapter 1.3: Tables 1.3-1, 1.3-2, 1.3-7, 1.3-8, 1.3-9, 1.3-10, and 1.3-12	AP-42 Chapter 1.4: Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4	AP-42 Chapter 1.4: Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4
	Units	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu
Pollutant & CAS Number		Criteria Pollutants													
NOx ³	N/A	0.0300	0.0460	0.0310	0.0520	0.0250	0.0400	0.0280	0.0400	0.0260	0.0510	0.1429	0.0490	0.0980	
CO	630-08-0	0.0824	0.0357	0.0824	0.0357	0.0824	0.0357	0.0824	0.0357	0.0824	0.0357	0.0824	0.0357	0.0824	
NMTOC/VOC	N/A	0.0054	0.0024	0.0054	0.0024	0.0054	0.0024	0.0054	0.0024	0.0054	0.0024	0.0024	0.0054	0.0054	
SO2	7446-09-5	0.0006	0.3043	0.0006	0.3043	0.0006	0.3043	0.0006	0.3043	0.0006	0.3043	0.3043	0.0006	0.0006	
PM - Filterable	N/A	0.0019	0.0143	0.0019	0.0143	0.0019	0.0143	0.0019	0.0143	0.0019	0.0143	0.0143	0.0019	0.0019	
PM10 - Filterable	N/A	0.0019	0.0077	0.0019	0.0077	0.0019	0.0077	0.0019	0.0077	0.0019	0.0077	0.0077	0.0019	0.0019	
PM2.5 - Filterable	N/A	0.0019	0.0059	0.0019	0.0059	0.0019	0.0059	0.0019	0.0059	0.0019	0.0059	0.0059	0.0019	0.0019	
PM Condensable	N/A	0.0056	0.0093	0.0056	0.0093	0.0056	0.0093	0.0056	0.0093	0.0056	0.0093	0.0093	0.0056	0.0056	
Pollutant & CAS Number		Greenhouse Gases (GHGs)													
CO2	124-38-9	118	159	118	159	118	159	118	159	118	159	159	117.6471	118	
CH4	74-82-8	0.0023	0.0015	0.0023	0.0015	0.0023	0.0015	0.0023	0.0015	0.0023	0.0015	0.0015	0.0023	0.0023	
N2O	10024-97-2	0.0022	0.0019	0.0022	0.0019	0.0022	0.0019	0.0022	0.0019	0.0022	0.0019	0.0019	0.0022	0.0022	
Pollutant & CAS Number		Hazardous Air Pollutants (HAP) and Toxic Air Pollutants (TAPs)													
1,1,1-Trichloroethane	71-55-6	-	1.69E-06	-	1.69E-06	-	1.69E-06	-	1.69E-06	-	1.69E-06	1.69E-06	-	-	
2-Methylnaphthalene	91-57-6	2.35E-08	-	2.35E-08	-	2.35E-08	-	2.35E-08	-	2.35E-08	-	-	2.35E-08	2.35E-08	
3-Methylchloranthrene	56-49-5	1.76E-09	-	1.76E-09	-	1.76E-09	-	1.76E-09	-	1.76E-09	-	-	1.76E-09	1.76E-09	
7,12-Dimethylbenz(a)anthracene	57-97-6	1.57E-08	-	1.57E-08	-	1.57E-08	-	1.57E-08	-	1.57E-08	-	-	1.57E-08	1.57E-08	
Acenaphthene	83-32-9	1.76E-09	1.51E-07	1.76E-09	1.51E-07	1.76E-09	1.51E-07	1.76E-09	1.51E-07	1.76E-09	1.51E-07	1.51E-07	1.76E-09	1.76E-09	
Acenaphthylene	208-96-8	1.76E-09	1.81E-09	1.76E-09	1.81E-09	1.76E-09	1.81E-09	1.76E-09	1.81E-09	1.76E-09	1.81E-09	1.81E-09	1.76E-09	1.76E-09	
Anthracene	120-12-7	2.35E-09	8.71E-09	2.35E-09	8.71E-09	2.35E-09	8.71E-09	2.35E-09	8.71E-09	2.35E-09	8.71E-09	8.71E-09	2.35E-09	2.35E-09	
Arsenic	7440-38-2	1.96E-07	4.00E-06	1.96E-07	4.00E-06	1.96E-07	4.00E-06	1.96E-07	4.00E-06	1.96E-07	4.00E-06	4.00E-06	1.96E-07	1.96E-07	
Barium	7440-39-3	4.31E-06	-	4.31E-06	-	4.31E-06	-	4.31E-06	-	4.31E-06	-	-	4.31E-06	4.31E-06	
Benz(a)anthracene	56-55-3	1.76E-09	2.86E-08	1.76E-09	2.86E-08	1.76E-09	2.86E-08	1.76E-09	2.86E-08	1.76E-09	2.86E-08	2.86E-08	1.76E-09	1.76E-09	
Benzene	71-43-2	2.06E-06	1.53E-06	2.06E-06	1.53E-06	2.06E-06	1.53E-06	2.06E-06	1.53E-06	2.06E-06	1.53E-06	1.53E-06	2.06E-06	2.06E-06	
Benzo(a)pyrene	50-32-8	1.18E-09	-	1.18E-09	-	1.18E-09	-	1.18E-09	-	1.18E-09	-	-	1.18E-09	1.18E-09	
Benzo(b)fluoranthene	205-99-2	1.76E-09	1.06E-08	1.76E-09	1.06E-08	1.76E-09	1.06E-08	1.76E-09	1.06E-08	1.76E-09	1.06E-08	1.06E-08	1.76E-09	1.76E-09	
Benzo(g,h,i)perylene	191-24-2	1.18E-09	1.61E-08	1.18E-09	1.61E-08	1.18E-09	1.61E-08	1.18E-09	1.61E-08	1.18E-09	1.61E-08	1.61E-08	1.18E-09	1.18E-09	
Benzo(k)fluoranthene	207-08-9	1.76E-09	1.06E-08	1.76E-09	1.06E-08	1.76E-09	1.06E-08	1.76E-09	1.06E-08	1.76E-09	1.06E-08	1.06E-08	1.76E-09	1.76E-09	
Beryllium	7440-41-7	1.18E-08	3.00E-06	1.18E-08	3.00E-06	1.18E-08	3.00E-06	1.18E-08	3.00E-06	1.18E-08	3.00E-06	3.00E-06	1.18E-08	1.18E-08	
Cadmium	7440-43-9	1.08E-06	3.00E-06	1.08E-06	3.00E-06	1.08E-06	3.00E-06	1.08E-06	3.00E-06	1.08E-06	3.00E-06	3.00E-06	1.08E-06	1.08E-06	
Chromium	7440-47-3	1.37E-06	3.00E-06	1.37E-06	3.00E-06	1.37E-06	3.00E-06	1.37E-06	3.00E-06	1.37E-06	3.00E-06	3.00E-06	1.37E-06	1.37E-06	
Chrysene	218-01-9	1.76E-09	1.70E-08	1.76E-09	1.70E-08	1.76E-09	1.70E-08	1.76E-09	1.70E-08	1.76E-09	1.70E-08	1.70E-08	1.76E-09	1.76E-09	
Cobalt	7440-48-4	8.24E-08	-	8.24E-08	-	8.24E-08	-	8.24E-08	-	8.24E-08	-	-	8.24E-08	8.24E-08	
Copper	7440-50-8	8.33E-07	6.00E-06	8.33E-07	6.00E-06	8.33E-07	6.00E-06	8.33E-07	6.00E-06	8.33E-07	6.00E-06	6.00E-06	8.33E-07	8.33E-07	
Dibenzo(a,h)anthracene	53-70-3	1.18E-09	1.19E-08	1.18E-09	1.19E-08	1.18E-09	1.19E-08	1.18E-09	1.19E-08	1.18E-09	1.19E-08	1.19E-08	1.18E-09	1.18E-09	
Dichlorobenzene	25321-22-6	1.18E-06	-	1.18E-06	-	1.18E-06	-	1.18E-06	-	1.18E-06	-	-	1.18E-06	1.18E-06	
Ethylbenzene	100-41-4	-	4.54E-07	-	4.54E-07	-	4.54E-07	-	4.54E-07	-	4.54E-07	4.54E-07	-	-	
Fluoranthene	206-44-0	2.94E-09	3.46E-08	2.94E-09	3.46E-08	2.94E-09	3.46E-08	2.94E-09	3.46E-08	2.94E-09	3.46E-08	3.46E-08	2.94E-09	2.94E-09	
Fluorene	86-73-7	2.75E-09	3.19E-08	2.75E-09	3.19E-08	2.75E-09	3.19E-08	2.75E-09	3.19E-08	2.75E-09	3.19E-08	3.19E-08	2.75E-09	2.75E-09	
Formaldehyde	50-00-0	7.35E-05	2.36E-04	7.35E-05	2.36E-04	7.35E-05	2.36E-04	7.35E-05	2.36E-04	7.35E-05	2.36E-04	2.36E-04	7.35E-05	7.35E-05	
Hexane	110-54-3	1.76E-03	-	1.76E-03	-	1.76E-03	-	1.76E-03	-	1.76E-03	-	-	1.76E-03	1.76E-03	
Indeno(1,2,3-cd)pyrene	193-39-5	1.76E-09	1.53E-08	1.76E-09	1.53E-08	1.76E-09	1.53E-08	1.76E-09	1.53E-08	1.76E-09	1.53E-08	1.53E-08	1.76E-09	1.76E-09	
Lead	7439-92-1	4.90E-07	9.00E-06	4.90E-07	9.00E-06	4.90E-07	9.00E-06	4.90E-07	9.00E-06	4.90E-07	9.00E-06	9.00E-06	4.90E-07	4.90E-07	
Manganese	7439-96-5	3.73E-07	6.00E-06	3.73E-07	6.00E-06	3.73E-07	6.00E-06	3.73E-07	6.00E-06	3.73E-07	6.00E-06	6.00E-06	3.73E-07	3.73E-07	
Mercury	7439-97-6	2.55E-07	3.00E-06	2.55E-07	3.00E-06	2.55E-07	3.00E-06	2.55E-07	3.00E-06	2.55E-07	3.00E-06	3.00E-06	2.55E-07	2.55E-07	
Molybdenum	7439-98-7	1.08E-06	-	1.08E-06	-	1.08E-06	-	1.08E-06	-	1.08E-06	-	-	1.08E-06	1.08E-06	
Naphthalene	91-20-3	5.98E-07	8.07E-06	5.98E-07	8.07E-06	5.98E-07	8.07E-06	5.98E-07	8.07E-06	5.98E-07	8.07E-06	8.07E-06	5.98E-07	5.98E-07	
Nickel	7440-02-0	2.06E-06	3.00E-06	2.06E-06	3.00E-06	2.06E-06	3.00E-06	2.06E-06	3.00E-06	2.06E-06	3.00E-06	3.00E-06	2.06E-06	2.06E-06	
OCDD (octachlorodibenzo-dioxin)	3268-87-9	-	2.21E-11	-	2.21E-11	-	2.21E-11	-	2.21E-11	-	2.21E-11	2.21E-11	-	-	
Phenanthrene	85-01-8	1.67E-08	7.50E-08	1.67E-08	7.50E-08	1.67E-08	7.50E-08	1.67E-08	7.50E-08	1.67E-08	7.50E-08	7.50E-08	1.67E-08	1.67E-08	
Pyrene	129-00-0	4.90E-09	3.04E-08	4.90E-09	3.04E-08	4.90E-09	3.04E-08	4.90E-09	3.04E-08	4.90E-09	3.04E-08	3.04E-08	4.90E-09	4.90E-09	
Selenium	7782-49-2	2.35E-08	1.50E-05	2.35E-08	1.50E-05	2.35E-08	1.50E-05	2.35E-08	1.50E-05	2.35E-08	1.50E-05	1.50E-05	2.35E-08	2.35E-08	
Toluene	108-88-3	3.33E-06	4.43E-05	3.33E-06	4.43E-05	3.33E-06	4.43E-05	3.33E-06	4.43E-05	3.33E-06	4.43E-05	4.43E-05	3.33E-06	3.33E-06	
Vanadium															

Notes:

- (1) conversion from lb / 10⁶ scf to lb / MMBtu = 1020
(2) conversion from lb / 10³ gal to lb / MMBtu = 140
(3) NOx emission factors for heating plant boilers (EU: 16-01B, 16-02B, 16-03B, 16-04B, and 16-05B) are taken from stack test data; the remaining emission factors are taken from AP-42.
- Boiler 1 stack testing August 7-8 and 27-28, 2018
- Boiler 2 stack testing August 29 and September 5, 2018
- Boiler 3 stack testing August 9-10 and 30-31, 2018
- Boiler 4 stack testing August 14 and 31, and September 4, 2018
- Boiler 5 stack testing August 15-16 and September 4 and 11, 2018
(4) Emission Factors for NG boilers taken from AP-42 Chapter 1.4 Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4.
(5) Emission Factors for Oil boilers taken from AP-42 Chapter 1.3 Tables 1.3-1, 1.3-2, 1.3-3, 1.3-7, 1.3-8, 1.3-9, 1.3-10, and 1.3-12.
(6) HAP = Federal HAP, F4-TAP = MDE Form 4 TAP; Cl-TAP = MDE Class 1 TAP; C2-TAP = MDE Class 2 TAP; S-TAP = MDE Screening TAP.
(7) Per Title V Permit, Sulfur fuel content for No. 2 fuel oil is less than 0.3%.

Table 6 - Internal Combustion Sources Emissions Factors
Naval Support Activity Bethesda (NSAB), Bethesda, MD
Last Updated - 2/7/2020

	Emission Units	Engines <600 bhp	Engines >600 bhp
	Fuel Type	No. 2 Oil	No. 2 Oil
	Source	AP-42 Chapter 3.3: Tables 3.3-1 and 3.3-2	AP-42 Chapter 3.4: Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4
	Units	lb/hp-hr	lb/hp-hr
Pollutant & CAS Number		Criteria Pollutants	
NOx	N/A	0.0310	0.0240
CO	630-08-0	0.00668	0.0055
NMTOC/VOC ⁽²⁾	N/A	0.0025141	6.416E-04
SO2/SO3 (0.3wt%)	7446-09-5	0.00205	0.002427
SO2/SO3 (ULSD)	7446-09-5	0.00205	0.000012
PM - Filterable	N/A	0.0022	0.000434
PM10 - Filterable	N/A	0.0022	0.0003472
PM2.5 - Filterable	N/A	0.0022	0.0003353
PM Condensable	N/A	-	0.0000539
Pollutant & CAS Number		GHGs	
CO2	124-38-9	1.15	1.16
CH4	74-82-8	-	6.345E-05
N2O	10024-97-2	-	-
Pollutant & CAS Number		HAP/TAP Pollutants	
1,3-Butadiene	106-99-0	2.737E-07	-
Acenaphthene	83-32-9	9.940E-09	3.276E-08
Acenaphthylene	208-96-8	3.542E-08	6.461E-08
Acetaldehyde	75-07-0	5.369E-06	1.764E-07
Acrolein	107-02-8	6.475E-07	5.516E-08
Aldehydes	75-07-0	4.900E-04	-
Anthracene	120-12-7	1.309E-08	8.610E-09
Benz(a)anthracene	56-55-3	1.176E-08	4.354E-09
Benzene	71-43-2	6.531E-06	5.432E-06
Benzo(a)pyrene	50-32-8	1.316E-09	1.799E-09
Benzo(b)fluoranthene	205-99-2	6.937E-10	7.770E-09
Benzo(g,h,i)perylene	191-24-2	3.423E-09	3.892E-09
Benzo(k)fluoranthene	207-08-9	1.085E-09	1.526E-09
Chrysene	218-01-9	2.471E-09	1.071E-08
Dibenzo(a,h)anthracene	53-70-3	4.081E-09	2.422E-09
Fluoranthene	206-44-0	5.327E-08	2.821E-08
Fluorene	86-73-7	2.044E-07	8.960E-08
Formaldehyde	50-00-0	8.260E-06	5.523E-07
Indeno(1,2,3-cd)pyrene	193-39-5	2.625E-09	2.898E-09
Naphthalene	91-20-3	5.936E-07	9.100E-07
Phenathrene	85-01-8	2.058E-07	2.856E-07
Pyrene	129-00-0	3.346E-08	2.597E-08
Toluene	108-88-3	2.863E-06	1.967E-06
Xylenes	1330-20-7	1.995E-06	1.351E-06

Notes:

(1) NMTOC/VOC emission factor for diesel engines < 600 bhp are TOC emission factors taken from AP-42 Table Table 3.3-1. No NMTOC/VOC factor available.

(2) lb/hp-hr EF were converted from lb/MMBtu Efs using the conversion factor of 7,000 BTU/hp-hr as stated in note a of AP-42 table 3.3-1.

(3) Emission Factors for Diesel engines < 600 bhp taken from AP-42 Chapter 3.3 Tables 3.3-1 and 3.3-2.

(4) Emission Factors for diesel engines > 600 bhp taken from AP-42 Chapter 3.4 Tables 3.4-1, 3.4-2, 3.4-3 and 3.4-4.

(5) HAP = Federal HAP, F4-TAP = MDE Form 4 TAP; C1-TAP = MDE Class 1 TAP; C2-TAP = MDE Class 2 TAP; S-TAP = MDE Screening TAP.

(6) Sulfur fuel content for NO. 2 fuel oil is less than 0.3% for Subpart ZZZZ and 0.0015% for Subpart IIII engines.

Table 7 - Underground Storage Tank Emissions Factors
Naval Support Activity Bethesda (NSAB), Bethesda, MD
Last Updated - 4/23/2020

Equipment	Units	Criteria Pollutants								GHGs		
		NOx	CO	NMTOC/VOC	SO2/SO3	PM - Filterable	PM10 - Filterable	PM2.5 - Filterable	PM Condensable	CO2	CH4	N2O
USTs	lb/1000 gal	-	-	3.1	-	-	-	-	-	-	-	-

Notes:
(1) Emission Factors for USTs taken from AP-42 Chapter 5.2, Table 5.2-7
(2) Emission factor includes factors for balanced submerged fillings, Underground tank breathing and emptying, displacement losses (controlled), and spillage

HAP Vapor Profile for Gasoline

Pollutant	2,2,4 - Trimethylpentane	Benzene	Ethylbenzene	Hexane	POM as 16-PAH	Toluene	Xylenes
CAS	110-54-3	71-43-2	100-41-4	110-54-3	N/A	108-88-3	1330-20-7
Unleaded Gasoline (wt %)	0.8%	0.9%	0.1%	1.6%	0.5%	1.3%	0.5%

Notes:
(1) Source: <http://www.epa.gov/ttnchie1/conference/ei12/area/johnson.pdf>

Appendix E
Emissions Certification Report (2019)

2019 NSAB Annual Emissions Certification Report



NAVAL SUPPORT ACTIVITY BETHESDA

BETHESDA, MARYLAND

(PREVIOUSLY NATIONAL NAVAL MEDICAL CENTER)

Due: April 1, 2020

TABLE OF CONTENTS

1.0	MDE FORMS 1-6	1-1
2.0	SOURCE CHARACTERIZATION	2-1
2.1	BACKGROUND INFORMATION	2-2
2.2	PURPOSE AND REPORT ORGANIZATION	2-2
2.3	EMISSION SOURCES	2-3
2.4	EMISSIONS ESTIMATION METHODOLOGY	2-7
2.5	TOXIC AIR POLLUTANTS/HAZARDOUS AIR POLLUTANTS	2-8
3.0	SUPPORTING CALCULATIONS AND EMISSION FACTORS	3-1

1.0

MDE FORMS 1-6

Facility information and report certification are included in Form 1. Form 2 and Form 3 include the operating schedule and actual daily and annual criteria pollutant emissions. Form 4 includes the actual daily and annual toxic air pollutant (TAPs) emissions. The list of billable TAPs is included in Form 5. Form 6 includes the actual greenhouse gas emissions.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard, Suite 715 • Baltimore Maryland 21230-1720
410-537-3000 • 1-800-633-6101 • <http://www.mde.state.md.us>
Air and Radiation Management Administration
Air Quality Compliance Program
410-537-3220

FORM 1:

GENERAL FACILITY INFORMATION
EMISSION CERTIFICATION REPORT

Calendar Year: **2019**

A. FACILITY IDENTIFICATION				Do Not Write in This Space	
Facility Name Naval Support Activity Bethesda (NSAB)				Date Received Regional:	
Address Public Works Department, 4655 Taylor Road, Bldg 27, 2nd Floor				Date Received State:	
City Bethesda	County Montgomery	Zip Code 20899-5639		AIRS Code:	
B. Briefly Describe the Major Function of the Facility				FINDS Code:	
The Naval Support Activity Bethesda (NSAB) facility acts as a Hospital, Medical School, and Research Facility.				SIC Code:	
				Facility Number:	
				TEMPO ID:	
C. SEASONAL PRODUCTION (% if applicable)				Reviewed Name Date	
Winter (Dec. - Feb.) 32%	Spring (Mar - May) 25%	Summer (Jun - Aug) 18%	Fall (Sept - Nov) 25%		
D. Explain Any Increase/Decrease of Emissions From Previous Calendar Year for Each Registration at this premises.					
Natural gas is the primary fuel for the five Utilities boilers, the Navy Lodge water heater, and the three NEX boilers at the NSAB facility. The combined natural gas use from the boilers and the water heater decreased from 692 MMscf in 2018 to 680 MMscf in 2019. Ultra-low sulfur No. 2 fuel oil is used as the secondary fuel source for the five Utilities boilers. The combined No. 2 fuel oil from the boilers increased from 30.7 MGal in 2018 to 77.4 MGal in 2019. All emergency generators burned only ultra-low sulfur diesel (15 ppm). Total combined operational hours for the 31 registered emergency generators decreased from 867 hours in 2018 to 499 hours in 2019. The increase in fuel oil usage from the five Utility boilers contributed to the facility-wide increase in NOx emissions by 21% and SOx emissions by 47%.					
E. CONTROL DEVICE INFORMATION (for NOx and VOC sources only)					
Control Device		Capture Efficiency		Removal Efficiency	
Control Devices: Low NO _x Burners and Flue Gas Recirculation Pollutant Controlled: NO _x Registration Nos.: 5-1264, 5-1263, 5-1241, 5-1242, and 5-2233 Description: Boilers 1-5		100%		68%	
Control Devices: Low NO _x Burner Pollutant Controlled: NO _x Registration Nos.: 5-2233 Description: Water Heater 52-01C		100%		50%	
I am familiar with the premises and the installations and sources for which this report is submitted. I have personally examined the information in this report, which consists of <u>47</u> pages (including attachments), and certify that the information is correct to the best of my knowledge.					
CDR Marc Bernath Name (Print/Type)		Commander, Public Works Officer Title		Date	
					
Signature		(301) 295-0873 Telephone Number			

1/9/08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB) Facility ID: 24-031-01124 Pollutant: CO

Equipment Description / Registration Number	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)				TOSD	Operating Schedule			Estimation Method
				Tons/yr	lbs/dy	Hrs/dy	Days/wk	Wks/yr	Days/yr	lbs/day	Hrs/dy	Start	End	
5-1264	1-02-006-02	NG	s	11.4	68.3	24	6.09	55	335	n/a	24	0000	2400	C3
EU: 16-01B - Boiler No. 1	1-02-005-02	Diesel		0.052	21.0	6.67	5	1	5	n/a				C3
5-1263	1-02-006-02	NG	s	6.88	63.1	24	5.74	38	218	n/a	24	0000	2400	C3
EU: 16-02B - Boiler No. 2	1-02-005-02	Diesel		0.063	25.3	10	5	1	5	n/a				C3
5-1241	1-02-006-02	NG	s	4.73	78.1	24	6.05	20	121	n/a	24	0000	2400	C3
EU: 16-03B - Boiler No. 3	1-02-005-02	Diesel		0.023	22.9	6.67	2	1	2	n/a				C3
5-1242	1-02-006-02	NG	s	3.11	59.9	24	5.78	18	104	n/a	24	0000	2400	C3
EU: 16-04B Boiler No. 4	1-02-005-02	Diesel		0.030	15.2	6.67	4	1	4	n/a				C3
5-2233	1-02-006-02	NG	s	2.29	53.8	24	5.31	16	85	n/a	24	0000	2400	C3
EU: 16-05B - Boiler No. 5	1-02-005-02	Diesel		0.024	12.2	6.67	4	1	4	n/a				C3
5-2256	1-02-006-03	NG	s	0.016	0.087	24	7	52	365	n/a	24	0000	2400	C3
EU: 52-01C - Water Heater No. 1														
9-0628	4-06-004-02	Gasoline	s	0	0	24	7	52	365	n/a	24	0000	2400	C3
EU: 51A-01 - Gasoline Dis. NEXCOM														
9-0804	2-02-004-01	Diesel	s	8.60E-03	2.87	0.767	1.00	6	6	n/a	24	0000	2400	C3
EU: 07-01G - Emergency Generator														
9-0805	2-02-004-01	Diesel	s	0.026	4.36	1.22	1.00	12	12	n/a	24	0000	2400	C3
EU: 53-01G - Emergency Generator														
9-0806 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	n/a	24	0000	2400	C3
EU: 16-01G - Emergency Generator														
9-1183	2-02-004-01	Diesel	s	0.021	3.78	0.909	1.00	11	11	n/a	24	0000	2400	C3
EU: 16-01H - Emergency Generator														
9-0807 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	n/a	24	0000	2400	C3
EU: 16-02G - Emergency Generator														
9-1184	2-02-004-01	Diesel	s	0.022	3.96	0.955	1.00	11	11	n/a	24	0000	2400	C3
EU: 16-02H - Emergency Generator														
9-0811 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	n/a	24	0000	2400	C7
EU: 01-01G - Emergency Generator														
9-0949	2-02-004-01	Diesel	s	0.081	14.8	2.22	1.00	11	11	n/a	24	0000	2400	C3
EU: 27-01 A - Emergency Generator														
9-0961	2-02-004-01	Diesel	s	0.026	5.86	1.72	1.00	9	9	n/a	24	0000	2400	C3
EU: 71B-01H - Emergency Generator														
9-0962	2-02-004-01	Diesel	s	0.053	11.8	3.46	1.00	9	9	n/a	24	0000	2400	C3
EU: 72C-02 H - Emergency Generator														
9-0963	2-02-004-01	Diesel	s	0.235	42.7	3.52	1.00	11	11	n/a	24	0000	2400	C3
EU: 55-03 H - Emergency Generator														
9-0964	2-02-004-01	Diesel	s	0.323	64.6	4.02	1.00	10	10	n/a	24	0000	2400	C3
EU: 63-01G - Emergency Generator														
9-0966	2-02-004-01	Diesel	s	0.241	43.8	3.61	1.00	11	11	n/a	24	0000	2400	C3
EU: 55-01 H - Emergency Generator														
9-0967	2-02-004-01	Diesel	s	0.236	42.9	3.54	1.00	11	11	n/a	24	0000	2400	C3
EU: 55-02 H - Emergency Generator														
9-0970	2-02-004-01	Diesel	s	0.005	1.56	0.41	1.00	7	7	n/a	24	0000	2400	C3
EU: 51-01G - Emergency Generator														
9-1008	2-02-004-01	Diesel	s	0.079	14.4	2.89	1.00	11	11	n/a	24	0000	2400	C3
EU: 17-01 - Emergency Generator														
9-1009	2-02-004-01	Diesel	s	0.113	20.6	4.15	1.00	11	11	n/a	24	0000	2400	C3
EU: 62-02G - Emergency Generator														
9-1010	2-02-004-01	Diesel	s	0.338	67.5	4.20	1.00	10	10	n/a	24	0000	2400	C3
EU: 63-02H - Emergency Generator														
9-1024	2-02-004-01	Diesel	s	0.232	42.2	3.48	1.00	11	11	n/a	24	0000	2400	C3
EU: 55-04H - Emergency Generator														
9-1003 (Out of Service)	2-02-004-01	Diesel	s	0	0	0	0	0	0	n/a	24	0000	2400	C3
EU: 44-02G - Emergency Generator														
9-1004	2-02-004-01	Diesel	s	0.010	6.71	1.00	1.00	3	3	n/a	24	0000	2400	C3
EU: 44-01G - Emergency Generator														
9-1005	2-02-004-01	Diesel	s	0.054	17.9	2.67	1.00	6	6	n/a	24	0000	2400	C3
EU: 47-01G - Emergency Generator														
9-1034	2-02-004-01	Diesel	s	0.123	24.6	1.01	1.00	10	10	n/a	24	0000	2400	C3
EU: 16-01C - Emergency Generator														
9-0960	2-02-004-01	Diesel	s	0.041	8.24	2.26	1.00	10	10	n/a	24	0000	2400	C3
EU: 70A-01H - Emergency Generator														
9-1132 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	n/a	24	0000	2400	C7
EU: 16-03G - Emergency Generator														
9-1128 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	n/a	24	0000	2400	C7
EU: 01-02G - Emergency Generator														
9-1138	2-02-004-01	Diesel	s	0.004	1.12	0.271	1.00	7	7	n/a	24	0000	2400	C3
EU: 202-01H - Emergency Generator														
9-1140	2-02-004-01	Diesel	s	0.026	7.57	1.54	1.00	7	7	n/a	24	0000	2400	C3
EU: 01-01H - Emergency Generator														
9-1179	2-02-004-01	Diesel	s	0.011	4.38	1.20	1.00	5	5	n/a	24	0000	2400	C3
EU: 45-01A - Emergency Generator														
5-2407	1-02-006-03	NG	s	0.030	0.163	24	7	52	365	n/a	24	0000	2400	C3
EU: 82-B-1 - NEX Boiler 1														
5-2408	1-02-006-03	NG	s	0.030	0.163	24	7	52	365	n/a	24	0000	2400	C3
EU: 82-B-2 - NEX Boiler 2														
5-2409	1-02-006-03	NG	s	0.030	0.163	24	7	52	365	n/a	24	0000	2400	C3
EU: 82-B-3 - NEX Boiler 3														
Totals				31.1	782					n/a				

s - Stack Emissions f - Fugitive Emissions Daily emissions (lbs/dy) are lbs/operating day of the source

TOSD: Typical Ozone Season day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperature (April - September). This section needs to be completed only for VOC and Nox sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method

A1 - U.S. EPA Reference Method
A2 - Other Particulate Sampling Train
A3 - Liquid Absorption Technique
A4 - Solid Absorption Technique
A5 - Freezing-Out Technique
A9 - Other, Specify

C1 - User calculated based on source test or other measurement.
C2 - User calculated based on material balance using engineering knowledge of the process.
C3 - User calculated based on AP-42.
C4 - User calculated by best guess / engineering judgment.

C5 - User calculated based on a State or local agency factor.
C6 - New Construction, not operational.
C7 - Source closed, operation ceased.
C8 - Computer calculated based on standard.

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB)					Facility ID: 24-031-01124					Pollutant: NOx				
Equipment Description / Registration Number	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)				TOSD	Operating Schedule			Estimation Method
				Tons/yr	lbs/dy	Hrs/dy	Days/wk	Wks/yr	Days/yr	lbs/day	Hrs/dy	Start	End	
5-1264	1-02-006-02	NG	s	4.17	24.9	24	6.09	55	335	23.0	24	0000	2400	C1
EU: 16-01B - Boiler No. 1	1-02-005-02	Diesel		0.068	27.0	6.67	5.0	1	5	0				C1
5-1263	1-02-006-02	NG	s	2.59	23.8	24	5.74	38	218	23.3	24	0000	2400	C1
EU: 16-02B - Boiler No. 2	1-02-005-02	Diesel		0.092	36.8	10.0	5.0	1	5	0				C1
5-1241	1-02-006-02	NG	s	1.44	23.7	24	6.05	20	121	19.3	24	0000	2400	C1
EU: 16-03B - Boiler No. 3	1-02-005-02	Diesel		0.026	25.7	6.67	2.0	1	2	0				C1
5-1242	1-02-006-02	NG	s	1.058	20.4	24	5.78	18	104	10.1	24	0000	2400	C1
EU: 16-04B Boiler No. 4	1-02-005-02	Diesel		0.034	17.1	6.67	4.0	1	4	0				C1
5-2233	1-02-006-02	NG	s	0.72	17.0	24	5.31	16	85	10.2	24	0000	2400	C1
EU: 16-05B - Boiler No. 5	1-02-005-02	Diesel		0.035	17.5	6.67	4.0	1	4	0				C1
5-2256	1-02-006-03	NG	s	0.009	0.052	24	7	52	365	0.037	24	0000	2400	C3
EU: 52-01C - Water Heater No. 1														
9-0628	4-06-004-02	Gasoline	s	0	0	24	7	52	365	0	24	0000	2400	C3
EU: 51A-01 - Gasoline Dis. NEXCOM														
9-0804	2-02-004-01	Diesel	s	0.038	12.5	0.77	1.00	6	6	6.53	24	0000	2400	C3
EU: 07-01G - Emergency Generator														
9-0805	2-02-004-01	Diesel	s	0.121	20.2	1.22	1.00	12	12	15.2	24	0000	2400	C3
EU: 53-01G - Emergency Generator														
9-0806 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	24	0000	2400	C3
EU: 16-01G - Emergency Generator														
9-1183	2-02-004-01	Diesel	s	0.091	16.5	0.909	1.00	11	11	18.1	24	0000	2400	C3
EU: 16-01H - Emergency Generator														
9-0807 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	24	0000	2400	C3
EU: 16-02G - Emergency Generator														
9-1184	2-02-004-01	Diesel	s	0.095	17.3	0.955	1.00	11	11	16.6	24	0000	2400	C3
EU: 16-02H - Emergency Generator														
9-0811 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	24	0000	2400	C7
EU: 01-01G - Emergency Generator														
9-0949	2-02-004-01	Diesel	s	0.355	64.6	2.22	1.00	11	11	52.0	24	0000	2400	C3
EU: 27-01 A - Emergency Generator														
9-0961	2-02-004-01	Diesel	s	0.115	25.6	1.72	1.00	9	9	33.4	24	0000	2400	C3
EU: 71B-01H - Emergency Generator														
9-0962	2-02-004-01	Diesel	s	0.231	51.3	3.46	1.00	9	9	60.9	24	0000	2400	C3
EU: 72C-02 H - Emergency Generator														
9-0963	2-02-004-01	Diesel	s	1.02	186	3.52	1.00	11	11	194	24	0000	2400	C3
EU: 55-03 H - Emergency Generator														
9-0964	2-02-004-01	Diesel	s	1.41	282	4.02	1.00	10	10	234	24	0000	2400	C3
EU: 63-01G - Emergency Generator														
9-0966	2-02-004-01	Diesel	s	1.05	191	3.61	1.00	11	11	202	24	0000	2400	C3
EU: 55-01 H - Emergency Generator														
9-0967	2-02-004-01	Diesel	s	1.03	187	3.54	1.00	11	11	194	24	0000	2400	C3
EU: 55-02 H - Emergency Generator														
9-0970	2-02-004-01	Diesel	s	0.024	6.81	0.414	1.00	7	7	3.70	24	0000	2400	C3
EU: 51-01G - Emergency Generator														
9-1008	2-02-004-01	Diesel	s	0.345	62.7	2.89	1.00	11	11	49.5	24	0000	2400	C3
EU: 17-01 - Emergency Generator														
9-1009	2-02-004-01	Diesel	s	0.495	90.0	4.15	1.00	11	11	76.6	24	0000	2400	C3
EU: 62-02G - Emergency Generator														
9-1010	2-02-004-01	Diesel	s	1.47	295	4.20	1.00	10	10	239	24	0000	2400	C3
EU: 63-02H - Emergency Generator														
9-1024	2-02-004-01	Diesel	s	1.01	184	3.48	1.00	11	11	192	24	0000	2400	C3
EU: 55-04H - Emergency Generator														
9-1003 (Out of Service)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	24	0000	2400	C3
EU: 44-02G - Emergency Generator														
9-1004	2-02-004-01	Diesel	s	0.044	29.3	1.00	1.00	3	3	17.6	24	0000	2400	C3
EU: 44-01G - Emergency Generator														
9-1005	2-02-004-01	Diesel	s	0.234	78.1	2.67	1.00	6	6	29.3	24	0000	2400	C3
EU: 47-01G - Emergency Generator														
9-1034	2-02-004-01	Diesel	s	0.536	107	1.01	1.00	10	10	151	24	0000	2400	C3
EU: 16-01C - Emergency Generator														
9-0960	2-02-004-02	Diesel	s	0.191	38.3	2.26	1.00	10	10	35.5	24	0000	2400	C3
EU: 70A-01H - Emergency Generator														
9-1132 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	24	0000	2400	C7
EU: 16-03G - Emergency Generator														
9-1128 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	24	0000	2400	C7
EU: 01-02G - Emergency Generator														
9-1138	2-02-004-01	Diesel	s	0.017	4.90	0.271	1.00	7	7	3.13	24	0000	2400	C3
EU: 202-01H - Emergency Generator														
9-1140	2-02-004-01	Diesel	s	0.116	33.0	1.54	1.00	7	7	5.38	24	0000	2400	C3
EU: 01-01H - Emergency Generator														
9-1179	2-02-004-01	Diesel	s	0.051	20.3	1.20	1.00	5	5	16.9	24	0000	2400	C3
EU: 45-01A - Emergency Generator														
5-2407	1-02-006-03	NG	s	0.035	0.194	24	7	52	365	0.054	24	0000	2400	C3
EU: 82-B-1 - NEX Boiler 1														
5-2408	1-02-006-03	NG	s	0.035	0.194	24	7	52	365	0.054	24	0000	2400	C3
EU: 82-B-2 - NEX Boiler 2														
5-2409	1-02-006-03	NG	s	0.035	0.194	24	7	52	365	0.054	24	0000	2400	C3
EU: 82-B-3 - NEX Boiler 3														
Totals				20.4	2132					1933				

s - Stack Emissions f - Fugitive Emissions Daily emissions (lbs/dy) are lbs/operating day of the source

TOSD: Typical Ozone Season day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperature (April - September). This section needs to be completed only for VOC and Nox sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method

A1 - U.S. EPA Reference Method
A2 - Other Particulate Sampling Train
A3 - Liquid Absorption Technique
A4 - Solid Absorption Technique
A5 - Freezing-Out Technique
A9 - Other, Specify

C1 - User calculated based on source test or other measurement.
C2 - User calculated based on material balance using engineering knowledge of the process.
C3 - User calculated based on AP-42.
C4 - User calculated by best guess / engineering judgment.

C5 - User calculated based on a State or local agency factor.
C6 - New Construction, not operational.
C7 - Source closed, operation ceased.
C8 - Computer calculated based on standard.

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB)							Facility ID: 24-031-01124			Pollutant: SOx				
Equipment Description / Registration Number	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)				TOSD	Operating Schedule			Estimation Method
				Tons/yr	lbs/dy	Hrs/dy	Days/wk	Wks/yr	Days/yr	lbs/day	Hrs/dy	Start	End	
5-1264	1-02-006-02	NG	s	0.082	0.488	24	6.09	55	335	n/a	24	0000	2400	C3
EU: 16-01B - Boiler No. 1	1-02-005-02	Diesel		0.002	0.894	6.67	5.0	1	5	n/a				C3
5-1263	1-02-006-02	NG	s	0.049	0.451	24	5.74	38	218	n/a	24	0000	2400	C3
EU: 16-02B - Boiler No. 2	1-02-005-02	Diesel		0.003	1.08	10.0	5.0	1	5	n/a				C3
5-1241	1-02-006-02	NG	s	0.034	0.558	24	6.05	20	121	n/a	24	0000	2400	C3
EU: 16-03B - Boiler No. 3	1-02-005-02	Diesel		0.001	0.977	6.67	2.0	1	2	n/a				C3
5-1242	1-02-006-02	NG	s	0.022	0.428	24	5.78	18	104	n/a	24	0000	2400	C3
EU: 16-04B Boiler No. 4	1-02-005-02	Diesel		0.001	0.649	6.67	4.0	1	4	n/a				C3
5-2233	1-02-006-02	NG	s	0.016	0.385	24	5.31	16	85	n/a	24	0000	2400	C3
EU: 16-05B - Boiler No. 5	1-02-005-02	Diesel		0.001	0.522	6.67	4.0	1	4	n/a				C3
5-2256	1-02-006-03	NG	s	1.14E-04	6.22E-04	24	7	52	365	n/a	24	0000	2400	C3
EU: 52-01C - Water Heater No. 1														
9-0628	4-06-004-02	Gasoline	s	0	0	24	7	52	365	n/a	24	0000	2400	C3
EU: 51A-01 - Gasoline Dis. NEXCOM														
9-0804	2-02-004-01	Diesel	s	3.80E-03	1.27	0.77	1.00	6	6	n/a	24	0000	2400	C3
EU: 07-01G - Emergency Generator														
9-0805	2-02-004-01	Diesel	s	0.008	1.34	1.22	1.00	12	12	n/a	24	0000	2400	C3
EU: 53-01G - Emergency Generator														
9-0806 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	n/a	24	0000	2400	C3
EU: 16-01G - Emergency Generator														
9-1183	2-02-004-01	Diesel	s	0.009	1.67	0.91	1.00	11	11	n/a	24	0000	2400	C3
EU: 16-01H - Emergency Generator														
9-0807 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	n/a	24	0000	2400	C3
EU: 16-02G - Emergency Generator														
9-1184	2-02-004-01	Diesel	s	0.010	1.75	0.95	1.00	11	11	n/a	24	0000	2400	C3
EU: 16-02H - Emergency Generator														
9-0811 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	n/a	24	0000	2400	C7
EU: 01-01G - Emergency Generator														
9-0949	2-02-004-01	Diesel	s	0.036	6.54	2.22	1.00	11	11	n/a	24	0000	2400	C3
EU: 27-01 A - Emergency Generator														
9-0961	2-02-004-01	Diesel	s	0.012	2.59	1.72	1.00	9	9	n/a	24	0000	2400	C3
EU: 71B-01H - Emergency Generator														
9-0962	2-02-004-01	Diesel	s	0.023	5.19	3.46	1.00	9	9	n/a	24	0000	2400	C3
EU: 72C-02 H - Emergency Generator														
9-0963	2-02-004-01	Diesel	s	0.104	18.8	3.52	1.00	11	11	n/a	24	0000	2400	C3
EU: 55-03 H - Emergency Generator														
9-0964	2-02-004-01	Diesel	s	0.143	28.5	4.02	1.00	10	10	n/a	24	0000	2400	C3
EU: 63-01G - Emergency Generator														
9-0966	2-02-004-01	Diesel	s	0.106	19.3	3.61	1.00	11	11	n/a	24	0000	2400	C3
EU: 55-01 H - Emergency Generator														
9-0967	2-02-004-01	Diesel	s	0.104	18.9	3.54	1.00	11	11	n/a	24	0000	2400	C3
EU: 55-02 H - Emergency Generator														
9-0970	2-02-004-01	Diesel	s	0.002	0.689	0.41	1.00	7	7	n/a	24	0000	2400	C3
EU: 51-01G - Emergency Generator														
9-1008	2-02-004-01	Diesel	s	0.035	6.34	2.89	1.00	11	11	n/a	24	0000	2400	C3
EU: 17-01 - Emergency Generator														
9-1009	2-02-004-01	Diesel	s	0.050	9.11	4.15	1.00	11	11	n/a	24	0000	2400	C3
EU: 62-02G - Emergency Generator														
9-1010	2-02-004-01	Diesel	s	0.149	29.8	4.20	1.00	10	10	n/a	24	0000	2400	C3
EU: 63-02H - Emergency Generator														
9-1024	2-02-004-01	Diesel	s	0.103	18.6	3.48	1.00	11	11	n/a	24	0000	2400	C3
EU: 55-04H - Emergency Generator														
9-1003 (Out of Service)	2-02-004-01	Diesel	s	0	0	0	0	0	0	n/a	24	0000	2400	C3
EU: 44-02G - Emergency Generator														
9-1004	2-02-004-01	Diesel	s	0.004	2.96	1.00	1.00	3	3	n/a	24	0000	2400	C3
EU: 44-01G - Emergency Generator														
9-1005	2-02-004-01	Diesel	s	0.024	7.90	2.67	1.00	6	6	n/a	24	0000	2400	C3
EU: 47-01G - Emergency Generator														
9-1034	2-02-004-01	Diesel	s	0.054	10.8	1.01	1.00	10	10	n/a	24	0000	2400	C3
EU: 16-01C - Emergency Generator														
9-0960	2-02-004-01	Diesel	s	0.013	2.53	2.26	1.00	10	10	n/a	24	0000	2400	C3
EU: 70A-01H - Emergency Generator														
9-1132 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	n/a	24	0000	2400	C7
EU: 16-03G - Emergency Generator														
9-1128 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	n/a	24	0000	2400	C7
EU: 01-02G - Emergency Generator														
9-1138	2-02-004-01	Diesel	s	0.002	0.495	0.27	1.00	7	7	n/a	24	0000	2400	C3
EU: 202-01H - Emergency Generator														
9-1140	2-02-004-01	Diesel	s	0.012	3.34	1.54	1.00	7	7	n/a	24	0000	2400	C3
EU: 01-01H - Emergency Generator														
9-1179	2-02-004-01	Diesel	s	0.003	1.34	1.20	1.00	5	5	n/a	24	0000	2400	C3
EU: 45-01A - Emergency Generator														
5-2407	1-02-006-03	NG	s	2.13E-04	0.001	24	7	52	365	n/a	24	0000	2400	C3
EU: 82-B-1 - NEX Boiler 1														
5-2408	1-02-006-03	NG	s	2.13E-04	0.001	24	7	52	365	n/a	24	0000	2400	C3
EU: 82-B-2 - NEX Boiler 2														
5-2409	1-02-006-03	NG	s	2.13E-04	0.001	24	7	52	365	n/a	24	0000	2400	C3
EU: 82-B-3 - NEX Boiler 3														
Totals				1.22	204					n/a				

s - Stack Emissions f - Fugitive Emissions Daily emissions (lbs/dy) are lbs/operating day of the source

TOSD: Typical Ozone Season day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperature (April - September). This section needs to be completed only for VOC and Nox sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method

- A1 - U.S. EPA Reference Method
A2 - Other Particulate Sampling Train
A3 - Liquid Absorption Technique
A4 - Solid Absorption Technique
A5 - Freezing-Out Technique
A9 - Other, Specify

- C1 - User calculated based on source test or other measurement.
C2 - User calculated based on material balance using engineering knowledge of the process.
C3 - User calculated based on AP-42.
C4 - User calculated by best guess / engineering judgment.

- C5 - User calculated based on a State or local agency factor.
C6 - New Construction, not operational.
C7 - Source closed, operation ceased.
C8 - Computer calculated based on standard.

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB)						Facility ID: 24-031-01124				Pollutant: VOC				
Equipment Description / Registration Number	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)				TOSD	Operating Schedule			Estimation Method
				Tons/yr	lbs/dy	Hrs/dy	Days/wk	Wks/yr	Days/yr	lbs/day	Hrs/dy	Start	End	
5-1264	1-02-006-02	NG	s	0.749	4.47	24	6.09	55	335	4.14	24	0000	2400	C3
EU: 16-01B - Boiler No. 1	1-02-005-02	Diesel		0.004	1.43	6.67	5.0	1	5	0				C3
5-1263	1-02-006-02	NG	s	0.450	4.13	24	5.74	38	218	4.06	24	0000	2400	C3
EU: 16-02B - Boiler No. 2	1-02-005-02	Diesel		0.004	1.72	10.0	5.0	1	5	0				C3
5-1241	1-02-006-02	NG	s	0.310	5.12	24	6.05	20	121	4.16	24	0000	2400	C3
EU: 16-03B - Boiler No. 3	1-02-005-02	Diesel		0.002	1.56	6.67	2.0	1	2	0				C3
5-1242	1-02-006-02	NG	s	0.204	3.92	24	5.78	18	104	1.95	24	0000	2400	C3
EU: 16-04B Boiler No. 4	1-02-005-02	Diesel		0.002	1.04	6.67	4.0	1	4	0				C3
5-2233	1-02-006-02	NG	s	0.150	3.53	24	5.31	16	85	2.11	24	0000	2400	C3
EU: 16-05B - Boiler No. 5	1-02-005-02	Diesel		0.002	0.833	6.67	4.0	1	4	0				C3
5-2256	1-02-006-03	NG	s	1.04E-03	0.006	24	7	52	365	0.004	24	0000	2400	C3
EU: 52-01C - Water Heater No. 1														
9-0628	4-06-004-02	Gasoline	s	2.56	14.0	24	7	52	365	14.3	24	0000	2400	C3
EU: 51A-01 - Gasoline Dis. NEXCOM														
9-0804	2-02-004-01	Diesel	s	0.001	0.334	0.767	1.00	6	6	0	24	0000	2400	C3
EU: 07-01G - Emergency Generator														
9-0805	2-02-004-01	Diesel	s	0.010	1.64	1.22	1.00	12	12	1.24	24	0000	2400	C3
EU: 53-01G - Emergency Generator														
9-0806 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	24	0000	2400	C3
EU: 16-01G - Emergency Generator														
9-1183	2-02-004-01	Diesel	s	0.002	0.440	0.909	1.00	11	11	0.484	24	0000	2400	C3
EU: 16-01H - Emergency Generator														
9-0807 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	24	0000	2400	C3
EU: 16-02G - Emergency Generator														
9-1184	2-02-004-01	Diesel	s	0.003	0.462	0.955	1.00	11	11	0.444	24	0000	2400	C3
EU: 16-02H - Emergency Generator														
9-0811 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	24	0000	2400	C7
EU: 01-01G - Emergency Generator														
9-0949	2-02-004-01	Diesel	s	0.010	1.73	2.22	1.00	11	11	1.39	24	0000	2400	C3
EU: 27-01 A - Emergency Generator														
9-0961	2-02-004-01	Diesel	s	0.003	0.684	1.72	1.00	9	9	0.894	24	0000	2400	C3
EU: 71B-01H - Emergency Generator														
9-0962	2-02-004-01	Diesel	s	0.006	1.37	3.46	1.00	9	9	1.63	24	0000	2400	C3
EU: 72C-02 H - Emergency Generator														
9-0963	2-02-004-01	Diesel	s	0.027	4.98	3.52	1.00	11	11	5.19	24	0000	2400	C3
EU: 55-03 H - Emergency Generator														
9-0964	2-02-004-01	Diesel	s	0.038	7.54	4.02	1.00	10	10	6.26	24	0000	2400	C3
EU: 63-01G - Emergency Generator														
9-0966	2-02-004-01	Diesel	s	0.028	5.11	3.61	1.00	11	11	5.40	24	0000	2400	C3
EU: 55-01 H - Emergency Generator														
9-0967	2-02-004-01	Diesel	s	0.028	5.00	3.54	1.00	11	11	5.19	24	0000	2400	C3
EU: 55-02 H - Emergency Generator														
9-0970	2-02-004-01	Diesel	s	0.001	0.182	0.414	1.00	7	7	0.099	24	0000	2400	C3
EU: 51-01G - Emergency Generator														
9-1008	2-02-004-01	Diesel	s	0.009	1.67	2.89	1.00	11	11	1.32	24	0000	2400	C3
EU: 17-01 - Emergency Generator														
9-1009	2-02-004-01	Diesel	s	0.013	2.41	4.15	1.00	11	11	2.05	24	0000	2400	C3
EU: 62-02G - Emergency Generator														
9-1010	2-02-004-01	Diesel	s	0.039	7.88	4.20	1.00	10	10	6.38	24	0000	2400	C3
EU: 63-02H - Emergency Generator														
9-1024	2-02-004-01	Diesel	s	0.027	4.93	3.48	1.00	11	11	5.14	24	0000	2400	C3
EU: 55-04H - Emergency Generator														
9-1003 (Out of Service)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	24	0000	2400	C3
EU: 44-02G - Emergency Generator														
9-1004	2-02-004-01	Diesel	s	0.001	0.783	1.00	1.00	3	3	0.470	24	0000	2400	C3
EU: 44-01G - Emergency Generator														
9-1005	2-02-004-01	Diesel	s	0.006	2.09	2.67	1.00	6	6	0.783	24	0000	2400	C3
EU: 47-01G - Emergency Generator														
9-1034	2-02-004-01	Diesel	s	0.014	2.87	1.01	1.00	10	10	4.03	24	0000	2400	C3
EU: 16-01C - Emergency Generator														
9-0960	2-02-004-01	Diesel	s	0.016	3.10	2.26	1.00	10	10	2.88	24	0000	2400	C3
EU: 70A-01H - Emergency Generator														
9-1132 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	24	0000	2400	C7
EU: 16-03G - Emergency Generator														
9-1128 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	24	0000	2400	C7
EU: 01-02G - Emergency Generator														
9-1138	2-02-004-01	Diesel	s	4.58E-04	0.131	0.271	1.00	7	7	0.084	24	0000	2400	C3
EU: 202-01H - Emergency Generator														
9-1140	2-02-004-01	Diesel	s	0.003	0.883	1.54	1.00	7	7	0.144	24	0000	2400	C3
EU: 01-01H - Emergency Generator														
9-1179	2-02-004-01	Diesel	s	4.12E-03	1.65	1.20	1.00	5	5	1.37	24	0000	2400	C3
EU: 45-01A - Emergency Generator														
5-2407	1-02-006-03	NG	s	0.002	0.011	24	7	52	365	0.003	24	0000	2400	C3
EU: 82-B-1 - NEX Boiler 1														
5-2408	1-02-006-03	NG	s	0.002	0.011	24	7	52	365	0.003	24	0000	2400	C3
EU: 82-B-2 - NEX Boiler 2														
5-2409	1-02-006-03	NG	s	0.002	0.011	24	7	52	365	0.003	24	0000	2400	C3
EU: 82-B-3 - NEX Boiler 3														
Totals				4.73	93.1					83.8				

s - Stack Emissions f - Fugitive Emissions Daily emissions (lbs/dy) are lbs/operating day of the source

TOSD: Typical Ozone Season day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperature (April - September). This section needs to be completed only for VOC and Nox sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method

A1 - U.S. EPA Reference Method
A2 - Other Particulate Sampling Train
A3 - Liquid Absorption Technique
A4 - Solid Absorption Technique
A5 - Freezing-Out Technique
A9 - Other, Specify

C1 - User calculated based on source test or other measurement.
C2 - User calculated based on material balance using engineering knowledge of the process.
C3 - User calculated based on AP-42.
C4 - User calculated by best guess / engineering judgment.

C5 - User calculated based on a State or local agency factor.
C6 - New Construction, not operational.
C7 - Source closed, operation ceased.
C8 - Computer calculated based on standard.

FORM 3:

EMISSIONS CERTIFICATION REPORT

Particulate Matter

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB)

Facility ID# 24-031-01124

Pollutant: PM

Equipment Description/ Registration No.	SCC Number	Fuel		PM - Filterable		PM 10 - Filterable		PM 2.5 - Filterable		PM - Condensable		Operation Days/yr	Emissions Methods
				Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day		
5-1264	1-02-006-02	NG	s	0.259	1.54	0.259	1.54	0.259	1.54	0.776	4.63	335	C3
EU: 16-01B - Boiler No. 1	1-02-005-02	Diesel		0.021	8.40	0.011	4.53	0.009	3.49	0.014	5.46	5	C3
5-1263	1-02-006-02	NG	s	0.156	1.43	0.156	1.43	0.156	1.43	0.467	4.28	218	C3
EU: 16-02B - Boiler No. 2	1-02-005-02	Diesel		0.025	10.1	0.014	5.46	0.010	4.20	0.016	6.58	5	C3
5-1241	1-02-006-02	NG	s	0.107	1.77	0.107	1.77	0.107	1.77	0.321	5.30	121	C3
EU: 16-03B - Boiler No. 3	1-02-005-02	Diesel		0.009	9.18	0.005	4.96	0.004	3.81	0.006	5.97	2	C3
5-1242	1-02-006-02	NG	s	0.070	1.35	0.070	1.35	0.070	1.35	0.211	4.06	104	C3
EU: 16-04B Boiler No. 4	1-02-005-02	Diesel		0.012	6.09	0.007	3.29	0.005	2.53	0.008	3.96	4	C3
5-2233	1-02-006-02	NG	s	0.052	1.22	0.052	1.22	0.052	1.22	0.155	3.65	85	C3
EU: 16-05B - Boiler No. 5	1-02-005-02	Diesel		0.010	4.90	0.005	2.65	0.004	2.03	0.006	3.18	4	C3
5-2256	1-02-006-03	NG	s	3.60E-04	0.002	3.60E-04	0.002	3.60E-04	0.002	0.001	0.006	365	C3
EU: 52-01C - Water Heater No. 1													
9-0628	4-06-004-02	Gasoline	s	0	0	0	0	0	0	0	0	365	C3
EU: 51A-01 - Gasoline Dis. NEXCOM													
9-0804	2-02-004-01	Diesel	s	6.79E-04	0.226	5.43E-04	0.181	5.24E-04	0.175	8.43E-05	0.028	6	C3
EU: 07-01G - Emergency Generator													
9-0805	2-02-004-01	Diesel	s	0.009	1.43	0.009	1.43	0.009	1.43	0.009	1.43	12	C3
EU: 53-01G - Emergency Generator													
9-0806 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	0	0	C3
EU: 16-01G - Emergency Generator													
9-1183	2-02-004-01	Diesel	s	0.002	0.298	0.001	0.238	0.001	0.230	2.03E-04	0.037	11	C3
EU: 16-01H - Emergency Generator													
9-0807 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	0	0	C3
EU: 16-02G - Emergency Generator													
9-1184	2-02-004-01	Diesel	s	0.002	0.313	0.001	0.250	0.001	0.242	2.14E-04	0.039	11	C3
EU: 16-02H - Emergency Generator													
9-0811 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	0	0	C7
EU: 01-01G - Emergency Generator													
9-0949	2-02-004-01	Diesel	s	0.006	1.17	0.005	0.935	0.005	0.903	7.98E-04	0.145	11	C3
EU: 27-01 A - Emergency Generator													
9-0961	2-02-004-01	Diesel	s	0.002	0.463	0.002	0.370	0.002	0.357	2.59E-04	0.057	9	C3
EU: 71B-01H - Emergency Generator													
9-0962	2-02-004-01	Diesel	s	0.004	0.928	0.003	0.743	0.003	0.717	5.19E-04	0.115	9	C3
EU: 72C-02 H - Emergency Generator													
9-0963	2-02-004-01	Diesel	s	0.019	3.37	0.015	2.69	0.014	2.60	0.002	0.418	11	C3
EU: 55-03 H - Emergency Generator													
9-0964	2-02-004-01	Diesel	s	0.025	5.10	0.020	4.08	0.020	3.94	0.003	0.633	10	C3
EU: 63-01G - Emergency Generator													
9-0966	2-02-004-01	Diesel	s	0.019	3.46	0.015	2.76	0.015	2.67	0.002	0.429	11	C3
EU: 55-01 H - Emergency Generator													
9-0967	2-02-004-01	Diesel	s	0.019	3.39	0.015	2.71	0.014	2.62	0.002	0.420	11	C3
EU: 55-02 H - Emergency Generator													
9-0970	2-02-004-01	Diesel	s	4.31E-04	0.123	0.000	0.099	0.000	0.095	5.35E-05	0.015	7	C3
EU: 51-01G - Emergency Generator													
9-1008	2-02-004-01	Diesel	s	0.006	1.13	0.005	0.906	0.005	0.875	7.74E-04	0.141	11	C3
EU: 17-01 - Emergency Generator													
9-1009	2-02-004-01	Diesel	s	0.009	1.63	0.007	1.30	0.007	1.26	0.001	0.202	11	C3
EU: 62-02G - Emergency Generator													
9-1010	2-02-004-01	Diesel	s	0.027	5.33	0.021	4.26	0.021	4.12	0.003	0.662	10	C3
EU: 63-02H - Emergency Generator													
9-1024	2-02-004-01	Diesel	s	0.018	3.33	0.015	2.67	0.014	2.58	0.002	0.414	11	C3
EU: 55-04H - Emergency Generator													
9-1003 (Out of Service)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	0	0	C3
EU: 44-02G - Emergency Generator													
9-1004	2-02-004-01	Diesel	s	0.001	0.529	6.35E-04	0.424	6.14E-04	0.409	9.86E-05	0.066	3	C3
EU: 44-01G - Emergency Generator													
9-1005	2-02-004-01	Diesel	s	0.004	1.41	0.003	1.13	0.003	1.09	5.26E-04	0.175	6	C3
EU: 47-01G - Emergency Generator													
9-1034	2-02-004-01	Diesel	s	0.010	1.94	0.008	1.55	0.007	1.50	0.001	0.241	10	C3
EU: 16-01C - Emergency Generator													
9-0960	2-02-004-01	Diesel	s	0.014	2.71	0.014	2.71	0.014	2.71	0.014	2.71	10	C3
EU: 70A-01H - Emergency Generator													
9-1132 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	0	0	C7
EU: 16-03G - Emergency Generator													
9-1128 (Removed from Facility)	2-02-004-01	Diesel	s	0	0	0	0	0	0	0	0	0	C7
EU: 01-02G - Emergency Generator													
9-1138	2-02-004-01	Diesel	s	3.10E-04	0.089	2.48E-04	0.071	2.40E-04	0.068	3.85E-05	0.011	7	C3
EU: 202-01H - Emergency Generator													
9-1140	2-02-004-01	Diesel	s	0.002	0.597	0.002	0.478	0.002	0.461	2.60E-04	0.074	7	C3
EU: 01-01H - Emergency Generator													
9-1179	2-02-004-01	Diesel	s	0.004	1.44	0.004	1.44	0.004	1.44	0.004	1.44	5	C3
EU: 45-01A - Emergency Generator													
5-2407	1-02-006-03	NG	s	6.73E-04	0.004	6.73E-04	0.004	6.73E-04	0.004	0.002	0.011	365	C3
EU: 82-B-1 - NEX Boiler 1													
5-2408	1-02-006-03	NG	s	6.73E-04	0.004	6.73E-04	0.004	6.73E-04	0.004	0.002	0.011	365	C3
EU: 82-B-2 - NEX Boiler 2													
5-2409	1-02-006-03	NG	s	6.73E-04	0.004	6.73E-04	0.004	6.73E-04	0.004	0.002	0.011	365	C3
EU: 82-B-3 - NEX Boiler 3													
Total				0.925	79.1	0.854	54.3	0.840	48.6	2.04	35.7		

S-Stack Emissions

F-Fugitive Emissions

Daily emissions (lbs/day) are lbs/operating day of the source

Fuel: Include emissions for each fuel used. If more than one fuel used, calculate and list emissions separately for each fuel.

Emission Estimation Method

A1-U.S. EPA Reference Method
A2- Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source
test or other measurement
C2-User calculated based on material balance
using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering
Judgement

C5-User calculated based on a State or local
agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standards

FORM 4:

TOXIC AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB) Facility ID: 24-031-01124 Pollutant: Acenaphthene *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	lbs/dy	lbs/hr		
5-1264	2.45E-07	1.46E-06	6.10E-08	n/a	n/a
EU: 16-01B - Boiler No. 1	2.21E-07	8.86E-05	3.69E-06		
5-1263	1.47E-07	1.35E-06	5.64E-08	n/a	n/a
EU: 16-02B - Boiler No. 2	2.67E-07	1.07E-04	4.45E-06		
5-1241	1.01E-07	1.67E-06	6.98E-08	n/a	n/a
EU: 16-03B - Boiler No. 3	9.68E-08	9.68E-05	4.03E-06		
5-1242	6.67E-08	1.28E-06	5.34E-08	n/a	n/a
EU: 16-04B Boiler No. 4	1.29E-07	6.43E-05	2.68E-06		
5-2233	4.90E-08	1.15E-06	4.81E-08	n/a	n/a
EU: 16-05B - Boiler No. 5	1.03E-07	5.17E-05	2.15E-06		
5-2256	3.41E-10	1.87E-09	7.78E-11	n/a	n/a
EU: 52-01C - Water Heater No. 1					
9-0628	0	0	0	n/a	n/a
EU: 51A-01 - Gasoline Dis. NEXCOM					
9-0804	5.12E-08	1.71E-05	2.23E-05	n/a	n/a
EU: 07-01G - Emergency Generator					
9-0805	3.89E-08	6.48E-06	5.33E-06	n/a	n/a
EU: 53-01G - Emergency Generator					
9-0806 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-01G - Emergency Generator					
9-1183	1.24E-07	2.25E-05	2.47E-05	n/a	n/a
EU: 16-01H - Emergency Generator					
9-0807 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-02G - Emergency Generator					
9-1184	1.30E-07	2.36E-05	2.47E-05	n/a	n/a
EU: 16-02H - Emergency Generator					
9-0811 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-01G - Emergency Generator					
9-0949	4.85E-07	8.82E-05	3.98E-05	n/a	n/a
EU: 27-01 A - Emergency Generator					
9-0961	1.57E-07	3.49E-05	2.03E-05	n/a	n/a
EU: 71B-01H - Emergency Generator					
9-0962	3.15E-07	7.01E-05	2.03E-05	n/a	n/a
EU: 72C-02 H - Emergency Generator					
9-0963	1.40E-06	2.54E-04	7.23E-05	n/a	n/a
EU: 55-03 H - Emergency Generator					
9-0964	1.92E-06	3.85E-04	9.58E-05	n/a	n/a
EU: 63-01G - Emergency Generator					
9-0966	1.43E-06	2.61E-04	7.23E-05	n/a	n/a
EU: 55-01 H - Emergency Generator					
9-0967	1.41E-06	2.56E-04	7.23E-05	n/a	n/a
EU: 55-02 H - Emergency Generator					
9-0970	3.25E-08	9.30E-06	2.24E-05	n/a	n/a
EU: 51-01G - Emergency Generator					
9-1008	4.70E-07	8.55E-05	2.96E-05	n/a	n/a
EU: 17-01 - Emergency Generator					
9-1009	6.76E-07	1.23E-04	2.96E-05	n/a	n/a
EU: 62-02G - Emergency Generator					
9-1010	2.01E-06	4.02E-04	9.58E-05	n/a	n/a
EU: 63-02H - Emergency Generator					
9-1024	1.38E-06	2.52E-04	7.23E-05	n/a	n/a
EU: 55-04H - Emergency Generator					
9-1003 (Out of Service)	0	0	0	n/a	n/a
EU: 44-02G - Emergency Generator					
9-1004	6.00E-08	4.00E-05	4.00E-05	n/a	n/a
EU: 44-01G - Emergency Generator					
9-1005	3.20E-07	1.07E-04	4.00E-05	n/a	n/a
EU: 47-01G - Emergency Generator					
9-1034	0	0	0	n/a	n/a
EU: 16-01C - Emergency Generator					
9-0960	6.13E-08	1.23E-05	5.43E-06	n/a	n/a
EU: 70A-01H - Emergency Generator					
9-1132 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-03G - Emergency Generator					
9-1128 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-02G - Emergency Generator					
9-1138	2.34E-08	6.69E-06	2.46E-05	n/a	n/a
EU: 202-01H - Emergency Generator					
9-1140	1.58E-07	4.51E-05	2.94E-05	n/a	n/a
EU: 01-01H - Emergency Generator					
9-1179	1.63E-08	6.51E-06	5.43E-06	n/a	n/a
EU: 45-01A - Emergency Generator					
5-2407	6.38E-10	3.49E-09	1.46E-10	n/a	n/a
EU: 82-B-1 - NEX Boiler 1					
5-2408	6.38E-10	3.49E-09	1.46E-10	n/a	n/a
EU: 82-B-2 - NEX Boiler 2					
5-2409	6.38E-10	3.49E-09	1.46E-10	n/a	n/a
EU: 82-B-3 - NEX Boiler 3					
Totals	0.00001	0.003	0.00103		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

** Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.

FORM 4:

TOXIC AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB) Facility ID: 24-031-01124 Pollutant: Acrolein *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	lbs/dy	lbs/hr		
5-1264	0	0	0	n/a	n/a
EU: 16-01B - Boiler No. 1	0	0	0		
5-1263	0	0	0	n/a	n/a
EU: 16-02B - Boiler No. 2	0	0	0		
5-1241	0	0	0	n/a	n/a
EU: 16-03B - Boiler No. 3	0	0	0		
5-1242	0	0	0	n/a	n/a
EU: 16-04B Boiler No. 4	0	0	0		
5-2233	0	0	0	n/a	n/a
EU: 16-05B - Boiler No. 5	0	0	0		
5-2256	0	0	0	n/a	n/a
EU: 52-01C - Water Heater No. 1					
9-0628	0	0	0	n/a	n/a
EU: 51A-01 - Gasoline Dis. NEXCOM					
9-0804	8.63E-08	2.88E-05	3.75E-05	n/a	n/a
EU: 07-01G - Emergency Generator					
9-0805	2.53E-06	4.22E-04	3.47E-04	n/a	n/a
EU: 53-01G - Emergency Generator					
9-0806 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-01G - Emergency Generator					
9-1183	2.08E-07	3.79E-05	4.16E-05	n/a	n/a
EU: 16-01H - Emergency Generator					
9-0807 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-02G - Emergency Generator					
9-1184	2.19E-07	3.98E-05	4.16E-05	n/a	n/a
EU: 16-02H - Emergency Generator					
9-0811 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-01G - Emergency Generator					
9-0949	8.17E-07	1.49E-04	6.70E-05	n/a	n/a
EU: 27-01 A - Emergency Generator					
9-0961	2.65E-07	5.88E-05	3.41E-05	n/a	n/a
EU: 71B-01H - Emergency Generator					
9-0962	5.31E-07	1.18E-04	3.41E-05	n/a	n/a
EU: 72C-02 H - Emergency Generator					
9-0963	2.35E-06	4.28E-04	1.22E-04	n/a	n/a
EU: 55-03 H - Emergency Generator					
9-0964	3.24E-06	6.48E-04	1.61E-04	n/a	n/a
EU: 63-01G - Emergency Generator					
9-0966	2.42E-06	4.39E-04	1.22E-04	n/a	n/a
EU: 55-01 H - Emergency Generator					
9-0967	2.37E-06	4.30E-04	1.22E-04	n/a	n/a
EU: 55-02 H - Emergency Generator					
9-0970	5.48E-08	1.57E-05	3.78E-05	n/a	n/a
EU: 51-01G - Emergency Generator					
9-1008	7.92E-07	1.44E-04	4.98E-05	n/a	n/a
EU: 17-01 - Emergency Generator					
9-1009	1.14E-06	2.07E-04	4.98E-05	n/a	n/a
EU: 62-02G - Emergency Generator					
9-1010	3.39E-06	6.77E-04	1.61E-04	n/a	n/a
EU: 63-02H - Emergency Generator					
9-1024	2.33E-06	4.24E-04	1.22E-04	n/a	n/a
EU: 55-04H - Emergency Generator					
9-1003 (Out of Service)	0	0	0	n/a	n/a
EU: 44-02G - Emergency Generator					
9-1004	1.01E-07	6.73E-05	6.73E-05	n/a	n/a
EU: 44-01G - Emergency Generator					
9-1005	5.38E-07	1.79E-04	6.73E-05	n/a	n/a
EU: 47-01G - Emergency Generator					
9-1034	0	0	0	n/a	n/a
EU: 16-01C - Emergency Generator					
9-0960	3.99E-06	7.99E-04	3.54E-04	n/a	n/a
EU: 70A-01H - Emergency Generator					
9-1132 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-03G - Emergency Generator					
9-1128 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-02G - Emergency Generator					
9-1138	3.94E-08	1.13E-05	4.15E-05	n/a	n/a
EU: 202-01H - Emergency Generator					
9-1140	2.66E-07	7.59E-05	4.94E-05	n/a	n/a
EU: 01-01H - Emergency Generator					
9-1179	1.06E-06	4.24E-04	3.54E-04	n/a	n/a
EU: 45-01A - Emergency Generator					
5-2407	0	0	0	n/a	n/a
EU: 82-B-1 - NEX Boiler 1					
5-2408	0	0	0	n/a	n/a
EU: 82-B-2 - NEX Boiler 2					
5-2409	0	0	0	n/a	n/a
EU: 82-B-3 - NEX Boiler 3					
Totals	0.00003	0.006	0.00273		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

** Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.

FORM 4:

TOXIC AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB) Facility ID: 24-031-01124 Pollutant: Arsenic *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	lbs/dy	lbs/hr		
5-1264	2.72E-05	1.63E-04	6.77E-06	n/a	n/a
EU: 16-01B - Boiler No. 1	5.88E-06	2.35E-03	9.80E-05		
5-1263	1.64E-05	1.50E-04	6.26E-06	n/a	n/a
EU: 16-02B - Boiler No. 2	7.08E-06	2.83E-03	1.18E-04		
5-1241	1.13E-05	1.86E-04	7.75E-06	n/a	n/a
EU: 16-03B - Boiler No. 3	2.57E-06	2.57E-03	1.07E-04		
5-1242	7.41E-06	1.43E-04	5.94E-06	n/a	n/a
EU: 16-04B Boiler No. 4	3.41E-06	1.71E-03	7.11E-05		
5-2233	5.45E-06	1.28E-04	5.34E-06	n/a	n/a
EU: 16-05B - Boiler No. 5	2.74E-06	1.37E-03	5.72E-05		
5-2256	3.79E-08	2.07E-07	8.64E-09	n/a	n/a
EU: 52-01C - Water Heater No. 1					
9-0628	0	0	0	n/a	n/a
EU: 51A-01 - Gasoline Dis. NEXCOM					
9-0804	0	0	0	n/a	n/a
EU: 07-01G - Emergency Generator					
9-0805	0	0	0	n/a	n/a
EU: 53-01G - Emergency Generator					
9-0806 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-01G - Emergency Generator					
9-1183	0	0	0	n/a	n/a
EU: 16-01H - Emergency Generator					
9-0807 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-02G - Emergency Generator					
9-1184	0	0	0	n/a	n/a
EU: 16-02H - Emergency Generator					
9-0811 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-01G - Emergency Generator					
9-0949	0	0	0	n/a	n/a
EU: 27-01 A - Emergency Generator					
9-0961	0	0	0	n/a	n/a
EU: 71B-01H - Emergency Generator					
9-0962	0	0	0	n/a	n/a
EU: 72C-02 H - Emergency Generator					
9-0963	0	0	0	n/a	n/a
EU: 55-03 H - Emergency Generator					
9-0964	0	0	0	n/a	n/a
EU: 63-01G - Emergency Generator					
9-0966	0	0	0	n/a	n/a
EU: 55-01 H - Emergency Generator					
9-0967	0	0	0	n/a	n/a
EU: 55-02 H - Emergency Generator					
9-0970	0	0	0	n/a	n/a
EU: 51-01G - Emergency Generator					
9-1008	0	0	0	n/a	n/a
EU: 17-01 - Emergency Generator					
9-1009	0	0	0	n/a	n/a
EU: 62-02G - Emergency Generator					
9-1010	0	0	0	n/a	n/a
EU: 63-02H - Emergency Generator					
9-1024	0	0	0	n/a	n/a
EU: 55-04H - Emergency Generator					
9-1003 (Out of Service)	0	0	0	n/a	n/a
EU: 44-02G - Emergency Generator					
9-1004	0	0	0	n/a	n/a
EU: 44-01G - Emergency Generator					
9-1005	0	0	0	n/a	n/a
EU: 47-01G - Emergency Generator					
9-1034	0	0	0	n/a	n/a
EU: 16-01C - Emergency Generator					
9-0960	0	0	0	n/a	n/a
EU: 70A-01H - Emergency Generator					
9-1132 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-03G - Emergency Generator					
9-1128 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-02G - Emergency Generator					
9-1138	0	0	0	n/a	n/a
EU: 202-01H - Emergency Generator					
9-1140	0	0	0	n/a	n/a
EU: 01-01H - Emergency Generator					
9-1179	0	0	0	n/a	n/a
EU: 45-01A - Emergency Generator					
5-2407	7.09E-08	3.88E-07	1.62E-08	n/a	n/a
EU: 82-B-1 - NEX Boiler 1					
5-2408	7.09E-08	3.88E-07	1.62E-08	n/a	n/a
EU: 82-B-2 - NEX Boiler 2					
5-2409	7.09E-08	3.88E-07	1.62E-08	n/a	n/a
EU: 82-B-3 - NEX Boiler 3					
Totals	8.97E-05	1.08E-02	4.51E-04		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

** Control Device

S = Scrubber

B = Baghouse

ESP = Electrostatic Precipitator

A = Afterburner

C = Condenser

AD = Adsorption

O = Other

¹Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.

FORM 4:

TOXIC AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB) Facility ID: 24-031-01124 Pollutant: Benzene *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	lbs/dy	lbs/hr		
5-1264	2.86E-04	1.71E-03	7.11E-05	n/a	n/a
EU: 16-01B - Boiler No. 1	2.25E-06	8.99E-04	3.74E-05		
5-1263	1.72E-04	1.58E-03	6.58E-05	n/a	n/a
EU: 16-02B - Boiler No. 2	2.71E-06	1.08E-03	4.51E-05		
5-1241	1.18E-04	1.95E-03	8.14E-05	n/a	n/a
EU: 16-03B - Boiler No. 3	9.82E-07	9.82E-04	4.09E-05		
5-1242	7.78E-05	1.50E-03	6.24E-05	n/a	n/a
EU: 16-04B Boiler No. 4	1.30E-06	6.52E-04	2.72E-05		
5-2233	5.72E-05	1.35E-03	5.61E-05	n/a	n/a
EU: 16-05B - Boiler No. 5	1.05E-06	5.24E-04	2.18E-05		
5-2256	3.97E-07	2.18E-06	9.07E-08	n/a	n/a
EU: 52-01C - Water Heater No. 1					
9-0628	2.30E-02	1.26E-01	5.24E-03	n/a	n/a
EU: 51A-01 - Gasoline Dis. NEXCOM					
9-0804	8.50E-06	2.83E-03	3.69E-03	n/a	n/a
EU: 07-01G - Emergency Generator					
9-0805	2.56E-05	4.26E-03	3.50E-03	n/a	n/a
EU: 53-01G - Emergency Generator					
9-0806 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-01G - Emergency Generator					
9-1183	2.05E-05	3.73E-03	4.10E-03	n/a	n/a
EU: 16-01H - Emergency Generator					
9-0807 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-02G - Emergency Generator					
9-1184	2.15E-05	3.91E-03	4.10E-03	n/a	n/a
EU: 16-02H - Emergency Generator					
9-0811 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-01G - Emergency Generator					
9-0949	8.05E-05	1.46E-02	6.59E-03	n/a	n/a
EU: 27-01 A - Emergency Generator					
9-0961	2.61E-05	5.79E-03	3.36E-03	n/a	n/a
EU: 71B-01H - Emergency Generator					
9-0962	5.23E-05	1.16E-02	3.36E-03	n/a	n/a
EU: 72C-02 H - Emergency Generator					
9-0963	2.32E-04	4.22E-02	1.20E-02	n/a	n/a
EU: 55-03 H - Emergency Generator					
9-0964	3.19E-04	6.38E-02	1.59E-02	n/a	n/a
EU: 63-01G - Emergency Generator					
9-0966	2.38E-04	4.32E-02	1.20E-02	n/a	n/a
EU: 55-01 H - Emergency Generator					
9-0967	2.33E-04	4.24E-02	1.20E-02	n/a	n/a
EU: 55-02 H - Emergency Generator					
9-0970	5.40E-06	1.54E-03	3.72E-03	n/a	n/a
EU: 51-01G - Emergency Generator					
9-1008	7.80E-05	1.42E-02	4.91E-03	n/a	n/a
EU: 17-01 - Emergency Generator					
9-1009	1.12E-04	2.04E-02	4.91E-03	n/a	n/a
EU: 62-02G - Emergency Generator					
9-1010	3.33E-04	6.67E-02	1.59E-02	n/a	n/a
EU: 63-02H - Emergency Generator					
9-1024	2.29E-04	4.17E-02	1.20E-02	n/a	n/a
EU: 55-04H - Emergency Generator					
9-1003 (Out of Service)	0	0	0	n/a	n/a
EU: 44-02G - Emergency Generator					
9-1004	9.94E-06	6.63E-03	6.63E-03	n/a	n/a
EU: 44-01G - Emergency Generator					
9-1005	5.30E-05	1.77E-02	6.63E-03	n/a	n/a
EU: 47-01G - Emergency Generator					
9-1034	1.21E-04	2.43E-02	2.40E-02	n/a	n/a
EU: 16-01C - Emergency Generator					
9-0960	4.03E-05	8.06E-03	3.57E-03	n/a	n/a
EU: 70A-01H - Emergency Generator					
9-1132 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-03G - Emergency Generator					
9-1128 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-02G - Emergency Generator					
9-1138	3.88E-06	1.11E-03	4.08E-03	n/a	n/a
EU: 202-01H - Emergency Generator					
9-1140	2.62E-05	7.47E-03	4.87E-03	n/a	n/a
EU: 01-01H - Emergency Generator					
9-1179	1.07E-05	4.28E-03	3.57E-03	n/a	n/a
EU: 45-01A - Emergency Generator					
5-2407	7.44E-07	4.08E-06	1.70E-07	n/a	n/a
EU: 82-B-1 - NEX Boiler 1					
5-2408	7.44E-07	4.08E-06	1.70E-07	n/a	n/a
EU: 82-B-2 - NEX Boiler 2					
5-2409	7.44E-07	4.08E-06	1.70E-07	n/a	n/a
EU: 82-B-3 - NEX Boiler 3					
Totals	0.026	0.586	0.181		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

** Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.

FORM 4:

TOXIC AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB) Facility ID: 24-031-01124 Pollutant: Beryllium *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	lbs/dy	lbs/hr		
5-1264	1.63E-06	9.75E-06	4.06E-07	n/a	n/a
EU: 16-01B - Boiler No. 1	4.41E-06	1.76E-03	7.35E-05		
5-1263	9.83E-07	9.02E-06	3.76E-07	n/a	n/a
EU: 16-02B - Boiler No. 2	5.31E-06	2.12E-03	8.85E-05		
5-1241	6.75E-07	1.12E-05	4.65E-07	n/a	n/a
EU: 16-03B - Boiler No. 3	1.93E-06	1.93E-03	8.03E-05		
5-1242	4.45E-07	8.55E-06	3.56E-07	n/a	n/a
EU: 16-04B Boiler No. 4	2.56E-06	1.28E-03	5.33E-05		
5-2233	3.27E-07	7.69E-06	3.20E-07	n/a	n/a
EU: 16-05B - Boiler No. 5	2.06E-06	1.03E-03	4.29E-05		
5-2256	2.27E-09	1.24E-08	5.19E-10	n/a	n/a
EU: 52-01C - Water Heater No. 1					
9-0628	0	0	0	n/a	n/a
EU: 51A-01 - Gasoline Dis. NEXCOM					
9-0804	0	0	0	n/a	n/a
EU: 07-01G - Emergency Generator					
9-0805	0	0	0	n/a	n/a
EU: 53-01G - Emergency Generator					
9-0806 (Removed from Facility)					
EU: 16-01G - Emergency Generator	0	0	0	n/a	n/a
9-1183	0	0	0	n/a	n/a
EU: 16-01H - Emergency Generator					
9-0807 (Removed from Facility)					
EU: 16-02G - Emergency Generator	0	0	0	n/a	n/a
9-1184	0	0	0	n/a	n/a
EU: 16-02H - Emergency Generator					
9-0811 (Removed from Facility)					
EU: 01-01G - Emergency Generator	0	0	0	n/a	n/a
9-0949	0	0	0	n/a	n/a
EU: 27-01 A - Emergency Generator					
9-0961	0	0	0	n/a	n/a
EU: 71B-01H - Emergency Generator					
9-0962	0	0	0	n/a	n/a
EU: 72C-02 H - Emergency Generator					
9-0963	0	0	0	n/a	n/a
EU: 55-03 H - Emergency Generator					
9-0964	0	0	0	n/a	n/a
EU: 63-01G - Emergency Generator					
9-0966	0	0	0	n/a	n/a
EU: 55-01 H - Emergency Generator					
9-0967	0	0	0	n/a	n/a
EU: 55-02 H - Emergency Generator					
9-0970	0	0	0	n/a	n/a
EU: 51-01G - Emergency Generator					
9-1008	0	0	0	n/a	n/a
EU: 17-01 - Emergency Generator					
9-1009	0	0	0	n/a	n/a
EU: 62-02G - Emergency Generator					
9-1010	0	0	0	n/a	n/a
EU: 63-02H - Emergency Generator					
9-1024	0	0	0	n/a	n/a
EU: 55-04H - Emergency Generator					
9-1003 (Out of Service)					
EU: 44-02G - Emergency Generator	0	0	0	n/a	n/a
9-1004	0	0	0	n/a	n/a
EU: 44-01G - Emergency Generator					
9-1005	0	0	0	n/a	n/a
EU: 47-01G - Emergency Generator					
9-1034	0	0	0	n/a	n/a
EU: 16-01C - Emergency Generator					
9-0960	0	0	0	n/a	n/a
EU: 70A-01H - Emergency Generator					
9-1132 (Removed from Facility)					
EU: 16-03G - Emergency Generator	0	0	0	n/a	n/a
9-1128 (Removed from Facility)					
EU: 01-02G - Emergency Generator	0	0	0	n/a	n/a
9-1138	0	0	0	n/a	n/a
EU: 202-01H - Emergency Generator					
9-1140	0	0	0	n/a	n/a
EU: 01-01H - Emergency Generator					
9-1179	0	0	0	n/a	n/a
EU: 45-01A - Emergency Generator					
5-2407	4.25E-09	2.33E-08	9.71E-10	n/a	n/a
EU: 82-B-1 - NEX Boiler 1					
5-2408	4.25E-09	2.33E-08	9.71E-10	n/a	n/a
EU: 82-B-2 - NEX Boiler 2					
5-2409	4.25E-09	2.33E-08	9.71E-10	n/a	n/a
EU: 82-B-3 - NEX Boiler 3					
Totals	2.03E-05	8.12E-03	3.38E-04		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

** Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.

FORM 4:

TOXIC AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB) Facility ID: 24-031-01124 Pollutant: Cadmium *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	lbs/dy	lbs/hr		
5-1264	1.50E-04	8.94E-04	3.73E-05	n/a	n/a
EU: 16-01B - Boiler No. 1	4.41E-06	1.76E-03	7.35E-05		
5-1263	9.01E-05	0.001	3.44E-05	n/a	n/a
EU: 16-02B - Boiler No. 2	5.31E-06	2.12E-03	8.85E-05		
5-1241	6.19E-05	0.001	4.26E-05	n/a	n/a
EU: 16-03B - Boiler No. 3	1.93E-06	1.93E-03	8.03E-05		
5-1242	4.08E-05	0.001	3.27E-05	n/a	n/a
EU: 16-04B Boiler No. 4	2.56E-06	1.28E-03	5.33E-05		
5-2233	3.00E-05	7.05E-04	2.94E-05	n/a	n/a
EU: 16-05B - Boiler No. 5	2.06E-06	1.03E-03	4.29E-05		
5-2256	2.08E-07	1.14E-06	4.75E-08	n/a	n/a
EU: 52-01C - Water Heater No. 1					
9-0628	0	0	0	n/a	n/a
EU: 51A-01 - Gasoline Dis. NEXCOM					
9-0804	0	0	0	n/a	n/a
EU: 07-01G - Emergency Generator					
9-0805	0	0	0	n/a	n/a
EU: 53-01G - Emergency Generator					
9-0806 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-01G - Emergency Generator					
9-1183	0	0	0	n/a	n/a
EU: 16-01H - Emergency Generator					
9-0807 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-02G - Emergency Generator					
9-1184	0	0	0	n/a	n/a
EU: 16-02H - Emergency Generator					
9-0811 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-01G - Emergency Generator					
9-0949	0	0	0	n/a	n/a
EU: 27-01 A - Emergency Generator					
9-0961	0	0	0	n/a	n/a
EU: 71B-01H - Emergency Generator					
9-0962	0	0	0	n/a	n/a
EU: 72C-02 H - Emergency Generator					
9-0963	0	0	0	n/a	n/a
EU: 55-03 H - Emergency Generator					
9-0964	0	0	0	n/a	n/a
EU: 63-01G - Emergency Generator					
9-0966	0	0	0	n/a	n/a
EU: 55-01 H - Emergency Generator					
9-0967	0	0	0	n/a	n/a
EU: 55-02 H - Emergency Generator					
9-0970	0	0	0	n/a	n/a
EU: 51-01G - Emergency Generator					
9-1008	0	0	0	n/a	n/a
EU: 17-01 - Emergency Generator					
9-1009	0	0	0	n/a	n/a
EU: 62-02G - Emergency Generator					
9-1010	0	0	0	n/a	n/a
EU: 63-02H - Emergency Generator					
9-1024	0	0	0	n/a	n/a
EU: 55-04H - Emergency Generator					
9-1003 (Out of Service)	0	0	0	n/a	n/a
EU: 44-02G - Emergency Generator					
9-1004	0	0	0	n/a	n/a
EU: 44-01G - Emergency Generator					
9-1005	0	0	0	n/a	n/a
EU: 47-01G - Emergency Generator					
9-1034	0	0	0	n/a	n/a
EU: 16-01C - Emergency Generator					
9-0960	0	0	0	n/a	n/a
EU: 70A-01H - Emergency Generator					
9-1132 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-03G - Emergency Generator					
9-1128 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-02G - Emergency Generator					
9-1138	0	0	0	n/a	n/a
EU: 202-01H - Emergency Generator					
9-1140	0	0	0	n/a	n/a
EU: 01-01H - Emergency Generator					
9-1179	0	0	0	n/a	n/a
EU: 45-01A - Emergency Generator					
5-2407	3.90E-07	2.14E-06	8.90E-08	n/a	n/a
EU: 82-B-1 - NEX Boiler 1					
5-2408	3.90E-07	2.14E-06	8.90E-08	n/a	n/a
EU: 82-B-2 - NEX Boiler 2					
5-2409	3.90E-07	2.14E-06	8.90E-08	n/a	n/a
EU: 82-B-3 - NEX Boiler 3					
Totals	3.90E-04	8.13E-03	3.39E-04		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

** Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.

FORM 4:

TOXIC AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB) Facility ID: 24-031-01124 Pollutant: Fluorene *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	lbs/dy	lbs/hr		
5-1264	3.81E-07	2.28E-06	9.48E-08	n/a	n/a
EU: 16-01B - Boiler No. 1	0	0	0		
5-1263	2.29E-07	2.10E-06	8.77E-08	n/a	n/a
EU: 16-02B - Boiler No. 2	0	0	0		
5-1241	1.58E-07	2.60E-06	1.09E-07	n/a	n/a
EU: 16-03B - Boiler No. 3	0	0	0		
5-1242	1.04E-07	2.00E-06	8.31E-08	n/a	n/a
EU: 16-04B Boiler No. 4	0	0	0		
5-2233	7.63E-08	1.79E-06	7.48E-08	n/a	n/a
EU: 16-05B - Boiler No. 5	0	0	0		
5-2256	5.30E-10	2.90E-09	1.21E-10	n/a	n/a
EU: 52-01C - Water Heater No. 1					
9-0628	0	0	0	n/a	n/a
EU: 51A-01 - Gasoline Dis. NEXCOM					
9-0804	1.40E-07	4.67E-05	6.09E-05	n/a	n/a
EU: 07-01G - Emergency Generator					
9-0805	8.00E-07	1.33E-04	1.10E-04	n/a	n/a
EU: 53-01G - Emergency Generator					
9-0806 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-01G - Emergency Generator					
9-1183	3.38E-07	6.15E-05	6.76E-05	n/a	n/a
EU: 16-01H - Emergency Generator					
9-0807 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-02G - Emergency Generator					
9-1184	3.55E-07	6.46E-05	6.76E-05	n/a	n/a
EU: 16-02H - Emergency Generator					
9-0811 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-01G - Emergency Generator					
9-0949	1.33E-06	2.41E-04	1.09E-04	n/a	n/a
EU: 27-01 A - Emergency Generator					
9-0961	4.30E-07	9.55E-05	5.55E-05	n/a	n/a
EU: 71B-01H - Emergency Generator					
9-0962	8.62E-07	1.92E-04	5.55E-05	n/a	n/a
EU: 72C-02 H - Emergency Generator					
9-0963	3.82E-06	6.95E-04	1.98E-04	n/a	n/a
EU: 55-03 H - Emergency Generator					
9-0964	5.26E-06	1.05E-03	2.62E-04	n/a	n/a
EU: 63-01G - Emergency Generator					
9-0966	3.92E-06	7.13E-04	1.98E-04	n/a	n/a
EU: 55-01 H - Emergency Generator					
9-0967	3.84E-06	6.99E-04	1.98E-04	n/a	n/a
EU: 55-02 H - Emergency Generator					
9-0970	8.90E-08	2.54E-05	6.14E-05	n/a	n/a
EU: 51-01G - Emergency Generator					
9-1008	1.29E-06	2.34E-04	8.09E-05	n/a	n/a
EU: 17-01 - Emergency Generator					
9-1009	1.85E-06	3.36E-04	8.09E-05	n/a	n/a
EU: 62-02G - Emergency Generator					
9-1010	5.50E-06	1.10E-03	2.62E-04	n/a	n/a
EU: 63-02H - Emergency Generator					
9-1024	3.79E-06	6.88E-04	1.98E-04	n/a	n/a
EU: 55-04H - Emergency Generator					
9-1003 (Out of Service)	0	0	0	n/a	n/a
EU: 44-02G - Emergency Generator					
9-1004	1.64E-07	1.09E-04	1.09E-04	n/a	n/a
EU: 44-01G - Emergency Generator					
9-1005	8.74E-07	2.91E-04	1.09E-04	n/a	n/a
EU: 47-01G - Emergency Generator					
9-1034	0	0	0	n/a	n/a
EU: 16-01C - Emergency Generator					
9-0960	1.26E-06	2.52E-04	1.12E-04	n/a	n/a
EU: 70A-01H - Emergency Generator					
9-1132 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-03G - Emergency Generator					
9-1128 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-02G - Emergency Generator					
9-1138	6.40E-08	1.83E-05	6.74E-05	n/a	n/a
EU: 202-01H - Emergency Generator					
9-1140	4.32E-07	1.23E-04	8.03E-05	n/a	n/a
EU: 01-01H - Emergency Generator					
9-1179	3.35E-07	1.34E-04	1.12E-04	n/a	n/a
EU: 45-01A - Emergency Generator					
5-2407	9.92E-10	5.44E-09	2.27E-10	n/a	n/a
EU: 82-B-1 - NEX Boiler 1					
5-2408	9.92E-10	5.44E-09	2.27E-10	n/a	n/a
EU: 82-B-2 - NEX Boiler 2					
5-2409	9.92E-10	5.44E-09	2.27E-10	n/a	n/a
EU: 82-B-3 - NEX Boiler 3					
Totals	0.00004	0.008	0.00305		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

** Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.

FORM 4:

TOXIC AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB) Facility ID: 24-031-01124 Pollutant: Formaldehyde *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	lbs/dy	lbs/hr		
5-1264	0.010	0.061	0.003	n/a	n/a
EU: 16-01B - Boiler No. 1	3.46E-04	0.139	0.006		
5-1263	0.006	0.056	0.002	n/a	n/a
EU: 16-02B - Boiler No. 2	4.17E-04	0.167	0.007		
5-1241	0.004	0.070	0.003	n/a	n/a
EU: 16-03B - Boiler No. 3	1.51E-04	0.151	0.006		
5-1242	0.003	0.053	0.002	n/a	n/a
EU: 16-04B Boiler No. 4	2.01E-04	0.101	0.004		
5-2233	0.002	0.048	0.002	n/a	n/a
EU: 16-05B - Boiler No. 5	1.62E-04	0.081	0.003		
5-2256	1.42E-05	7.78E-05	3.24E-06	n/a	n/a
EU: 52-01C - Water Heater No. 1					
9-0628	0	0	0	n/a	n/a
EU: 51A-01 - Gasoline Dis. NEXCOM					
9-0804	8.64E-07	2.88E-04	3.76E-04	n/a	n/a
EU: 07-01G - Emergency Generator					
9-0805	3.23E-05	0.005	0.004	n/a	n/a
EU: 53-01G - Emergency Generator					
9-0806 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-01G - Emergency Generator					
9-1183	2.08E-06	3.79E-04	4.17E-04	n/a	n/a
EU: 16-01H - Emergency Generator					
9-0807 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-02G - Emergency Generator					
9-1184	2.19E-06	3.98E-04	4.17E-04	n/a	n/a
EU: 16-02H - Emergency Generator					
9-0811 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-01G - Emergency Generator					
9-0949	8.18E-06	1.49E-03	6.70E-04	n/a	n/a
EU: 27-01 A - Emergency Generator					
9-0961	2.65E-06	5.89E-04	3.42E-04	n/a	n/a
EU: 71B-01H - Emergency Generator					
9-0962	5.32E-06	1.18E-03	3.42E-04	n/a	n/a
EU: 72C-02 H - Emergency Generator					
9-0963	2.36E-05	0.004	1.22E-03	n/a	n/a
EU: 55-03 H - Emergency Generator					
9-0964	3.24E-05	0.006	1.61E-03	n/a	n/a
EU: 63-01G - Emergency Generator					
9-0966	2.42E-05	0.004	1.22E-03	n/a	n/a
EU: 55-01 H - Emergency Generator					
9-0967	2.37E-05	0.004	1.22E-03	n/a	n/a
EU: 55-02 H - Emergency Generator					
9-0970	5.49E-07	1.57E-04	3.78E-04	n/a	n/a
EU: 51-01G - Emergency Generator					
9-1008	7.93E-06	1.44E-03	4.99E-04	n/a	n/a
EU: 17-01 - Emergency Generator					
9-1009	1.14E-05	2.07E-03	4.99E-04	n/a	n/a
EU: 62-02G - Emergency Generator					
9-1010	3.39E-05	0.007	1.61E-03	n/a	n/a
EU: 63-02H - Emergency Generator					
9-1024	2.33E-05	0.004	1.22E-03	n/a	n/a
EU: 55-04H - Emergency Generator					
9-1003 (Out of Service)	0	0	0	n/a	n/a
EU: 44-02G - Emergency Generator					
9-1004	1.01E-06	6.74E-04	6.74E-04	n/a	n/a
EU: 44-01G - Emergency Generator					
9-1005	5.39E-06	1.80E-03	6.74E-04	n/a	n/a
EU: 47-01G - Emergency Generator					
9-1034	1.23E-05	2.47E-03	2.44E-03	n/a	n/a
EU: 16-01C - Emergency Generator					
9-0960	5.10E-05	0.010	0.005	n/a	n/a
EU: 70A-01H - Emergency Generator					
9-1132 (Removed from Facility)	0	0	0	n/a	n/a
EU: 16-03G - Emergency Generator					
9-1128 (Removed from Facility)	0	0	0	n/a	n/a
EU: 01-02G - Emergency Generator					
9-1138	3.95E-07	1.13E-04	4.15E-04	n/a	n/a
EU: 202-01H - Emergency Generator					
9-1140	2.66E-06	0.001	4.95E-04	n/a	n/a
EU: 01-01H - Emergency Generator					
9-1179	1.35E-05	0.005	4.51E-03	n/a	n/a
EU: 45-01A - Emergency Generator					
5-2407	2.66E-05	1.46E-04	6.07E-06	n/a	n/a
EU: 82-B-1 - NEX Boiler 1					
5-2408	2.66E-05	1.46E-04	6.07E-06	n/a	n/a
EU: 82-B-2 - NEX Boiler 2					
5-2409	2.66E-05	1.46E-04	6.07E-06	n/a	n/a
EU: 82-B-3 - NEX Boiler 3					
Totals	0.027	0.704	0.057		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

** Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.

FORM 4:

TOXIC AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB) Facility ID: 24-031-01124 Pollutant: Lead *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	lbs/dy	lbs/hr		
5-1264	6.81E-05	4.06E-04	1.69E-05	n/a	n/a
EU: 16-01B - Boiler No. 1	1.32E-05	5.29E-03	2.20E-04		
5-1263	4.10E-05	3.76E-04	1.57E-05	n/a	n/a
EU: 16-02B - Boiler No. 2	1.59E-05	6.37E-03	2.66E-04		
5-1241	2.81E-05	4.65E-04	1.94E-05	n/a	n/a
EU: 16-03B - Boiler No. 3	5.78E-06	5.78E-03	2.41E-04		
5-1242	1.85E-05	3.56E-04	1.48E-05	n/a	n/a
EU: 16-04B Boiler No. 4	7.68E-06	3.84E-03	1.60E-04		
5-2233	1.36E-05	3.20E-04	1.34E-05	n/a	n/a
EU: 16-05B - Boiler No. 5	6.17E-06	3.09E-03	1.29E-04		
5-2256	9.46E-08	5.19E-07	2.16E-08	n/a	n/a
EU: 52-01C - Water Heater No. 1					
9-0628	0	0	0	n/a	n/a
EU: 51A-01 - Gasoline Dis. NEXCOM					
9-0804	0	0	0	n/a	n/a
EU: 07-01G - Emergency Generator					
9-0805	0	0	0	n/a	n/a
EU: 53-01G - Emergency Generator					
9-0806 (Removed from Facility)					
EU: 16-01G - Emergency Generator	0	0	0	n/a	n/a
9-1183	0	0	0	n/a	n/a
EU: 16-01H - Emergency Generator					
9-0807 (Removed from Facility)					
EU: 16-02G - Emergency Generator	0	0	0	n/a	n/a
9-1184	0	0	0	n/a	n/a
EU: 16-02H - Emergency Generator					
9-0811 (Removed from Facility)					
EU: 01-01G - Emergency Generator	0	0	0	n/a	n/a
9-0949	0	0	0	n/a	n/a
EU: 27-01 A - Emergency Generator					
9-0961	0	0	0	n/a	n/a
EU: 71B-01H - Emergency Generator					
9-0962	0	0	0	n/a	n/a
EU: 72C-02 H - Emergency Generator					
9-0963	0	0	0	n/a	n/a
EU: 55-03 H - Emergency Generator					
9-0964	0	0	0	n/a	n/a
EU: 63-01G - Emergency Generator					
9-0966	0	0	0	n/a	n/a
EU: 55-01 H - Emergency Generator					
9-0967	0	0	0	n/a	n/a
EU: 55-02 H - Emergency Generator					
9-0970	0	0	0	n/a	n/a
EU: 51-01G - Emergency Generator					
9-1008	0	0	0	n/a	n/a
EU: 17-01 - Emergency Generator					
9-1009	0	0	0	n/a	n/a
EU: 62-02G - Emergency Generator					
9-1010	0	0	0	n/a	n/a
EU: 63-02H - Emergency Generator					
9-1024	0	0	0	n/a	n/a
EU: 55-04H - Emergency Generator					
9-1003 (Out of Service)					
EU: 44-02G - Emergency Generator	0	0	0	n/a	n/a
9-1004	0	0	0	n/a	n/a
EU: 44-01G - Emergency Generator					
9-1005	0	0	0	n/a	n/a
EU: 47-01G - Emergency Generator					
9-1034	0	0	0	n/a	n/a
EU: 16-01C - Emergency Generator					
9-0960	0	0	0	n/a	n/a
EU: 70A-01H - Emergency Generator					
9-1132 (Removed from Facility)					
EU: 16-03G - Emergency Generator	0	0	0	n/a	n/a
9-1128 (Removed from Facility)					
EU: 01-02G - Emergency Generator	0	0	0	n/a	n/a
9-1138	0	0	0	n/a	n/a
EU: 202-01H - Emergency Generator					
9-1140	0	0	0	n/a	n/a
EU: 01-01H - Emergency Generator					
9-1179	0	0	0	n/a	n/a
EU: 45-01A - Emergency Generator					
5-2407	1.77E-07	9.71E-07	4.05E-08	n/a	n/a
EU: 82-B-1 - NEX Boiler 1					
5-2408	1.77E-07	9.71E-07	4.05E-08	n/a	n/a
EU: 82-B-2 - NEX Boiler 2					
5-2409	1.77E-07	9.71E-07	4.05E-08	n/a	n/a
EU: 82-B-3 - NEX Boiler 3					
Totals	2.19E-04	0.024	1.02E-03		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

** Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.

FORM 4:

TOXIC AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB) Facility ID: 24-031-01124 Pollutant: Mercury *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	lbs/dy	lbs/hr		
5-1264	3.54E-05	2.11E-04	8.81E-06	n/a	n/a
EU: 16-01B - Boiler No. 1	4.41E-06	1.76E-03	7.35E-05		
5-1263	2.13E-05	1.95E-04	8.14E-06	n/a	n/a
EU: 16-02B - Boiler No. 2	5.31E-06	2.12E-03	8.85E-05		
5-1241	1.46E-05	2.42E-04	1.01E-05	n/a	n/a
EU: 16-03B - Boiler No. 3	1.93E-06	1.93E-03	8.03E-05		
5-1242	9.63E-06	1.85E-04	7.72E-06	n/a	n/a
EU: 16-04B Boiler No. 4	2.56E-06	1.28E-03	5.33E-05		
5-2233	7.08E-06	1.67E-04	6.94E-06	n/a	n/a
EU: 16-05B - Boiler No. 5	2.06E-06	1.03E-03	4.29E-05		
5-2256	4.92E-08	2.70E-07	1.12E-08	n/a	n/a
EU: 52-01C - Water Heater No. 1					
9-0628	0	0	0	n/a	n/a
EU: 51A-01 - Gasoline Dis. NEXCOM					
9-0804	0	0	0	n/a	n/a
EU: 07-01G - Emergency Generator					
9-0805	0	0	0	n/a	n/a
EU: 53-01G - Emergency Generator					
9-0806 (Removed from Facility)					
EU: 16-01G - Emergency Generator	0	0	0	n/a	n/a
9-1183	0	0	0	n/a	n/a
EU: 16-01H - Emergency Generator					
9-0807 (Removed from Facility)					
EU: 16-02G - Emergency Generator	0	0	0	n/a	n/a
9-1184	0	0	0	n/a	n/a
EU: 16-02H - Emergency Generator					
9-0811 (Removed from Facility)					
EU: 01-01G - Emergency Generator	0	0	0	n/a	n/a
9-0949	0	0	0	n/a	n/a
EU: 27-01 A - Emergency Generator					
9-0961	0	0	0	n/a	n/a
EU: 71B-01H - Emergency Generator					
9-0962	0	0	0	n/a	n/a
EU: 72C-02 H - Emergency Generator					
9-0963	0	0	0	n/a	n/a
EU: 55-03 H - Emergency Generator					
9-0964	0	0	0	n/a	n/a
EU: 63-01G - Emergency Generator					
9-0966	0	0	0	n/a	n/a
EU: 55-01 H - Emergency Generator					
9-0967	0	0	0	n/a	n/a
EU: 55-02 H - Emergency Generator					
9-0970	0	0	0	n/a	n/a
EU: 51-01G - Emergency Generator					
9-1008	0	0	0	n/a	n/a
EU: 17-01 - Emergency Generator					
9-1009	0	0	0	n/a	n/a
EU: 62-02G - Emergency Generator					
9-1010	0	0	0	n/a	n/a
EU: 63-02H - Emergency Generator					
9-1024	0	0	0	n/a	n/a
EU: 55-04H - Emergency Generator					
9-1003 (Out of Service)					
EU: 44-02G - Emergency Generator	0	0	0	n/a	n/a
9-1004	0	0	0	n/a	n/a
EU: 44-01G - Emergency Generator					
9-1005	0	0	0	n/a	n/a
EU: 47-01G - Emergency Generator					
9-1034	0	0	0	n/a	n/a
EU: 16-01C - Emergency Generator					
9-0960	0	0	0	n/a	n/a
EU: 70A-01H - Emergency Generator					
9-1132 (Removed from Facility)					
EU: 16-03G - Emergency Generator	0	0	0	n/a	n/a
9-1128 (Removed from Facility)					
EU: 01-02G - Emergency Generator	0	0	0	n/a	n/a
9-1138	0	0	0	n/a	n/a
EU: 202-01H - Emergency Generator					
9-1140	0	0	0	n/a	n/a
EU: 01-01H - Emergency Generator					
9-1179	0	0	0	n/a	n/a
EU: 45-01A - Emergency Generator					
5-2407	9.21E-08	5.05E-07	2.10E-08	n/a	n/a
EU: 82-B-1 - NEX Boiler 1					
5-2408	9.21E-08	5.05E-07	2.10E-08	n/a	n/a
EU: 82-B-2 - NEX Boiler 2					
5-2409	9.21E-08	5.05E-07	2.10E-08	n/a	n/a
EU: 82-B-3 - NEX Boiler 3					
Totals	1.05E-04	0.008	3.39E-04		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

** Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.

FORM 4:

TOXIC AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2019

Facility Name: Naval Support Activity Bethesda (NSAB) Facility ID: 24-031-01124 Pollutant: Selenium *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	lbs/dy	lbs/hr		
5-1264	3.27E-06	1.95E-05	8.13E-07	n/a	n/a
EU: 16-01B - Boiler No. 1	2.20E-05	8.82E-03	3.67E-04		
5-1263	1.97E-06	1.80E-05	7.51E-07	n/a	n/a
EU: 16-02B - Boiler No. 2	2.66E-05	1.06E-02	4.43E-04		
5-1241	1.35E-06	2.23E-05	9.30E-07	n/a	n/a
EU: 16-03B - Boiler No. 3	9.64E-06	9.64E-03	4.02E-04		
5-1242	8.89E-07	1.71E-05	7.13E-07	n/a	n/a
EU: 16-04B Boiler No. 4	1.28E-05	6.40E-03	2.67E-04		
5-2233	6.54E-07	1.54E-05	6.41E-07	n/a	n/a
EU: 16-05B - Boiler No. 5	1.03E-05	5.14E-03	2.14E-04		
5-2256	4.54E-09	2.49E-08	1.04E-09	n/a	n/a
EU: 52-01C - Water Heater No. 1					
9-0628	0	0	0	n/a	n/a
EU: 51A-01 - Gasoline Dis. NEXCOM					
9-0804	0	0	0	n/a	n/a
EU: 07-01G - Emergency Generator					
9-0805	0	0	0	n/a	n/a
EU: 53-01G - Emergency Generator					
9-0806 (Removed from Facility)					
EU: 16-01G - Emergency Generator	0	0	0	n/a	n/a
9-1183	0	0	0	n/a	n/a
EU: 16-01H - Emergency Generator					
9-0807 (Removed from Facility)					
EU: 16-02G - Emergency Generator	0	0	0	n/a	n/a
9-1184	0	0	0	n/a	n/a
EU: 16-02H - Emergency Generator					
9-0811 (Removed from Facility)					
EU: 01-01G - Emergency Generator	0	0	0	n/a	n/a
9-0949	0	0	0	n/a	n/a
EU: 27-01 A - Emergency Generator					
9-0961	0	0	0	n/a	n/a
EU: 71B-01H - Emergency Generator					
9-0962	0	0	0	n/a	n/a
EU: 72C-02 H - Emergency Generator					
9-0963	0	0	0	n/a	n/a
EU: 55-03 H - Emergency Generator					
9-0964	0	0	0	n/a	n/a
EU: 63-01G - Emergency Generator					
9-0966	0	0	0	n/a	n/a
EU: 55-01 H - Emergency Generator					
9-0967	0	0	0	n/a	n/a
EU: 55-02 H - Emergency Generator					
9-0970	0	0	0	n/a	n/a
EU: 51-01G - Emergency Generator					
9-1008	0	0	0	n/a	n/a
EU: 17-01 - Emergency Generator					
9-1009	0	0	0	n/a	n/a
EU: 62-02G - Emergency Generator					
9-1010	0	0	0	n/a	n/a
EU: 63-02H - Emergency Generator					
9-1024	0	0	0	n/a	n/a
EU: 55-04H - Emergency Generator					
9-1003 (Out of Service)					
EU: 44-02G - Emergency Generator	0	0	0	n/a	n/a
9-1004	0	0	0	n/a	n/a
EU: 44-01G - Emergency Generator					
9-1005	0	0	0	n/a	n/a
EU: 47-01G - Emergency Generator					
9-1034	0	0	0	n/a	n/a
EU: 16-01C - Emergency Generator					
9-0960	0	0	0	n/a	n/a
EU: 70A-01H - Emergency Generator					
9-1132 (Removed from Facility)					
EU: 16-03G - Emergency Generator	0	0	0	n/a	n/a
9-1128 (Removed from Facility)					
EU: 01-02G - Emergency Generator	0	0	0	n/a	n/a
9-1138	0	0	0	n/a	n/a
EU: 202-01H - Emergency Generator					
9-1140	0	0	0	n/a	n/a
EU: 01-01H - Emergency Generator					
9-1179	0	0	0	n/a	n/a
EU: 45-01A - Emergency Generator					
5-2407	8.50E-09	4.66E-08	1.94E-09	n/a	n/a
EU: 82-B-1 - NEX Boiler 1					
5-2408	8.50E-09	4.66E-08	1.94E-09	n/a	n/a
EU: 82-B-2 - NEX Boiler 2					
5-2409	8.50E-09	4.66E-08	1.94E-09	n/a	n/a
EU: 82-B-3 - NEX Boiler 3					
Totals	8.95E-05	0.041	1.69E-03		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

** Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.

BILLABLE TOXIC AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Facility Name: Naval Support Activity Bethesda
(NSAB)

Facility ID: 24-031-01124

Chemical Name	CAS Number		Actual Emissions			Estimation Method
			Tons/year	Lbs/Day	Lbs/hr	
carbon disulfide	75-15-0	S	0.00	0.00	0.00	C3
		F	0.00	0.00	0.00	C3
carbonyl disulfide	463-58-1	S	0.00	0.00	0.00	C3
		F	0.00	0.00	0.00	C3
chlorine	7782-50-5	S	0.00	0.00	0.00	C3
		F	0.00	0.00	0.00	C3
cyanide compounds	57-12-5	S	0.00	0.00	0.00	C3
		F	0.00	0.00	0.00	C3
hydrochloric acid	7647-01-0	S	0.00	0.00	0.00	C3
		F	0.00	0.00	0.00	C3
hydrogen fluoride	7664-39-3	S	0.00	0.00	0.00	C3
		F	0.00	0.00	0.00	C3
methyl chloroform	71-55-6	S	0.00	0.00	0.00	C3
		F	0.00	0.00	0.00	C3
methylene chloride	75-09-2	S	0.00	0.00	0.00	C3
		F	0.00	0.00	0.00	C3
perchloroethylene	127-18-4	S	0.00	0.00	0.00	C3
		F	0.00	0.00	0.00	C3
phosphine	7803-51-2	S	0.00	0.00	0.00	C3
		F	0.00	0.00	0.00	C3
titanium tetrachloride	7550-45-0	S	0.00	0.00	0.00	C3
		F	0.00	0.00	0.00	C3
TOTALS			0.00	0.00	0.00	

S-Stack Emissions

F-Fugitive Emissions

Daily emissions (lbs/day) are lbs/operating day of the source

PLEASE NOTE: Be sure to attach all data and calculations necessary to support the emissions figures shown above.

3/9/09

- Emission Estimation Method
- A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify
- C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by engineering judgement
C5-User calculated based on a State or local agency factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standards

This form to include only the eleven chemicals identified.

GREENHOUSE GAS EMISSIONS
EMISSIONS CERTIFICATION REPORT

Facility Name: Naval Support Activity Bethesda (NSAB)

Facility ID#: 24-031-01124

Pollutant: Carbon Dioxide (CO2)

Equipment Description/ Registration Number * 1	Actual Emissions		
	Tons/yr	lbs/day	Lbs/hour
5-1264	16,338	97,540	4,064
EU: 16-01B - Boiler No. 1	234.1	93,637	3,902
5-1263	9,829	90,174	3,757
EU: 16-02B - Boiler No. 2	282.0	112,791	4,700
5-1241	6,753	111,619	4,651
EU: 16-03B - Boiler No. 3	102.3	102,329	4,264
5-1242	4,447	85,516	3,563
EU: 16-04B Boiler No. 4	135.9	67,942	2,831
5-2233	3,269	76,915	3,205
EU: 16-05B - Boiler No. 5	109.2	54,620	2,276
5-2256	22.7	124	5.19
EU: 52-01C - Water Heater No. 1			
9-0628	0	0	0
EU: 51A-01 - Gasoline Dis. NEXCOM			
9-0804	1.81	605	789
EU: 07-01G - Emergency Generator			
9-0805	4.50	750	616
EU: 53-01G - Emergency Generator			
9-0806 (Removed from Facility)	0	0	0
EU: 16-01G - Emergency Generator			
9-1183	4.38	796	876
EU: 16-01H - Emergency Generator			
9-0807 (Removed from Facility)	0	0	0
EU: 16-02G - Emergency Generator			
9-1184	4.60	836	876
EU: 16-02H - Emergency Generator			
9-0811 (Removed from Facility)	0	0	0
EU: 01-01G - Emergency Generator			
9-0949	17.2	3,124	1,408
EU: 27-01 A - Emergency Generator			
9-0961	5.56	1,237	718
EU: 71B-01H - Emergency Generator			
9-0962	11.2	2,481	718
EU: 72C-02 H - Emergency Generator			
9-0963	49.5	9,003	2,559
EU: 55-03 H - Emergency Generator			
9-0964	68.2	13,631	3,391
EU: 63-01G - Emergency Generator			
9-0966	50.8	9,236	2,559
EU: 55-01 H - Emergency Generator			
9-0967	49.8	9,049	2,559
EU: 55-02 H - Emergency Generator			
9-0970	1.15	329	795
EU: 51-01G - Emergency Generator			
9-1008	16.65	3,028	1,047
EU: 17-01 - Emergency Generator			
9-1009	23.9	4,352	1,047
EU: 62-02G - Emergency Generator			
9-1010	71.2	14,241	3,391
EU: 63-02H - Emergency Generator			
9-1024	49.0	8,910	2,559
EU: 55-04H - Emergency Generator			
9-1003 (Out of Service)	0	0	0
EU: 44-02G - Emergency Generator			
9-1004	2.12	1,415	1,415
EU: 44-01G - Emergency Generator			
9-1005	11.3	3,774	1,415
EU: 47-01G - Emergency Generator			
9-1034	25.9	5,182	5,131
EU: 16-01C - Emergency Generator			
9-0960	7.10	1,419	628
EU: 70A-01H - Emergency Generator			
9-1132 (Removed from Facility)	0	0	0
EU: 16-03G - Emergency Generator			
9-1128 (Removed from Facility)	0	0	0
EU: 01-02G - Emergency Generator			
9-1138	0.829	237	872
EU: 202-01H - Emergency Generator			
9-1140	5.59	1,596	1,039
EU: 01-01H - Emergency Generator			
9-1179	1.88	753	628
EU: 45-01A - Emergency Generator			
5-2407	42.5	233	9.7
EU: 82-B-1 - NEX Boiler 1			
5-2408	42.5	233	9.7
EU: 82-B-2 - NEX Boiler 2			
5-2409	42.5	233	9.7
EU: 82-B-3 - NEX Boiler 3			
Totals	42,134	581,188	57,253

This form must be used to report
Greenhouse gas emissions:

- * carbon dioxide (CO2)
- * methane (CH4)
- * nitrous oxide (N2O)
- * hydrofluorocarbons (HFCs)
- * perfluorocarbons (PFCs)
- * sulfur hexafluoride (SF6)

* Use separate form for each pollutant.

* Please attach all calculations.

*1 Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.
Note: For some engines lb/hr exceeds lb/day due to the engine operating less than 1 hour per day.
1/15/08

GREENHOUSE GAS EMISSIONS
EMISSIONS CERTIFICATION REPORT

Facility Name: Naval Support Activity Bethesda (NSAB)

Facility ID#: 24-031-01124

Pollutant: Methane (CH4)

Equipment Description/ Registration Number * 1	Actual Emissions		
	Tons/yr	lbs/day	Lbs/hour
5-1264	0.313	1.87	0.078
EU: 16-01B - Boiler No. 1	0.002	0.907	0.038
5-1263	0.188	1.73	0.072
EU: 16-02B - Boiler No. 2	0.003	1.09	0.046
5-1241	0.129	2.14	0.089
EU: 16-03B - Boiler No. 3	9.91E-04	0.991	0.041
5-1242	0.085	1.64	0.068
EU: 16-04B Boiler No. 4	0.001	0.658	0.027
5-2233	0.063	1.47	0.061
EU: 16-05B - Boiler No. 5	0.001	0.529	0.022
5-2256	4.35E-04	0.002	9.94E-05
EU: 52-01C - Water Heater No. 1			
9-0628	0	0	0
EU: 51A-01 - Gasoline Dis. NEXCOM			
9-0804	9.03E-05	0.030	0.039
EU: 07-01G - Emergency Generator			
9-0805	8.85E-04	0.148	0.121
EU: 53-01G - Emergency Generator			
9-0806 (Removed from Facility)	0	0	0
EU: 16-01G - Emergency Generator			
9-1183	2.18E-04	0.040	0.044
EU: 16-01H - Emergency Generator			
9-0807 (Removed from Facility)	0	0	0
EU: 16-02G - Emergency Generator			
9-1184	2.29E-04	0.042	0.044
EU: 16-02H - Emergency Generator			
9-0811 (Removed from Facility)	0	0	0
EU: 01-01G - Emergency Generator			
9-0949	8.55E-04	0.155	0.070
EU: 27-01 A - Emergency Generator			
9-0961	2.77E-04	0.062	0.036
EU: 71B-01H - Emergency Generator			
9-0962	5.56E-04	0.124	0.036
EU: 72C-02 H - Emergency Generator			
9-0963	0.002	0.448	0.127
EU: 55-03 H - Emergency Generator			
9-0964	0.003	0.678	0.169
EU: 63-01G - Emergency Generator			
9-0966	0.003	0.460	0.127
EU: 55-01 H - Emergency Generator			
9-0967	0.002	0.450	0.127
EU: 55-02 H - Emergency Generator			
9-0970	5.73E-05	0.016	0.040
EU: 51-01G - Emergency Generator			
9-1008	8.29E-04	0.151	0.052
EU: 17-01 - Emergency Generator			
9-1009	0.001	0.217	0.052
EU: 62-02G - Emergency Generator			
9-1010	0.004	0.709	0.169
EU: 63-02H - Emergency Generator			
9-1024	0.002	0.443	0.127
EU: 55-04H - Emergency Generator			
9-1003 (Out of Service)	0	0	0
EU: 44-02G - Emergency Generator			
9-1004	1.06E-04	0.070	0.070
EU: 44-01G - Emergency Generator			
9-1005	5.64E-04	0.188	0.070
EU: 47-01G - Emergency Generator			
9-1034	0.001	0.258	0.255
EU: 16-01C - Emergency Generator			
9-0960	0.001	0.279	0.124
EU: 70A-01H - Emergency Generator			
9-1132 (Removed from Facility)	0	0	0
EU: 16-03G - Emergency Generator			
9-1128 (Removed from Facility)	0	0	0
EU: 01-02G - Emergency Generator			
9-1138	4.12E-05	0.012	0.043
EU: 202-01H - Emergency Generator			
9-1140	2.78E-04	0.079	0.052
EU: 01-01H - Emergency Generator			
9-1179	3.71E-04	0.148	0.124
EU: 45-01A - Emergency Generator			
5-2407	0.001	0.004	1.86E-04
EU: 82-B-1 - NEX Boiler 1			
5-2408	0.001	0.004	1.86E-04
EU: 82-B-2 - NEX Boiler 2			
5-2409	0.001	0.004	1.86E-04
EU: 82-B-3 - NEX Boiler 3			
Totals	0.816	14.1	2.49

This form must be used to report
Greenhouse gas emissions:

- * carbon dioxide (CO2)
- * methane (CH4)
- * nitrous oxide (N2O)
- * hydrofluorocarbons (HFCs)
- * perfluorocarbons (PFCs)
- * sulfur hexafluoride (SF6)

* Use separate form for each pollutant.

* Please attach all calculations.

*1 Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.
Note: For some engines lb/hr exceeds lb/day due to the engine operating less than 1 hour per day.
1/15/08

GREENHOUSE GAS EMISSIONS
EMISSIONS CERTIFICATION REPORT

Facility Name: Naval Support Activity Bethesda (NSAB)

Facility ID#: 24-031-01124

Pollutant: Nitrous Oxide (N2O)

Equipment Description/ Registration Number * 1	Actual Emissions		
	Tons/yr	lbs/day	Lbs/hour
5-1264	0.300	1.79	0.075
EU: 16-01B - Boiler No. 1	0.003	1.09	0.045
5-1263	0.180	1.65	0.069
EU: 16-02B - Boiler No. 2	0.003	1.32	0.055
5-1241	0.124	2.05	0.085
EU: 16-03B - Boiler No. 3	0.001	1.19	0.050
5-1242	0.082	1.57	0.065
EU: 16-04B Boiler No. 4	0.002	0.792	0.033
5-2233	0.060	1.41	0.059
EU: 16-05B - Boiler No. 5	0.001	0.637	0.027
5-2256	4.16E-04	0.002	9.51E-05
EU: 52-01C - Water Heater No. 1			
9-0628	0	0	0
EU: 51A-01 - Gasoline Dis. NEXCOM			
9-0804			
EU: 07-01G - Emergency Generator			
9-0805			
EU: 53-01G - Emergency Generator			
9-0806 (Removed from Facility)			
EU: 16-01G - Emergency Generator			
9-1183			
EU: 16-01H - Emergency Generator			
9-0807 (Removed from Facility)			
EU: 16-02G - Emergency Generator			
9-1184			
EU: 16-02H - Emergency Generator			
9-0811 (Removed from Facility)			
EU: 01-01G - Emergency Generator			
9-0949			
EU: 27-01 A - Emergency Generator			
9-0961			
EU: 71B-01H - Emergency Generator			
9-0962			
EU: 72C-02 H - Emergency Generator			
9-0963			
EU: 55-03 H - Emergency Generator			
9-0964			
EU: 63-01G - Emergency Generator			
9-0966			
EU: 55-01 H - Emergency Generator			
9-0967			
EU: 55-02 H - Emergency Generator			
9-0970			
EU: 51-01G - Emergency Generator			
9-1008			
EU: 17-01 - Emergency Generator			
9-1009			
EU: 62-02G - Emergency Generator			
9-1010			
EU: 63-02H - Emergency Generator			
9-1024			
EU: 55-04H - Emergency Generator			
9-1003 (Out of Service)			
EU: 44-02G - Emergency Generator			
9-1004			
EU: 44-01G - Emergency Generator			
9-1005			
EU: 47-01G - Emergency Generator			
9-1034			
EU: 16-01C - Emergency Generator			
9-0960			
EU: 70A-01H - Emergency Generator			
9-1132 (Removed from Facility)			
EU: 16-03G - Emergency Generator			
9-1128 (Removed from Facility)			
EU: 01-02G - Emergency Generator			
9-1138			
EU: 202-01H - Emergency Generator			
9-1140			
EU: 01-01H - Emergency Generator			
9-1179			
EU: 45-01A - Emergency Generator			
5-2407	0.001	0.004	1.78E-04
EU: 82-B-1 - NEX Boiler 1			
5-2408	0.001	0.004	1.78E-04
EU: 82-B-2 - NEX Boiler 2			
5-2409	0.001	0.004	1.78E-04
EU: 82-B-3 - NEX Boiler 3			
Totals	0.758	8.48	0.353

The AP-42 emission factor used to calculate emissions of oxides of nitrogen (NOx) from the generators includes emissions of nitrous oxide (N2O). Therefore, emissions of N2O from generators are included in the Form 2 for NOx emissions. There is no separate AP-42 emission factor for N2O for the generators.

This form must be used to report
Greenhouse gas emissions:

- * carbon dioxide (CO2)
- * methane (CH4)
- * nitrous oxide (N2O)
- * hydrofluorocarbons (HFCs)
- * perfluorocarbons (PFCs)
- * sulfur hexafluoride (SF6)

* Use separate form for each pollutant.

* Please attach all calculations.

*1 Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

Note: For Boiler No. 1 through 5, the first emissions value represents emissions from natural gas combustion and the second emissions value represents emissions from fuel oil combustion.
Note: For some engines lb/hr exceeds lb/day due to the engine operating less than 1 hour per day.
1/15/08

Facility Name: Naval Support Activity Bethesda (NSAB)

Facility ID#: 24-031-01124

Pollutant: Hydrofluorocarbons (HFCs)
Perfluorocarbons (PFCs)
Sulfur Hexafluoride (SF6)

Equipment Description/ Registration Number * 1	Actual Emissions		
	Tons/yr	lbs/day	Lbs/hour
5-1264	There are no known HFC, PFC, or SF6 emissions during 2018		
EU: 16-01B - Boiler No. 1			
5-1263			
EU: 16-02B - Boiler No. 2			
5-1241			
EU: 16-03B - Boiler No. 3			
5-1242			
EU: 16-04B Boiler No. 4			
5-2233			
EU: 16-05B - Boiler No. 5			
5-2256			
EU: 52-01C - Water Heater No. 1			
9-0628			
EU: 51A-01 - Gasoline Dis. NEXCOM			
9-0804			
EU: 07-01G - Emergency Generator			
9-0805			
EU: 53-01G - Emergency Generator			
9-0806 (Removed from Facility)			
EU: 16-01G - Emergency Generator			
9-1183			
EU: 16-01H - Emergency Generator			
9-0807 (Removed from Facility)			
EU: 16-02G - Emergency Generator			
9-1184			
EU: 16-02H - Emergency Generator			
9-0811 (Removed from Facility)			
EU: 01-01G - Emergency Generator			
9-0949			
EU: 27-01 A - Emergency Generator			
9-0961			
EU: 71B-01H - Emergency Generator			
9-0962			
EU: 72C-02 H - Emergency Generator			
9-0963			
EU: 55-03 H - Emergency Generator			
9-0964			
EU: 63-01G - Emergency Generator			
9-0966			
EU: 55-01 H - Emergency Generator			
9-0967			
EU: 55-02 H - Emergency Generator			
9-0970			
EU: 51-01G - Emergency Generator			
9-1008			
EU: 17-01 - Emergency Generator			
9-1009			
EU: 62-02G - Emergency Generator			
9-1010			
EU: 63-02H - Emergency Generator			
9-1024			
EU: 55-04H - Emergency Generator			
9-1003 (Out of Service)			
EU: 44-02G - Emergency Generator			
9-1004			
EU: 44-01G - Emergency Generator			
9-1005			
EU: 47-01G - Emergency Generator			
9-1034			
EU: 16-01C - Emergency Generator			
9-0960			
EU: 70A-01H - Emergency Generator			
9-1132 (Removed from Facility)			
EU: 16-03G - Emergency Generator			
9-1128 (Removed from Facility)			
EU: 01-02G - Emergency Generator			
9-1138			
EU: 202-01H - Emergency Generator			
9-1140			
EU: 01-01H - Emergency Generator			
9-1179			
EU: 45-01A - Emergency Generator			
5-2407			
EU: 82-B-1 - NEX Boiler 1			
5-2408			
EU: 82-B-2 - NEX Boiler 2			
5-2409			
EU: 82-B-3 - NEX Boiler 3			
Totals	n/a	n/a	n/a

This form must be used to report
Greenhouse gas emissions:

* carbon dioxide (CO2)
* methane (CH4)
* nitrous oxide (N2O)
* hydrofluorocarbons (HFCs)
* perfluorocarbons (PFCs)
* sulfur hexafluoride (SF6)

* Use separate form for each pollutant.

* Please attach all calculations.

*1 Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

1/15/08

2.1

BACKGROUND INFORMATION

Naval Support Activity Bethesda (NSAB), formerly referred to as National Naval Medical Center (NNMC), is located in Bethesda, Maryland. NSAB hosts a Medical School, Hospital, and Research facility. The equipment located at the facility during the calendar year of 2019 includes one natural gas-fired water heater, five natural gas-fired (primary fuel) and No. 2 fuel oil-fired (secondary fuel) boilers, three natural gas-fired boilers, 24 diesel-fired emergency generators, and two gasoline dispensing operations.

According to Code of Maryland Regulations (COMAR) 26.11.02 and COMAR 26.11.01.05-1, facility owners or operators with a permit to operate are required to certify the actual emissions of regulated pollutants from all facility sources for each calendar year. Completed Maryland Department of Environment (MDE) Forms 1 – 6 are provided in Section 1.

The regulated pollutants for this certification requirement include the following air pollutants:

- Criteria Pollutants
 - Carbon Monoxide (CO)
 - Oxides of Nitrogen (NO_x)
 - Oxides of Sulfur (SO_x)
 - Volatile Organic Compounds (VOCs)
 - Particulate Matter (PM, PM₁₀, PM_{2.5}) – Filterable
 - Particulate Matter (PM) – Condensable
- Hazardous Air Pollutants
- Greenhouse Gases
 - Carbon Dioxide (CO₂)
 - Methane (CH₄)
 - Nitrous Oxide (N₂O)
 - Hydrofluorocarbons (HFCs)
 - Perfluorocarbons (PFCs)
 - Sulfur Hexafluoride (SF₆)

2.2

PURPOSE AND REPORT ORGANIZATION

The purpose of this report is to satisfy the above-mentioned requirements. The information on material usage, fuel consumption, and operating schedules presented in this report was provided by facility personnel. Emissions generated by the NSAB facility were estimated using readily

available information such as results of stack testing conducted in 2018 and emission factors developed by the U.S. Environmental Protection Agency (EPA).

2.3 EMISSION SOURCES

There are five Cleaver Brooks boilers located in Building 16, one Aerco water heater located in Building 52, and three RBI Futera boilers located on the roof of Building 82. The three boilers on the roof of Building 82 are not included in the current Title V Operating Permit that was issued August 1, 2016. The combined 2019 fuel usage for all five Building 16 boilers was 677,260,000 standard cubic feetⁱ of natural gas and 77,446 gallons of No. 2 fuel oilⁱⁱ. The Building 52 water heater burned a total of 378,530 standard cubic feetⁱⁱⁱ of natural gas in the 2019 reporting year. The combined 2019 fuel usage for all three Building 82 boilers was 2,126,097 standard cubic feet of natural gas^{iv}. Details on these boilers and water heater are provided below.

Ref. No.	MDE Reg. No.	Emissions Unit No.	Heat Input Rating (MMBtu/hr)	Manufacturer and Model	Control Device*	Fuel**	Installation Date
1. Boiler	031-1124-5-1264 N	EU: 16-01B	67	Cleaver Brooks DL-68	LNB/FGR	NG/N2	Nov 2002
2. Boiler	031-1124-5-1263 N	EU: 16-02B	67	Cleaver Brooks DL-68	LNB/FGR	NG/N2	Nov 2002

ⁱ Boiler natural gas usage and operating days obtained from monthly fuel and steam reports supplied by Utilities heating plant personnel.

ⁱⁱ Boiler fuel oil usage and operating days obtained from monthly fuel oil reports supplied by Utilities heating plant personnel.

ⁱⁱⁱ Water heater natural gas usage obtained from monthly utility bills provided by Navy Lodge personnel. January and February were estimated readings by Washington Gas and showed almost no usage. The March bill was an actual reading and showed nearly three times the typical usage numbers for the month. Readings from April-December were actual readings by Washington Gas. NSAB believes that the natural gas reading in March comprises the usage from January, February and March, as the estimate readings in January and February were likely incorrect.

^{iv} NEX Boiler natural gas usage obtained from monthly utility bills (Washington Gas, meter Z45767), provided by NEX personnel. Assumed an even distribution of fuel across the three boilers. Bills were not available for October and December. Natural gas usage was estimated based on the maximum usage over the past two years.

Ref. No.	MDE Reg. No.	Emissions Unit No.	Heat Input Rating (MMBtu/hr)	Manufacturer and Model	Control Device*	Fuel**	Installation Date
3. Boiler	031-1124-5-1241 M	EU: 16-03B	67	Cleaver Brooks DL-68	LNB/FGR	NG/N2	Jan 2002
4. Boiler	031-1124-5-1242 M	EU: 16-04B	67	Cleaver Brooks DL-68	LNB/FGR	NG/N2	Apr 2002
5. Boiler	031-1124-5-2233	EU: 16-05B	71	Cleaver Brooks DL-68E	LNB/FGR	NG/N2	Jun 2010
6. Water Heater	031-1124-5-2256	EU: 52-01C	1.06	Aerco INN-1060	LNB	NG	Aug 2011
7. Boiler	N/A	EU: 82-B-1	1.50	RBI Futera Futera III MB 1500	N/A	NG	November 2011
8. Boiler	N/A	EU: 82-B-2	1.50	RBI Futera Futera III MB 1500	N/A	NG	November 2011
9. Boiler	N/A	EU: 82-B-3	1.50	RBI Futera Futera III MB 1500	N/A	NG	November 2011

* LNB = Low NO_x Burners; FGR = Flue Gas Recirculation

** NG = Natural Gas; N2 = No. 2 Fuel Oil

NSAB has a total of 31 registered emergency generators. Of the 31 registered emergency generators, only 24 were present at the NSAB facility during the calendar year (five previously removed and two not yet installed). Of these 24 registered emergency generators, there are 21 engines with ratings at or greater than 600 horsepower (hp) and three engines with ratings that are less than 600 hp. The hp engine rating correlates to the emission factors used to determine annual emissions. The 24 emergency generators operated for a total of 499.3 hours^v in the 2019 reporting year. Details on these emergency generators are provided below.

Ref. No.*	MDE Reg. No.	Emissions Unit No.**	Engine Rating (hp)	Generator Rating (kW)	Engine Manufacturer and Model	Generator Manufacturer and Model	Installation Date
1. EDG	031-1124-9-0804	EU: 07-01G	680	400	Caterpillar 3412	Caterpillar 3412 DIST	Jun 1982
2. EDG	031-1124-9-0805	EU: 53-01G	536	400	Rolls Royce 1	Katolight D400FRR4	1988

^v Engine hours of operation obtained from monthly generator hours workbook provided by Public Works Dept. personnel.

Ref. No.*	MDE Reg. No.	Emissions Unit No.**	Engine Rating (hp)	Generator Rating (kW)	Engine Manufacturer and Model	Generator Manufacturer and Model	Installation Date
3. EDG	031-1124-9-0806	EU: 16-01G^	550	410	Cummins VT-1710-G5	Cummins 680FDR5059BDW	1976
4. EDG	031-1124-9-0807	EU: 16-02G^	550	410	Cummins VT-1710-G5	Cummins 680FDR5059BDW	1976
5. EDG	031-1124-9-0811	EU: 01-01G^	890	600	Caterpillar 3412	Caterpillar SR-4	Unknown
6. EDG	031-1124-9-0949	EU: 27-01A	1,214	800	Caterpillar C27	Caterpillar SR4B	Nov 2009
7. EDG	031-1124-9-0961	EU: 71B-01H	619	400	Caterpillar C15	Caterpillar LC6	Apr 2010
8. EDG	031-1124-9-0962	EU: 72C-02H	619	400	Caterpillar C15	Caterpillar LC6	Jun 2010
9. EDG	031-1124-9-0963	EU: 55-03H	2,206	1,500	Caterpillar 3512C GD	Caterpillar SR4B-GD	Jun 2010
10. EDG	031-1124-9-0964	EU: 63-01G	2,923	1,750	Cummins QSK60-G6	Cummins DQKAA-AO30G129	Jun 2010
11. EDG	031-1124-9-0966	EU: 55-01H	2,206	1,500	Caterpillar 3512C	Caterpillar SR4B-GD	Jun 2010
12. EDG	031-1124-9-0967	EU: 55-02H	2,206	1,500	Caterpillar 3512C	Caterpillar SR4B-GD	Jun 2010
13. EDG	031-1124-9-0970	EU: 51-01G	685	405	Detroit Diesel 9DDXL 14.0VLD	Kohler 400 REOZDD	May 2010
14. EDG	031-1124-9-1008	EU: 17-01	903	600	Volvo TWD1643GE	Kohler 600 REOZ	Jul 2011
15. EDG	031-1124-9-1009	EU: 62-02G	903	600	Volvo TWD1643GE	Kohler 600REOZ	Jul 2011
16. EDG	031-1124-9-1010	EU: 63-02H	2,923	1,750	Cummins QSK60-G6	Cummins DQKAA-A040A134	Jul 2011
17. EDG	031-1124-9-1024	EU: 55-04H	2,206	1,500	Caterpillar 3512C	Caterpillar SR4B-GD	Nov 2011
18. EDG	031-1124-9-1003	EU: 44-02G	1,490	1,000	Cummins QST30-G5	Cummins DQFAD-576145	Aug 2010
19. EDG	031-1124-9-1004	EU: 44-01G	1,220	750	Cummins QSK23-G7 NR2	Cummins DQCB-576141	Aug 2010

Ref. No.*	MDE Reg. No.	Emissions Unit No.**	Engine Rating (hp)	Generator Rating (kW)	Engine Manufacturer and Model	Generator Manufacturer and Model	Installation Date
20. EDG	031-1124-9-1005	EU: 47-01G	1,220	750	Cummins QSK23-G7 NR2	Cummins DQCB-576143	Aug 2010
21. EDG	031-1124-9-1034	EU: 16-01C	4,423	3,000	Caterpillar C175	Caterpillar SR5	Feb 2012
22. EDG	031-1124-9-0960	EU: 70A-01H	546	350	Caterpillar C15	Caterpillar LC6	Jun 2010
23. EDG	031-1124-9-1132	EU: 16-03G^	1,884	1,275	Caterpillar 3512 BDITA	Kohler SR4	Apr 2015
24. EDG	031-1124-9-1128	EU: 01-02G^	1,490	800	Cummins QST30-G5	Stamford NHC20/QST30G 5 NR2	Apr 2015
25. EDG	031-1124-9-1138	EU: 202-01H	752	500	MTU 10V1600 G80S	MTU Onsite Energy	Jan 2016
26. EDG	031-1124-9-1140	EU: 01-01H	896	600	MTU 12V1600	MTU Onsite Energy	Jul 2016
27. EDG	031-1124-9-1183	EU: 16-01H^^	755	450	Cummins QSX15	Cummins DFEJ	Aug 2018
28. EDG	031-1124-9-1184	EU: 16-02H^^	755	450	Cummins QSX15	Cummins DFEJ	July 2018
29. EDG	031-2676-9-1179	EU: 45-01A^^	546***	400	Caterpillar 3456	Caterpillar SR4B	July 2019
30. EDG	031-1124-9-1185	EU: 55-05A^^	2,328	1,500	MTU 12V4000G43	MTU 12V4000DS1500	Not Yet Installed
31. EDG	031-1124-9-1186	EU: 55-06A^^	2,328	1,500	MTU 12V4000G43	MTU 12V4000DS1500	Not Yet Installed

* EDG = Emergency Diesel Generator

** EU: 71B-01H was previously identified as EU: 63-01H; EU: 63-01G was previously identified as EU: 61-01; EU: 51-01G was previously identified as EU: 174; EU: 62-02G was previously identified as EU: 17-02; EU: 44-02G was previously identified as EU: 47-01G; EU: 47-01G was previously identified as 44-02G.

***EU: 45-01A was permitted at 601 hp; however, when installed, the engine was rated at 546 hp.

^ Emission Unit removed from facility. EU 16-01G and EU16-02G were removed in 2018. EU 01-01G, EU 16-03G, and EU 01-02G were removed prior to 2018.

^^Emission Unit number is proposed.

There are two gasoline dispensing stations located at the NSAB facility. The NEX Gas Station, operated by the Navy Exchange, is located at Building 58 and is adjacent to Building 31, which includes a minimart that accompanies the gas station. The Government Gas Station, operated by the NSAB Transportation Service, is located at Gas Station 99 adjacent to Building 80, but the gas station did not operate in 2019. The two stations are under the control of different commands and operate independently

of each other. However, both stations are permitted under the same registration number.

The NEX Gas Station is a retail gasoline dispensing station used to refuel privately-owned vehicles and government-owned vehicles. The station has two 20,000 gallon underground storage tanks (UST) equipped with Stage I and Stage II vapor recovery systems to reduce emissions of VOCs during tank refilling and vehicle refueling operations. The station has a total of 12 unleaded gasoline dispensers. The NEX Gas Station throughput for the 2019 reporting year was 1,648,971 gallons^{vi} of gasoline (regular and premium).

The Government Gas Station was a gasoline dispensing station used to refuel government-owned vehicles (e.g. ambulances, police cars, buses, and maintenance vehicles). The station had one 10,000 gallon UST equipped with Stage I and Stage II vapor recovery systems to reduce emissions of VOCs during tank refilling and vehicle refueling operations. The gas station dispensers were out of service at the beginning of 2019 until the dispensers were removed in February 2019. The Government Gas Station throughput for the 2019 reporting year was zero gallons^{vii} of gasoline. Details on these gas stations are provided below. Underground storage tanks are set to be removed by April 2020.

Ref. No.	MDE Reg. No.	Emissions Unit No.	No. of Tanks (size in gallons)	Operating Company	Location	Control Device	Installation Date
1. NEX Gas Station	031-1124-9-0628 N	EU: 51A-01	2 (20,000)	Navy Exchange	Bldg. 31 and Bldg. 58	Stage I & II Vapor Recovery	1995
2. Government Gas Station	031-1124-9-0628 N	EU: 155-01	1 (10,000)	NSAB Transportation Service	Bldg. 99	Stage I & II Vapor Recovery	1997

2.4 EMISSIONS ESTIMATION METHODOLOGY

Emissions of criteria pollutants, hazardous air pollutants, and greenhouse gasses, for all individual sources, were estimated using readily available information. The emission estimation methodology in 2019 for internal

^{vi} NEX Gas Station throughput obtained from monthly fuel delivery logs provided by NEX Gas Station personnel.

^{vii} Government Gas Station was not operational in 2019 and dispensers were removed in February 2019.

combustion engines was changed from previous years to incorporate engine efficiency loss converting mechanical power to electrical power.

- Boiler NO_x emissions were calculated based on the following stack test results: Boiler #1 (5-1264) conducted on August 7, 8, 27, and 28, 2018; Boiler #2 (5-1263) conducted on August 29 and September 5, 2018; Boiler #3 (5-1241) conducted on August 9, 10, 30, and 31, 2018; Boiler #4 (5-1242) conducted on August 14, 31, and September 4, 2018; and Boiler #5 (5-2233) conducted on August 15, 16, September 4, and 11, 2018.
- All other emissions were calculated based on the U.S. Environmental Protection Agency Compilation of Air Pollution Emission Factors, Volume I: Stationary Point and Area Sources and Stationary Internal Combustion Sources, Fifth Edition, and associated supplements (1996, 1998, 2008, and 2010), EPA Publication No. AP-42, Research Triangle Park, North Carolina.

2.5

TOXIC AIR POLLUTANTS/HAZARDOUS AIR POLLUTANTS

Maryland facilities are required to quantify emissions of toxic air pollutants per the requirements of COMAR 26.11.01.04 and .05. The sources currently operated at NSAB are fuel burning equipment and gasoline dispensing stations that are operated for the purpose of refueling motor vehicles. During the 2019 calendar year, eleven HAP pollutants were noted over the COMAR reporting thresholds: acenaphthene, acrolein, arsenic, benzene, beryllium, cadmium, fluorene, formaldehyde, lead, mercury, and selenium. NSAB is providing a Form 4 for each pollutant to comply with regulatory requirements. Details on these pollutants are provided in the following table.

Pollutant	2019 Facility Emissions		MDE Reporting Threshold	
	lb/hr	ton/yr	lb/hr	ton/yr
Acenaphthene**	1.03E-03	1.49E-05	0.001	0.01
Acrolein^	0.003	3.00E-05	0.001	0.01
Arsenic*	4.51E-04	8.97E-05	0.0001	0.0001
Benzene^^	0.181	0.026	0.01	0.1
Beryllium*	3.38E-04	2.03E-05	0.00001	0.0001
Cadmium*	3.39E-04	3.90E-04	0.0001	0.0001
Fluorene**	0.003	3.99E-05	0.001	0.01
Formaldehyde**	0.057	0.027	0.001	0.01
Lead*	0.001	2.19E-04	0.0001	0.001
Mercury*	3.39E-04	1.05E-04	0.0001	0.001
Selenium*	0.002	8.95E-05	0.001	0.01

*Emissions of these pollutants are from the boilers located at NSAB.

**Emissions of these pollutants are from the boilers and engines located at NSAB.

^Emissions of these pollutants are from the engines located at NSAB.

^^Emissions of these pollutants are from the boilers, engines, and gas stations located at NSAB.

Supporting calculations are included in Tables 3-1 through 3-5. Specific example calculations are included at the top of Tables 3-2b (external combustion sources), Tables 3-3b (internal combustion sources), Tables 3-4 (gas stations), and Tables 3-5 (HAPs). Emission factors are included in Tables 3-6a and Tables 3-6b.

Tables 3-1: Seasonal and Annual Fuel Use
Naval Support Activity Bethesda (NSAB)
2019 Annual Emission Certification Report, Section 3.0

Season	Winter (Dec - Feb)	Spring (Mar - May)	Summer (Jun - Aug)	Fall (Sep - Nov)	Total
No. 2 Fuel Oil (gal)	91,534	10,315	8,225	8,344	118,418
Percent Usage per Season	77.3%	8.7%	6.9%	7.0%	-
Natural Gas (scf)	210,352,514	174,269,102	125,002,983	170,140,028	679,764,627
Percent Usage per Season	30.9%	25.6%	18.4%	25.0%	-
Total Fuel (MMBtu)	227,374	179,199	128,654	174,711	709,938
Percent Usage per Season	32%	25%	18%	25%	-

Btu Conversion Factors:

No. 2 Fuel oil:	<u>140,000</u>	Btu/gallon
Natural gas:	<u>1,020</u>	Btu/scf

Tables 3-2a: External Combustion Sources - Operations
Naval Support Activity Bethesda (NSAB)
2019 Annual Emission Certification Report, Section 3.0

Equipment Information									
Unit Designation	Boiler No. 1 ^{(1), (2)}	Boiler No. 2 ^{(1), (2)}	Boiler No. 3 ^{(1), (2)}	Boiler No. 4 ^{(1), (2)}	Boiler No. 5 ^{(1), (2)}	Water Heater No. 1 ⁽³⁾	NEX B-1 ⁽⁴⁾	NEX B-2 ⁽⁴⁾	NEX B-3 ⁽⁴⁾
Manufacturer	Cleaver Brooks	Cleaver Brooks	Cleaver Brooks	Cleaver Brooks	Cleaver Brooks	Aerco	RBI Futera	RBI Futera	RBI Futera
Model No.	DL-68	DL-68	DL-68	DL-68	DL-68E	INN 1060	Futera III MB 1500	Futera III MB 1500	Futera III MB 1500
MDE Registration No.	5-1264	5-1263	5-1241	5-1242	5-2233	5-2256	N/A	N/A	N/A
Date of Installation	11/1/2002	11/1/2002	1/1/2002	4/1/2002	6/1/2010	8/1/2011	11/17/2011	11/17/2011	11/17/2011
Max. Heat Input (MMBtu/hr)	67	67	67	67	71	1.06	1.50	1.50	1.50
Primary Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Secondary Fuel	No. 2 Fuel Oil	No. 2 Fuel Oil	No. 2 Fuel Oil	No. 2 Fuel Oil	No. 2 Fuel Oil	n/a	n/a	n/a	n/a
Fuel Consumption - Annual									
<i>Fuel Oil (Mgal)</i>	20.99	25.29	9.18	12.19	9.80	n/a	n/a	n/a	n/a
<i>Natural Gas (MMscf)</i>	272	164	113	74.1	54.5	0.379	0.709	0.709	0.709
Fuel Consumption - Ozone Season									
<i>Fuel Oil (Mgal)</i>	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a	n/a
<i>Natural Gas (MMscf)</i>	136	112	21.9	3.19	1.53	0.134	0.099	0.099	0.099

Notes:

(1) Boiler natural gas usage obtained from monthly fuel and steam reports supplied by Utilities heating plant personnel.

(2) Boiler fuel oil usage obtained from monthly fuel oil reports supplied by Utilities heating plant personnel.

(3) Water heater natural gas usage obtained from monthly utility bills provided by Navy Lodge personnel. January and February were estimated readings by Washington Gas and showed almost no usage. The March bill was an actual reading and showed nearly three times the typical usage numbers for the month. Readings from April-December were actual readings by Washington Gas. NSAB believes that the natural gas reading in March comprises the usage from January, February and March, as the estimate readings in January and February were likely incorrect.

(4) NEX Boiler natural gas usage obtained from monthly utility bills (Washington Gas, meter Z45767), provided by NEX personnel. Assumed an even distribution of fuel across the three boilers. Bills were not available for October and December. Natural gas usage was estimated based on the maximum usage over the past two years.

Tables 3-2b: External Combustion Sources - Emissions
Naval Support Activity Bethesda (NSAB)
2019 Annual Emission Certification Report, Section 3.0

All Emissions Calculated as Follows:																		
NO _x : ton/yr = (throughput) * (heating value of fuel) * (emission factor) / 2,000																		
All other pollutants: ton/yr = (throughput) * (emission factor) / 2,000																		
NO _x : lb/day = (throughput) * (heating value of fuel) * (emission factor) / (operating days)																		
All other pollutants: lb/day = (throughput) * (emission factor) / (operating days)																		
Example Calculations:																		
Boiler #1 used a total of 272 million cubic feet of natural gas and 21,000 gallons of No. 2 fuel oil in 2019. Boiler #1 used a total of 136 million cubic feet of natural gas on 181 operating days during ozone season in 2019. Boiler #1 did not operating on No. 2 fuel oil during ozone season in 2019.																		
Example calculations using stack test emission factors:																		
NO _x ton/yr (from natural gas) = (272 MMscf/yr) * (1,020 MMBtu/MMscf) * (0.030 lb/MMBtu) * (1 ton/2,000 lb) = 4.17 ton/yr																		
NO _x ton/yr (from No. 2 fuel oil) = (21.0 Mgal/yr) * (140 MMBtu/Mgal) * (0.046 lb/MMBtu) * (1 ton/2,000 lb) = 0.068 ton/yr																		
Ozone Season NO _x lb/day (from natural gas) = (136 MMscf) * (1,020 MMBtu/MMscf) * (0.030 lb/MMBtu) / 181 day = 23.0 lb/day																		
Example calculations using AP-42 emission factors:																		
CO ton/yr (from natural gas) = (272 MMscf/yr) * (84 lb/MMscf) * (1 ton/2,000 lb) = 11.4 ton/yr																		
CO ton/yr (from No. 2 fuel oil) = (21.0 Mgal/yr) * (5 lb/Mgal) * (1 ton/2,000 lb) = 0.052 ton/yr																		
Ozone Season VOC lb/day (from natural gas) = (136 MMscf) * (5.5 lb/MMscf) / 181 day = 4.14 lb/day																		

Reporting Season Emission Calculations ^{(1), (3), (4)}																		
Equipment		Fuel Information				Criteria Pollutants (tpy)									Primary GHGs (tpy)			Total HAPs (tpy) ⁽⁵⁾
MDE Registration Number	Equipment Name	Fuel	Operating Days ⁽⁶⁾	Throughput	Throughput Units	Nitrogen Oxides (NO _x)	Carbon Monoxide (CO)	Sulfur Dioxide (SO ₂)	Volatile Organic Compounds (VOC)	PM Filterable (total)	PM10 Filterable	PM2.5 Filterable	PM Condensable	Lead (Pb)	Carbon Dioxide (CO ₂)	Methane (CH ₄)	Nitrous Oxide (N ₂ O)	
5-1264	Boiler 1	Natural Gas	335	272	MMscf/yr	4.17	11.4	0.082	0.749	0.259	0.259	0.259	0.776	6.81E-05	16,338	0.313	0.300	0.261
5-1264	Boiler 1	No. 2 Fuel Oil	5	21.0	Mgal/yr	0.068	0.052	0.002	0.004	0.021	0.011	0.009	0.014	1.32E-05	234	0.002	0.003	5.17E-04
5-1263	Boiler 2	Natural Gas	218	164	MMscf/yr	2.59	6.88	0.049	0.450	0.156	0.156	0.156	0.467	4.10E-05	9,829	0.188	0.180	0.157
5-1263	Boiler 2	No. 2 Fuel Oil	5	25.3	Mgal/yr	0.092	0.063	0.003	0.004	0.025	0.014	0.010	0.016	1.59E-05	282	0.003	0.003	6.23E-04
5-1241	Boiler 3	Natural Gas	121	113	MMscf/yr	1.44	4.73	0.034	0.310	0.107	0.107	0.107	0.321	2.81E-05	6,753	0.129	0.124	0.108
5-1241	Boiler 3	No. 2 Fuel Oil	2	9.18	Mgal/yr	0.026	0.023	0.001	0.002	0.009	0.005	0.004	0.006	5.78E-06	102	0.001	0.001	2.26E-04
5-1242	Boiler 4	Natural Gas	104	74.1	MMscf/yr	1.06	3.11	0.022	0.204	0.070	0.070	0.070	0.211	1.85E-05	4,447	0.085	0.082	0.071
5-1242	Boiler 4	No. 2 Fuel Oil	4	12.2	Mgal/yr	0.034	0.030	0.001	0.002	0.012	0.007	0.005	0.008	7.68E-06	136	0.001	0.002	3.00E-04
5-2233	Boiler 5	Natural Gas	85	54.5	MMscf/yr	0.722	2.29	0.016	0.150	0.052	0.052	0.052	0.155	1.36E-05	3,269	0.063	0.060	0.052
5-2233	Boiler 5	No. 2 Fuel Oil	4	9.80	Mgal/yr	0.035	0.024	0.001	0.002	0.010	0.005	0.004	0.006	6.17E-06	109	0.001	0.001	2.41E-04
5-2256	Water Heater No. 1	Natural Gas	365	0.379	MMscf/yr	0.009	0.016	1.14E-04	0.001	3.60E-04	3.60E-04	3.60E-04	0.001	9.46E-08	22.7	4.35E-04	4.16E-04	3.63E-04
5-2407	NEX Boiler 1	Natural Gas	365	0.709	MMscf/yr	0.035	0.030	2.13E-04	0.002	0.001	0.001	0.001	0.002	1.77E-07	42.5	0.001	0.001	0.001
5-2408	NEX Boiler 2	Natural Gas	365	0.709	MMscf/yr	0.035	0.030	2.13E-04	0.002	0.001	0.001	0.001	0.002	1.77E-07	42.5	0.001	0.001	0.001
5-2409	NEX Boiler 3	Natural Gas	365	0.709	MMscf/yr	0.035	0.030	2.13E-04	0.002	0.001	0.001	0.001	0.002	1.77E-07	42.5	0.001	0.001	0.001

Ozone Season Emission Calculations ^{(2), (3), (4)}							
Equipment		Fuel Information				Pollutants (lb/day)	
MDE Registration Number	Equipment Name	Fuel	Operating Days ⁽⁶⁾	Ozone Season Throughput	Units	Nitrogen Oxides (NO _x)	Volatile Organic Compounds (VOC)
5-1264	Boiler 1	Natural Gas	181	136	MMscf	23.0	4.14
5-1264	Boiler 1	No. 2 Fuel Oil	0	0	Mgal	0	0
5-1263	Boiler 2	Natural Gas	152	112	MMscf	23.3	4.06
5-1263	Boiler 2	No. 2 Fuel Oil	0	0	Mgal	0	0
5-1241	Boiler 3	Natural Gas	29	21.9	MMscf	19.3	4.16
5-1241	Boiler 3	No. 2 Fuel Oil	0	0	Mgal	0	0
5-1242	Boiler 4	Natural Gas	9	3.19	MMscf	10.1	1.95
5-1242	Boiler 4	No. 2 Fuel Oil	0	0	Mgal	0	0
5-2233	Boiler 5	Natural Gas	4	1.53	MMscf	10.2	2.11
5-2233	Boiler 5	No. 2 Fuel Oil	0	0	Mgal	0	0
5-2256	Water Heater No. 1	Natural Gas	183	0.134	MMscf	0.037	0.004
5-2407	NEX Boiler 1	Natural Gas	183	0.099	MMscf	0.054	0.003
5-2408	NEX Boiler 2	Natural Gas	183	0.099	MMscf	0.054	0.003

Notes:

(1) Reporting Season is from January 01 through December 31.

(2) Ozone Season is from April 01 through September 30.

(3) All boiler NO_x emissions are calculated using stack test emission factors as listed in Tables 3-6a: Emission Factors - External Combustion Sources.

(4) All other emissions are calculated using emission factors from AP-42 Chapters 1.3 and 1.4 as listed in Tables 3-6a: Emission Factors - External Combustion Sources.

(5) All HAP emissions are calculated using emission factors from AP-42 Chapters 1.3 and 1.4 as listed in Tables 3-6a: Emission Factors - External Combustion Sources. A detailed summary of HAP emissions is presented in Tables 3-5: HAPS Reporting Determination.

(6) Boiler natural gas operating days from monthly fuel and steam reports and boiler fuel oil operating days from monthly fuel oil reports supplied by Utilities heating plant personnel. Assumed Water Heater No. 1 and NEX Boilers operated every day.

Heating Values of Fuel:

Natural Gas: 1,020 MMBtu/MMscf No. 2 Fuel Oil: 140 MMBtu/Mgal

Tables 3-3a: Internal Combustion Sources - Operations
Naval Support Activity Bethesda (NSAB)
2019 Annual Emission Certification Report, Section 3.0

Operating Schedule																							
Equipment	Emission Unit ⁽⁴⁾	MDE Reg. Number	Hours of Operation ⁽¹⁾													Reporting Season ⁽²⁾				Ozone Season ⁽³⁾		Total Fuel Usage (Gallons)	Capacity Factor
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total ⁽⁵⁾	Hours/Day	Days/Week	Weeks/Year	Days/Year	Hours	Days		
Emergency Generator	07-01G	9-0804	0.0	0.0	0.1	0.0	0.4	0.4	0.0	0.0	0.4	0.5	0.0	2.8	4.6	0.77	1.00	6	6	1.2	3	156	0.053
Emergency Generator	53-01G	9-0805	1.3	2.8	0.7	0.7	1.0	1.9	0.2	0.9	0.8	0.8	0.8	2.7	14.6	1.22	1.00	12	12	5.5	6	391	0.167
Emergency Generator	16-01G	9-0806	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0	0	0.0	0	0	0.000
Emergency Generator	16-01H	9-1183	1.5	0.0	1.0	0.5	1.4	1.4	1.5	0.8	0.4	0.3	0.4	0.8	10.0	0.91	1.00	11	11	6.0	6	378	0.114
Emergency Generator	16-02G	9-0807	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0	0	0.0	0	0	0.000
Emergency Generator	16-02H	9-1184	2.6	0.0	1.0	0.6	1.4	1.5	0.9	0.7	0.4	0.2	0.5	0.7	10.5	0.95	1.00	11	11	5.5	6	396	0.120
Emergency Generator	01-01G	9-0811	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0	0	0.0	0	0	0.000
Emergency Generator	27-01A	9-0949	0.0	2.7	2.5	1.0	1.9	2.2	2.1	0.8	2.7	2.1	0.8	5.6	24.4	2.22	1.00	11	11	10.7	6	1,481	0.279
Emergency Generator	71B-01H	9-0961	0.0	1.6	1.7	0.0	1.1	2.1	5.0	0.0	0.8	1.0	1.1	1.1	15.5	1.72	1.00	9	9	9.0	4	480	0.177
Emergency Generator	72C-02H	9-0962	0.0	1.5	3.8	0.0	2.1	3.0	0.0	1.0	10.3	1.9	1.9	5.6	31.1	3.46	1.00	9	9	16.4	4	963	0.355
Emergency Generator	55-03H	9-0963	0.0	2.8	1.2	2.3	9.1	2.3	1.8	2.6	3.9	2.2	1.3	9.2	38.7	3.52	1.00	11	11	22.0	6	4,269	0.442
Emergency Generator	63-01G	9-0964	0.0	14.0	3.2	1.0	3.6	3.7	4.4	0.0	4.0	1.4	1.1	3.8	40.2	4.02	1.00	10	10	16.7	5	5,875	0.459
Emergency Generator	55-01H	9-0966	0.0	3.0	1.2	2.3	9.2	2.3	1.8	2.6	4.7	2.1	1.1	9.4	39.7	3.61	1.00	11	11	22.9	6	4,379	0.453
Emergency Generator	55-02H	9-0967	0.0	3.0	1.2	2.3	9.2	2.5	1.8	2.6	3.6	2.2	1.3	9.2	38.9	3.54	1.00	11	11	22.0	6	4,291	0.444
Emergency Generator	51-01G	9-0970	0.0	0.0	0.2	0.0	0.3	0.0	0.1	0.1	0.4	0.5	0.0	1.3	2.9	0.41	1.00	7	7	0.9	4	99	0.033
Emergency Generator	17-01	9-1008	0.0	5.0	2.5	1.5	2.5	2.6	2.7	1.1	3.3	3.3	2.4	4.9	31.8	2.89	1.00	11	11	13.7	6	1,436	0.363
Emergency Generator	62-02G	9-1009	0.0	6.7	4.6	3.0	3.1	3.8	4.0	1.9	5.4	4.2	2.2	6.8	45.7	4.15	1.00	11	11	21.2	6	2,063	0.522
Emergency Generator	63-02H	9-1010	0.0	16.0	3.0	1.0	3.0	4.0	5.0	0.0	4.0	1.0	1.0	4.0	42.0	4.20	1.00	10	10	17.0	5	6,138	0.479
Emergency Generator	55-04H	9-1024	0.0	2.9	1.2	2.4	9.1	2.3	1.8	2.6	3.6	2.1	1.1	9.2	38.3	3.48	1.00	11	11	21.8	6	4,224	0.437
Emergency Generator	44-02G	9-1003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0	0	0.0	0	0	0.000
Emergency Generator	44-01G	9-1004	0.0	1.7	0.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.00	1.00	3	3	0.6	1	183	0.034
Emergency Generator	47-01G	9-1005	0.0	1.0	3.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	9.0	1.0	16.0	2.67	1.00	6	6	2.0	2	976	0.183
Emergency Generator	16-01C	9-1034	0.0	0.0	0.1	0.0	1.9	2.3	1.3	1.0	0.6	0.4	0.3	2.2	10.1	1.01	1.00	10	10	7.1	5	2,234	0.115
Emergency Generator	70A-01H	9-0960	0.0	1.7	1.8	0.0	1.0	2.1	4.6	0.0	0.7	8.6	1.1	1.0	22.6	2.26	1.00	10	10	8.4	4	617	0.258
Emergency Generator	16-03G	9-1132	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0	0	0.0	0	0	0.000
Emergency Generator	01-02G	9-1128	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0	0	0.0	0	0	0.000
Emergency Generator	202-01H	9-1138	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.1	0.3	0.8	0.1	0.2	1.9	0.27	1.00	7	7	0.5	3	71	0.022
Emergency Generator	01-01H	9-1140	0.0	0.1	4.9	0.0	0.3	0.0	0.0	0.0	0.2	0.6	0.6	4.1	10.8	1.54	1.00	7	7	0.5	2	482	0.123
Emergency Generator	45-01A	9-1179	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	2.0	1.0	1.0	6.0	1.20	1.00	5	5	2.0	2	164	0.068
Emergency Generator Total			5.4	66.5	40.0	20.2	61.6	40.5	40.0	19.9	51.5	38.1	29.1	86.6	499.3					233.6		41,746	

Notes:

- (1) Engine hours of operation obtained from monthly generator hours workbook provided by Public Works Dept. personnel.
- (2) Reporting Season is from January 01 through December 31.
- (3) Ozone Season is from April 01 through September 30.
- (4) The NSAB Title V permit renewal was issued in 2016 and included changes to the facility emergency generators. Below is a summary of those changes:
- 202-01G: Removed from Title V permit
 - 71B-01H: Previously identified as 63-01H
 - 63-01G: Previously identified as 61-01
 - 51-01G: Previously identified as 174
 - 62-02G: Previously identified as 17-02
 - 44-02G: Previously identified as 47-01G
 - 47-01G: Previously identified as 44-02G
 - 202-01H: Added to Title V permit
 - 01-01H: Added to Title V permit
- (5) 16-01H and 16-02H are proposed Emission Unit numbers for the engines that replaced 16-01G and 16-02G.
- (6) 45-01A is a proposed Emission Unit number for the engine that replaced an insignificant engine at Building 45.
- (7) Each emergency generator is limited to 100 hr/yr for testing and maintenance purposes; there is no hours limit for emergency purposes.

Key:

- Out of Service
- Removed from Facility

2019 Annual Emission Certification Report, Section 3.0

All Emissions Calculated as Follows:
ton/yr = (operating hours) * (engine size) * (emission factor) / 2,000
lb/day = (operating hours) * (engine size) * (emission factor) / (operating days)
Example Calculations:
<i>Emergency Generator 9-0805 (EU: 53-01G) operated for a total of 14.6 hours in 2019, 5.5 hours during ozone season in 2019, and 6 days during ozone season in 2019. The unit is rated at 536 bhp (400 kW). Therefore, AP-42 emission factors for diesel engines less than 600 horsepower are used for emission</i>
<u>Example calculations using AP-42 emission factors:</u>
NO _x , ton/yr = (14.6 hr/yr) * (536 hp) * (0.031 lb/hp-hr) * (1 ton/2,000 lb) = 0.121 ton/yr
Ozone Season VOC lb/day = (5.5 hr) * (536 hp) * (2.51E-03 lb/hp-hr) / (6 day) = 1.24 lb/day

Reporting Season Emission Calculations ^{(1), (8)}																
Equipment		Specifications		Operations		Criteria Pollutants (ton/yr)								Other Pollutants (ton/yr)		
Emission Unit Number ⁽⁶⁾	MDE Registration Number	Generator Size (kW)	Engine Size (hp)	Fuel	Annual Operating Hours ⁽⁷⁾	Nitrogen Oxides (NO _x)	Carbon Monoxide (CO)	Sulfur Dioxide (SO ₂) ⁽⁴⁾	PM Filterable (total)	PM10 Filterable	PM2.5 Filterable	PM Condensable	Volatile Organic Compounds (VOC)	Carbon Dioxide (CO2)	Aldehydes	Total HAPs ⁽⁵⁾
07-01G	9-0804	400	680	No. 2 Fuel Oil	4.6	0.038	0.009	0.004	0.001	0.001	0.001	8.43E-05	0.001	1.81	--	1.72E-05
53-01G	9-0805	400	536	No. 2 Fuel Oil	14.6	0.121	0.026	0.008	0.009	0.009	0.009	0.009	0.010	4.50	1.81E-03	1.06E-04
16-01G	9-0806	410	550	No. 2 Fuel Oil	0	0	0	0	0	0	0	0	0	0	0	0
16-01H	9-1183	450	755	No. 2 Fuel Oil	10.0	0.091	0.021	0.009	0.002	0.001	0.001	2.03E-04	0.002	4.38	--	4.16E-05
16-02G	9-0807	410	550	No. 2 Fuel Oil	0	0	0	0	0	0	0	0	0	0	0	0
16-02H	9-1184	450	755	No. 2 Fuel Oil	10.5	0.095	0.022	0.010	0.002	0.001	0.001	2.14E-04	0.003	4.60	--	4.37E-05
01-01G	9-0811	600	890	No. 2 Fuel Oil	0	0	0	0	0	0	0	0	0	0	--	0
27-01A	9-0949	800	1,214	No. 2 Fuel Oil	24.4	0.355	0.081	0.036	0.006	0.005	0.005	0.001	0.010	17.2	--	1.63E-04
71B-01H	9-0961	400	619	No. 2 Fuel Oil	15.5	0.115	0.026	0.012	0.002	0.002	0.002	2.59E-04	0.003	5.56	--	5.28E-05
72C-02H	9-0962	400	619	No. 2 Fuel Oil	31.1	0.231	0.053	0.023	0.004	0.003	0.003	0.001	0.006	11.2	--	1.06E-04
55-03H	9-0963	1,500	2,206	No. 2 Fuel Oil	38.7	1.02	0.235	0.104	0.019	0.015	0.014	0.002	0.027	49.5	--	4.70E-04
63-01G	9-0964	1,750	2,923	No. 2 Fuel Oil	40.2	1.41	0.323	0.143	0.025	0.020	0.020	0.003	0.038	68.2	--	6.47E-04
55-01H	9-0966	1,500	2,206	No. 2 Fuel Oil	39.7	1.05	0.241	0.106	0.019	0.015	0.015	0.002	0.028	50.8	--	4.82E-04
55-02H	9-0967	1,500	2,206	No. 2 Fuel Oil	38.9	1.03	0.236	0.104	0.019	0.015	0.014	0.002	0.028	49.8	--	4.73E-04
51-01G	9-0970	405	685	No. 2 Fuel Oil	2.9	0.024	0.005	0.002	4.31E-04	3.45E-04	3.33E-04	5.35E-05	0.001	1.15	--	1.09E-05
17-01	9-1008	600	903	No. 2 Fuel Oil	31.8	0.345	0.079	0.035	0.006	0.005	0.005	0.001	0.009	16.7	--	1.58E-04
62-02G	9-1009	600	903	No. 2 Fuel Oil	45.7	0.495	0.113	0.050	0.009	0.007	0.007	0.001	0.013	23.9	--	2.27E-04
63-02H	9-1010	1,750	2,923	No. 2 Fuel Oil	42.0	1.47	0.338	0.149	0.027	0.021	0.021	0.003	0.039	71.2	--	6.76E-04
55-04H	9-1024	1,500	2,206	No. 2 Fuel Oil	38.3	1.01	0.232	0.103	0.018	0.015	0.014	0.002	0.027	49.0	--	4.65E-04
44-02G	9-1003	1,000	1,490	No. 2 Fuel Oil	0	0	0	0	0	0	0	0	0	0	--	0
44-01G	9-1004	750	1,220	No. 2 Fuel Oil	3.0	0.044	0.010	0.004	0.001	0.001	0.001	9.86E-05	0.001	2.12	--	2.02E-05
47-01G	9-1005	750	1,220	No. 2 Fuel Oil	16.0	0.234	0.054	0.024	0.004	0.003	0.003	0.001	0.006	11.3	--	1.08E-04
16-01C	9-1034	3,000	4,423	No. 2 Fuel Oil	10.1	0.536	0.123	0.054	0.010	0.008	0.007	0.001	0.014	25.9	--	2.46E-04
70A-01H	9-0960	350	546	No. 2 Fuel Oil	22.6	0.191	0.041	0.013	0.014	0.014	0.014	0.014	0.016	7.10	2.86E-03	1.67E-04
16-03G	9-1132	1,275	1,884	No. 2 Fuel Oil	0	0	0	0	0	0	0	0	0	0	--	0
01-02G	9-1128	1,038	1,490	No. 2 Fuel Oil	0	0	0	0	0	0	0	0	0	0	--	0
202-01H	9-1138	500	752	No. 2 Fuel Oil	1.9	0.017	0.004	0.002	3.10E-04	2.48E-04	2.40E-04	3.85E-05	4.58E-04	0.829	--	7.87E-06
01-01H	9-1140	600	896	No. 2 Fuel Oil	10.8	0.116	0.026	0.012	0.002	0.002	0.002	2.60E-04	0.003	5.59	--	5.30E-05
45-01A	9-1179	400	546	No. 2 Fuel Oil	6.0	0.051	0.011	0.003	0.004	0.004	0.004	0.004	0.004	1.88	7.58E-04	4.44E-05

Ozone Season Emission Calculations ^{(2), (3)}							
Equipment		Specifications		Operations		Pollutants (lb/day)	
Emission Unit Number ⁽⁶⁾	MDE Registration Number	Generator Size (kW)	Engine Size (hp)	Fuel	Ozone Season Operating Hours	Nitrogen Oxides (NO _x)	Volatile Organic Compounds (VOC)
07-01G	9-0804	400	680	No. 2 Fuel Oil	1.2	6.53	0.175
53-01G	9-0805	400	536	No. 2 Fuel Oil	5.5	15.2	1.24
16-01G	9-0806	410	550	No. 2 Fuel Oil	0	0	0
16-01H	9-1183	450	755	No. 2 Fuel Oil	6.0	18.1	0.484
16-02G	9-0807	410	550	No. 2 Fuel Oil	0	0	0
16-02H	9-1184	450	755	No. 2 Fuel Oil	5.5	16.6	0.444
01-01G	9-0811	600	890	No. 2 Fuel Oil	0	0	0
27-01A	9-0949	800	1,214	No. 2 Fuel Oil	10.7	52.0	1.39
71B-01H	9-0961	400	619	No. 2 Fuel Oil	9.0	33.4	0.894
72C-02H	9-0962	400	619	No. 2 Fuel Oil	16.4	60.9	1.63
55-03H	9-0963	1,500	2,206	No. 2 Fuel Oil	22.0	194	5.19
63-01G	9-0964	1,750	2,923	No. 2 Fuel Oil	16.7	234	6.26
55-01H	9-0966	1,500	2,206	No. 2 Fuel Oil	22.9	202	5.40
55-02H	9-0967	1,500	2,206	No. 2 Fuel Oil	22.0	194	5.19
51-01G	9-0970	405	685	No. 2 Fuel Oil	0.9	3.70	0.099
17-01	9-1008	600	903	No. 2 Fuel Oil	13.7	49.5	1.32
62-02G	9-1009	600	903	No. 2 Fuel Oil	21.2	76.6	2.05
63-02H	9-1010	1,750	2,923	No. 2 Fuel Oil	17.0	239	6.38
55-04H	9-1024	1,500	2,206	No. 2 Fuel Oil	21.8	192	5.14
44-02G	9-1003	1,000	1,490	No. 2 Fuel Oil	0	0	0
44-01G	9-1004	750	1,220	No. 2 Fuel Oil	0.6	17.6	0.470
47-01G	9-1005	750	1,220	No. 2 Fuel Oil	2.0	29.3	0.783
16-01C	9-1034	3,000	4,423	No. 2 Fuel Oil	7.1	151	4.03
70A-01H	9-0960	350	546	No. 2 Fuel Oil	8.4	35.5	2.88
16-03G	9-1132	1,275	1,884	No. 2 Fuel Oil	0	0	0
01-02G	9-1128	1,038	1,490	No. 2 Fuel Oil	0	0	0
202-01H	9-1138	500	752	No. 2 Fuel Oil	0.5	3.13	0.084
01-01H	9-1140	600	896	No. 2 Fuel Oil	0.5	5.38	0.144

Out of Service
Removed from Facility

Out of Service

Out of Service
Removed from Facility

Tables 3-4: Gasoline Dispensing - Operations and Emissions
Naval Support Activity Bethesda (NSAB)
2019 Annual Emission Certification Report, Section 3.0

All Emissions Calculated as Follows:
VOC: ton/yr = [(throughput) / 1,000] * (emission factor) / 2,000
HAPs: ton/yr HAP = (ton/yr VOC) * (Weight % HAP)
VOC: lb/day = (VOC ton/yr) * (Operating Days) / 2,000
Example Calculations:
<i>The throughput for the NEX Gas Station during 2019 was 1,648,971 gallons of gasoline product.</i>
<i>Example calculations for VOC:</i>
ton/yr = [(1,648,971 gal/yr) * (1 Mgal/1,000 gal)] * (3.1 lb/Mgal) * (1 ton/2,000 lb) = 2.56 ton/yr
lb/day = (2.56 ton/yr) * (1 yr/365 day) * (2,000 lb/1 ton) = 14.0 lb/day
<i>Example calculations for HAPs (e.g. Benzene):</i>
ton/yr Benzene = (2.56 ton/yr VOC) * (0.9% weight Benzene) = 0.023 ton/yr Benzene

Government Gas Station	Annual	Ozone
Equipment Information		
Tank Capacity (gal)	10,000	10,000
Tank Contents	Gasoline	Gasoline
MDE Registration No.	9-0628 ⁽¹⁾	9-0628 ⁽¹⁾
Gasoline Throughput (gal) ⁽²⁾	0	0
Date of Installation	1997	1997
Emission Controls	Stage I & II	Stage I & II
Emission Schedule		
Hours per Day	24	24
Operating Days	365	183
Emission Factors⁽⁴⁾		
VOC (lb/Mgal dispensed)	3.1	3.1
Emissions		
VOC (lb/day)	0	0
VOC (ton/yr)	0	0
HAP Emissions - VOC Speciation ⁽⁵⁾		
2,2,4-Trimethylpentane (ton/yr)	0	0
Benzene (ton/yr)	0	0
Ethyl Benzene (ton/yr)	0	0
Hexane (ton/yr)	0	0
POM as 16-PAH (ton/yr)	0	0
Toluene (ton/yr)	0	0
Xylene (ton/yr)	0	0

NEX Gas Station	Annual	Ozone
Equipment Information		
Tank Capacity (gal)	(2) 20,000	(2) 20,000
Tank Contents	Gasoline	Gasoline
MDE Registration No.	9-0628 ⁽¹⁾	9-0628 ⁽¹⁾
Gasoline Throughput (gal) ⁽³⁾	1,648,971	844,608
Date of Installation	1995	1995
Emission Controls	Stage I & II	Stage I & II
Emission Schedule		
Hours per Day	24	24
Operating Days	365	183
Emission Factors⁽⁴⁾		
VOCs (lb/Mgal dispensed)	3.1	3.1
Emissions		
VOC (lb/day)	14.0	14.3
VOC (ton/yr)	2.56	1.31
HAP Emissions - VOC Speciation ⁽⁵⁾		
2,2,4-Trimethylpentane (ton/yr)	0.020	0.010
Benzene (ton/yr)	0.023	0.012
Ethyl Benzene (ton/yr)	0.003	0.001
Hexane (ton/yr)	0.041	0.021
POM as 16-PAH (ton/yr)	0.013	0.007
Toluene (ton/yr)	0.033	0.017
Xylene (ton/yr)	0.013	0.007

Notes:

(1) The two sets of gasoline storage tanks were registered as a single tank farm, hence, they have the same permit number.

(2) Government Gas Station was taken out of service in 2018. The dispenser was removed in February 2019.

(3) NEX Gas Station throughput obtained from monthly fuel delivery logs provided by NEX Gas Station personnel.

(4) Emission factors from AP-42 Chapter 5.2, Transportation and Marketing of Petroleum Liquids, and are listed in Tables 3-6b: Emission Factors - Internal Combustion Sources and Gasoline Dispensing Operations.

(5) The VOC speciation was obtained from <http://www.epa.gov/ttnchie1/conference/ei12/area/johnson.pdf>, and is listed in Tables 3-6b: Emission Factors - Internal Combustion Sources and Gasoline Dispensing Operations.

Tables 3-5: HAPS Reporting Determination
Naval Support Activity Bethesda (NSAB)
2019 Annual Emission Certification Report, Section 3.0

All Emissions Calculated as Follows:										
Facility-Wide HAP Pollutant ton/yr = [External Combustion Sources HAP Pollutant ton/yr] + [Internal Combustion Sources HAP Pollutant ton/yr] + [Gas Stations HAP Pollutant ton/yr]										
Facility-Wide HAP Pollutant lb/hr = [External Combustion Sources HAP Pollutant lb/hr] + [Internal Combustion Sources HAP Pollutant lb/hr] + [Gas Stations HAP Pollutant lb/hr]										
Where: External Combustion Sources HAP Pollutant lb/hr = $\sum$ Max. Boiler _a HAP Pollutant lb/hr + Water Heater HAP Pollutant lb/hr + $\sum$ NEX Boiler _b HAP Pollutant lb/hr; for a = 1-5, b = 1-3										
Where: Max. Boiler HAP Pollutant lb/hr = (Boiler _{Fuel} HAP Pollutant ton/yr) * (2,000 lb/ton) / (Boiler _{Fuel} operating days) / (24 hr/day);										
Fuel = Natural gas or No. 2 fuel oil, which ever yields the larger lb/hr result										
Where: Water Heater HAP Pollutant lb/hr = (Water Heater HAP Pollutant ton/yr) * (2,000 lb/ton) / (8,760 hr/yr)										
Where: NEX Boiler HAP Pollutant lb/hr = (NEX Boiler HAP Pollutant ton/yr) * (2,000 lb/ton) / (8,760 hr/yr)										
Where: Internal Combustion Sources HAP Pollutant lb/hr = $\sum$ Engine Rating _n (hp) * HAP Pollutant Emission Factor (lb/MMBtu) * BSFC (Btu/hp-hr) * (MMBtu/1,000,000 Btu); for all n Engines										
Where: Gas Stations HAP Pollutant lb/hr = (Gas Stations HAP Pollutant ton/yr) * (2,000 lb/ton) / (8,760 hr/yr)										
See Tables 3-2b, Tables 3-3b, and Tables 3-4 for further example calculations for individual pieces of equipment.										
Example Calculations:										
Facility-Wide Benzene Emissions:										
ton/yr Benzene = (7.22E-04 ton/yr Benzene from External Combustion Sources) + (0.002 ton/yr Benzene from Internal Combustion Sources)										
+ (0.023 ton/yr Benzene from Gas Stations) = 0.026 ton/yr Benzene										
lb/hr Benzene = (3.37E-04 lb/hr Benzene from External Combustion Sources) + (0.175 lb/hr Benzene from Internal Combustion Sources)										
+ (0.005 lb/hr Benzene from Gas Stations) = 0.181 lb/hr Benzene										

HAPs	External Combustion Sources		Internal Combustion Sources		Gas Stations		Facility-Wide		MDE Reporting Thresholds		Report?
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	
Acenaphthene	1.70E-05	1.43E-06	1.01E-03	1.34E-05	0	0	1.03E-03	1.48E-05	0.001	0.01	YES
Acenaphthylene	2.89E-07	6.22E-07	0.002	2.66E-05	0	0	0.002	2.73E-05	0.01	0.1	NO
Acetaldehyde	0	0	0.014	1.35E-04	0	0	0.014	1.35E-04	0.1	0.1	NO
Acrolein	0	0	0.003	3.00E-05	0	0	0.003	3.00E-05	0.001	0.01	YES
Anthracene	9.84E-07	8.63E-07	2.82E-04	3.65E-06	0	0	2.83E-04	4.51E-06	0.001	0.01	NO
Arsenic	4.51E-04	8.97E-05	0	0	0	0	4.51E-04	8.97E-05	0.0001	0.0001	YES
Benz(a)anthracene	3.23E-06	7.67E-07	1.51E-04	1.90E-06	0	0	1.54E-04	2.67E-06	0.001	0.001	NO
Benzene	3.37E-04	7.22E-04	0.175	0.002	0.005	0.023	0.181	0.026	0.01	0.1	YES
Benzo(a)pyrene	1.93E-07	4.08E-07	5.67E-05	7.45E-07	0	0	5.69E-05	1.15E-06	0.001	0.0001	NO
Benzo(b)fluoranthene	1.19E-06	6.69E-07	2.37E-04	3.16E-06	0	0	2.38E-04	3.83E-06	0.1	0.001	NO
Benzo(g,h,i)perylene	1.82E-06	4.95E-07	1.24E-04	1.62E-06	0	0	1.25E-04	2.11E-06	0.001	0.01	NO
Benzo(k)fluoranthene	1.19E-06	6.69E-07	4.80E-05	6.32E-07	0	0	4.92E-05	1.30E-06	0.01	0.01	NO
Beryllium	3.38E-04	2.03E-05	0	0	0	0	3.38E-04	2.03E-05	0.00001	0.0001	YES
1,3-Butadiene	0	0	4.46E-04	3.21E-06	0	0	4.46E-04	3.21E-06	0.01	0.001	NO
Cadmium	3.39E-04	3.90E-04	0	0	0	0	3.39E-04	3.90E-04	0.0001	0.0001	YES
Chromium	3.39E-04	4.92E-04	0	0	0	0	3.39E-04	4.92E-04	0.001	0.01	NO
Chrysene	1.92E-06	7.04E-07	3.29E-04	4.37E-06	0	0	3.31E-04	5.08E-06	0.001	0.01	NO
Cobalt	1.35E-05	2.86E-05	0	0	0	0	1.35E-05	2.86E-05	0.0001	0.001	NO
Copper	6.77E-04	3.21E-04	0	0	0	0	6.77E-04	3.21E-04	0.001	0.01	NO
Dibenzo(a,h)anthracene	1.35E-06	4.73E-07	8.01E-05	1.03E-06	0	0	8.14E-05	1.50E-06	0.0001	0.0001	NO
Ethylbenzene	5.13E-05	2.46E-06	0	0	5.84E-04	0.003	6.35E-04	0.003	1	10	NO
Fluoranthene	3.90E-06	1.21E-06	9.42E-04	1.21E-05	0	0	9.46E-04	1.33E-05	0.1	0.1	NO
Fluorene	3.60E-06	1.12E-06	0.003	3.87E-05	0	0	0.003	3.99E-05	0.001	0.01	YES
Formaldehyde	0.027	0.027	0.030	3.21E-04	0	0	0.057	0.027	0.001	0.01	YES
Hexane	0.289	0.612	0	0	0.009	0.041	0.298	0.653	1	10	NO
Indeno(1,2,3-cd)pyrene	1.73E-06	6.95E-07	9.21E-05	1.21E-06	0	0	9.38E-05	1.90E-06	0.001	0.001	NO
Lead	0.001	2.19E-04	0	0	0	0	0.001	2.19E-04	0.0001	0.001	YES
Manganese	6.77E-04	1.62E-04	0	0	0	0	6.77E-04	1.62E-04	0.001	0.01	NO
Mercury	3.39E-04	1.05E-04	0	0	0	0	3.39E-04	1.05E-04	0.0001	0.001	YES
Naphthalene	9.11E-04	2.51E-04	0.029	3.76E-04	0	0	0.029	6.27E-04	0.1	1	NO
Nickel	3.62E-04	7.30E-04	0	0	0	0	3.62E-04	7.30E-04	0.001	0.001	NO
Phenanthrene	8.47E-06	6.18E-06	0.009	1.18E-04	0	0	0.009	1.24E-04	0.01	0.01	NO
Pyrene	3.43E-06	1.86E-06	8.42E-04	1.09E-05	0	0	8.45E-04	1.28E-05	0.001	0.01	NO
Selenium	0.002	8.95E-05	0	0	0	0	0.002	8.95E-05	0.001	0.01	YES
Toluene	0.005	0.001	0.064	8.32E-04	0.008	0.033	0.077	0.035	1	10	NO
1,1,1-Trichloroethane	1.90E-04	9.14E-06	0	0	0	0	1.90E-04	9.14E-06	10	10	NO
2,2,4-Trimethylpentane	0	0	0	0	0.005	0.020	0.005	0.020	0.1	1	NO
Xylene	8.78E-05	4.22E-06	0.044	5.72E-04	0.003	0.013	0.047	0.013	1	10	NO
Zinc	0.005	0.010	0	0	0	0	0.005	0.010	0.01	0.1	NO

Tables 3-6a: Emission Factors - External Combustion Sources

Naval Support Activity Bethesda (NSAB)

2019 Annual Emission Certification Report, Section 3.0

AP-42 Chapter 1 External Combustion Source Emissions Factors

Pollutant	Natural Gas		No. 2 Fuel Oil	
Criteria Pollutants	lb/MMscf	lb/MMBtu	lb/Mgal	lb/MMBtu
NO _x Low NO _x burner	50	0.049	20	0.143
NO _x	100	0.098	20	0.143
CO	84	0.082	5	0.036
SO ₂	0.6	5.88E-04	0.213	0.002
VOC (NMOC for No. 2 FO)	5.5	0.005	0.34	0.002
PM filterable (total)	1.9	0.002	2	0.014
PM10 filterable	1.9	0.002	1.08	0.008
PM2.5 filterable	1.9	0.002	0.83	0.006
PM condensable	5.7	0.006	1.3	0.009
Lead	0.0005	4.90E-07	1.26E-03	9.00E-06
Primary GHGs	lb/MMscf	lb/MMBtu	lb/Mgal	lb/MMBtu
CO ₂	120,000	118	22,300	159
CH ₄	2.3	0.002	0.216	0.002
N ₂ O	2.2	0.002	0.26	0.002
HAPs - Organic Compounds	lb/MMscf	lb/MMBtu	lb/Mgal	lb/MMBtu
1,1,1-Trichloroethane	--	--	2.36E-04	1.69E-06
2-Methylnaphthalene	2.40E-05	2.35E-08	--	--
3-Methylchloranthrene	1.80E-06	1.76E-09	--	--
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08	--	--
Acenaphthene	1.80E-06	1.76E-09	2.11E-05	1.51E-07
Acenaphthylene	1.80E-06	1.76E-09	2.53E-07	1.81E-09
Anthracene	2.40E-06	2.35E-09	1.22E-06	8.71E-09
Benz(a)anthracene	1.80E-06	1.76E-09	4.01E-06	2.86E-08
Benzene	2.10E-03	2.06E-06	2.14E-04	1.53E-06
Benzo(a)pyrene	1.20E-06	1.18E-09	--	--
Benzo(b)fluoranthene	1.80E-06	1.76E-09	1.48E-06	1.06E-08
Benzo(g,h,i)perylene	1.20E-06	1.18E-09	2.26E-06	1.61E-08
Benzo(k)fluoranthene	1.80E-06	1.76E-09	1.48E-06	1.06E-08
Butane	2.10E+00	2.06E-03	--	--
Chrysene	1.80E-06	1.76E-09	2.38E-06	1.70E-08
Dibenzo(a,h)anthracene	1.20E-06	1.18E-09	1.67E-06	1.19E-08
Dichlorobenzene	1.20E-03	1.18E-06	--	--
Ethane	3.10E+00	3.04E-03	--	--
Ethylbenzene	--	--	6.36E-05	4.54E-07
Fluoranthene	3.00E-06	2.94E-09	4.84E-06	3.46E-08
Fluorene	2.80E-06	2.75E-09	4.47E-06	3.19E-08
Formaldehyde	7.50E-02	7.35E-05	3.30E-02	2.36E-04
Hexane	1.80E+00	1.76E-03	--	--
Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09	2.14E-06	1.53E-08
Naphthalene	6.10E-04	5.98E-07	1.13E-03	8.07E-06
Octachlorodibenzodioxin (OCDD)	--	--	3.10E-09	2.21E-11
Pentane	2.60E+00	2.55E-03	--	--
Phenanathrene	1.70E-05	1.67E-08	1.05E-05	7.50E-08
Propane	1.60E+00	1.57E-03	--	--
Pyrene	5.00E-06	4.90E-09	4.25E-06	3.04E-08
Toluene	3.40E-03	3.33E-06	6.20E-03	4.43E-05
Xylene	--	--	1.09E-04	7.79E-07
HAPs - Metals	lb/MMscf	lb/MMBtu	lb/Mgal	lb/MMBtu
Arsenic	2.00E-04	1.96E-07	5.60E-04	4.00E-06
Barium	4.40E-03	4.31E-06	--	--
Beryllium	1.20E-05	1.18E-08	4.20E-04	3.00E-06
Cadmium	1.10E-03	1.08E-06	4.20E-04	3.00E-06
Chromium	1.40E-03	1.37E-06	4.20E-04	3.00E-06
Cobalt	8.40E-05	8.24E-08	--	--
Copper	8.50E-04	8.33E-07	8.40E-04	6.00E-06
Manganese	3.80E-04	3.73E-07	8.40E-04	6.00E-06
Mercury	2.60E-04	2.55E-07	4.20E-04	3.00E-06
Molybdenum	1.10E-03	1.08E-06	--	--
Nickel	2.10E-03	2.06E-06	4.20E-04	3.00E-06
Selenium	2.40E-05	2.35E-08	2.10E-03	1.50E-05
Vanadium	2.30E-03	2.25E-06	--	--
Zinc	2.90E-02	2.84E-05	5.60E-04	4.00E-06

Notes:

- (1) All boilers have a maximum heat rating of less than 100 MMBtu/hr and are considered "small" boilers in AP-42 tables
- (2) Conversions: 1020 MMBtu/MMscf of natural gas; 140 MMBtu/Mgal of No. 2 fuel oil
- (3) PM (Filterable) = 25% PM (Total)
- (4) PM (Condensable) = 75% PM (Total)
- (5) All No. 2 fuel oil burned in boilers is ultra low sulfur diesel (ULSD); sulfur content is less than 0.0015%. Fuel certifications showing sulfur content are maintained on-site.
- (6) AP-42 Table 1.3-# emission factors from May 2010; AP-42 Table 1.4-# emission factors from July 1998.
- (7) Grey shading indicates pollutant is not an MDE reportable TAP.
- (8) Emission factors updated March 2019, verified March 2020.
- (9) "--" indicates that there is no AP-42 emission factor for the pollutant.

Source (AP-42):

Natural Gas

No. 2 Fuel Oil

Table 1.4-1

Table 1.3-1

Table 1.4-1

Table 1.3-1

Table 1.4-2

Table 1.3-1

Table 1.4-2

Table 1.3-3

Table 1.4-2

Table 1.3-1

Table 1.4-2

Table 1.3-7

Table 1.4-2

Table 1.3-7

Table 1.4-2

Table 1.3-2

Table 1.4-2

Table 1.3-10

Table 1.4-2

Table 1.3-12

Table 1.4-2

Table 1.3-3

Table 1.4-2

Table 1.3-8

Boiler Emission Factors with Controls -

Pollutant	Natural Gas	
	lb/MMscf	lb/MMBtu
NO _x	32	0.031

Source (AP-42):

Natural Gas

Table 1.4-1 (flue gas recirculation and low Nox burners)

Boiler Stack Test Emission Factors

Pollutant	Natural Gas	No. 2 Fuel Oil
	lb/MMBtu	lb/MMBtu
NO _x	0.025	0.040
NO _x	0.031	0.052
NO _x	0.030	0.046
NO _x	0.026	0.051
NO _x	0.028	0.040

Boiler #3 stack testing August, 2018

Boiler #2 stack testing August and September, 2018

Boiler #1 stack testing August, 2018

Boiler #5 stack testing August and September, 2018

Boiler #4 stack testing August and September, 2018

CAS No.

71-55-6

91-57-6

56-49-5

57-97-6

83-32-9

208-96-8

120-12-7

56-55-3

71-43-2

50-32-8

205-99-2

191-24-2

207-08-9

106-97-8

218-01-9

53-70-3

25321-22-6

74-84-0

100-41-4

206-44-0

86-73-7

50-00-0

110-54-3

193-39-5

91-20-3

3268-87-9

109-66-0

85-01-8

74-98-6

129-00-0

108-88-3

1330-20-7

7440-38-2

7440-39-3

7440-41-7

7440-43-9

7440-47-3

7440-48-4

7440-50-8

7439-96-5

7439-97-6

7439-98-7

7440-02-0

7782-49-2

7440-62-2

7440-66-6

Tables 3-6b: Emission Factors - Internal Combustion Sources and Gasoline Dispensing Operations
Naval Support Activity Bethesda (NSAB)
2019 Annual Emission Certification Report, Section 3.0

AP-42 Internal Combustion Engine Emission Factors

	No. 2 Fuel Oil		
Pollutant	<= 600 hp	> 600 hp	
Criteria Pollutants and GHGs	lb/hp-hr	lb/hp-hr	lb/MMBtu
NO _x	0.031	0.024	3.2
CO	6.68E-03	5.50E-03	0.85
SO _x	2.05E-03	1.21E-05	0.002
PM ₁₀	2.20E-03	7.00E-04	0.10
CO ₂	1.15	1.16	165
Aldehydes	4.63E-04	--	--
VOC	2.51E-03	6.42E-04	0.08

<i>Source (AP-42):</i>	
<i>< 600 hp</i>	<i>> 600 hp</i>
<i>Table 3.3-1</i>	<i>Table 3.4-1</i>
<i>Table 3.3-1</i>	<i>Table 3.4-1</i>
<i>Table 3.3-1</i>	<i>Table 3.4-1</i>
<i>Table 3.3-1</i>	<i>Table 3.4-1 & 2</i>
<i>Table 3.3-1</i>	<i>Table 3.4-1</i>
<i>Table 3.3-1</i>	
<i>Table 3.3-1</i>	<i>Table 3.4-1</i>

Gasoline Dispensing Operations Emission Factors

VOC Emission Operations	lbs/1000 gals
Balanced Submerged Filling	0.3
UST Breathing/Filling	1.0
Displacement Losses (Controlled)	1.1
Spillage	0.7
Total (lbs/1000 gals.)	3.1

Source (AP-42):

Table 5.2-7
Table 5.2-7
Table 5.2-7
Table 5.2-7

HAP Vapor Profile for Gasoline

Pollutant	Weight % of total VOC
2,2,4-Trimethylpentane	0.8
Benzene	0.9
Ethyl Benzene	0.1
Hexane	1.6
MTBE	0.0
POM as 16-PAH	0.5
Toluene	1.3
Xylene	0.5

CAS
540-84-1
71-43-2
100-41-4
110-54-3
1634-04-4

108-88-3
1330-20-7

Source: <http://www.epa.gov/ttnchie1/conference/ei12/area/johnson.pdf>

	No. 2 Fuel Oil		
Pollutant	<= 600 hp	> 600 hp	
HAPs	lb/MMBtu	lb/hp-hr	lb/MMBtu
Benzene	9.33E-04	--	7.76E-04
Toluene	4.09E-04	--	2.81E-04
Xylenes	2.85E-04	--	1.93E-04
Propylene	2.58E-03	--	2.79E-03
1,3-Butadiene	3.91E-05	--	--
Formaldehyde	1.18E-03	--	7.89E-05
Acetaldehyde	7.67E-04	--	2.52E-05
Acrolein	9.25E-05	--	7.88E-06
Naphthalene	8.48E-05	--	1.30E-04
Acenaphthylene	5.06E-06	--	9.23E-06
Acenaphthene	1.42E-06	--	4.68E-06
Fluorene	2.92E-05	--	1.28E-05
Phenanthrene	2.94E-05	--	4.08E-05
Anthracene	1.87E-06	--	1.23E-06
Fluoranthene	7.61E-06	--	4.03E-06
Pyrene	4.78E-06	--	3.71E-06
Benzo(a)anthracene	1.68E-06	--	6.22E-07
Chrysene	3.53E-07	--	1.53E-06
Benzo(b)fluoranthene	9.91E-08	--	1.11E-06
Benzo(k)fluoranthene	1.55E-07	--	2.18E-07
Benzo(a)pyrene	1.88E-07	--	2.57E-07
Indeno(1,2,3-cd)pyrene	3.75E-07	--	4.14E-07
Dibenz(a,h)anthracene	5.83E-07	--	3.46E-07
Benzo(g,h,i)perylene	4.89E-07	--	5.56E-07
TOTAL PAH	1.68E-04	--	2.12E-04
	lb/hp-hr		lb/MMBtu
PM Filterable (total)	2.20E-03	--	6.20E-02
PM10 Filterable	2.20E-03	--	4.96E-02
PM2.5 Filterable	2.20E-03	--	4.79E-02
PM Condensable	2.20E-03	--	7.70E-03

Table 3.3-2	Table 3.4-3
Table 3.3-2	Table 3.4-3
Table 3.3-2	Table 3.4-3
Table 3.3-2	Table 3.4-3
Table 3.3-2	
Table 3.3-2	Table 3.4-3
Table 3.3-2	Table 3.4-3
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-2	Table 3.4-4
Table 3.3-1	Table 3.4-2
Table 3.3-1	Table 3.4-2
Table 3.3-1	Table 3.4-2
Table 3.3-1	Table 3.4-2

CAS No.

71-43-2
108-88-3
1330-20-7
115-07-1
106-99-0
50-00-0
75-07-0
107-02-8
91-20-3
1928-96-8
83-32-9
86-73-7
85-01-8
120-12-7
206-44-0
129-00-0
56-55-3
218-01-9
205-99-2
207-08-9
50-32-8
193-39-5
53-70-3
191-24-2

Notes:

- (1) Methane emissions are based on data from one engine; TOC is 9% by weight methane and 91% by weight nonmethane.
- (2) For engines less than or equal to 600 hp, all particulate is assumed to be less than 1 micrometer in size.
- (3) AP-42 Table 3.3-# and Table 3.4-# emission factors from October 1996; AP-42 Table 5.2-7 emission factors from July 2008.
- (4) Grey shading indicates pollutant is not an MDE reportable TAP.
- (5) Emission factors updated October 2019, verified March 2020.
- (6) "-" indicates that there is no AP-42 emission factor for the pollutant.

Appendix F
Compliance Certification Report (2019)



DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY BETHESDA
4655 TAYLOR ROAD
BETHESDA MARYLAND 20889-5639

5090
Ser N4/0076
March 18, 2020

Mr. Mitch Greger
Compliance Program
Maryland Department of the Environment
Air and Radiation Administration
1800 Washington Boulevard, Ste. 720
Baltimore, MD 21230-1720

Dear Mr. Greger:

SUBJECT: SUBMISSION OF NAVAL SUPPORT ACTIVITY BETHESDA ANNUAL
COMPLIANCE REPORT AND ANNUAL EMISSION CERTIFICATION
REPORT

Naval Support Activity (NSA) Bethesda submits enclosures (1) and (2) as required to maintain compliance with the NSA Bethesda Title V Operating Permit No. 24-031-01124. The Annual Compliance Report and the Annual Emission Certification Report each cover the reporting period of January 1, 2019 through December 31, 2019.

My point of contact for this matter is Ms. Alexia Martinez. She may be reach at (301) 295-6398 or via e-mail at alexia.martinez1@navy.mil.

Sincerely,

M. E. Bernath
Commander, Civil Engineer Corps, U.S. Navy
Public Works Officer
By direction of the Commanding Officer

Enclosures: 1. Annual Compliance Report
2. Annual Emission Certification Report (MDE Only)

Copy to: U.S. EPA Region III, Associate Director, Office of Enforcement and Permit Review
via e-mail at R3_APD_Permits@epa.gov

2019 NSAB Annual Compliance Certification Report



NAVAL SUPPORT ACTIVITY BETHESDA

BETHESDA, MARYLAND

(PREVIOUSLY NATIONAL NAVAL MEDICAL CENTER)

Due: April 1, 2020

**Certification of Plant-Wide Conditions
(Section III of Part 70 Operating Permit)**

Reporting Period: 01/01/19 – 12/31/19

Indicate compliance with the following requirements of Section III of your Part 70 Operating Permit in the space provided below:

1. Particulate Matter from Construction and Demolition

All construction and demolition projects are carefully planned. A section of construction contracts will cover dust and particulate matter controls, if applicable.

2. Open Burning

NSAB did not conduct any open burning during this reporting period.

3. Air Pollution Episode (N/A)

Not applicable.

4. Report of Excess Emission and Deviations

(All deviations from permit requirements should be clearly identified in quarterly monitoring reports.)

All deviations from permit conditions were submitted to the Department in the July 2019 and January 2020 six-month monitoring reports and are included in Section C of the Annual Compliance Certification (A-COMP).

5. Accidental Release Provisions (if applicable)

A risk management plan under 40 CFR 68 is not required for NSAB.

6. General Testing Requirements

NSAB performs a combustion analysis on each boiler for every 168 hours of operation of each boiler. The combustion analysis consists of the monitoring of nitrogen oxide emissions and oxygen levels using a portable, handheld analyzer for at least 15 minutes. NSAB also performs visual emission observations on each boiler for every 168 hours of Number 2 fuel oil

operation of each boiler. All results are kept at NSAB and are readily available for inspection upon request.

Visual emissions tests for the boilers were not required during the reporting year, as none of the boilers exceeded 168 hours of operation on fuel oil during the reporting year. Please refer to Section B of the A-COMP for more information.

The only other required test for the NSAB facility during this reporting period was Stage II Vapor Recovery Testing on the NEX gas Station. The government gas station is currently out of service and underground storage tanks will be removed by April of 2020.

Annual Stage II Vapor Recovery Tests were conducted on the NEX Gas Station on 12 December 2019. The NEX Gas Station passed the leak test but failed the air to liquid ratio test on dispensers 2, 7, and 8. All dispensers were below the acceptable air liquid range. Dispenser 7 did not register a reading for air to liquid, which was likely attributed to malfunctioning vacuum motors. The dispensers were not repaired and tested before the end of the reporting period; however, the three dispensers were repaired and passed the air to liquid volume ratio test on 13 January 2020. The NEX Gas Station passed the liquid blockage test in 2017 and the test is next due in 2022.

Notification of the failed tests were submitted to MDE in a timely manner. The test results for the tests conducted on 12 December 2019 were submitted to MDE on 10 January 2020. The test results for the tests conducted on 13 January 2020 were submitted to MDE on 21 January 2020.

Annual Stage II Vapor Recovery Tests were not conducted on the Government Gas Station in 2019. The Government dispenser failed the air to liquid volume ratio test in 2017. The Government dispenser that failed in 2017 was removed from the site on 28 February 2019. The Government Gas Station has no gasoline in the tanks and no dispensing capability.

7. Emissions Test Methods

EPA Reference Methods 3A, 7E, and 10 on the determination of nitrogen oxide emissions, as described in 40 CFR 60, were used to demonstrate compliance on both natural gas and Number 2 fuel oil for all five boilers. Stack testing was conducted on 07, 08, 27, and 28 August 2018 for Boiler #1; 29 August and 05 September 2018 for Boiler #2; 09, 10, 30 and 31 August 2018 for Boiler #3; 14 and 31 August and 04 September 2018 for Boiler #4;

and 15 and 16 August and 04 and 11 September 2018 for Boiler #5.

Stage II Vapor Recovery Tests were conducted in accordance with California Air Resources Board (CARB) Test Procedures (TP). Specifically, the tests conducted included a Pressure Decay (Leak) Test (CARB TP-201.3) and an Air to Liquid Volume Ratio Test (CARB TP-201.5).

8. Emission Certification Report

NSAB submitted the CY 2018 emissions certification on 26 March 2019 by the 1 April 2019 deadline. NSAB will submit the CY 2019 emissions certification report by 1 April 2020 in accordance with Condition 8 Section III - Plant Wide Conditions.

9. Compliance Certification Report

NSAB submitted the CY 2018 annual compliance certification report on 26 March 2019 by the 1 April 2019 deadline. This document is part of the CY 2019 annual compliance certification report submitted to MDE by 1 April 2020 in accordance with Condition 9 Section III - Plant Wide Conditions.

10. Certification by Responsible Official

All application forms and reports submitted to MDE during this reporting period were certified by a responsible official as to truth, accuracy, and completeness. The certification required in Condition 10 Section III - Plant Wide Conditions was signed and attached to each form and report.

11. Sampling and Emissions Testing Record Keeping

NSAB collected and is retaining information required by Condition 11 Section III - Plant Wide Conditions (Sampling and Emissions Testing Record Keeping) for sampling and testing conducted during this reporting period. Records are kept at NAVFAC Washington and at NSAB.

12. General Record Keeping

NSAB maintains all monitoring data and associated information that supports the compliance certification for a period of at least 5 years from the date that the monitoring sample, measurement, application, report or emission test was completed or submitted to the Department as required by Condition 12, Section III - Plant Wide Conditions.

13. General Conformity

Not applicable.

14. Asbestos Provision (if applicable)

NSAB complies with 40 CFR Part 61, Subpart M when conducting any renovation or demolition activities at the facility.

15. Ozone Depleting Regulations (if applicable)

NSAB complied with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F during this reporting period, except as noted below (see Section C for additional information).

- a. Personnel opening appliances for maintenance, service, repair or disposal complied with the prohibitions and required practices pursuant to Sections 82.154 and 82.156, except that: certain persons purchasing refrigerant at NSAB were purchasing refrigerant without being certified themselves, or providing documentation that the purchase was for a certified technician. In all occasions, the purchase was for a certified technician, but the purchaser did not provide proof.
- b. Equipment used during the maintenance, service, repair or disposal of appliances complied with the standards for recycling and recovery equipment pursuant to Section 82.158.
- c. Personnel performing maintenance, service, repair or disposal of appliances were certified by an approved technician certification program pursuant to Section 82.161.
- d. Personnel performing maintenance, service, repair or disposal of appliances were certified with the Administrator pursuant to Section 82.162.
- e. Personnel disposed of small appliances as defined in Section 82.152, and complied with recordkeeping requirements pursuant to Section 82.166.
- f. NSAB complied with the leak repair requirements for all commercial and industrial refrigeration equipment pursuant to

Section 82.156, except that: not all maintenance documentation included a leak rate calculation.

- g. NSAB and its operators complied with the recordkeeping requirements for refrigerant purchased and added to appliances normally containing 50 or more pounds of refrigerant pursuant to Section 82.166.

16. Acid Rain Permit (if applicable)

NSAB is not required to obtain an acid rain permit.

Acronyms used in report:

NAVFAC WASHINGTON - Naval Facilities Engineering-Washington: *Arranges and manages most contracts*

NEX – Navy Exchange: *Organization within the Navy*

NSAB - Naval Support Activity Bethesda: *Facility and owner of the permit*

**Federal Operating Permit Program (40 CFR Part 71)
CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS (CTAC)**

This form must be completed, signed by the "Responsible Official" designated for the facility or emission unit, and sent with each submission of documents (i.e., application forms, updates to applications, reports, or any information required by a part 71 permit).

A. Responsible Official

Name: (Last) Bernath (First) Marc (MI) E.

Title Commander, Public Works Officer

Street or P.O. Box 4655 Taylor Road, Building 27

City Bethesda State MD ZIP 20889 - 5639

Telephone (301) 295 - 0873 Ext. Facsimile (301) 295 - 4558

B. Certification of Truth, Accuracy and Completeness (to be signed by the responsible official)

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.

Name (signed) 

Name (typed) CDR Marc E. Bernath Date: 3 / 18 / 20

Federal Operating Permit Program (40 CFR Part 71)
ANNUAL COMPLIANCE CERTIFICATION (A-COMP)

A. GENERAL INFORMATION

Permit No. 24-031-01124

Reporting Period: Beg. 01/01/19 End. 12/31/19

Source / Company Name Naval Support Activity Bethesda (NSAB)

Mailing Address: Street or P.O. Box

Ms. Susan Paul

NSA Bethesda

Public Works Department

4655 Taylor Rd. Bldg. 27 (Second Floor)

City Bethesda State MD ZIP 20889 - 5639

Contact person Ms. Susan Paul Title Installation Environmental Programs Director (IEPD)

Telephone (301) 295 - 2482 Ext. _____

Continued on next page

A-COMP**B. COMPLIANCE STATUS**

Describe the compliance status of each permit term for this reporting period. Copy this page as many times as necessary to cover all permit terms and conditions.

Emission Unit ID(s):

EU: 52-01C - One Aerco INN 1060 Natural Gas-fired water heater rated at 1.06 MMBtu/hr heat input.

Permit Term (Describe requirements and cross-reference):**Permit Term 1.1 Applicable Standards/Limits:****A. Visible Emissions Limitation**

COMAR 26.11.09.05A(2) - Areas III and IV. "In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity."

Exceptions **COMAR 26.11.09.05A(3)** - "Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:

- (a) The visible emissions are not greater than 40 percent opacity; and
- (b) The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period."

B. NO_x RACT (COMAR 26.11.09.08)

- (1) **COMAR 26.11.09.08E** - Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 Million Btu Per Hour or Less.

"A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 Million Btu per hour or less shall:

- (a) Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each;
- (b) Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;
- (c) Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request;
- (d) Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
- (e) Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."

(2) **COMAR 26.11.09.08B(5) - Operator Training**

- (a) **COMAR 26.11.09.08B(5)(a)** states that "for purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation" and
- (b) **COMAR 26.11.09.08B(5)(b)** states that "the operator-training course sponsored by the Department shall include an in-house training course that is approved by the Department."

C. Operational Requirement

The Permittee shall only burn natural gas unless the Permittee applies for and receives an approval or permit from the Department to burn an alternate fuel **[Authority: COMAR 26.11.02.09A]**.

Permit Term 1.2 Testing Requirements:

- A. See recordkeeping and reporting requirements.
- B. See monitoring requirements.
- C. See recordkeeping and reporting requirements.

Permit Term 1.3 Monitoring Requirements:

- A. See recordkeeping and reporting requirements.
- B. (1)(b). The Permittee shall perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis **[Authority: COMAR 26.11.09.08E(2)]**.
- C. See recordkeeping and reporting.

Permit Term 1.4 Record Keeping Requirements:

Note: The Title V permit requires all records to be maintained for at least five years.

- A. The Permittee shall maintain records of incidents of visible emissions on site for at least five years **[Authority: COMAR 26.11.03.06C]**.
- B.
 - (1) The Permittee shall maintain the results of the combustion analysis at the site for at least 2 years and make the results available to the Department upon request **[Authority: COMAR 26.11.09.08E(1)(c)]**.
 - (2) The Permittee shall prepare and maintain a record of training program attendance for each operator at the site and make the record available to the Department upon request **[Authority: COMAR 26.11.09.08E(1)(e)]**.
 - (3) The Permittee shall maintain annual fuel use records on site for at least three years and make the records available to the Department upon request

Note: Retention of records of all monitoring data and support information is for a period of five years or longer, as specified by the Department, from the date of the monitoring sample, measurement, application, or report. **[Authority: COMAR 26.11.09.08K(3) and COMAR 26.11.03.06C]**.
- C. The Permittee shall maintain records of the fuels utilized at the installation for at least five years and make the records available to the Department upon request **[Authority: COMAR 26.11.03.06 C]**.

Permit Term 1.5 Reporting Requirements:

- A. The Permittee shall report incidents of the occurrences of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations [**Authority: COMAR 26.11.03.06C**].
- B.
 - (1) The Permittee shall make the result of the combustion analysis available to the Department upon request [**Authority: COMAR 26.11.03.06C**].
 - (2) The Permittee shall make records of training program attendance for each operator available to the Department upon request [**Authority: COMAR 26.11.03.06C**].
 - (3) The Permittee shall make annual fuel use records available to the Department upon request [**Authority: COMAR 26.11.09.08K(3)**].
- C. The Permittee shall submit an annual emission certification report (Permit Condition 8 of Section III, Plant Wide Conditions "Emissions Certification Report"). The annual certification report shall contain the type, quantities, and analyses of all fuel burned [**Authority: COMAR 26.11.02.19D**].

Compliance Methods for the Above (Description and Citation):**Permit Term 1.1 Applicable Standards/Limits:**

No action required.

Permit Term 1.2 Testing Requirements:

- A. There were no occurrences of visible emissions during this reporting period. Records of incidents of visible emissions are maintained on site for at least 5 years.
- B. A combustion analysis is performed at least annually to ensure optimum performance of the EU 52-01C. Results of combustion analysis are maintained on site for a minimum of five years and will be available upon request. A combustion analysis for EU 52-01C was performed on 19 June 2019.
- C. All fuel use records for EU 52-01C, in the form of natural gas utility bills, are maintained on site for at least 5 years and are available upon request.

Permit Term 1.3 Monitoring Requirements:

- A. There were no occurrences of visible emissions during this reporting period. Records of incidents of visible emissions are maintained on site for at least 5 years.
- B. A combustion analysis is performed at least annually to ensure optimum performance of the EU 52-01C. Results of combustion analysis are maintained on site for a minimum of five years and will be available upon request. A combustion analysis for EU 52-01C was performed on 19 June 2019.
- C. All fuel use records for EU 52-01C, in the form of natural gas utility bills, are maintained on site for at least 5 years and are available upon request.

Permit Term 1.4 Record Keeping Requirements:

- A. There were no occurrences of visible emissions during this reporting period. Records of incidents of visible emissions are maintained on site for at least 5 years.
- B. A combustion analysis for EU 52-01C was performed on 19 June 2019. A Bacharach portable analyzer (Fyrite Tech 60) was used during the combustion analysis. The manufacturer (Bacharach) recommends in its "Combustion Efficiency – Combustion Safety – Environmental Measurements" brochure that each analyzer be calibrated at least every 6 months. Results of combustion analyses and analyzer calibration records are maintained on site for a minimum of five years and are available upon request. An outside contractor maintains the water heater and retains their certifications and training records; a copy of these certifications and training records, as well as operator training attendance records are maintained on site. Records of any additional maintenance performed on the water heater are also maintained on site. All fuel use records for EU 52-01C are maintained on site for at least 5 years. All of the records mentioned above are available upon request. No additional maintenance was performed during the reporting period.
- C. All fuel use records for EU 52-01C, in the form of natural gas utility bills, are maintained on site for at least 5 years and are available upon request. NSAB maintains compliance with the recordkeeping requirements.

Permit Term 1.5 Reporting Requirements:

- A. There were no occurrences of visible emissions during this reporting period. Records of incidents of visible emissions are maintained on site for at least 5 years.
- B. A combustion analysis for EU 52-01C was performed on 19 June 2019. A Bacharach portable analyzer (Fyrite Tech 60) was used during the combustion analysis. The manufacturer (Bacharach) recommends in its "Combustion Efficiency – Combustion Safety – Environmental Measurements" brochure that each analyzer be calibrated at least every 6 months. Results of combustion analyses and analyzer calibration records are maintained on site for a minimum of five years and are available upon request. An outside contractor maintains the water heater and retains their certifications and training records; a copy of these certifications and training records, as well as operator training attendance records are maintained on site. Records of any additional maintenance performed on the water heater are also maintained on site. All fuel use records for EU 52-01C are maintained on site for at least 5 years. All of the records mentioned above are available upon request. No additional maintenance was performed during the reporting period.
- C. NSAB submits an annual emissions certification report for the previous year by the required deadline of April 1. The annual emissions certification contains the type, quantities, and analyses of all fuels burned. The annual emissions certification was submitted 26 March 2019.

Demonstration of Compliance:

Status (Check one): ___ Intermittent Compliance X Continuous Compliance

Emission Unit ID(s):

EU: 16-01B, 16-02B, 16-03B, and 16-04B - Four Cleaver Brooks natural gas/fuel oil-fired boilers Model DL-68E each rated at 67 MMBtu/hr heat input, and equipped with low NOx burner and flue gas recirculation.

Permit Term (Describe requirements and cross-reference):**Permit Terms 2.1 Applicable Regulations/limits****A. Control of Sulfur Oxides**

- (1) **COMAR 26.11.09.07A(2)(b)** "In Areas III and IV - Sulfur Content Limitations for Fuel. A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds 0.3 percent by weight."

- (2) **40 CFR 60.42c**- Standard for sulfur dioxide (SO₂)

"(d) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 215 ng/J (0.50 lb/MMBtu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph."

"(h) For affected facilities listed under paragraphs (h) (1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under **§60.48c(f)**, as applicable. (1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr)."

"(i) The SO₂ emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction."

Note: Compliance with **COMAR 26.11.09.07A(2)(b)** will constitute compliance with **40 CFR 60.42c**.

B. Control of Visible Emissions

- (1) **COMAR 26.11.09.05A(2) Visible Emissions** Areas III and IV:
"In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity."

Exceptions. COMAR 26.11.09.05A(3) "Section A (1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if: (1) The visible emissions are not greater than 40 percent opacity; and (2) The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period."

(2) **40 CFR 60.43.c Subpart Dc,**

"(c) On and after the date on which the initial performance test is completed or required to be completed under **§60.8**, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6- minute average), except for one 6-minute period per hour of not more than 27 percent opacity."

"(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction."

Note: Compliance with **COMAR 26.11.09.05A (2)** will constitute compliance with **40 CFR 60.43c**.

C. Control of NOx Emissions(1) **Permit to Construct 031-5-1241-1242 M and 031-5-1263-1264N** requires the Permittee to ensure that:

- a. The NOx emissions from the boilers are limited to 0.036 lb per MMBtu of heat input when burning natural gas and 0.1 lb per MMBtu of heat input when burning No.2 fuel oil.
- b. The combined NOx emissions from the four Cleaver Brooks boilers are less than 50 tons for any rolling 12-month period unless the source applies for and obtains a New Source Review approval.
- c. The operation of the Cleaver Brooks boilers, when burning No.2 fuel oil is limited to 1.6 million gallons per year for any 12 month rolling period, in order to maintain a synthetic minor status, unless the Permittee can demonstrate to the satisfaction of the Department that operating beyond this limit will not result in NOx emissions equal to or greater than 50 tons on a rolling 12 month basis.

If the supply of natural gas is interrupted such that the quantity of distillate fuel oil burned needs to be increased and will exceed the 1.6 million gallons limitation, the Permittee shall notify the Department of the situation and request approval to burn additional distillate fuel oil. Upon approval from the Department, the Permittee may exceed the 1.6 million gallons limitation, but the 50 tons NOx emissions limitation shall not be exceeded.

(2) **NOx RACT- General Requirement and Conditions**

COMAR 26.11.09.08B (1)- The Permittee or operator of a source with a potential to emit 25 tons or more of NOx shall comply with the NOx emissions standard set forth in **COMAR 26.11.09.08B(1)(c)** which is 0.25lb of NOx per MMBtu of heat input [**Authority: Permit to Construct No. 031-5-1241-1242M and 031-5-1263-1264N**].

Note: The Permittee may use the same compliance demonstration strategy for demonstrating compliance with the mass emission rates of the applicable requirement "C (1)(a)" as a basis for demonstrating compliance with the NOx RACT standard in "C(2)".

D. Operational Requirement

Permit-to-Construct No. 031-5-1241-1242M and 031-5-1263-1264N, which limit fuel use in boilers No. EU: 16-01B, 16-02B, 16-03B, and 16-04B to natural gas and No.2 fuel oil only.

Permit Term 2.2 Testing Requirements: [Authority: COMAR 26.11.03.06C]

- A. See monitoring requirements.
- B. See monitoring requirements.
- C.
 - (1) (a) The Permittee shall perform calibration checks and QA/QC procedures on the portable NOx analyzer as recommended by the analyzer manufacturer.
 - (b) See monitoring requirements.
 - (c) See record keeping.
 - (2) See C (1) (a) above. Perform calibration checks and QA/QC procedures on the portable NOx analyzer as recommended by the analyzer manufacturer.
 - (3) See record keeping
- D. See recordkeeping and reporting requirements.

Permit Term 2.3 Monitoring Requirements:

The Permittee shall:

- A. Obtain fuel supplier's certification, which includes the name of the oil supplier and statement from the fuel supplier that the distillate fuel oil complies with the limitation of 0.3% by weight of the sulfur content in the fuel oil. **[Authority: COMAR 26.11.03.06C] and [40 CFR Par 60.48c(f)(1)].**
- B.
 - (1) Properly operate and maintain the boilers;
 - (2) Maintain an operations manual and preventive maintenance plan; and
 - (3) Verify no visible emissions when burning #2 fuel oil. An observer shall perform a visual observation of stack emissions for a 6-minute period at least once for every 168 hours that the boiler burns oil. If a boiler operates on oil for less than 168 hours in a calendar year, the visual observation requirement for that calendar year is waived.
 - (4) Perform the following if emissions are visible to human observer. (a) Inspect combustion control system and boiler operations. (b) Perform all necessary adjustments and/or repairs to the boiler within 48 hours so that visible emissions are eliminated; (c) Document in writing the results of the inspections, adjustments and/or repairs to the boiler; and (d) After 48 hours, if the required adjustments and/or repairs had not eliminated the visible emissions, perform a Method 9 observation once daily for 18 minutes until corrective action has eliminated the visible emissions. **[Authority: COMAR 26.11.03.06C].**
- C.
 - (1) (a) Use a NOx analyzer to check and record the NOx emissions in the exhaust gases from the boilers for 15 minutes for every 168 hours of operation of each boiler, on a calendar quarter basis. To verify that the boilers are being operated in a consistent manner with the most recent stack tests, the Permittee shall continuously monitor the excess oxygen in the exhaust gases **[Authority: COMAR 26.11.03.06C].**
 - (b) Calculate, at the end of each calendar month, the NOx emissions from the boilers for the prior rolling twelve month period **[Authority: Permit-to-Construct No. 031-1124-5-2233 and COMAR 26.11.03.06C].**
 - (c) See record keeping **[Authority: COMAR 26.11.03.06C].**
 - (2) See C (1) (a) above **[Authority: COMAR 26.11.03.06C].**

- (3) See record keeping
- D. See recordkeeping and reporting.

Permit Term 2.4 Record Keeping Requirements [Authority: COMAR 26.11.03.06C]:

The Permittee shall:

- A. Maintain records of fuel supplier's certification for 5 years **[Authority: COMAR 26.11.03.06C] and [40 CFR Part 60.48c(g)]**.
- B. (1) Maintain log of maintenance performed on the boilers and training provided to the boiler operators.
(2) Maintain log of visible emissions observation performed on site for 5 years and make available to the Department's representative upon request **[Authority: COMAR 26.11.03.06C]**.
- C. Maintain the following records for at least five years and make records available to Department upon request:
 - (1) (a) The record of the hours of operation for each boiler; NOx emissions and O₂ readings of the analyzer for each boiler; the type and quantity of fuels used by each boiler; and the record of NOx analyzer calibration QA/QC checks **[Authority: COMAR 26.11.03.06C]**.
(b) The records of the calculations and supporting documentation for the NOx emissions from the boilers during any 12-month rolling period **[Authority: COMAR 26.11.03.06C]**.
(c) Consumption of natural gas and No. 2 fuel oil during any 12-month rolling period **[Authority: COMAR 26.11.03.06C]**.
 - (2) See C (1) (a) above **[Authority: COMAR 26.11.03.06C]**.
 - (3) Maintain annual fuel use records on site for at least five years and make records available to the Department upon request.

Note: Retention of records of all monitoring data and support information is for a period of five years or longer, as specified by the Department, from the date of the monitoring sample, measurement, application, or report. **[Authority: COMAR 26.11.09.08K(3) and COMAR 26.11.03.06C]**.

- D. Maintain annual fuel use records on site for at least five years and make records available to the Department upon request **[Authority: COMAR 26.11.03.06C]**.

Permit Term 2.5 Reporting Requirements: [Authority: COMAR 26.11.03.06C]

The Permittee shall:

- A. Submit semi-annual reports of fuel supplier's certifications.
- B. Report incidents of visible emissions in accordance with Condition 4 of Section III "Report of Excess Emissions and Deviation.

- C.
- (1)
 - (a) The Permittee shall report on a semi-annual basis incidence of excess emissions when NO_x emissions rate as measured by the NO_x monitor, exceed the applicable limits in accordance with Condition 4 of Section III "Report of Excess Emissions and Deviations" **[Authority: COMAR 26.11.03.06C]**.
 - (b) Submit the rolling twelve month NO_x emissions that were calculated at the end of each month in a semiannual monitoring report due by July 31 for the period January 1 through June 30 and January 31 for the period July 1, through December 31 **[Authority: COMAR 26.11.03.06C]**.
 - (c) Submit monthly consumption of both natural gas and No.2 fuel oil for each boiler on a rolling 12 months basis included with the semiannual monitoring reports.
 - (2) See C (1) (a) above **[Authority: COMAR 26.11.03.06C]**.
 - (3) Make the annual fuel use records available to the Department upon request **[Authority: COMAR 26.11.03.06C]**.
- D. Submit an annual emissions certification report (Permit Condition 8 of Section III, Plant Wide Conditions "Emissions Certification Report"). The annual certification report shall contain the type, quantities, and analyses of all fuels burned **[Authority: COMAR 26.11.02.19D]**.

Compliance Methods for the Above (Description and Citation):

Permit Terms 2.1 Applicable Regulation/Limits

No Action Required. See Section C of this report for deviations from Permit Term 2.1 C.(1)a.

Permit Term 2.2 Testing Requirements: [Authority: COMAR 26.11.03.06C]

- A. NSAB obtains fuel oil suppliers' certificates which include the name of the fuel supplier and a certified statement from the supplier verifying that the fuel oil complies with the 0.3% sulfur content by weight specified in **COMAR 26.11.09.07A**. These records are maintained on site at Building 16 & Building 27. The sulfur weight percent specified by **COMAR 26.11.09.07A** is more stringent than the 0.5 sulfur weight percent specified in **40 CFR 60.42c**, therefore compliance with **COMAR 26.11.09.07A** constitutes compliance with **40 CFR 60.42c**. All fuel supplier certification records are maintained on site for at least 5 years. Fuel deliveries on 31 January, 1, 2, 3 and 4 February, and 2 March, were all ULSD and comply with the requirements of **COMAR 26.11.09.07A**.
- B. No action required. See Monitoring Requirements.
- C. NO_x emissions are monitored for every 168 hours of operation by Utilities heating plant personnel using one of four Bacharach NO_x portable analyzers (Model PCA3). The manufacturer (Bacharach) has stated that each analyzer requires calibration on an annual basis. All records of calibration are maintained on site at Building 16 for at least 5 years and are available upon request.

A calibration schedule was implemented to ensure all active analyzers are calibrated one month before their next scheduled calibration date. The table below depicts the most recent calibration date and the calibration due date for each of the analyzers.

The time between NOx emissions monitoring exceeded 168 hours nine times during the reporting period. Boiler 1 exceeded 168 hours of operation since the most recent monitoring on 16 March, 5 July, 7 October, 26 November, 8 December, and 30 December 2019. Boiler 3 exceeded 168 hours of operation on 10 January 2019. Boiler 4 exceeded 168 hours of operation on 7 February and 21 November 2019. Additional information is provided in Section C of this report.

NOx Analyzer Calibrations

Unit	Manufacturer	Serial Number	Calibrated On	Calibration Due Date
NOx Analyzer #1	Bacharach Inc.	17031254	6-28-2019	6-28-2020
NOx Analyzer #2	Bacharach Inc.	17031250	3-01-2019	3-01-2020
NOx Analyzer #3	Bacharach Inc.	17031249	6-28-2019	6-28-2020
NOx Analyzer #4	Bacharach Inc.	17031248	3-01-2019	3-01-2020

- D. Annual fuel use and steam production records are maintained on site by NSAB Environmental in Building 27 for at least 5 years and are available upon request. NSAB submits an annual emissions certification report for the previous year by the required deadline of April 1. The annual emissions certification contains the type, quantities, and analyses of all fuels burned. The annual emissions certification was submitted 26 March 2019.

Permit Term 2.3 Monitoring Requirements

- A. NSAB obtains fuel oil suppliers' certificates which include the name of the fuel supplier and a certified statement from the supplier verifying that the fuel oil complies with the 0.3% sulfur content by weight specified in **COMAR 26.11.09.07A**. These records are maintained on site at Building 16 & Building 27. The sulfur weight percent specified by **COMAR 26.11.09.07A** is more stringent than the 0.5 sulfur weight percent specified in **40 CFR 60.42c**, therefore compliance with **COMAR 26.11.09.07A** constitutes compliance with **40 CFR 60.42c**. All fuel supplier certification records are maintained on site for at least 5 years. Fuel deliveries on January 31, February 1, 2, 3, 4, and March 2, 2019 were all ULSD and comply with the requirements of **COMAR 26.11.09.07A**.
- B. (1-2) Each boiler is operated and maintained according to the manufacturer's operation manual and maintenance plan. The O&M manual, which includes a preventive maintenance plan, is maintained by NAVFAC Utilities' personnel in Building 16. Annual boiler maintenance was performed for three of the four boilers during the reporting period. The table below notes the most recent annual maintenance date for each boiler. Copies of maintenance service records and training records are maintained at Building 16. Additional information is provided in Section C of this report.

A boiler tune-up and calibration were not performed on the boilers in 2019. Additional information is provided in Section C of this report. The table below notes the most recent tune-up for each boiler.

Boiler Tune-Ups & Annual Maintenance

Boiler No.	Emission Unit	Tune-up Date	Tune-up Due Date	Annual Maintenance Date
Boiler 1	16-01B	7-5-2018 (NG) 7-9-2018 (FO)	7-5-2019 (NG) 7-9-2019 (FO)	1-25-2018
Boiler 2	16-02B	7-6-2018 (NG) 7-17-2018 (FO)	7-6-2019 (NG) 7-17-2019 (FO)	10-01-2019
Boiler 3	16-03B	7-12-2018 (NG) 7-13-2018 (FO)	7-12-2019 (NG) 7-13-2019 (FO)	6-27-2019
Boiler 4	16-04B	7-16-2018 (NG) 7-16-2018 (FO)	7-16-2019 (NG) 7-16-2019 (FO)	7-11-2019

The boilers are exempted from the requirements of 40 CFR Part 63, Subpart JJJJJJ because of the following: The use of fuel oil in these boilers is restricted to periods of natural gas curtailments, gas supply interruption, startups, or periodic testing on liquid fuel, and; periodic testing on liquid fuel is limited to a combined total of 48 hours during any calendar year per boiler. Curtailment letters indicating periods of natural gas curtailment are maintained on site at Building 16 and are available upon request.

(3) Utilities heating plant personnel maintain a log of all visible emissions observations in Building 16. The log is maintained on site for at least five years and is available upon request. Utilities heating plant personnel visually observe stack emissions for a 6-minute period, for each 168 hours that a boiler burns fuel oil. Verification records are maintained at Building 16.

Boilers 1-4 did not operate on oil for greater than 168 hours during the reporting period. Therefore, no visible emission observations were required or conducted during the reporting period.

(4) No visual emissions were observed during this reporting period.

- C. (1)(a-b) Once every 168 hours of operation, Utilities heating plant personnel use a NO_x analyzer to check and record the NO_x emissions in the exhaust gases of the boilers. Excess oxygen in the exhaust gases is continuously monitored. NO_x analyzer readings and boiler operating logs are maintained on site at Building 16 for at least 5 years.

The time between NO_x emissions monitoring exceeded 168 hours nine times during the reporting period. Boiler 1 exceeded 168 hours of operation since the most recent monitoring on 15 March, 5 July, 7 October, 26 November, 8 December, and 30 December 2019. Boiler 3 exceeded 168 hours of operation on 10 January 2019. Boiler 4 exceeded 168 hours of operation on 7 February and 21 November 2019. Additional information is provided in Section C of this report.

During this reporting period, there were two instances for Boiler 1 and 11 instances for Boiler 2 where the NO_x emissions monitoring results exceeded the applicable permit limit of 0.036 lb per MMBtu of heat input while burning natural gas. Additional information is provided in Section C of this report.

The rolling NOx emissions are calculated on a monthly basis to ensure that, for each 12-month rolling period, NOx emissions from emission units 16-01B through 16-04B do not exceed 50 tons. All calculation records for the NOx emissions during all 12-month rolling periods are maintained in Building 27 for at least 5 years

(1)(c) No action required. See record keeping.

(2) No action required. See C(1)(a) above.

(3) No action required. See record keeping.

- D. Annual fuel use and steam production records are maintained on site by NSAB Environmental in Building 27 for at least 5 years are available upon request. NSAB submits an annual emissions certification report for the previous year by the required deadline of April 1. The annual emissions certification contains the type, quantities, and analyses of all fuels burned. The annual emissions certification was submitted 26 March 2019.

Permit Term 2.4 Recordkeeping Requirements:

- A. All fuel supplier certification records are maintained on site for at least 5 years.
- B. (1) Maintenance logs are maintained on the boilers and training records are kept by NAVFAC Utilities heating plant personnel.
- (2) NAVFAC Utilities personnel maintain a log of visible emissions observations in Building 16. The log is maintained on site for at least 5 years and is available to the Department's representative upon request.
- C. (1) The record of hours of operation for each boiler is maintained for at least 5 years in building 16. Records of NOx emissions, O₂ readings, and calibration records for each analyzer are maintained for at least 5 years in building 16 for all boilers. Type and quantity of fuels used for each boiler and boiler stack testing results are maintained by NAVFAC Environmental in Building 27 for at least 5 years. All calculation records for the NOx emissions and natural gas combustion during all 12-month rolling periods are maintained in Building 27 for at least 5 years.
- (2) No action required. See C(1)(a) above.
- (3) Annual fuel use records are maintained on site for at least 5 years by NSAB Environmental in Building 27 and are available upon request.
- D. Annual fuel use records are maintained on site for at least 5 years by NSAB Environmental in Building 27 and are available upon request.

Permit Terms 2.5 Reporting Requirements [Authority: COMAR 26.11.03.06C]

- A. All fuel suppliers' certifications are submitted semi-annually to the Department.
- B. No incidents of visible emissions were observed during this reporting period.

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C.

- (1) (a) During this reporting period, there were two instances for Boiler 1 and 11 instances for Boiler 2 where the NOx emissions monitoring results exceeded the applicable permit limit of 0.036 lb per MMBtu of heat input while burning natural gas. See Section C of this report for more details.

An excess emissions report is required if excess emissions occur during the reporting period and is due no later than 30 days from the end of the reporting period. Excess emissions reports were submitted in a timely manner with the semi-annual SIXMON reports submitted on 29 January 2019 and 29 July 2019.

(b) Rolling 12-month NOx emissions that are calculated at the end of each month are submitted in semi-annual reports to the Department.

(c) Monthly consumption of both natural gas and No. 2 fuel oil for each boiler on a rolling 12-month basis are submitted as part of the semi-annual reports to the Department.

- (2) No action required. See C(1)(a) above.

- (3) Annual fuel use records are maintained on site by NSAB Environmental in Building 27 for at least 5 years are available upon request.

D.

NSAB submits an annual emissions certification report for the previous year by the required deadline of April 1. The annual emissions certification contains the type, quantities, and analyses of all fuels burned. The annual emissions certification for 2018 was submitted on 26 March 2019.

Demonstration of Compliance:

Status (Check one): ☒ Intermittent Compliance ☐ Continuous Compliance

Emission Unit ID(s):

EU: 16-05B – One Cleaver Brooks natural gas/fuel oil-fired boiler Model DL-68E rated at 71 MMBtu/hr heat input, and equipped with low NOx burner and flue gas recirculation

Permit Term (Describe requirements and cross-reference):

Permit Terms 3.1 Applicable Regulations/limits

A. Control of Sulfur Oxides

- (1) **COMAR 26.11.09.07A(2)(b)** "In Areas III and IV - Sulfur Content Limitations for Fuel. A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds 0.3 percent by weight."

- (2) **40 CFR 60.42c**- Standard for sulfur dioxide (SO₂)

"(d) On and after the date on which the initial performance test is completed or required to be completed under **§60.8**, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 215 ng/J (0.50 lb/MMBtu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph."

"(h) For affected facilities listed under paragraphs (h) (1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under **§60.48c(f)**, as applicable.(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr)."

"(i) The SO₂ emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction."

Note: Compliance with **COMAR 26.11.09.07A(2)(b)** will constitute compliance with **40 CFR 60.42c**.

B. Control of Visible Emissions

- (1) **COMAR 26.11.09.05A(2)** Visible Emissions Areas III and IV:

"In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.

Exceptions. **COMAR 26.11.09.05A(3)** "Section A (1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if: (1) The visible emissions are not greater than 40 percent opacity; and (2) The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period."

(2) **40 CFR 60.43.c Subpart Dc,**

"(c) On and after the date on which the initial performance test is completed or required to be completed under **§60.8**, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6- minute average), except for one 6-minute period per hour of not more than 27 percent opacity."

"(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction."

Note: Compliance with **COMAR 26.11.09.05A** (2) will constitute compliance with **40 CFR 60.43c**.

C. Control of NOx Emissions

- (1) **Permit to Construct 031-1124-5-2233** requires the Permittee to ensure that the NOx emissions from the boiler are less than 25 tons for any rolling 12-month period unless the source applies for and obtains a New Source Review approval.

NOx RACT- General Requirement and Conditions

- (2) **COMAR 26.11.09.08B (1)- Emission Standards and Requirements**

The Permittee or operator of a source with a potential to emit 25 tons or more of NOx shall comply with the NOx emissions standard set forth in **COMAR 26.11.09.08B(1)(c)** which is 0.25lb of NOx per MMBtu of heat input

D. Operational Requirement

Permit-to-Construct No. 031-1124-5-2233, requires the Permittee to ensure that the fuels combusted in the boiler are limited to natural gas and No.2 fuel oil only.

Permit Term 3.2 Testing Requirements: [Authority: COMAR 26.11.03.06C]

- A. See monitoring requirements.
- B. See monitoring requirements.
- C.
 - (1) (a) See monitoring requirements
 - (2) The Permittee shall perform calibration checks and QA/QC procedures on the portable NOx analyzer as recommended by the analyzer manufacturer.
 - (3) See record keeping requirements
- D. See recordkeeping and reporting requirements.

Permit Term 3.3 Monitoring Requirements:

The Permittee shall:

- A. Obtain fuel supplier's certification, which includes the name of the oil supplier and statement from the fuel supplier that the distillate fuel oil complies with the limitation of 0.3% by weight of the sulfur content in the fuel oil. **[Authority: COMAR 26.11.03.06C] and [40 CFR Par 60.48c(f)(1)].**
- B.
 - (a) Properly operate and maintain the boilers;
 - (b) Maintain an operations manual and preventive maintenance plan; and

(c) Verify no visible emissions when burning #2 fuel oil. An observer shall perform a visual observation of stack emissions for a 6-minute period at least once for every 168 hours that the boiler burns oil. If a boiler operates on oil for less than 168 hours in a calendar year, the visual observation requirement for that calendar year is waived.

(d) Perform the following if emissions are visible to human observer. (i) Inspect combustion control system and boiler operations. (ii) Perform all necessary adjustments and/or repairs to the boiler within 48 hours so that visible emissions are eliminated; (iii) Document in writing the results of the inspections, adjustments and/or repairs to the boiler; and (iv) After 48 hours, if the required adjustments and/or repairs had not eliminated the visible emissions, perform a Method 9 observation once daily for 18 minutes until corrective action has eliminated the visible emissions. **[Authority: COMAR 26.11.03.06C].**

C.

(1) Calculate, at the end of each calendar month, the NOx emissions from the boilers for the prior rolling 12-month period **[Authority: Permit-to-Construct No. 031-1124-5-2233 and COMAR 26.11.03.06C].**

(2) Use a NOx analyzer to check and record the NOx emissions in the exhaust gases from the boilers for 15 minutes for every 168 hours of operation of each boiler, on a calendar quarter basis. To verify that the boilers are being operated in a consistent manner with the most recent stack tests, the Permittee shall continuously monitor the excess oxygen in the exhaust gases **[Authority: COMAR 26.11.03.06C].**

(3) See record keeping requirements

D. See recordkeeping and reporting requirements.

Permit Term 3.4 Record Keeping Requirements [Authority: COMAR 26.11.03.06C]:

The Permittee shall:

A. Maintain records of fuel supplier's certification for 5 years **[Authority: COMAR 26.11.03.06C] and [40 CFR Part 60.48c(g)].**

B. (a) Maintain log of maintenance performed on the boilers and training provided to the boiler operators.
(b) Maintain log of visible emissions observation performed on site for 5 years and make available to the Department's representative upon request **[Authority: COMAR 26.11.03.06C].**

C. Maintain the following records for at least five years:

(1). The records of the calculations and supporting documentation for the NOx emissions from the boiler during any 12-month rolling period. **[Authority: COMAR 26.11.03.06C].**

(2) The record of the hours of operation for the boiler; NOx emissions and O2 readings of the analyzer for the boiler; and the type and quantity of fuels used by the boiler **[Authority: COMAR 26.11.03.06C].**

(3). Maintain annual fuel use records on site for at least three years and make records available to the Department upon request.

Note: Retention of records of all monitoring data and support information is for a period of five years or longer, as specified by the Department, from the date of the monitoring sample, measurement, application, or report. **[Authority: COMAR 26.11.09.08K(3) and COMAR 26.11.03.06C].**

D. Maintain annual fuel use records on site for at least five years and make records available to the Department upon request **[Authority: COMAR 26.11.03.06C].**

Permit Term 3.5 Reporting Requirements: [Authority: COMAR 26.11.03.06C]

The Permittee shall:

- A. Submit semi-annual reports of fuel supplier's certifications.
- B. Report incidents of visible emissions in accordance with Condition 4 of Section III "Report of Excess Emissions and Deviation."
- C.
 - (1) Submit the rolling 12-month NOx emissions that were calculated at the end of each month in a semiannual monitoring report due by July 31 for the period January 1 through June 30 and January 31 for the period July 1, through December 31 **[Authority: COMAR 26.11.03.06C]**.
 - (2) The Permittee shall report on a semi-annual basis incidence of excess emissions when NOx emissions rate as measured by the NOx monitor, exceed the applicable limits in accordance with Condition 4 of Section III "Report of Excess Emissions and Deviations" **[Authority: COMAR 26.11.03.06C]**.
 - (3). Make the annual fuel use records available to the Department upon request **[Authority: COMAR 26.11.03.06C]**.
- D. Submit an annual emissions certification report (Permit Condition 8 of Section III, Plant Wide Conditions "Emissions Certification Report"). The annual certification report shall contain the type, quantities, and analyses of all fuels burned **[Authority: COMAR 26.11.02.19D]**.

Compliance Methods for the Above (Description and Citation):**Permit Terms 3.1 Applicable Regulation/Limits**

No action required.

Permit Term 3.2 Testing Requirements: [Authority: COMAR 26.11.03.06C]

- A. NSAB obtains fuel oil suppliers' certificates which include the name of the fuel supplier and a certified statement from the supplier verifying that the fuel oil complies with the 0.3% sulfur content by weight specified in **COMAR 26.11.09.07A**. These records are maintained on site at Building 16 & Building 27. The sulfur weight percent specified by **COMAR 26.11.09.07A** is more stringent than the 0.5 sulfur weight percent specified in **40 CFR 60.42c**, therefore compliance with **COMAR 26.11.09.07A** constitutes compliance with **40 CFR 60.42c**. All fuel supplier certification records are maintained on site for at least 5 years. Fuel deliveries on January 31, February 1, 2, 3, 4 and March 2, were all ULSD and comply with the requirements of **COMAR 26.11.09.07A**.
- B. No action required. See monitoring requirements.
- C. NOx emissions are monitored for every 168 hours of operation by Utilities heating plant personnel using one of four Bacharach NOx portable analyzers (Model PCA3 Type 235). The manufacturer (Bacharach) has stated that each analyzer requires calibration on an annual basis. All records of calibration are maintained on site at Building 16 for at least 5 years and are available upon request.

A calibration schedule was implemented to ensure all active analyzers are calibrated one month before their next scheduled calibration date. The table below depicts the most recent calibration date and the calibration due date for each of the analyzers.

NOx Analyzer Calibrations

Unit	Manufacturer	Serial Number	Calibrated On	Calibration Due Date
NOx Analyzer #1	Bacharach Inc.	17031254	6-28-2019	6-28-2020
NOx Analyzer #2	Bacharach Inc.	17031250	3-01-2019	3-01-2020
NOx Analyzer #3	Bacharach Inc.	17031249	6-28-2019	6-28-2020
NOx Analyzer #4	Bacharach Inc.	17031248	3-01-2019	3-01-2020

- D. Annual fuel use and steam production records are maintained on site by NSAB Environmental in Building 27 for at least 5 years are available upon request. NSAB submits an annual emissions certification report for the previous year by the required deadline of April 1. The annual emissions certification contains the type, quantities, and analyses of all fuels burned. The annual emissions certification for 2018 was submitted on 26 March 2019.

Permit Term 3.3 Monitoring Requirements

- A. NSAB obtains fuel oil suppliers' certificates which include the name of the fuel supplier and a certified statement from the supplier verifying that the fuel oil complies with the 0.3% sulfur content by weight specified in **COMAR 26.11.09.07A**. These records are maintained on site at Building 16 & Building 27. The sulfur weight percent specified by **COMAR 26.11.09.07A** is more stringent than the 0.5 sulfur weight percent specified in **40 CFR 60.42c**, therefore compliance with **COMAR 26.11.09.07A** constitutes compliance with **40 CFR 60.42c**. All fuel supplier certification records are maintained on site for at least 5 years. Fuel deliveries on January 31, February 1, 2, 3, 4 and March 2, were all ULSD and comply with the requirements of **COMAR 26.11.09.07A**.
- B. (a-b) The boiler is operated and maintained according to the manufacturer's operation manual and maintenance plan. The O&M manual, which includes a preventive maintenance plan, is maintained by NAVFAC Utilities' personnel in Building 16. Annual boiler maintenance was performed during the reporting period. The table below notes the most recent annual maintenance date for the boiler. Copies of maintenance service records and training records are maintained at Building 16.

A boiler tune-up and calibration were not performed on the boiler in 2019. Additional information is provided in Section C of this report. The table below notes the most recent tune-up for the boiler.

Boiler Tune-Up & Annual Maintenance

Boiler No.	Emission Unit	Tune-Up Date	Tune-Up Due Date	Annual Maintenance Date
Boiler 5	16-05B	7-18-2018	7-18-2019	6-24-2019

The boiler is exempted from the requirements of 40 CFR Part 63, Subpart JJJJJJ because of the following: The use of fuel oil in the boiler is restricted to periods of natural gas curtailments, gas supply interruption, startups, or periodic testing on liquid fuel, and; periodic testing on liquid fuel is limited to a combined total of 48 hours during any calendar year. Curtailment letters indicating periods of natural gas curtailment are maintained on site at Building 16 and are available upon request.

(c) Utilities heating plant personnel maintain a log of all visible emissions observations in Building 16. The log is maintained on site for at least five years and is available upon request. Utilities heating plant personnel visually observe stack emissions for a 6-minute period, for each 168 hours that a boiler burns fuel oil. Verification records are maintained at Building 16.

Boiler 5 did not operate on oil for greater than 168 hours during the reporting period. Therefore, no visible emission observation was required or conducted during the reporting period.

(d) No visual emissions were observed during this reporting period.

- C. (1) The rolling NOx emissions are calculated on a monthly basis to ensure that, for each 12-month rolling period, NOx emissions from Boiler 5 do not exceed 25 tons. All calculation records for the NOx emissions during all 12-month rolling periods are maintained in Building 27 for at least 5 years.

(2) Once every 168 hours of operation, Utilities heating plant personnel use a NOx analyzer to check and record the NOx emissions in the exhaust gases of the boiler. During this reporting period, there were no instances for Boiler 5 where the NOx emissions monitoring results exceeded the applicable permit limit. Excess oxygen in the exhaust gases is continuously monitored. NOx analyzer readings and boiler operating logs are maintained on site at Building 16 for at least 5 years.

The time between NOx emissions monitoring exceeded 168 two times during the reporting period on 10 January and 13 November 2019. Additional information is provided in Section C of this report.

(3) No action required. See record keeping.

- D. Annual fuel use and steam production records, maintained on site by NSAB Environmental in Building 27 for at least 5 years, are available upon request. NSAB submits an annual emissions certification report for the previous year by the required deadline of April 1. The annual emissions certification contains the type, quantities, and analyses of all fuels burned. The annual emissions certification for 2018 was submitted on 26 March 2019.

Permit Term 3.4 Recordkeeping Requirements: [Authority: COMAR 26.11.03.06C]

- A. All fuel supplier certification records are maintained on site for at least 5 years.
- B. (a) Maintenance logs are maintained on the boiler and training records are kept by NAVFAC Utilities personnel.
- (b) NAVFAC Utilities personnel maintain a log of visible emissions observations in Building 16. The log is maintained on site for at least 5 years and is available to the Department's representative upon request.
- C. (1) The record of hours of operations for the boiler is maintained for at least 5 years in building 16. Records of NOx emissions, O₂ readings, and calibration records for each analyzer are maintained for at least 5 years in building 16 for the boiler. Type and quantity of fuels used for the boiler and boiler stack testing results are maintained by NAVFAC Environmental in Building 27 for at least 5 years. All calculation records for the NOx emissions and natural gas combustion during all 12-month rolling periods are maintained in Building 27 for at least 5 years.

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- (2) No action required. See C(1)(a) above.
- (3) Annual fuel use records are maintained on site for at least 5 years by NSAB Environmental in Building 27.

- D. Annual fuel use records are maintained on site for at least 5 years by NSAB Environmental in Building 27 and are available upon request.

Permit Terms 3.5 Reporting Requirements [Authority: COMAR 26.11.03.06C]

- A. All fuel suppliers' certifications are submitted semi-annually to the Department.
- B. No incidents of visible emissions were observed during this reporting period.
- C.
 - (1) Rolling 12-month NO_x emissions that are calculated at the end of each month are submitted in semi-annual reports to the Department.
 - (2) During this reporting period, there have been no incidences when NO_x emissions as measured by the NO_x monitor exceeded 0.25 lb/MMBtu.
 - (3) Annual fuel use records are maintained on site by NSAB Environmental for at least five years. These records are available to the Department upon request.
- D. NSAB submits an annual emissions certification report for the previous year by the required deadline of April 1. The annual emissions certification contains the type, quantities, and analyses of all fuels burned. The annual emissions certification for 2018 was submitted on 26 March 2019.

Demonstration of Compliance:

Status (Check one): ☒ **Intermittent Compliance** ☐ **Continuous Compliance**

Emission Unit ID(s):

Variety of EUs comprising five (5) diesel engine emergency generators of sizes ranging from 400 kW – 600 kW with the following emission unit numbers.

EU: 07-01G, 53-01G, 16-01G (removed from service August 2018), 16-02G (removed from service May 2018), and 01- 01G (removed from service July 2015) - constructed before July 11, 2005. These units are not subject to NSPS requirements under 40 CFR Part 60 Subpart IIII because of NSPS applicability date of July 11, 2005 [Ref.: §60.4200(a)(2)(i)].

Permit Term (Describe requirements and cross-reference):

Permit Term 4.1 Applicable Regulation/Limits

A. Control of Visible Emissions

- (1) **COMAR 26.11.09.05E(2)** Emissions During Idle Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.
- (2) **COMAR 26.11.09.05E(3)** Emissions During Operating Mode. A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.
- (3) **COMAR 26.11.09.05E(4)** Exceptions.

(a) Section E (2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

(b) Section E (2) of this regulation does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:(i) Engines that are idled continuously when not in service: 30 minutes; (ii) All other engines:15 minutes.

(c) Section E (2) and (3) of this regulation do not apply while maintenance, repair, or testing is being performed by qualified mechanics."

B. Control of Sulfur Oxides

- (1) **COMAR 26.11.09.07A(2)(b)** "In Areas III and IV - Sulfur Content Limitations for Fuel. A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds 0.3 percent by weight."
- (2) **40 CFR Part 63 Subpart ZZZZ (The RICE Rule) §63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?**

"(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is 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) or that operates for the purpose specified in §63.6640(f)(4)(ii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

Note: 40 CFR 80.510(b) requires diesel fuel with a maximum sulfur content limit of 15 ppm and a cetane index or aromatic content, as follows:

- (i) A minimum cetane index of 40; or
- (ii) A maximum aromatic content of 35 volume percent.

C. Control of Nitrogen Oxides

(1) NO_x RACT Requirements

- (a) **COMAR 26.11.09.08G-** Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 percent or less

(1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in **40 CFR Part 72.2**) of 15 percent or less shall:

- (a) Provide certification of the capacity factor of the equipment to the Department in writing;
- (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
- (c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
- (d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
- (e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."

- (b) **COMAR 26.11.09.08B(5)** – Operator Training.
 - (1) **COMAR 26.11.09.08B(5)(a)** states that "for purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation" and
 - (2) **COMAR 26.11.09.08B(5)(a)** states that "the operator-training course sponsored by the Department shall include an in-house training course that is approved by the Department."

D. Control of NESHAP

See requirements in **Table IV-4a 40 CFR Part 63 Subpart ZZZZ-RICE RULE**

Permit Term 4.2 Testing Requirements:

A. Visible Emissions Limitation

See monitoring requirements.

B. Sulfur Oxide Emissions

See monitoring requirements.

C. Nitrogen Oxide Emissions

See record keeping requirements.

D. Control of NESHAP

See requirements in Table IV-4a 40 CFR Part 63 Subpart ZZZZ-RICE RULE.

Permit Term 4.3 Monitoring Requirements:

The Permittee shall:

A. Control of Visible Emissions

- (1) (a) Properly operate and maintains the engine; and
(b) Maintain an operations manual and preventive maintenance plan.
[Authority: COMAR 26.11.03.06C]
- (2) The Permittee shall properly operate and maintain the engines in a manner to minimize visible emissions and in accordance with the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. **[Authority: COMAR 26.11.03.06C]**

B. Control of Sulfur Oxides

Obtain fuel supplier's certification, which includes the name of the oil supplier and statement from the fuel supplier that the distillate fuel oil complies with the limitation on sulfur content in the fuel oil. **[Authority: COMAR 26.11.03.06C]**.

C. Control of Nitrogen Oxides

Require each installation operators to attend operator training program on combustion optimization that are sponsored by the Department, U.S. EPA, or equipment vendors, once every three years. **[Authority: COMAR 26.11.09.08G(1)(d)]**.

D. Control of NESHAP

See monitoring requirements in Table IV-4a 40 CFR Part 63 Subpart ZZZZ-RICE RULE

Permit Term 4.4 Record Keeping Requirements

The Permittee shall:

A. Control of Visible Emissions

Maintain records of the preventive maintenance that relates to combustion process performed on the engine on site for at least 5 years and make the records available to the Department upon request. The Permittee shall also retain the operations manual on site and make available to the Department upon request **[Authority: COMAR 26.11.03.06C]**.

B. Control of Sulfur Oxides

Maintain records of fuel suppliers' certifications of the percent sulfur content in the fuel on site for at least five years and shall make the records available to the Department upon request. The fuel oil certification report must contain the type, quantities, and analyses of all fuels burned **[Authority: COMAR 26.11.09.07C]**.

C. Control of Nitrogen Oxides

Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request. **[Authority: COMAR 26.11.09.08G (1) (e)]**. The Permittee shall also maintain annual fuel use records on site for at least three years and make records available to the Department upon request.

Note: Retention of records of all monitoring data and support information is for a period of five years or longer, as specified by the Department, from the date of the monitoring sample, measurement, application, or report. **[Authority: COMAR 26.11.09.08K (3) and COMAR 26.11.03.06C]**.

D. Control of NESHAP

See record keeping requirements in **Table IV-4a 40 CFR Part 63 Subpart ZZZZ-RICE RULE**

Permit Term 4.5 Reporting Requirements:

The Permittee shall:

A. Control of Visible Emissions

Report incidents of the occurrence of visible emissions in accordance with condition 4 of Section III "Report of Excess Emissions and Deviation. **[Authority: COMAR 26.11.03.06C]**.

B. Control of Sulfur Oxides

Submit the fuel supplier certification or a copy of the sulfur in fuel analyses to the Department upon request. **[Authority: COMAR 26.11.09.07C]**.

C. Control of Nitrogen Oxides

Provide certification of the capacity factor of the equipment to the Department in writing along with the annual fuel utilization in the Annual Emissions Certification Report which is due April 1 of each calendar year. **[Authority: COMAR 26.11.03.06C and COMAR 26.11.09.08G (1) (a)]**.

The Permittee shall submit the annual fuel use records available to the Department upon request. **[Authority: COMAR 26.11.03.06C]**.

D. Control of NESHAP

See reporting requirements in **Table IV-4a 40 CFR Part 63 Subpart ZZZZ-RICE RULE**.

Compliance Methods for the Above (Description and Citation):

Permit Term 4.1 Applicable Standards/Limits:

No action required. See monitoring requirements and Permit Term 4.1a.

Permit Term 4.2 Testing Requirements:

- A. No action required. See monitoring requirements.
- B. No action required. See monitoring requirements.
- C. No action required. See record keeping requirements.
- D. No action required. See Permit Term 4.2a.

Permit Term 4.3 Monitoring Requirements:

A.

- (1) Emergency generators are operated and maintained according to the manufacturer's operation manual or NAVFAC recommendations, and in accordance with a preventive maintenance plan. NSAB operates and maintains the emergency generators consistent with safety and good air pollution control practices for minimizing emissions. Records of preventive maintenance and load tests related to the emergency generators' combustion process are maintained for at least 5 years, and are maintained by the maintenance contractors. The operations manuals and preventive maintenance plans are also maintained by the maintenance contractors. Operations manuals for new or temporary generators are maintained by NSAB Environmental in Building 27. Documentation of certified engines is maintained by NSAB Environmental in Building 27. These records are available to the Department upon request.

Each emergency generator is equipped with a non-resettable hour meter. Generator hours are checked monthly and are maintained by NSAB Environmental. Maintenance checks and readiness testing for each generator did not exceed 100 hours during this reporting period. No generators exceeded 500 hours per year during this reporting period; therefore, no combustion analysis was required. The capacity factors of the emergency generators are well under the regulated limit. Records of the operation hours, calculated capacity factors, and annual fuel use are maintained by NSAB Environmental in Building 27 for at least 5 years. All notifications are maintained by NSAB Environmental in Building 27. These records are available to the Department upon request.

Generator logbooks are located with each emergency generator. For each operation of the emergency generator, the logbooks contain date of operation, hour meter start time, hour meter stop time, run time, and reason for operation.

- (2) Emergency generators are operated and maintained according to the manufacturer's operation manual or NAVFAC recommendations, and in accordance with a preventive maintenance plan. Generators are not run if emissions are visible after the initial startup period. There were no incidents of visible emissions during this reporting period. The operations manuals and preventive maintenance plans are maintained by the maintenance contractors. Records of visual emissions are maintained by NSAB Environmental in Building 27 for at least 5 years.

- B. Only ultra-low sulfur (15 ppm or less sulfur) diesel is used by the generators. Fuel suppliers' certifications indicating that the oil complies with sulfur limitations of 0.3% sulfur content by weight under COMAR 26.11.09.07A(2)(b) and 15 ppm sulfur content under 40 CFR 80.510(b) are maintained by NSAB Environmental in Building 27 for at least five years and are available to the Department upon request.

- C. Operator training programs on combustion optimization were held on 23 October 2019 and 20 November 2019. Records of training program attendance for each operator on site are maintained by NSAB Environmental and by the maintenance contractors, for at least 5 years.
- D. No action required. See Permit Term 4.3a.

Permit Term 4.4 Record Keeping Requirements:

- A. Records of preventive maintenance related to the emergency generators' combustion process are maintained for at least 5 years. The operations manuals and preventive maintenance plans are also maintained by the maintenance contractors. Operations manuals for new or temporary generators are maintained by NSAB Environmental in Building 27. These records are available to the Department upon request.
- B. Records of fuel suppliers' certifications of the percent sulfur content in the fuel are maintained on site for at least five years. These records are available to the Department upon request. Records contain the type, quantity, and analyses of all fuels burned.
- C. Records of the calculated capacity factors, operation hours, and annual fuel use are maintained by NSAB Environmental in Building 27 for at least 5 years. No generators exceeded 500 hours during this reporting period.

Operator training programs on combustion optimization were held on 23 October 2019 and 20 November 2019. Records of training program attendance for each operator on site are maintained by NSAB Environmental and by the maintenance contractors, for at least 5 years.
- D. No action required. See Permit Term 4.4a.

Permit Term 4.5 Reporting Requirements:

- A. There were no incidents of visible emissions during this reporting period.
- B. Fuel suppliers' certifications are submitted to the Department semi-annually. These are maintained on site by NSAB Environmental in Building 27 and are available upon request.
- C. Records of the calculated capacity factors are submitted annually to the Department as part of the annual emission certification report due April 1. Records of hours of operation and reasons for operation are available to the Department upon request. Records of annual fuel use are maintained by NSAB Environmental in Building 27. No emergency generators exceeded 500 hours during this reporting period. No combustion analysis was required. Records of training program attendance for each operator are available to the Department upon request.
- D. No action required. See Permit Term 4.5a.

Demonstration of Compliance

Status (Check one): ___ Intermittent Compliance **X** Continuous Compliance

Emission Unit ID(s):

Variety of EUs comprising five (5) diesel engine emergency generators of sizes ranging from 400 kW – 600 kW with the following emission unit numbers.

EU: 07-01G, 53-01G, 16-01G (removed from service August 2018), 16-02G (removed from service May 2018), and 01- 01G (removed from service July 2015) - constructed before July 11, 2005. These units are not subject to NSPS requirements under 40 CFR Part 60 Subpart IIII because of NSPS applicability date of July 11, 2005 [Ref.: §60.4200(a)(2)(i)].

Permit Term (Describe requirements and cross-reference):**Permit Term 4.1a Applicable Regulation/limits****A. Control of NESHAP****40 CFR 63 Subpart ZZZZ (RICE Rule)**

- (1) The Permittee shall comply with the following requirements for the diesel engine:
 - (a) Change oil and filter every 500 hours of operation or annually, whichever comes first;
 - (b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and
 - (c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

[Reference: 40 CFR §63.6603(a) and Table 2d, Item 4 of 40 CFR 63, Subpart ZZZZ].

- (2) In order to extend the specified oil change requirement in Table 2d, Item 4 of 40 CFR 63, Subpart ZZZZ, applicable on May 3, 2013 for the diesel engine, the Permittee has the option to utilize an oil analysis program in 40 CFR §63.6625(i) as follows:
 - (a) The oil analysis must be performed at the same frequency specified for changing the oil in 40 CFR 63, Table 2d to Subpart ZZZZ.
 - (b) The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content (by volume). The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5.
 - (c) If all of these condemning limits are not exceeded, the Permittee is not required to change the oil. If any of the limits are exceeded, the Permittee must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the Permittee must change the oil within 2 days or before commencing operation, whichever is later.

[Reference: Footnote 1 to Table 2d of 40 CFR 63, Subpart ZZZZ and 40 CFR §63.6625(i)].

(3) If the emergency generator is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of 40 CFR 63, Subpart ZZZZ, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. **[Footnote 2 to Table 2d of 40 CFR 63, Subpart ZZZZ].**

(4) The owners and operators (the Permittee) of an existing emergency CI stationary RICE with a site rating of more than 100 brake horsepower and a displacement of less than 30 liters per cylinder that uses diesel fuel and are 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) or that operates for the purposes specified in §63.6640(f)(4)(ii) must purchase diesel fuel that meets the requirements of 40 CFR 80.510(b) for non-road diesel fuel.

Note: 40 CFR 80.510(b) requires diesel fuel with a maximum sulfur content limit of 15 ppm and a cetane index or aromatic content, as follows:

- (i) A minimum cetane index of 40; or
- (ii) A maximum aromatic content of 35 volume percent.

[Reference: CFR §63.6604(b)].

(5) The Permittee must comply with the following work or management practices:

- (a) Operate and maintain each emergency generator according to the manufacturer's emission-related operation and maintenance instructions; or
- (b) Develop and follow their own maintenance plan which must provide to the extent practicable for the maintenance and operation of each emergency generator in a manner consistent with good air pollution control practice for minimizing emissions.

[Reference: 40 CFR 63.6640(a) and Table 6, Item 9].

(6) As an owner/operator of emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in **40 CFR 63.6640(f) (1) through (f) (4)**. In order for the engine to be considered emergency stationary RICE under this subpart, any operation other than emergency operation and maintenance and testing is prohibited. If you do not operate the engine according to the requirements in paragraphs (f) (1) through (f) (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(f)(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(f)(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f) (2) (i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (f)(4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(f)(2)(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(f)(2)(ii) Not applicable

(f)(2)(iii) Not applicable

(f)(3) - Not applicable.

(f)(4) Not Applicable

(f)(4)(i) - Not Applicable

(f)(4)(ii) - Not Applicable

Permit Term 4.2a Testing Requirements:

See monitoring requirements

Permit Term 4.3a Monitoring Requirements:

The Permittee shall:

- (1) At all times operate and maintain the diesel engine, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by 40 CFR 63, Subpart ZZZZ have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **[Reference 40 CFR §63.6605(b)].**
- (2) Operate and maintain the diesel engine according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the emergency generators in a manner consistent with good air pollution control practice for minimizing emissions. **[Reference: 40 CFR §63.6625(e)].**
- (3) Minimize the diesel engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. **[Reference: 40 CFR §63.6625(h)].**

Permit Term 4.4a Record Keeping Requirements

The Permittee shall keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE according to your own maintenance plan. [Reference: 40 CFR §63.6655(e)].

Permit Term 4.5a Reporting Requirements:

See record keeping requirements

Compliance Methods for the Above (Description and Citation):**Permit Term 4.1a Applicable Standards/Limits:**

A.

- (1) Emergency generators are operated and maintained according to the manufacturer's operation manual or NAVFAC recommendations, and in accordance with a preventive maintenance plan. Preventive maintenance, including a change of the oil and filter, an inspection of the air cleaner, and an inspection of all hoses and belts, is performed on each generator annually to comply with the requirements of 40 CFR Part 63, Subpart ZZZZ.

Records of preventive maintenance are maintained for at least 5 years, and are maintained by the maintenance contractors. The operations manuals and preventive maintenance plans are also maintained by the maintenance contractors. Operations manuals for new or temporary generators are maintained by NSAB Environmental in Building 27. Documentation of certified engines is maintained by NSAB Environmental in Building 27. These records are available to the Department upon request.

- (2) Not applicable. NSAB does not use an oil analysis program.
- (3) Not applicable. The management practice requirements in Table 2d of 40 CFR 63, Subpart ZZZZ were performed during this reporting period.
- (4) Only ultra-low sulfur (15 ppm or less sulfur) diesel is used by the generators. Fuel suppliers' certifications indicating that the oil complies with sulfur limitations of 0.3% sulfur content by weight under COMAR 26.11.09.07A(2)(b) and 15 ppm sulfur content under 40 CFR 80.510(b) are maintained by NSAB Environmental in Building 27 for at least five years and are available to the Department upon request.
- (5) Emergency generators are operated and maintained according to the manufacturer's operation manual or NAVFAC recommendations, and in accordance with a preventive maintenance plan. NSAB operates and maintains the emergency generators consistent with safety and good air pollution control practices for minimizing emissions. The operations manuals and preventive maintenance plans are maintained by the maintenance contractors.
- (6) Each emergency generator is equipped with a non-resettable hour meter. Generator hours are checked monthly and are maintained by NSAB Environmental. Maintenance checks and readiness testing for each generator did not exceed 100 hours during this reporting period. Records of the operation hours are maintained by NSAB Environmental in Building 27 for at least 5 years. These records are available to the Department upon request.

Generator logbooks are located with each emergency generator. For each operation of the emergency generator, the logbooks contain date of operation, hour meter start time, hour meter stop time, run time, and reason for operation. The emergency generators are only operated for emergency operations, maintenance, and testing.

Permit Term 4.2a Testing Requirements:

No action required. See monitoring requirements.

Permit Term 4.3a Monitoring Requirements:

- (1) Emergency generators are operated and maintained according to the manufacturer's operation manual or NAVFAC recommendations, and in accordance with a preventive maintenance plan. NSAB operates and maintains the emergency generators consistent with safety and good air pollution control practices for minimizing emissions. Records of preventive maintenance and load tests related to the emergency generators' combustion process are maintained for at least 5 years, and are maintained by the maintenance contractors. The operations manuals and preventive maintenance plans are also maintained by the maintenance contractors. Operations manuals for new or temporary generators are maintained by NSAB Environmental in Building 27. Documentation of certified engines is maintained by NSAB Environmental in Building 27. These records are available to the Department upon request.

Preventive maintenance, including a change of the oil and filter, an inspection of the air cleaner, and an inspection of all hoses and belts, is performed on each generator annually to comply with the requirements of 40 CFR Part 63, Subpart ZZZZ.

- (2) Emergency generators are operated and maintained according to the manufacturer's operation manual or NAVFAC recommendations, and in accordance with a preventive maintenance plan. NSAB operates and maintains the emergency generators consistent with safety and good air pollution control practices for minimizing emissions. The operations manuals and preventive maintenance plans are maintained by the maintenance contractors.
- (3) Emergency generators are operated and maintained according to the manufacturer's operation manual or NAVFAC recommendations, and in accordance with a preventive maintenance plan. Idling and startup times are minimized in accordance with the manufacturer's operation manual or NAVFAC recommendations. The operations manuals and preventive maintenance plans are maintained by the maintenance contractors.

Permit Term 4.4a Record Keeping Requirements:

- A. Records of preventive maintenance and load tests related to the emergency generators' combustion process are maintained for at least 5 years, and are maintained by the maintenance contractors. The operations manuals and preventive maintenance plans are also maintained by the maintenance contractors. Operations manuals for new or temporary generators are maintained by NSAB Environmental in Building 27. Documentation of certified engines is maintained by NSAB Environmental in Building 27. These records are available to the Department upon request.

Permit Term 4.5a Reporting Requirements:

No action required. See record keeping requirements.

A-COMP**Demonstration of Compliance**

Status (Check one): ☐ Intermittent Compliance ☒ Continuous Compliance

Emission Unit ID(s):

Variety of EUs comprising twenty-one (21) diesel engine emergency generators of sizes ranging from 400 kW – 3,000 kW with the following emission unit numbers.

EU: 27-01A, 71B-01H, 72C-02H, 55-03H, 63-01G, 55-01H (actual generator rating is 1500 kW), 55-02H (actual generator rating is 1500 kW), 51-01G, 17-01, 62-02G, 63-02H, 70A-01H, 44-02G, 44-01G, 47-01G (removed from service June 2018), 55-04H, 16-01C (actual engine rating is 4423 hp), 01-02G (removed from service February 2016), 16-03G (removed from service February 2016), 202-01H, and 01-01H - constructed after July 11, 2005.

Notes: These units are subject to the NSPS requirements under 40 CFR Part 60 Subpart IIII because they were constructed after NSPS applicability date of July 11 2005.

NSAB disclosed that there are three diesel emergency generators for which either the engine rating (in hp) or the generator rating (in kW) is greater than what is listed in the permit. The correct ratings for these emission units are listed in parentheses above. NSAB plans to correct the discrepancies between the permit ratings and actual equipment ratings in the next Title V permit renewal.

Five Diesel Emergency Generators Covered Under a Permit to Construct (subject to similar conditions)

*EU numbers are proposed

1. 031-9-1183 EU 16-01H* - 755 hp engine with 450 kW generator (Permit to Construct issued 8 June 2018)
2. 031-9-1184 EU 16-02H* - 755 hp engine with 450 kW generator (Permit to Construct issued 8 June 2018)
3. 031-9-1179 EU 45-01A* - 601 hp engine with 400 kW generator (Permit to Construct issued 3 May 2018)
4. 031-9-1185 EU 55-05A* - 2328 hp engine with 1500 kW generator (Permit to Construct issued 7 September 2018)
5. 031-9-1186 EU 55-06A* - 2328 hp engine with 1500 kW generator (Permit to Construct issued 7 September 2018)

Permit Term (Describe requirements and cross-reference):

Permit Term 5.1 Applicable Regulation/limits

A. Control of Visible Emissions

- (1) **COMAR 26.11.09.05E(2)** Emissions During Idle Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.

- (2) **COMAR 26.11.09.05E(3)** Emissions During Operating Mode. A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.
- (3) **COMAR 26.11.09.05E(4) Exceptions.**
 - (a). Section E (2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
 - (b) Section E (2) of this regulation does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:(i) Engines that are idled continuously when not in service: 30 minutes; (ii) All other engines:15 minutes.
 - (c) Section E (2) and (3) of this regulation do not apply while maintenance, repair, or testing is being performed by qualified mechanics."
- (4) **40 CFR Part 60 Subpart IIII** - New Source Performance Standard (NSPS) for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE).
See Table IV-5a
§ 89.113 Smoke emission standard.
See requirements under paragraph B below.

B. Control of Particulate

See Table IV-5a

C. Control of Sulfur Oxides

- (1) **COMAR 26.11.09.07A(2)(b)** "In Areas III and IV - Sulfur Content Limitations for Fuel. A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds 0.3 percent by weight."
- (2) **NSPS subpart IIII-§60.4207** "What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?"
 - (a) Not applicable
 - (b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (otherwise obtained) prior to October 1, 2010, may be used until depleted.
 - (c) Permittee, owner or operator must use fuel that meets a maximum per gallon sulfur content of 1,000 parts per million (ppm).

D. Control of Nitrogen Oxides

(1) NOx RACT Requirements

- (a) **COMAR 26.11.09.08G-** Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 percent or less

(1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in **40 CFR Part 72.2**) of 15 percent or less shall:

- (a) Provide certification of the capacity factor of the equipment to the Department in writing;
 - (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
 - (c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
 - (d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
 - (e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."
- (b) **COMAR 26.11.09.08B(5)** – Operator Training.
- (1) **COMAR 26.11.09.08B(5)(a)** states that "for purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation" and
 - (2) **COMAR 26.11.09.08B(5)(a)** states that "the operator-training course sponsored by the Department shall include an in-house training course that is approved by the Department."

E. NSPS Subpart III – See Table IV-5a

Permit Term 5.2 Testing Requirements:

A. Visible Emissions Limitation

See monitoring requirements.

B. Particulate Emissions

See monitoring requirements.

C. Sulfur Oxide Emissions

See monitoring requirements.

D. Nitrogen Oxide Emissions

See record keeping requirements.

Permit Term 5.3 Monitoring Requirements:

The Permittee shall:

A. Control of Visible Emissions

- (1) (a) Properly operate and maintains the engine; and
 - (b) Maintain an operations manual and preventive maintenance plan.
- [Authority: COMAR 26.11.03.06C]**

- (2) Properly operate and maintain the engines in a manner to minimize visible emissions and in accordance with the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. **[Authority: COMAR 26.11.03.06C]**

B. Control of Particulate Emissions

Comply with the operational limitations under NSPS §60.4206 and §60.4209(a) - See Table IV-5a.

C. Control of Sulfur Oxides

- (1) Obtain fuel supplier's certification, which includes the name of the oil supplier and statement from the fuel supplier that the distillate fuel oil complies with the limitation on sulfur content in the fuel oil. **[Authority: COMAR 26.11.03.06C].**
- (2) Comply with requirements under 40 CFR 60 subpart IIII. Note: The fuel supplier's certification required for demonstrating compliance with the COMAR sulfur in fuel limitation will be used to determine compliance with the NSPS fuel requirement.

D. Control of Nitrogen Oxides

Require each installation operators to attend operator training program on combustion optimization that are sponsored by the Department, U.S. EPA, or equipment vendors, once every three years. **[Authority: COMAR 26.11.09.08G(1)(d)].**

Permit Term 5.4 Record Keeping Requirements

The Permittee shall:

A. Control of Visible Emissions

Maintain records of the preventive maintenance that relates to combustion process performed on the engine on site for at least 5 years and make the records available to the Department upon request. The Permittee shall also retain the operations manual on site and make available to the Department upon request **[Authority: COMAR 26.11.03.06C].**

B. Control of Particulate Emissions

In accordance with NSPS subpart IIII-§60.4214, the Permittee shall:

"(a) (2) Keep records of the information in paragraphs (a) (2) (i) through (iv) of this section.

(i) All notifications submitted to comply with subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion engine is a certified engine, documentation that the engine meets the emissions standards.

(iv)" Not applicable

[Authority: §60.4214].

C. Control of Sulfur Oxides

Maintain records of fuel suppliers' certifications of the percent sulfur content in the fuel on site for at least five years and shall make the records available to the Department upon request. The fuel oil certification report must contain the type, quantities, and analyses of all fuels burned **[Authority: COMAR 26.11.09.07C]**.

D. Control of Nitrogen Oxides

Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request. **[Authority: COMAR 26.11.09.08G (1) (e)]**. The Permittee shall also maintain annual fuel use records on site for at least three years and make records available to the Department upon request.

Note: Retention of records of all monitoring data and support information is for a period of five years or longer, as specified by the Department, from the date of the monitoring sample, measurement, application, or report. **[Authority: COMAR 26.11.09.08K (3) and COMAR 26.11.03.06C]**.

Permit Term 5.5 Reporting Requirements:

The Permittee shall:

A. Control of Visible Emissions

Report incidents of the occurrence of visible emissions in accordance with condition 4 of Section III "Report of Excess Emissions and Deviation. **[Authority: COMAR 26.11.03.06C]**.

B. Control of Particulate Emissions

Submit records to the Department when requested. **[Authority: COMAR 26.11.09.07C]**.

C. Control of Sulfur Oxides

Submit the fuel supplier certification or a copy of the sulfur in fuel analyses to the Department upon request. **[Authority: COMAR 26.11.09.07C]**.

D. Control of Nitrogen Oxides

Provide certification of the capacity factor of the equipment to the Department in writing along with the annual fuel utilization in the Annual Emissions Certification Report which is due April 1 of each calendar year. **[Authority: COMAR 26.11.03.06C and COMAR 26.11.09.08G (1) (a)]**.

Compliance Methods for the Above (Description and Citation):**Permit Term 5.1 Applicable Standards/Limits:**

No action required. See monitoring requirements and Permit Term 5.1a.

Permit Term 5.2 Testing Requirements:

- A. No action required. See monitoring requirements.
- B. No action required. See monitoring requirements and see Permit Term 5.2a.
- C. No action required. See monitoring requirements.
- D. No action required. See record keeping requirements.

Permit Term 5.3 Monitoring Requirements:

A.

- (1) Emergency generators are operated and maintained according to the manufacturer's operation manual or NAVFAC recommendations, and in accordance with a preventive maintenance plan. NSAB operates and maintains the emergency generators consistent with safety and good air pollution control practices for minimizing emissions. Records of preventive maintenance and load tests related to the emergency generators' combustion process are maintained for at least 5 years, and are maintained by the maintenance contractors. The operations manuals and preventive maintenance plans are also maintained by the maintenance contractors. Operations manuals for new or temporary generators are maintained by NSAB Environmental in Building 27. Documentation of certified engines is maintained by NSAB Environmental in Building 27. These records are available to the Department upon request.

Each emergency generator is equipped with a non-resettable hour meter. Generator hours are checked monthly and are maintained by NSAB Environmental. Maintenance checks and readiness testing for each generator did not exceed 100 hours during this reporting period. No generators exceeded 500 hours per year during this reporting period; therefore, no combustion analysis was required. The capacity factors of the emergency generators are well under the regulated limit. Records of the operation hours, calculated capacity factors, and annual fuel use are maintained by NSAB Environmental in Building 27 for at least 5 years. All notifications are maintained by NSAB Environmental in Building 27. These records are available to the Department upon request.

Generator logbooks are located with each emergency generator. For each operation of the emergency generator, the logbooks contain date of operation, hour meter start time, hour meter stop time, run time, and reason for operation.

- (2) Emergency generators are operated and maintained according to the manufacturer's operation manual or NAVFAC recommendations, and in accordance with a preventive maintenance plan. Generators are not run if emissions are visible after the initial startup period. There were no incidents of visible emissions during this reporting period. The operations manuals and preventive maintenance plans are maintained by the maintenance contractors. Records of visual emissions are maintained by NSAB Environmental in Building 27 for at least 5 years.

B. No action required. See Permit Term 5.3a.

C. Only ultra-low sulfur (15 ppm or less sulfur) diesel is used by the generators. Fuel suppliers' certifications indicating that the oil complies with sulfur limitations of 0.3% sulfur content by weight under COMAR 26.11.09.07A(2)(b) and 15 ppm sulfur content under 40 CFR 80.510(b) are maintained by NSAB Environmental in Building 27 for at least five years and are available to the Department upon request.

D. Operator training programs on combustion optimization were held on 23 October 2019 and 20 November 2019. Records of training program attendance for each operator on site are maintained by NSAB Environmental and the maintenance contractors, for at least 5 years.

Permit Term 5.4 Record Keeping Requirements:

- A. Records of preventive maintenance related to the emergency generators' combustion process are maintained for at least 5 years. The operations manuals and preventive maintenance plans are also maintained by the maintenance contractors. Operations manuals for new or temporary generators are maintained by NSAB Environmental in Building 27. These records are available to the Department upon request.
- B. Records of preventive maintenance and load tests related to the emergency generators' combustion process are maintained for at least 5 years, and are maintained by the maintenance contractors. The operations manuals and preventive maintenance plans are also maintained by the maintenance contractors. Operations manuals for new or temporary generators are maintained by NSAB Environmental in Building 27. Documentation of certified engines is maintained by NSAB Environmental in Building 27. All notifications are maintained by NSAB Environmental in Building 27. These records are available to the Department upon request. See Permit Term 5.4a for additional details.
- C. Records of fuel suppliers' certifications of the percent sulfur content in the fuel are maintained on site for at least five years. These records are available to the Department upon request. Records contain the type, quantity, and analyses of all fuels burned.
- D. Records of the calculated capacity factors, operation hours, and annual fuel use are maintained by NSAB Environmental in Building 27 for at least 5 years. No generators exceeded 500 hours during this reporting period.

Operator training programs on combustion optimization were held on 23 October 2019 and 20 November 2019. Records of training program attendance for each operator on site are maintained by NSAB Environmental and the maintenance contractors, for at least 5 years.

Permit Term 5.5 Reporting Requirements:

- A. There were no incidents of visible emissions during this reporting period.
- B. All records are available to the Department upon request. See Permit Term 5.5a for additional details.
- C. Fuel suppliers' certifications are submitted to the Department semi-annually. These are maintained on site by NSAB Environmental in Building 27 and are available upon request.
- D. Records of the calculated capacity factors are submitted annually to the Department as part of the annual emission certification report due April 1. Records of hours of operation and reasons for operation are available to the Department upon request. Records of annual fuel use are maintained by NSAB Environmental in Building 27. No emergency generators exceeded 500 hours during this reporting period. No combustion analysis was required. Records of training program attendance for each operator are available to the Department upon request.

Demonstration of Compliance

Status (Check one): ☐ Intermittent Compliance ☒ Continuous Compliance

Emission Unit ID(s):

Variety of EUs comprising twenty-one (21) diesel engine emergency generators of sizes ranging from 400 kW – 3,000 kW with the following emission unit numbers.

EU: 27-01A, 71B-01H, 72C-02H, 55-03H, 63-01G, 55-01H (actual generator rating is 1500 kW), 55-02H (actual generator rating is 1500 kW), 51-01G, 17-01, 62-02G, 63-02H, 70A-01H, 44-02G, 44-01G, 47-01G (removed from service June 2018), 55-04H, 16-01C (actual engine rating is 4423 hp), 01-02G (removed from service February 2016), 16-03G (removed from service February 2016), 202-01H, and 01-01H - constructed after July 11, 2005.

Notes: These units are subject to the NSPS requirements under 40 CFR Part 60 Subpart IIII because they were constructed after NSPS applicability date of July 11 2005.

NSAB disclosed that there are three diesel emergency generators for which either the engine rating (in hp) or the generator rating (in kW) is greater than what is listed in the permit. The correct ratings for these emission units are listed in parentheses above. NSAB plans to correct the discrepancies between the permit ratings and actual equipment ratings in the next Title V permit renewal.

Previous reports listed a fourth engine (55-04H) was actually rated at 3634 hp due to a tag located on the engine. However, it was discovered that the tag was mistakenly placed on the engine and technicians tested it at 2206 hp, as is listed in the permit.

Five Diesel Emergency Generators Covered Under a Permit to Construct (subject to similar conditions)

*EU numbers are proposed

1. 031-9-1183 EU 16-01H* - 755 hp engine with 450 kW generator (Permit to Construct issued 8 June 2018)
2. 031-9-1184 EU 16-02H* - 755 hp engine with 450 kW generator (Permit to Construct issued 8 June 2018)
3. 031-9-1179 EU 45-01A* - 601 hp engine with 400 kW generator (Permit to Construct issued 3 May 2018)
4. 031-9-1185 EU 55-05A* - 2328 hp engine with 1500 kW generator (Permit to Construct issued 7 September 2018)
5. 031-9-1186 EU 55-06A* - 2328 hp engine with 1500 kW generator (Permit to Construct issued 7 September 2018)

Permit Term (Describe requirements and cross-reference):

Permit Term 5.1a Applicable Regulation/limits

A. NSPS Subpart IIII Limitations

Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later

emergency stationary CI ICE. **[Reference: §60.4205(b)].**

The Permittee must comply by purchasing an engine certified to the emission standards specified in §60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications. **[Reference: §60.4211(c)].**

Owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. **[Reference: §60.4207(b)].**

The fuel sulfur requirements of 40 CFR §80.510(b) are as follows:

- (a) Maximum sulfur content 15 ppm and
- (b) Minimum cetane index of 40; or
- (c) Maximum aromatic content of 35 volume percent.

Permit Term 5.2a Testing Requirements:

See monitoring requirements.

Permit Term 5.3a Monitoring Requirements:

- (1) The Permittee must operate and maintain an NSPS emergency diesel engines and all control devices (if applicable) according to the manufacturer's written instructions or according to procedures developed by the owner or operator that are approved by the manufacturer. Additionally, the Permittee may change only those settings that are permitted by the manufacturer. The Permittee must also meet the requirements of 40 CFR part 89, part 94 and/or part 1068, as they may apply to an owner or operator [Ref: §60.4211(a)].
 - (2) The emergency diesel engine subject to the requirements of 40 CFR 60, Subpart IIII shall be equipped with a non-resettable hour meter [Reference: §60.4209(a)].
 - (3) In accordance with 40 CFR §60.4211(f), as owner/operator of an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f) (1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation and maintenance and testing is prohibited. If you do not operate the engine according to the requirements in paragraphs (f) (1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.
- (f)(1) There is no time limit on the use of emergency stationary ICE in emergency situations.
- (f)(2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f) (2) (i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(f)(2)(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(f)(2)(ii) - Not Applicable

(f)(2)(iii) Not Applicable

(f)(3) Not Applicable

Permit Term 5.4a Record Keeping Requirements

The Permittee shall keep records of the operation of the engine in emergency and non-emergency services that are recorded through the non-resettable hour meter. The Permittee must record the time of operation of the engine and the reason the engine was in operation during that time. **[Reference: §60.4214(b)].**

Permit Term 5.5a Reporting Requirements:

See recordkeeping requirements.

Compliance Methods for the Above (Description and Citation):

Permit Term 5.1a Applicable Standards/Limits:

- A. Emergency generators are operated and maintained according to the manufacturer's operation manual or NAVFAC recommendations, and in accordance with a preventive maintenance plan. NSAB operates and maintains the emergency generators consistent with safety and good air pollution control practices for minimizing emissions. Operations manuals for new or temporary generators are maintained by NSAB Environmental in Building 27. Documentation of certified engines is maintained by NSAB Environmental in Building 27. These records are available to the Department upon request.

Only ultra-low sulfur (15 ppm or less sulfur) diesel is used by the generators. Fuel suppliers' certifications indicating that the oil complies with sulfur limitations of 0.3% sulfur content by weight under COMAR 26.11.09.07A(2)(b) and 15 ppm sulfur content under 40 CFR 80.510(b) are maintained by NSAB Environmental in Building 27 for at least five years and are available to the Department upon request.

Permit Term 5.2a Testing Requirements:

No action required. See monitoring requirements.

Permit Term 5.3a Monitoring Requirements:

A.

- (1) Emergency generators are operated and maintained according to the manufacturer's operation manual or NAVFAC recommendations, and in accordance with a preventive maintenance plan. NSAB operates and maintains the emergency generators consistent with safety and good air pollution control practices for minimizing emissions. Records of preventive maintenance and load tests related to the emergency generators' combustion process are maintained for at least 5 years, and are maintained by the maintenance contractors. The operations manuals and preventive maintenance plans are also maintained by the maintenance contractors. Operations manuals for new or temporary generators are maintained by NSAB Environmental in Building 27. Documentation of certified engines is maintained by NSAB Environmental in Building 27. These records are available to the Department upon request.
- (2) Each emergency generator is equipped with a non-resettable hour meter. Generator hours are checked monthly and are maintained by NSAB Environmental. Records of the operation hours are maintained by NSAB Environmental in Building 27 for at least 5 years. These records are available to the Department upon request.
- (3) Emergency generators are operated only for the purposes of emergencies, maintenance, and testing. Maintenance checks and readiness testing for each generator did not exceed 100 hours during this reporting period. Generator logbooks are located with each emergency generator. For each operation of the emergency generator, the logbooks contain date of operation, hour meter start time, hour meter stop time, run time, and reason for operation. Records of the operation hours are maintained by NSAB Environmental in Building 27 for at least 5 years. These records are available to the Department upon request.

Permit Term 5.4a Record Keeping Requirements:

Each emergency generator is equipped with a non-resettable hour meter. Generator hours are checked monthly and are maintained by NSAB Environmental. Maintenance checks and readiness testing for each generator did not exceed 100 hours during this reporting period. Records of the operation hours are maintained by NSAB Environmental in Building 27 for at least 5 years. These records are available to the Department upon request.

Generator logbooks are located with each emergency generator. For each operation of the emergency generator, the logbooks contain date of operation, hour meter start time, hour meter stop time, run time, and reason for operation.

Permit Term 5.5a Reporting Requirements:

No action required. See record keeping requirements.

Demonstration of Compliance

Status (Check one): _____ Intermittent Compliance X Continuous Compliance

Emission Unit ID(s):

EU: 155-01 - One (1) 10,000-gallon gasoline storage tank (removed from service February 2019).

EU: 51A-01 - Two (2) 20,000-gallon gasoline storage tanks.

Permit Term (Describe requirements and cross-reference):**Permit Term 6.1 Applicable Regulations/Limits****A. Control of Volatile Organic Compounds****COMAR 26.11.13.04C - Small Storage Tanks**

- (1) "Applicability. This section applies to a person who owns or operates:
 - (a) A gasoline storage tank that has a tank capacity greater than 2,000 gallons but less than 40,000 gallons; or
 - (b) A gasoline tank truck used to transfer gasoline into a storage tank that is listed in Sec. C(1)(a) of this regulation.
- (2) Stage I Vapor Recovery. An owner or operator of a gasoline tank truck or an owner or operator of a stationary storage tank subject to this regulation may not cause or permit gasoline to be loaded into a stationary tank unless the loading system is equipped with a vapor balance line that is properly installed, maintained and used."

COMAR 26.11.13.04D – General Standards

A person may not cause or permit a gasoline or VOC having a TVP of 1.5 psia (10.3 kilonewtons/square meter) or greater to be loaded into any truck, railroad tank car, or other contrivance unless the:

- (a) Loading connections on the vapor lines are equipped with fittings that have no leaks and that automatically and immediately close upon disconnection to prevent release of gasoline or VOC from these fittings; and
- (b) Equipment is maintained and operated in a manner to prevent avoidable liquid leaks during loading and unloading operations."

COMAR 26.11.24.02 - Vapor Recovery at Gasoline Dispensing Facilities - Applicability, Exemptions, and Effective Date.

- (1) This chapter applies in Baltimore City and Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Harford, Howard, Montgomery, and Prince George's Counties.
- (2) A gasoline dispensing facility exempted under Sec. C of this regulation is subject only to the record-keeping and reporting requirement of Regulation .07D of this chapter.
- (3) The provisions of this chapter do not apply to:
- (4) (a) The owner or operator of an existing gasoline dispensing facility with a monthly gasoline throughput of less than 10,000 gallons;
- (b) The owner or operator of any new gasoline dispensing facility (1) that has a total gasoline storage tank capacity of less than 2,000 gallon; or
- (c) An existing independent small business gasoline marketer whose monthly gasoline throughput during calendar years 1990 and 1991 was less than 50,000 gallons.

COMAR 26.11.24.03 – General Requirements.

“E. An operator may not use or allow the use of defective equipment associated with the transfer of gasoline from a stationary gasoline storage tank to motor vehicle fuel tanks.”

“F. The operator may not install or use a replacement part in an approved system unless that part has been certified by CARB or approved by the Department for the approved system.”

“G. The owner shall ensure that all underground piping is installed in accordance with the Department's requirements related to underground storage tanks, which are set forth in COMAR 26.10.03.”

“H. Gasoline storage tanks serving a gasoline dispensing facility that is subject to this chapter shall be equipped with a properly designed and installed pressure and vacuum valve with minimum pressure and vacuum settings as specified in the CARB Executive Order for that system.”

COMAR 26.11.24.03-1 – Decommissioning of the Stage II Vapor Recovery System.

“A. Notwithstanding Regulation .03A of this chapter, an owner or operator of a gasoline dispensing facility or system of gasoline dispensing facilities that installed approved Stage II vapor recovery systems:

- (1) May decommission Stage II vapor recovery systems in accordance with §B of this regulation after October 1, 2016; or
- (2) May decommission Stage II vapor recovery systems in accordance with §B of this regulation where a gasoline dispensing facility undergoes a major modification after the effective date of this regulation.”

“B. An owner or operator of a gasoline dispensing facility that decommissions a Stage II vapor recovery system shall perform the decommissioning of the Stage II vapor recovery system in accordance with the “Recommended Practices for Installation and Testing of Vapor Recovery Systems at Vehicle Refueling Sites” of the Petroleum Equipment Institute, Section 14, 2009 and COMAR 26.10.10.”

Operating Requirements:**COMAR 26.11.24.06 - Training Requirements for Operation and Maintenance of Approved Systems.**

A. “General. An operator shall ensure that:

- (1) At least one employee at each facility subject to this regulation is trained in accordance with the requirements of Sec. B of this regulation; and
- (2) The trained employee assists in the training of each of the other employees at that facility who are involved in the operation or maintenance of the approved system.

B. Approved Training Course Contents and Duration.

- (1) An approved training course shall contain, at a minimum, a discussion of the following:
 - (a) Purposes and effects of Stage II vapor recovery;
 - (b) Stage II vapor recovery equipment design, function, operation and maintenance;
 - (c) Daily inspection requirements and development and maintenance of records and files; and

(d) Equipment warranties and spare parts.

- (2) The approved training course shall be of duration sufficient to properly train persons in the requirements of this chapter."

COMAR 26.11.24.08 - Instructional Signs [Authority: COMAR 26.11.24.081]

- A. "An operator who is subject to this chapter shall place instructional signs in conspicuous locations at each gasoline dispenser.
- B. The instructional signs shall include:
- (1) Instructions, with illustrations, on how to insert the nozzle, dispensing gasoline, and how to remove the nozzle;
 - (2) A warning against attempts to continue refueling after automatic shutoff of the gasoline (that is, topping off); and
 - (3) The Department's toll-free telephone number, which may be used for complaints or comments concerning the use of the Stage II vapor recovery systems."

40 CFR Part 63 subpart CCCCCC See Table IV-6a

Permit Term 6.2 Testing Requirements

COMAR 26.11.24.04 - Testing Requirements

- A. "Except as provided in §§E and F of this regulation, an owner subject to this chapter shall perform the following CARB-approved tests.
- (1) A leak test in accordance with the Vapor Recovery Test Procedure TP-201.3 referenced in Regulation .01-1B(1) of this chapter;
 - (2) An air to liquid volume ratio test in accordance with the Vapor Recovery Test Procedure TP-201.5 referenced in Regulation .01-1B(2) of this chapter.
 - (3) A dynamic pressure performance test in accordance with the Vapor Recovery Test Procedure TP-201.4 referenced in Regulation .01-1B(3) of this chapter;
 - (4) A vapor return line vacuum integrity test for the Healy Model 400 ORVR System in accordance with Executive Order G-70-186, Exhibit 4 referenced in Regulation .01-1B(4) of this chapter; and
 - (5) A vapor return line vacuum integrity test for the Healy Model 600 System in accordance with Executive Order G-70-165 Exhibit 4 referenced in Regulation .01-1B(5) of this chapter.
- A-1. Testing Requirements for Decommissioned Stations and New Stations Installed after the effective date of this regulation that did not Install Stage II. Except as provided in §§E and F of this regulation, an owner or operator of a gasoline dispensing facility subject to this chapter who does not operate a Stage II Vapor Recovery system shall perform the testing requirements of §A(1), (6), and (7) of this regulation as specified in §C(2) of this regulation and repeat annually.

- B. The leak and liquid blockage tests required in Sec. A of this regulation shall be performed on each approved system before the gasoline dispensing facility is initially used to refuel motor vehicles, or by the applicable dates in Regulation .03 of this chapter, whichever occurs later. The test method for dynamic back pressure shall be used for the liquid blockage test in accordance with Method 1012 set forth in Sec. A of this regulation.
- C. Stage II Vapor Recovery System
An owner of a Stage II vapor recovery system subject to this chapter shall repeat the required tests:
- (a) In accordance with the test schedule in **§C (2)** of this regulation; and
 - (b) Upon replacement of 75 percent or more of an approved system.

Test Schedule¹

<i>Type of Stage II Vapor Recovery System</i>	<i>Initial Test</i>	<i>Frequency of Retest</i>
<i>(a) Vapor Balance System</i>	Dynamic Back Pressure	12 months
	Leak Test	12 months
	Liquid Blockage Test	5 years
<i>(b) Vapor Assist System – Type I</i>	Air to Liquid Ratio Test	12 months
	Leak Test	12 months
	Liquid Blockage Test	5 years
<i>(c) Vapor Assist System – Type 2 Model 400</i>	Nozzle Regulation Test	12 months
	Vapor Return Leak Tightness Test	12 months
<i>(d) Vapor Assist System- Type 2 Model 600</i>	Air to Liquid Ratio Test	12 months
	Vapor Return Line Vacuum Integrity Test	12 months

- D. If a gasoline dispensing facility fails any test required by this chapter, the owner shall notify the Department of the failure in writing within 5 working days after the test and before retesting.
- E. Alternative test methods approved by CARB may be used in place of the test methods specified in **§A** of this regulation, if the alternative test methods are approved by the U.S. Environmental Protection Agency (EPA) as a revision to the State Implementation Plan, which is Maryland's plan for meeting the National Ambient Air Quality Standards.
- F. Test methods and the frequency of testing required by this regulation may be modified for vapor assist systems, if the test methods and testing frequency are approved by the Department and the EPA **[Authority: COMAR 26.11.03.06]**.

¹ NSAB operates a Vapor Assist System – Type I Stage II Vapor Recovery System (option b) at the NEX Gas Station and a Vapor Assist System – Type 2 Model 600 Stage II Vapor Recovery System (option d) at the Government Gas Station.

Permit Term 6.3 Monitoring Requirements**COMAR 26.11.24.05- Inspection Requirements.**

- A. "An operator subject to this chapter shall ensure that each approved system is inspected at least once each day of operation to verify that it is working properly.
- B. Except as provided in Sec. C of this regulation, the Department shall consider an operator of a gasoline dispensing facility to be in violation of Regulation .03E of this chapter during period of time that the facility is operated while there is defective equipment at the facility.
- C. The operator is not in violation of Regulation .03E of this chapter during any period of time for which the operator establishes, to the satisfaction of the Department, that nozzles associated with defective equipment were tagged out of service and that no nozzle associated with the defective equipment was actually used.
- D. For defective equipment that was identified by the Department, the operator shall inform the Department by telephone within 72 hours after the repair or replacement of the defective equipment."
[Authority: COMAR 26.11.03.06].

Permit Term 6.4 Record Keeping Requirements**Record Keeping Requirements:****COMAR 26.11.24.07- Record Keeping Requirements and Reporting**

- A. "An operator subject to this chapter shall create and maintain a record file at the facility.
- B. The record file shall contain copies of all test reports, permits, violation notices, correspondence with the Department, equipment maintenance records, training records, and other information pertinent to the requirements of this chapter. Verification of training shall be maintained in the facility file. Equipment maintenance records shall be maintained for at least 2 years. Test records shall be maintained for at least 5 years.
- C. The equipment maintenance records shall include:
 - (1) The date on which defective equipment was found, a description of each defect, a description of the corrective action and the date on which the defect was corrected, and the probable cause of the defect;
 - (2) If parts are replaced, the location within the approved system of the part, the part number, and assurance that the replacement part does not degrade the efficiency of the system; and
 - (3) Inspection reports and any other information relating to maintenance or care of the system." [Authority: COMAR26.11.03.06].

COMAR 26.11.24.08- Instruction Signs

- A. An operator who is subject to this chapter shall place instructional signs in conspicuous locations at each gasoline dispenser.

B. The instructional signs shall include:

- (1) Instructions, with illustrations, on how to insert the nozzle, dispense gasoline, and how to remove the nozzle;
- (2) A warning against attempts to continue refueling after automatic shut-off of the gasoline (that is, topping off); and
- (3) The Department's toll-free telephone number which may be used for complaints or comments concerning the use of Stage II vapor recovery systems." **[Authority: COMAR 26.11.24.08]**

Permit Term 6.5 Reporting Requirements

COMAR 26.11.24.07E: "The following reporting requirements apply to a test under this chapter:

- (1) The Department shall be notified 5 days before a test is to be conducted;
- (2) A test protocol shall be available at the test site during testing;
- (3) Copies of all test results shall be forwarded to the Department within 30 days of the test; and
- (4) Test failures shall be reported to the Department in writing within 5 days following the date of the failure." **[Authority: COMAR 26.11.24.07E].**

Compliance Methods for the Above (Description and Citation):**Permit Term 6.1 Applicable Standards/Limits:**

- A. Operators have been trained using an approved training course. Training content and attendance logs are maintained by the Operator and NSAB Environmental in Building 27. Instructional signs are located on the gasoline dispensers.

Instructional signs are located on each gasoline dispenser at each gas station. The instructional signs include all the information listed in the applicable requirement.

See Permit Term 6.1a.

Permit Term 6.2 Testing Requirements:

- A. NSAB operates a Vapor Assist System – Type I Stage II Vapor Recovery System (option b) at the NEX Gas Station. Therefore, an air to liquid ratio test, a leak test, and a liquid blockage test are required at the NEX Gas Station. NSAB operates a Vapor Assist System – Type 2 Model 600 Stage II Vapor Recovery System (option d) at the Government Gas Station. Therefore, an air to liquid ratio test and a vapor return line vacuum integrity test are required at the Government Gas Station.
- A-1. Both the NEX and Government gas stations operate a Stage II Vapor Recovery system. Stage II Vapor Recovery system decommissioning did not occur during this reporting period. Therefore, this permit term does not currently apply.

- B. Annual Stage II Vapor Recovery Tests were conducted on the NEX Gas Station on 12 December 2019. The NEX Gas Station passed the leak test but failed the air to liquid ratio test on dispensers 2, 7, and 8. All dispensers were below the acceptable air to liquid range. Dispenser 7 did not register a reading for air to liquid, which was likely attributed to a malfunctioning vacuum motor. The dispensers were repaired and tested on 13 January 2020 which occurred outside this reporting period. The NEX Gas Station passed the liquid blockage test in 2017 and the test is next due in 2022. Additional information is provided in Section C of this report.

Annual Stage II Vapor Recovery Tests were not conducted on the Government Gas Station in 2019. The Government dispenser failed the air to liquid volume ratio test in 2017. The Government dispenser that failed in 2017 was removed from the site on 28 February 2019. The gas station has no gasoline in the tanks and no dispensing capability.

Memos including the results of the tests were submitted to MDE in a timely manner. All testing records are maintained by NSAB Environmental at Building 27. All the tests above are required to be completed at least every 12 months except the liquid blockage test which must be performed at least once every five years. Replacement of 75 percent or more of the Stage II systems did not occur during this compliance period. Testing records and notifications to MDE are maintained in the NSAB Environmental Files at Building 27.

- C. See Section B above.
- D. See Section B above.
- E. CARB test methods were used during the most recent test. No alternative testing methods were used.
- F. There were no requests for test methods or frequency modifications during this reporting period.

Permit Term 6.3 Monitoring Requirements:

- A. NEX and Government Gas Station operators perform daily inspections of the approved systems each day they are in operation.

Records of inspections (daily checklists), trainings, and certifications are maintained at the NEX Gas Station, the Transportation Office in Building 55 for the Government Gas Station, and in Building 27 in Environmental Programs. The NEX Gas Station did not perform inspections on 15 November and 23 November 2019. Additional information is provided in Section C of this report.

- B. See Section C below.

- C. Gasoline dispensing equipment was not operated with known defective equipment during this reporting period. In the instance of defective equipment, nozzles are tagged out and not used. Equipment maintenance records which include the date on which the defective equipment was found (if any) are maintained at the NEX Gas Station and at the Transportation Office. If parts were replaced, the records include: the part location within the approved system, part number, and assurance that the replacement part did not degrade the efficiency of the system. Inspection reports and information relating to the maintenance of the system are maintained by NEX and Transportation personnel.
- D. NEX and Transportation personnel did not identify any defective equipment during this reporting period.

Permit Term 6.4 Record Keeping Requirements:

- A. Record files are maintained at the NEX Gas Station, the Transportation Office in Building 55 for the Government Gas Station, and in Building 27 in Environmental Programs.
- B. NSAB Environmental Programs in Building 27 maintains records of all test reports, permits, violation notices, correspondence, training records, and information pertinent to the gasoline dispensing facilities. The NEX maintains daily checklists, training records, and equipment maintenance records at the facility. The Government Gas Station records including, daily checklists, training records, and equipment maintenance records are kept in the Transportation Office in Building 55.
- C. Equipment maintenance records which include the date on which the defective equipment was found (if any) are maintained at the NEX gas station and at the Transportation office. If parts were replaced, the records include: the part location within the approved system, part number, and assurance that the replacement part did not degrade the efficiency of the system. Inspection reports and information relating to the maintenance of the system are maintained by NEX and Transportation personnel.

Permit Term 6.5 Record Keeping Requirements:

See Section B of Permit Term 6.2 above for description of the testing performed in 2018. See Section C of this report for more details.

- (1) The Department was notified prior to the annual testing.
- (2) Test protocols were available at the site during testing.
- (3) Copies of the test results were submitted to the Department within 30 days.
- (4) The Department was notified of failed tests in a timely manner.

Demonstration of Compliance

Status (Check one): ☒ Intermittent Compliance ☐ Continuous Compliance

Emission Unit ID(s):

EU: 155-01 - One (1) 10,000-gallon gasoline storage tank (removed from service February 2019).

EU: 51A-01 - Two (2) 20,000-gallon gasoline storage tanks.

Permit Term (Describe requirements and cross-reference):**Permit Term 6.1a Applicable Regulations/Limits****40 CFR Part 63 subpart CCCCCC****§63.11111 Am I subject to the requirements in this subpart?**

- (a) The affected source to which this subpart applies is each GDF that is located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank.
- (b) If your GDF has a monthly throughput of less than 10,000 gallons of gasoline, you must comply with the requirements in §63.11116.
- (c) If your GDF has a monthly throughput of 10,000 gallons of gasoline or more, you must comply with the requirements in §63.11117. – **Not applicable**
- (d) If your GDF has a monthly throughput of 100,000 gallons of gasoline or more, you must comply with the requirements in §63.11118.
- (e) An affected source shall, upon request by the Administrator, demonstrate that their monthly throughput is less than the 10,000-gallon or the 100,000-gallon threshold level, as applicable. For new or reconstructed affected sources, as specified in §63.11112(b) and (c), recordkeeping to document monthly throughput must begin upon startup of the affected source. For existing sources, as specified in §63.11112(d), recordkeeping to document monthly throughput must begin on January 10, 2008. For existing sources that are subject to this subpart only because they load gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, recordkeeping to document monthly throughput must begin on January 24, 2011. Records required under this paragraph shall be kept for a period of 5 years. **As applicable**
- (f) If you are an owner or operator of affected sources, as defined in paragraph (a) of this section, you are not required to obtain a permit under 40 CFR part 70 or 40 CFR part 71 as a result of being subject to this subpart. However, you must still apply for and obtain a permit under 40 CFR part 70 or 40 CFR part 71 if you meet one or more of the applicability criteria found in 40 CFR 70.3(a) and (b) or 40 CFR 71.3(a) and (b).
- (g) **Not applicable**
- (h) Monthly throughput is the total volume of gasoline loaded into, or dispensed from, all the gasoline storage tanks located at a single affected GDF. If an area source has two or more GDF at separate locations within the area source, each GDF is treated as a separate affected source.
- (i) If your affected source's throughput ever exceeds an applicable throughput threshold, the affected source will remain subject to the requirements for sources above the threshold, even if the affected source throughput later falls below the applicable throughput threshold.
- (j) The dispensing of gasoline from a fixed gasoline storage tank at a GDF into a portable gasoline tank for the on-site delivery and subsequent dispensing of the gasoline into the fuel tank of a motor vehicle or other gasoline-fueled engine or equipment used within the area source is only subject to §63.11116 of this subpart. – **Not applicable**

- (k) For any affected source subject to the provisions of this subpart and another Federal rule, you may elect to comply only with the more stringent provisions of the applicable subparts. You must consider all provisions of the rules, including monitoring, recordkeeping, and reporting. You must identify the affected source and provisions with which you will comply in your Notification of Compliance Status required under §63.11124. You also must demonstrate in your Notification of Compliance Status that each provision with which you will comply is at least as stringent as the otherwise applicable requirements in this subpart. You are responsible for making accurate determinations concerning the more stringent provisions, and noncompliance with this rule is not excused if it is later determined that your determination was in error, and, as a result, you are violating this subpart. Compliance with this rule is your responsibility and the Notification of Compliance Status does not alter or affect that responsibility.

§63.11112 What parts of my affected source does this subpart cover?

- (a) The emission sources to which this subpart applies are gasoline storage tanks and associated equipment components in vapor or liquid gasoline service at new, reconstructed, or existing GDF that meet the criteria specified in §63.11111. Pressure/Vacuum vents on gasoline storage tanks and the equipment necessary to unload product from cargo tanks into the storage tanks at GDF are covered emission sources. The equipment used for the refueling of motor vehicles is not covered by this subpart. - **As applicable**
- (b) An affected source is a new affected source if you commenced construction on the affected source after November 9, 2006, and you meet the applicability criteria in §63.11111 at the time you commenced operation. **Not applicable**
- (c) An affected source is reconstructed if you meet the criteria for reconstruction as defined in §63.2. **Not applicable**
- (d) An affected source is an existing affected source if it is not new or reconstructed.

§63.11113 When do I have to comply with this subpart?

- (a) If you have a new or reconstructed affected source, you must comply with this subpart according to paragraphs (a)(1) and (2) of this section, except as specified in paragraph (d) of this section. **Not applicable**
- (b) If you have an existing affected source, you must comply with the standards in this subpart no later than January 10, 2011.
- (c) If you have an existing affected source that becomes subject to the control requirements in this subpart because of an increase in the monthly throughput, as specified in §63.11111(c) or §63.11111(d), you must comply with the standards in this subpart no later than 3 years after the affected source becomes subject to the control requirements in this subpart.
- (d) If you have a new or reconstructed affected source and you are complying with Table 1 to this subpart, you must comply according to paragraphs (d)(1) and (2) of this section. **Not applicable**
- (e) The initial compliance demonstration test required under §63.11120(a)(1) and (2) must be conducted as specified in paragraphs (e)(1) and (2) of this section.
- (1) If you have a new or reconstructed affected source, you must conduct the initial compliance test upon installation of the complete vapor balance system. **Not applicable**
- (2) If you have an existing affected source, you must conduct the initial compliance test as specified in paragraphs (e)(2)(i) or (e)(2)(ii) of this section.
- (i) For vapor balance systems installed on or before December 15, 2009, you must test no later than 180 days after the applicable compliance date specified in paragraphs (b) or (c) of this section.
- (ii) For vapor balance systems installed after December 15, 2009, you must test upon installation of the complete vapor balance system. **Not applicable**

(f) If your GDF is subject to the control requirements in this subpart only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must comply with the standards in this subpart as specified in paragraphs (f)(1) or (f)(2) of this section.

(1) If your GDF is an existing facility, you must comply by January 24, 2014.

(2) If your GDF is a new or reconstructed facility, you must comply by the dates specified in paragraphs (f)(2)(i) and (ii) of this section. **Not applicable**

(i) If you start up your GDF after December 15, 2009, but before January 24, 2011, you must comply no later than January 24, 2011. **Not applicable**

(ii) If you start up your GDF after January 24, 2011, you must comply upon startup of your GDF. **Not applicable**

§63.11116. Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline – Applies to EU:155-01 only

“(a) You must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

(1) Minimize gasoline spills;

(2) Clean up spills as expeditiously as practicable;

(3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;

(4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.” - **As applicable**

“(b) The Permittee is not required to submit notifications or reports as specified in §63.11125, §63.11126, or subpart A of this part, but must have records available within 24 hours of a request by the Administrator to document the gasoline throughput.”

“(c) The Permittee must comply with the requirements of this subpart by the applicable dates specified in §63.11113.” (Note: January 10, 2008)

“(d) Portable gasoline containers that meet the requirements of 40 CFR part 59, subpart F, are considered acceptable for compliance with paragraph (a)(3) of this section.”

§63.11117 Requirements for facilities with monthly throughput of 10,000 gallons of gasoline or more – Applies to EU:51A-01 only.

(b) Except as specified in paragraph (c) of this section, you must only load gasoline into storage tanks at your facility by utilizing submerged filling, as defined in §63.11132, and as specified in paragraphs (b)(1), (b)(2), or (b)(3) of this section. The applicable distances in paragraphs (b)(1) and (2) shall be measured from the point in the opening of the submerged fill pipe that is the greatest distance from the bottom of the storage tank.

(1) Submerged fill pipes installed on or before November 9, 2006, must be no more than 12 inches from the bottom of the tank.

(2) Submerged fill pipes installed after November 9, 2006, must be no more than 6 inches from the bottom of the tank.

(3) Submerged fill pipes not meeting the specifications of paragraphs (b)(1) or (b)(2) of this section are allowed if the owner or operator can demonstrate that the liquid level in the tank is always above the entire opening of the fill pipe. Documentation providing such demonstration must be made available for inspection by the Administrator's delegated representative during the course of a site visit.

§63.11118 Requirements for facilities with monthly throughput of 100,000 gallons of gasoline or more – Applies to EU:51A-01 only.

(a) You must comply with the requirements in §§63.11116(a) and 63.11117(b).

(b) Except as provided in paragraph (c) of this section, you must meet the requirements in either paragraph (b)(1) or paragraph (b)(2) of this section.

- (1) Each management practice in Table 1 to this subpart that applies to your GDF.
- (2) If, prior to January 10, 2008, you satisfy the requirements in both paragraphs (b)(2)(i) and (ii) of this section, you will be deemed in compliance with this subsection.
 - (i) You operate a vapor balance system at your GDF that meets the requirements of either paragraph (b)(2)(i)(A) or paragraph (b)(2)(i)(B) of this section.
 - (A) Achieves emissions reduction of at least 90 percent.
 - (B) Operates using management practices at least as stringent as those in Table 1 to this subpart.
 - (ii) Your gasoline dispensing facility is in compliance with an enforceable State, local, or tribal rule or permit that contains requirements of either paragraph (b)(2)(i)(A) or paragraph (b)(2)(i)(B) of this section.
- (c) The emission sources listed in paragraphs (c)(1) through (3) of this section are not required to comply with the control requirements in paragraph (b) of this section, but must comply with the requirements in §63.11117. **Not applicable**
 - (1) Gasoline storage tanks with a capacity of less than 250 gallons that are constructed after January 10, 2008.
 - (2) Gasoline storage tanks with a capacity of less than 2,000 gallons that were constructed before January 10, 2008.
 - (3) Gasoline storage tanks equipped with floating roofs, or the equivalent.
- (d) Cargo tanks unloading at GDF must comply with the management practices in Table 2 to this subpart. **Not applicable**
- (e) You must comply with the applicable testing requirements contained in §63.11120. **As applicable**
- (f) You must submit the applicable notifications as required under §63.11124. **Not applicable**
- (g) You must keep records and submit reports as specified in §§63.11125 and 63.11126.
- (h) You must comply with the requirements of this subpart by the applicable dates contained in §63.11113.

Permit Term 6.2a Testing Requirements

- (a) Each owner or operator, at the time of installation, as specified in §63.11113(e), of a vapor balance system required under §63.11118(b)(1), and every 3 years thereafter, must comply with the requirements in paragraphs (a)(1) and (2) of this section.
 - (1) You must demonstrate compliance with the leak rate and cracking pressure requirements, specified in item 1(g) of Table 1 to this subpart, for pressure-vacuum vent valves installed on your gasoline storage tanks using the test methods identified in paragraph (a)(1)(i) or paragraph (a)(1)(ii) of this section.
 - (i) California Air Resources Board Vapor Recovery Test Procedure TP-201.1E,—Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves, adopted October 8, 2003 (incorporated by reference, see §63.14).
 - (ii) Use alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f). **Not applicable**
 - (2) You must demonstrate compliance with the static pressure performance requirement specified in item 1(h) of Table 1 to this subpart for your vapor balance system by conducting a static pressure test on your gasoline storage tanks using the test methods identified in paragraphs (a)(2)(i), (a)(2)(ii), or (a)(2)(iii) of this section.
 - (i) California Air Resources Board Vapor Recovery Test Procedure TP-201.3,—Determination of 2-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities, adopted April 12, 1996, and amended March 17, 1999 (incorporated by reference, see §63.14).
 - (ii) Use alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f). **Not applicable**

(iii) Bay Area Air Quality Management District Source Test Procedure ST-30—Static Pressure Integrity Test—Underground Storage Tanks, adopted November 30, 1983, and amended December 21, 1994 (incorporated by reference, see §63.14). **Not applicable**

(b) Each owner or operator choosing, under the provisions of §63.6(g), to use a vapor balance system other than that described in Table 1 to this subpart must demonstrate to the Administrator or delegated authority under paragraph §63.11131(a) of this subpart, the equivalency of their vapor balance system to that described in Table 1 to this subpart using the procedures specified in paragraphs (b)(1) through (3) of this section. **Not applicable**

(1) You must demonstrate initial compliance by conducting an initial performance test on the vapor balance system to demonstrate that the vapor balance system achieves 95 percent reduction using the California Air Resources Board Vapor Recovery Test Procedure TP-201.1,—Volumetric Efficiency for Phase I Vapor Recovery Systems, adopted April 12, 1996, and amended February 1, 2001, and October 8, 2003, (incorporated by reference, see §63.14). **Not applicable**

(2) You must, during the initial performance test required under paragraph (b)(1) of this section, determine and document alternative acceptable values for the leak rate and cracking pressure requirements specified in item 1(g) of Table 1 to this subpart and for the static pressure performance requirement in item 1(h) of Table 1 to this subpart. **Not applicable**

(3) You must comply with the testing requirements specified in paragraph (a) of this section.

(c) Conduct of performance tests. Performance tests conducted for this subpart shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (i.e., performance based on normal operating conditions) of the affected source. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. **Not applicable**

(d) Owners and operators of gasoline cargo tanks subject to the provisions of Table 2 to this subpart must conduct annual certification testing according to the vapor tightness testing requirements found in §63.11092(f). **Not applicable**

Permit Term 6.3a Monitoring Requirements

§63.11115 What are my general duties to minimize emissions.

Each owner or operator of an affected source under this subpart must comply with the requirements of paragraphs (a) and (b) of this section.

(a) You must, at all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(b) You must keep applicable records and submit reports as specified in §63.11125(d) and §63.11126(b).

Permit Term 6.4a Record Keeping Requirements

§63.11125 What are my recordkeeping requirements?

(a) Each owner or operator subject to the management practices in §63.11118 must keep records of all tests performed under §63.11120(a) and (b).

(b) Records required under paragraph (a) of this section shall be kept for a period of 5 years and shall be made available for inspection by the Administrator's delegated representatives during the course of a site visit.

(c) Each owner or operator of a gasoline cargo tank subject to the management practices in Table 2 to this subpart must keep records documenting vapor tightness testing for a period of 5 years. Documentation must include each of the items specified in §63.11094(b)(2)(i) through (viii). Records of vapor tightness testing must be retained as specified in either paragraph (c)(1) or paragraph (c)(2) of this section. **Not applicable**

(1) The owner or operator must keep all vapor tightness testing records with the cargo tank.

(2) As an alternative to keeping all records with the cargo tank, the owner or operator may comply with the requirements of paragraphs (c)(2)(i) and (ii) of this section.

(i) The owner or operator may keep records of only the most recent vapor tightness test with the cargo tank and keep records for the previous 4 years at their office or another central location.

(ii) Vapor tightness testing records that are kept at a location other than with the cargo tank must be instantly available (e.g., via e-mail or facsimile) to the Administrator's delegated representative during the course of a site visit or within a mutually agreeable time frame. Such records must be an exact duplicate image of the original paper copy record with certifying signatures.

(d) Each owner or operator of an affected source under this subpart shall keep records as specified in paragraphs (d)(1) and (2) of this section.

(1) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(2) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.11115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation."

Permit Term 6.5a Reporting Requirements

§63.11124 What notifications must I submit and when?

(a) Each owner or operator subject to the control requirements in §63.11117 must comply with paragraphs (a)(1) through (3) of this section. **Not applicable**

(1) You must submit an Initial Notification that you are subject to this subpart by May 9, 2008, or at the time you become subject to the control requirements in §63.11117, unless you meet the requirements in paragraph (a)(3) of this section. If your affected source is subject to the control requirements in §63.11117 only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must submit the Initial Notification by May 24, 2011. The Initial Notification must contain the information specified in paragraphs (a)(1)(i) through (iii) of this section. The notification must be submitted to the applicable EPA Regional Office and delegated State authority as specified in §63.13.

(i) The name and address of the owner and the operator.

(ii) The address (i.e., physical location) of the GDF.

(iii) A statement that the notification is being submitted in response to this subpart and identifying the requirements in paragraphs (a) through (c) of §63.11117 that apply to you.

(2) You must submit a Notification of Compliance Status to the applicable EPA Regional Office and the delegated State authority, as specified in §63.13, within 60 days of the applicable compliance date specified in §63.11113, unless you meet the requirements in paragraph (a)(3) of this section. The Notification of Compliance Status must be signed by a responsible official who must certify its accuracy, must indicate whether the source has complied with the requirements of this subpart, and must indicate whether the facilities' monthly throughput is calculated based on the volume of gasoline loaded into all storage tanks or on the volume of gasoline dispensed from all storage tanks. If your facility is in compliance with the requirements of this subpart at the time the Initial Notification required under paragraph (a)(1) of this section is due, the Notification of Compliance Status may be submitted in lieu of the Initial Notification provided it contains the information required under paragraph (a)(1) of this section.

(3) If, prior to January 10, 2008, you are operating in compliance with an enforceable State, local, or tribal rule or permit that requires submerged fill as specified in §63.11117(b), you are not required to submit an Initial Notification or a Notification of Compliance Status under paragraph (a)(1) or paragraph (a)(2) of this section.

(b) Each owner or operator subject to the control requirements in §63.11118 must comply with paragraphs (b)(1) through (5) of this section.

(1) You must submit an Initial Notification that you are subject to this subpart by May 9, 2008, or at the time you become subject to the control requirements in §63.11118. If your affected source is subject to the control requirements in §63.11118 only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must submit the Initial Notification by May 24, 2011. The Initial Notification must contain the information specified in paragraphs (b)(1)(i) through (iii) of this section. The notification must be submitted to the applicable EPA Regional Office and delegated State authority as specified in §63.13. **Not applicable**

(i) The name and address of the owner and the operator.

(ii) The address (i.e., physical location) of the GDF.

(iii) A statement that the notification is being submitted in response to this subpart and identifying the requirements in paragraphs (a) through (c) of §63.11118 that apply to you.

(2) You must submit a Notification of Compliance Status to the applicable EPA Regional Office and the delegated State authority, as specified in §63.13, in accordance with the schedule specified in §63.9(h). The Notification of Compliance Status must be signed by a responsible official who must certify its accuracy, must indicate whether the source has complied with the requirements of this subpart, and must indicate whether the facility's throughput is determined based on the volume of gasoline loaded into all storage tanks or on the volume of gasoline dispensed from all storage tanks. If your facility is in compliance with the requirements of this subpart at the time the Initial Notification required under paragraph (b)(1) of this section is due, the Notification of Compliance Status may be submitted in lieu of the Initial Notification provided it contains the information required under paragraph (b)(1) of this section. **Not applicable**

(3) If, prior to January 10, 2008, you satisfy the requirements in both paragraphs (b)(3)(i) and (ii) of this section, you are not required to submit an Initial Notification or a Notification of Compliance Status under paragraph (b)(1) or paragraph (b)(2) of this subsection. **Not applicable**

(i) You operate a vapor balance system at your gasoline dispensing facility that meets the requirements of either paragraphs (b)(3)(i)(A) or (b)(3)(i)(B) of this section.

(B) Operates using management practices at least as stringent as those in Table 1 to this subpart.

(ii) Your gasoline dispensing facility is in compliance with an enforceable State, local, or tribal rule or permit that contains requirements of either paragraphs (b)(3)(i)(A) or (b)(3)(i)(B) of this section.

(4) You must submit a Notification of Performance Test, as specified in §63.9(e), prior to initiating testing required by §63.11120(a) and (b). **Not applicable**

(5) You must submit additional notifications specified in §63.9, as applicable. **Not applicable**

§63.11126 What are my reporting requirements?

(a) Each owner or operator subject to the management practices in §63.11118 shall report to the Administrator the results of all volumetric efficiency tests required under §63.11120(b). Reports submitted under this paragraph must be submitted within 180 days of the completion of the performance testing.

- (b) Each owner or operator of an affected source under this subpart shall report, by March 15 of each year, the number, duration, and a brief description of each type of malfunction which occurred during the previous calendar year and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.11115(a), including actions taken to correct a malfunction. No report is necessary for a calendar year in which no malfunctions occurred.”

Compliance Methods for the Above (Description and Citation):

Permit Term 6.1a Applicable Standards/Limits:

No action required.

Permit Term 6.2a Testing Requirements:

- (a) The NEX and Government Gas Stations conduct annual Stage II Vapor Recovery Tests. California Air Resources Board (CARB) Vapor Recovery Test Procedure TP-201.1E is required once every three years and was last performed on 12 December 2019. The Government Gas Station was not tested during 2019 as the dispenser was removed from the site on 28 February 2019. CARB Vapor Recovery Test Procedure TP-201.3 is required annually in accordance with Permit Term 6.2C and was conducted on 12 December 2019. Completion of CARB TP-201.3 on an annual basis satisfies the requirement to conduct the test once every three years under Permit Term 6.2a (a) as listed above. Please see the demonstration of compliance section for Permit Terms 6.2 A through D for more details.
- (b) Not applicable. No action required.
- (c) Not applicable. No action required.

Permit Term 6.3a Monitoring Requirements:

- (a) Gasoline dispensing equipment is operated and maintained consistent with safety and good air pollution control practices for minimizing emissions. Gasoline dispensing equipment was not operated with known defective equipment during this reporting period. In the instance of defective equipment, nozzles are tagged out and not used.
- (b) Equipment maintenance records which include the date on which the defective equipment was found (if any) are maintained at the NEX Gas Station and at the Transportation Office. If parts were replaced, the records include: the part location within the approved system, part number, and assurance that the replacement part did not degrade the efficiency of the system. Inspection reports and information relating to the maintenance of the system are maintained by NEX and Transportation personnel.

Permit Term 6.4a Record Keeping Requirements:

- (a) Record files are maintained at the NEX Gas Station, the Transportation Office in Building 55 for the Government Gas Station, and in Building 27 in Environmental Programs. NSAB Environmental Programs in Building 27 maintains records of all test reports, permits, violation notices, correspondence, training records, and information pertinent to the gasoline dispensing facilities. All records are maintained on site for at least 5 years and are available upon request.
- (b) See Section (a) above.
- (c) Not applicable. No action required.
- (d) Record files are maintained at the NEX Gas Station, the Transportation Office in Building 55 for the Government Gas Station, and in Building 27 in Environmental Programs. NSAB Environmental Programs in Building 27 maintains records of all test reports, permits, violation notices, correspondence, training records, and information pertinent to the gasoline dispensing facilities.

The NEX maintains daily checklists, training records, and equipment maintenance records at the facility. The Government Gas Station records including, daily checklists, training records, and equipment maintenance records are kept in the Transportation Office in Building 55. Equipment maintenance records which include the date on which the defective equipment was found (if any) are maintained at the NEX gas station and at the Transportation office. If parts were replaced, the records include: the part location within the approved system, part number, and assurance that the replacement part did not degrade the efficiency of the system. Inspection reports and information relating to the maintenance of the system are maintained by NEX and Transportation personnel.

All records are maintained on site for at least 5 years and are available upon request.

Permit Term 6.5a Record Keeping Requirements:**§63.11124 What notifications must I submit and when?**

- (a) Not applicable. No action required.
- (b) Not applicable. No action required.

§63.11126 What are my reporting requirements?

- (a) NSAB is not required to conduct volumetric efficiency tests required under §63.11120(b). No action required.

A-COMP

- (b) Gasoline dispensing equipment was not operated with known defective equipment during this reporting period. In the instance of defective equipment, nozzles are tagged out and not used. Equipment maintenance records which include the date on which the defective equipment was found (if any) are maintained at the NEX Gas Station and at the Transportation Office. If parts were replaced, the records include: the part location within the approved system, part number, and assurance that the replacement part did not degrade the efficiency of the system. Inspection reports and information relating to the maintenance of the system are maintained by NEX and Transportation personnel. NEX and Transportation personnel did not identify any defective equipment during this reporting period. A report was not required for submittal during this reporting period.

Demonstration of Compliance

Status (Check one): ☐ Intermittent Compliance ☒ Continuous Compliance

A-COMP**C. DEVIATIONS FROM PERMIT TERMS AND CONDITIONS**

Report all deviations from permit terms (whether reported previously or not) that occurred during the permit term. Cross-reference deviations already reported in the six-month report. Indicate whether each deviation is a "possible exception to compliance". Start and end period of each deviation should be in mo/day/yr, hr:min format (24-hour clock). Also, specify the date when the written deviation report was submitted (If written report required, but not submitted, leave the date field blank).

Permit Term for Which There was a Deviation:**Permit Term Section III – Plant Wide Conditions****15. Ozone Depleting Regulations [40 CFR Part 82, Subpart F]**

The Permittee shall comply with the standards for recycling and emissions reduction pursuant to **40 CFR Part 82, Subpart F**, except as provided for MVACs in **subpart B**:

f. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to **§82.156**.

Emission Units (unit IDs): Refrigerant containing equipment located at the facility

Deviation Start: 01/01/2019 12:00 **End:** 06/30/2019 11:59

In accordance with 40 CFR 82.156, leaks must be documented for equipment containing greater than 50 pounds of refrigerant. As part of documentation, the leak rate must be calculated to determine if a leak exceeds the threshold to require repair. Not all maintenance documentation for equipment located at NSAB included a completed leak rate calculation.

NSAB notified technicians of the errors in completing the proper documentation. The requirements for proper documentation have been reiterated to technicians.

Date Written Report Submitted: 07/29/2019 (1st Half 2019 SIXMON)

Permit Term for Which There was a Deviation:**Permit Term 2.1 – Applicable Regulation**

B. (1) COMAR 26.11.09.05A (2) – Visible Emissions – Areas III and IV. “In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.”

Permit Term 2.3 - Monitoring Requirements

B. (1) The Permittee shall properly operate and maintain the boilers. **[Authority: COMAR 26.11.03.06C].**

Emission Units (unit IDs):

EU: 16-01B (Boiler 1)

Deviation Start: 12/31/2019 23:59 **End:** 12/31/2019 23:59

EU: 16-02B (Boiler 2)

Deviation Start: 12/31/2019 23:59 **End:** 12/31/2019 23:59

EU: 16-03B (Boiler 3)

Deviation Start: 12/31/2019 23:59 **End:** 12/31/2019 23:59

EU: 16-04B (Boiler 4)

Deviation Start: 12/31/2019 23:59 **End:** 12/31/2019 23:59

To demonstrate compliance with permit term 2.3 B (1), NSAB adheres to a standard operating procedure (SOP). The SOP was developed based on the boilers’ operation manual and maintenance plan and conversations with steam plant personnel. According to the SOP, each boiler is required to have a tune-up and annual maintenance performed annually. Although no visible emissions were observed from the boilers during the reporting year, a boiler tune-up and calibration were not performed on Boilers 1-4 during 2019. Additionally, annual maintenance was not performed on Boiler 1 during 2019. Boiler 1 was offline for only 30 days during the year. Due to the demand of the facility, Boiler 1 was not able to be shut off for scheduled annual maintenance.

UEM is working on repairing the boilers and a tune-up is not possible until all repairs have been completed. Tune-ups will be conducted as soon as able; however, site personnel are in the process of making repairs to the boilers that are necessary prior to the completion of tune-ups. NSAB will submit a plan of action at the end of March for this deviation. Annual maintenance will be scheduled on Boiler 1 when the facility is confident that steam demand can reliably be provided with Boiler 1 offline.

Date Written Report Submitted: 01/24/2020 (2nd Half 2019 SIXMON)

Permit Term for Which There was a Deviation:**Permit Term 2.1 – Applicable Regulations/Limits**

Control of NOx Emissions

C. (1)(a) **Permit to Construct 031-5-1241-1242 M and 031-5-1263-1264N** requires the Permittee to ensure that the NOx emissions from the boilers are limited to 0.036 lb per MMBtu of heat input when burning natural gas and 0.1 lb per MMBtu of heat input when burning No.2 fuel oil.

Emission Units (unit IDs):

EU: 16-01B (Boiler 1)

Deviation Start: <u>01/09/2019</u>	<u>13:48</u>	End: <u>01/09/2019</u>	<u>13:48</u> (NG)
Deviation Start: <u>01/10/2019</u>	<u>12:00</u>	End: <u>01/10/2019</u>	<u>12:00</u> (NG)

EU: 16-02B (Boiler 2)

Deviation Start: <u>03/22/2019</u>	<u>21:51</u>	End: <u>03/22/2019</u>	<u>21:51</u> (NG)
Deviation Start: <u>05/08/2019</u>	<u>22:39</u>	End: <u>05/08/2019</u>	<u>22:39</u> (NG)
Deviation Start: <u>05/16/2019</u>	<u>03:00</u>	End: <u>05/16/2019</u>	<u>03:00</u> (NG)
Deviation Start: <u>05/30/2019</u>	<u>23:58</u>	End: <u>05/30/2019</u>	<u>23:58</u> (NG)
Deviation Start: <u>06/12/2019</u>	<u>18:45</u>	End: <u>06/12/2019</u>	<u>18:45</u> (NG)
Deviation Start: <u>06/18/2019</u>	<u>10:17</u>	End: <u>06/18/2019</u>	<u>10:17</u> (NG)
Deviation Start: <u>07/02/2019</u>	<u>18:12</u>	End: <u>07/27/2019</u>	<u>07:11</u> (NG)
Deviation Start: <u>08/03/2019</u>	<u>07:52</u>	End: <u>08/17/2019</u>	<u>05:15</u> (NG)

In accordance with Permit Term 2.3C.(1)(a), NSAB is required to use a hand-held NOx analyzer to check and record the NOx emissions in the exhaust gases from the boilers for 15 minutes for every 168 hours of operation of each boiler. During this reporting period, there were two instances for Boiler 1 and 11 instances for Boiler 2 where the NOx emissions monitoring results from the hand-held NOx analyzer exceeded the applicable permit limit of 0.036 lb per MMBtu of heat input when burning natural gas. Boiler 2 exceeded on 2 July 2019 and exceeded two subsequent times on 12 July and 20 July 2019 prior to meeting the permit limit on 27 July 2019. Boiler two exceeded again on 3 August and one subsequent time on 10 August prior to meeting the permit limit on 17 August 2019.

Utilities heating plant personnel were notified of the above deviations. Adjustments are made to the boilers following exceedances to attempt to bring the boilers within the permit limit. Utilities personnel are in the process of making repairs to the boilers that potentially could prevent future exceedances. NSAB will submit, to MDE, a plan of action for these deviations by the end of March.

Date Written Report Submitted: 07/29/2019 (1st Half 2019 SIXMON) and 01/24/2020 (2nd Half 2019 SIXMON)

Permit Term for Which There was a Deviation:**Permit Term 2.2 - Testing Requirements**

C. (1) (a) The Permittee shall perform calibration checks and QA/QC procedures on the portable NOx analyzer as recommended by the analyzer manufacturer **[Authority: COMAR 26.11.03.06C]**.

Permit Term 2.3 - Monitoring Requirements

C. (1) (a) Use a NOx analyzer to check and record the NOx emissions in the exhaust gases from the boilers for 15 minutes for every 168 hours of operation of each boiler, on a calendar quarter basis. To verify that the boilers are being operated in a consistent manner with the most recent stack tests, the Permittee shall continuously monitor the excess oxygen in the exhaust gases **[Authority: COMAR 26.11.03.06C]**.

Emission Units (unit IDs):

EU: 16-01B (Boiler 1)

Deviation Start: <u>03/16/2019</u>	<u>01:00</u>	End: <u>03/22/2019</u>	<u>07:05</u>
Deviation Start: <u>07/05/2019</u>	<u>12:00</u>	End: <u>07/09/2019</u>	<u>05:59</u>
Deviation Start: <u>10/07/2019</u>	<u>12:00</u>	End: <u>10/13/2019</u>	<u>16:28</u>
Deviation Start: <u>11/26/2019</u>	<u>12:00</u>	End: <u>12/01/2019</u>	<u>09:19</u>
Deviation Start: <u>12/08/2018</u>	<u>12:00</u>	End: <u>12/15/2018</u>	<u>16:16</u>
Deviation Start: <u>12/30/2019</u>	<u>10:00</u>	End: <u>12/31/2019</u>	<u>23:59</u>

EU: 16-03B (Boiler 3)

Deviation Start: <u>01/10/2019</u>	<u>07:00</u>	End: <u>01/29/2019</u>	<u>02:11</u>

EU: 16-04B (Boiler 4)

Deviation Start: <u>02/07/2019</u>	<u>10:00</u>	End: <u>02/07/2019</u>	<u>14:30</u>
Deviation Start: <u>11/21/2019</u>	<u>12:00</u>	End: <u>11/29/2019</u>	<u>12:51</u>

In accordance with Permit Term 2.3C.(1)(a), NSAB is required to use a hand-held NOx analyzer to check and record the NOx emissions in the exhaust gases from the boilers for 15 minutes for every 168 hours of operation of each boiler.

For all Boiler 1 and Boiler 3 deviations above, NSAB recorded that a hand-held NOx analyzer reading event occurred prior to reaching 168 hours. However, no analyzer printout was maintained for these events. The same error occurred for Boiler 4 on November 21, 2019. The duration since the previous reading can be seen in the table below.

Boiler	Date Boiler Exceeded 168 Hours	Date Boiler Was Analyzed	Hours Operating Since Prior Analysis
Boiler 1	03/16/2019	03/22/2019	318
Boiler 1	07/05/2019	07/09/2019	251
Boiler 1	10/07/2019	10/13/2019	316
Boiler 1	11/26/2019	12/01/2019	294
Boiler 1	12/08/2019	12/15/2019	317
Boiler 1	12/30/2019	12/31/2019	206
Boiler 3	01/10/2019	01/29/2019	496
Boiler 4	02/07/2019	02/07/2019	172
Boiler 4	11/21/2019	11/29/2019	322

A-COMP

On 3 January 2019, Boiler 3 was tested with a hand-held NOx analyzer in accordance with the permit term. Boiler 3 exceeded 168 hours of operation on 10 January and a hand-held NOx analyzer reading was recorded in the operators' logbook at that time. However, no record of the analyzer printout was maintained for the 10 January or subsequent 21 January logbook entry. The next hand-held NOx analyzer with maintained complete records was the reading on 29 January 496 hours of operation after the 3 January hand-held NOx analyzer reading.

On 31 January, at 10 AM, Boiler 4 was tested with a hand-held NOx analyzer in accordance with the permit term. The boiler ran continuously, exceeding 168 hours of operation at 10 AM on 7 February; however, the hand-held NOx analyzer reading on 7 February was not conducted until 2:30 PM, 172 hours of operation after the 31 January hand-held NOx analyzer reading.

Utilities heat plant personnel were notified of the error and will be more cautious when doing a hand-held NOx analysis and recording the results in the correct location to limit confusion. The Plant Manager will QA the records of hand-held NOx readings more frequently.

Date Written Report Submitted: 07/29/2019 (1st Half 2019 SIXMON) and 01/24/2020 (2nd Half 2019 SIXMON)

Permit Term for Which There was a Deviation:**Permit Term 3.1 – Applicable Regulation**

B. (1) COMAR 26.11.09.05A (2) – Visible Emissions – Areas III and IV. “In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.”

Permit Term 3.3 - Monitoring Requirements

B. (1) The Permittee shall properly operate and maintain the boilers. [Authority: COMAR 26.11.03.06C].

Emission Units (unit IDs):

EU: 16-05B (Boiler 5)

Deviation Start: 12/31/2019 23:59 **End:** 12/31/2019 23:59

To demonstrate compliance with permit term 3.3 B(a), NSAB adheres to a standard operating procedure (SOP). The SOP was developed based on the boilers’ operation manual and maintenance plan and conversations with steam plant personnel. According to the SOP, each boiler is required to have a tune-up and maintenance performed annually. Although no visible emissions were observed from the boilers during the reporting period, a boiler tune-up and calibration were not performed on Boiler 5 during 2019.

A tune-up will be conducted as soon as able; however, site personnel are in the process of making repairs to the boiler that are necessary prior to the completion of tune-ups. NSAB will be submitting a plan of action for this deviation.

Date Written Report Submitted: 01/24/2020 (2nd Half 2019 SIXMON)

Permit Term for Which There was a Deviation:**Permit Term 3.2 - Testing Requirements**

C. (2) The Permittee shall perform calibration checks and QA/QC procedures on the portable NOX analyzer as recommended by the analyzer manufacturer [Authority: **COMAR 26.11.03.06C**].

Permit Term 3.3 - Monitoring Requirements

C. (2) Use a NOx analyzer to check and record the NOx emissions in the exhaust gases from the boilers for 15 minutes for every 168 hours of operation of each boiler, on a calendar quarter basis. To verify that the boilers are being operated in a consistent manner with the most recent stack tests, the Permittee shall continuously monitor the excess oxygen in the exhaust gases [Authority: **COMAR 26.11.03.06C**].

Emission Units (unit IDs):

EU: 16-05B (Boiler 5)

Deviation Start: 01/10/2019 16:00 **End:** 01/17/2019 14:47
Deviation Start: 11/13/2019 12:00 **End:** 11/18/2019 05:59

In accordance with Permit Term 3.3C.(2), NSAB is required to use a hand-held NOx analyzer to check and record the NOx emissions in the exhaust gases from the boilers for 15 minutes for every 168 hours of operation of Boiler 5. For all deviations above, NSAB recorded that a hand-held NOx analyzer reading event occurred prior to reaching 168 hours. However, no analyzer printout was maintained for these events. The duration since the previous reading can be seen in the table below.

Boiler	Date Boiler Exceeded 168 Hours	Date Boiler Was Analyzed	Hours Operating Since Prior Analysis
Boiler 5	01/10/2019	01/17/2019	322
Boiler 5	11/13/2019	11/18/2019	295

Utilities heat plant personnel were notified of the error and will be more cautious when doing a hand-held NOx analysis and recording the results in the correct location to limit confusion. The Plant Manager will QA the records of hand-held NOx readings more frequently.

Date Written Report Submitted: 07/29/2019 (1st Half 2019 SIXMON) and 01/24/2020 (2nd Half 2019 SIXMON)

Permit Term for Which There was a Deviation:**Permit Term 6.2 – Testing Requirements****COMAR 26.11.24.04 – Testing Requirements**

A. Except as provided in §§E and F of this regulation, an owner subject to this chapter shall perform the following CARB-approved tests.

(2) An air to liquid volume ratio test in accordance with the Vapor Recovery Test Procedure TP-201.5 referenced in Regulation .01-1B(2) of this chapter.

Emission Units (unit IDs):

EU: 155-01 (One (1) 10,000-gallon gasoline storage tank)

Deviation Start: 12/18/2017 11:00 **End:** 02/28/2019 23:59

The Government Gas Station failed the air to liquid volume ratio test during the annual Stage II Vapor Recovery Test conducted on 18 December 2017. The failed test was likely caused by a dispenser malfunction or gas in the vapor line.

Government Gas Station personnel were notified of the above deviation. The Government Gas Station dispenser that failed was taken out of service and remains out of service. On 28 February 2019, the dispenser at the Government Gas Station was removed completely. The tank at the Government Gas Station remains in place, but does not contain any fuel. The tanks will be removed by the end of April and NSAB has already submitted a notification to MDE.

An e-mail notifying MDE of the failed test was submitted in a timely manner. A memo including the results of the test was also submitted to MDE in a timely manner.

Date Written Report Submitted: 07/29/2019 (1st Half 2019 SIXMON)

Permit Term for Which There was a Deviation:**Permit Term 6.2 – Testing Requirements****COMAR 26.11.24.04 – Testing Requirements**

A. Except as provided in §§E and F of this regulation, an owner subject to this chapter shall perform the following CARB-approved tests.

(2) An air to liquid volume ratio test in accordance with the Vapor Recovery Test Procedure TP-201.5 referenced in Regulation .01-1B(2) of this chapter.

Emission Units (unit IDs):

EU: 51A-01

Deviation Start: 12/12/2019 12:00 **End:** 12/31/2019 23:59

The NEX Gas Station failed the air to liquid volume ratio test during the annual Stage II Vapor Recovery Test conducted on 12 December 2019. Dispensers 2, 7, and 8 failed the air to liquid volume ratio test. All other dispensers passed the required tests. The failed test was likely caused by dead or dying vacuum motors.

NEX Gas Station personnel were notified of the above deviation. The NEX Gas Station dispensers that failed were taken out of service and remained out of service until retested. The NEX Gas Station did not repair and retest the dispensers prior to the end of the reporting period. The NEX Gas Station repaired and retested the three dispensers on 13 January 2020. All three dispensers passed the air to liquid volume ratio test on 13 January 2020.

An e-mail notifying MDE of the failed test was submitted in a timely manner. A memo including the results of the test was also submitted to MDE in a timely manner.

Date Written Report Submitted: 01/24/2020 (2nd Half 2019 SIXMON)

Permit Term for Which There was a Deviation:**Permit Term 6.3 – Monitoring Requirements****COMAR 26.11.24.04 – Testing Requirements**

- A. An operator subject to this chapter shall ensure that each approved system is inspected at least once each day of operation to verify that it is working properly.

Emission Units (unit IDs):

EU: 51A-01

Deviation Start: 11/15/2019 23:59 **End:** 11/15/2019 23:59

Deviation Start: 11/23/2019 23:59 **End:** 11/23/2019 23:59

The NEX Gas Station personnel inspect the systems daily when the gas station is operational; however, on two occasions, no inspection was documented.

NEX Gas Station personnel have been notified of the issue and will be reminded of the daily inspection and recordkeeping requirement.

Date Written Report Submitted: 01/24/2020 (2nd Half 2019 SIXMON)

Appendix G
New Permits to Construct



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

JUN 08 2018

Mrs. Susan Paul, Director
Installation Environmental Program
Naval Support Activity Bethesda
8901 Wisconsin Avenue, Building No. 27
Bethesda MD 20889-5600

Dear Mrs. Paul:

Enclosed please find your Permit to Construct for the installation of two (2) emergency generator sets, each consisting of a 755 bhp Cummins diesel engine, Model QSX15 powering a Cummins generator Model DFEJ with an output power rating of 450 kW. The unit will be located at the Naval Support Activity Bethesda at 8945 East Rixey Road, BLDG #16 in Bethesda, Maryland in Montgomery County.

The permit contains both general conditions, which apply to all air quality permit holders in Maryland, and specific conditions, which apply to the Cummins diesel engine, powered emergency generators. The permit also includes citation of the requirements of 40 CFR Part 60, Subpart IIII - New Source Performance Standards (NSPS) for (Stationary Compression Ignition Internal Combustion Engines that apply.

The addition of the Cummins diesel engine emergency generators qualifies as an "Off-Permit" change to the facility's Part 70 operating permit. The Department recognizes the permit to construct application as a written notification of the proposed change. Please include the Cummins diesel engine emergency generators in the application for the next renewal of your Part 70 permit.

If you have any questions regarding the issuance of this permit, please contact Mr. George Ikhinmwin of my staff at (410) 537-3246.

Sincerely,

A handwritten signature in cursive script, appearing to read "Karen Irons".

Karen G. Irons, Administrator
Air Quality Permits Program
Air & Radiation Administration

KGI/dar
Enclosure

KEEP PERMIT AT SITE

TR#16870

CONTROL NO. B - 06359

Lawrence J. Hogan, Jr.
Governor



Ben Grumbles
Secretary

Boyd K. Rutherford
Lt. Governor

DEPARTMENT OF THE ENVIRONMENT

Air and Radiation Administration
1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

☒ Construction Permit

☐ Operating Permit

PERMIT NO. 031-1124-9-1183
& -9-1184

DATE ISSUED JUN 08 2018

PERMIT FEE \$1,000.00 (Paid)

EXPIRATION DATE In accordance with
COMAR 26.11.02.04B

LEGAL OWNER & ADDRESS

Naval Support Activity Bethesda
8901 Wisconsin Avenue, Building No. 27
Bethesda, MD 20889-5600

Attn: Mrs. Susan Paul, Director

SITE

Naval Support Activity Bethesda
8945 East Rixey Road, BLDG #16
Bethesda, MD 20889-5609
Montgomery County
Premises 031-1124
AI #29

SOURCE DESCRIPTION

Installation of two (2) emergency generator sets, each consisting of a 755 bhp Cummins diesel engine, Model QSX15 powering a Cummins generator Model DFEJ with an output power rating of 450 kW.

This source is subject to the conditions described on the attached pages.

Page 1 of 10

Karen NM

Angel Brainerd

**NAVAL SUPPORT ACTIVITY BETHESDA
8945 EAST RIXEY ROAD, BLDG #16
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1183 & 9-1184**

INDEX

- Part A – General Provisions
- Part B – Applicable Regulations
- Part C – Construction Conditions
- Part D – Operating Conditions
- Part E – Training, Record Keeping and Reporting Requirements

PART A – GENERAL PROVISIONS

- (1) The following Air and Radiation Administration's (ARA) permit to construct application and supplemental information are incorporated into this permit by reference:
 - (a) Air Quality Permit to Construct & Registration Application for Emergency Generator (Form Number MDE/ARA/PER.042) for the installation of two (2) emergency generator sets, each consisting of a 755 bhp Cummins diesel engine Model QSX15 powering a Cummins generator Model DFEJ with an output power rating of 450 kW, received on March 23, 2018.
 - (b) Vendor literature for the Cummins diesel engine powered emergency generators received with the application on March 23, 2018.

If there are any conflicts between representations in this permit and representations in the applications, the representations in the permit shall govern. Estimates of dimensions, volumes, emissions rates, operating rates, feed rates and hours of operation included in the applications do not constitute enforceable numeric limits beyond the extent necessary for compliance with applicable requirements.

- (2) Upon presentation of credentials, representatives of the Maryland Department of the Environment ("MDE" or the "Department") and the Montgomery County Department of Environmental Protection shall at any reasonable time be granted, without delay and without prior notification, access to the Permittee's property and permitted to:
 - (a) Inspect any construction authorized by this permit;
 - (b) Sample, as necessary to determine compliance with requirements of this permit, any materials stored or processed on-site, any waste materials, and any discharge into the environment;
 - (c) Inspect any monitoring equipment required by this permit;

**NAVAL SUPPORT ACTIVITY BETHESDA
8945 EAST RIXEY ROAD, BLDG #16
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1183 & 9-1184**

- (d) Review and copy any records, including all documents required to be maintained by this permit, relevant to a determination of compliance with the requirements of this permit; and
 - (e) Obtain any photographic documentation or evidence necessary to determine compliance with the requirements of this permit.
- (3) The Permittee shall notify the Department prior to increasing quantities and/or changing the types of any materials referenced in the application or limited by this permit. If the Department determines that such increases or changes constitute a modification, the Permittee shall obtain a permit-to-construct prior to implementing the modification.
- (4) Nothing in this permit authorizes the violation of any rule or regulation or the creation of nuisance or air pollution.
- (5) If any provision of this permit is declared by proper authority to be invalid, the remaining provisions of the permit shall remain in effect.
- (6) The addition of the two (2) Cummins emergency generator sets, each consisting of a 755 bhp Cummins diesel engine Model QSX15 powering a Cummins generator Model DFEJ with an output power rating of 450 kW qualifies as an off-permit change to the facility's Title V permit.

PART B – APPLICABLE REGULATIONS

- (1) This source is subject to all applicable local and federal air pollution control requirements including, but not limited to, the following:
- (a) All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in federal New Source Performance Standards (NSPS) promulgated under 40 CFR Part 60, Subpart A (General Provisions) and Subpart IIII (Stationary Compression Ignition Internal Combustion Engines).
 - (b) All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in National Emissions Standards for Hazardous Air Pollutants (NESHAP) promulgated under 40 CFR 63, Subparts A (General Provisions) and Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines).

Note: The Permittee must meet the requirements of 40 CFR, Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR, Part 60,

**NAVAL SUPPORT ACTIVITY BETHESDA
8945 EAST RIXEY ROAD, BLDG #16
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1183 & 9-1184**

Subpart IIII for the emergency generators. No further requirements apply to the emergency generators under 40 CFR, Part 63, Subpart ZZZZ [Ref.: 40 CFR §63.6590(c)(1)].

- (2) This source is subject to all applicable federally enforceable State air pollution control requirements including, but not limited to, the following regulations:
- (a) **COMAR 26.11.02.04B - Duration of Permits - Permits to Construct and Approvals**. "A permit to construct or an approval expires if, as determined by the Department:
 - (1) Substantial construction or modification is not commenced within 18 months after the date of issuance of the permit or approval, unless the Department specifies a longer period in the permit or approval;
 - (2) Construction or modification is substantially discontinued for a period of 18 months after the construction or modification has commenced; or
 - (3) The source for which the permit or approval was issued is not completed within a reasonable period after the date of issuance of the permit or approval."
 - (b) **COMAR 26.11.02.09A - Sources Subject to Permit to Construct and Approval**. "A person may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits to construct and approvals: (6) All sources, including installations and air pollution control equipment, except as listed in Regulation .10 of this chapter--permit to construct required."
 - (c) **COMAR 26.11.03.14A - Revision of Part 70 Permits--General Requirements**. "The Permittee shall submit an application to the Department to revise a Part 70 permit when required under Regulations .15-----.17 of this chapter."
 - (d) **COMAR 26.11.09.05E (2) - Visible Emissions** - "Emissions During Idle Mode. A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity."
 - (e) **COMAR 26.11.09.05E (3) - "Emissions During Operating Mode**. A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity."

**NAVAL SUPPORT ACTIVITY BETHESDA
8945 EAST RIXEY ROAD, BLDG #16
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1183 & 9-1184**

- (f) **COMAR 26.11.09.05E (4) "Exceptions:**
- (i) Section E (2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system;
 - (ii) Section E (2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
 - (1) Engines that are idled continuously when not in service: 30 minutes,
 - (2) All other engines: 15 minutes; and
 - (iii) Section E (2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics."
- (g) **COMAR 26.11.09.07A (2) (b) "In Areas III and IV - Sulfur Content Limitations for Fuel. A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds 0.3 percent by weight."**
- Note:** Installations subject to 40 CFR Part 60, Subpart IIII must comply with the fuel standards of §60.4207 which limit the maximum sulfur content of the fuel to 15 ppm.
- (h) **COMAR 26.11.09.08G – Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 percent or less.**
- (1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:
 - (a) Provide certification of the capacity factor of the equipment to the Department in writing;
 - (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually. **Note:** To meet the definition of an emergency engine, the operations must be less than 100 hours per year;
 - (c) Maintain the results of the combustion analysis and any stack tests at the site for at least 2 years and make these results available to the Department and the EPA upon request;
 - (d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

**NAVAL SUPPORT ACTIVITY BETHESDA
8945 EAST RIXEY ROAD, BLDG #16
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1183 & 9-1184**

- (e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.”
- (3) This source is subject to all applicable State-only enforceable air pollution control requirements including, but not limited to, the following regulations:
 - (a) **COMAR 26.11.06.08 – Nuisance**
“An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution.”
 - (b) **COMAR 26.11.06.09 – Odors**
“A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.”

PART C – CONSTRUCTION CONDITIONS

- (1) Except as otherwise provided in this part, the Permittee, owner or operator (Permittee) shall construct the Cummins diesel engine emergency generators (2018 model year), each with an output power rating of 450 kW, in accordance with the specifications contained in the permit-to-construct application. The Permittee shall install and configure the Cummins diesel engine emergency generators in accordance with the manufacturer’s specifications.
- (2) The provisions of 40 CFR Part 60, Subpart IIII apply if a diesel engine emergency generator uses a diesel engine manufactured after April 1, 2006 and the diesel engine emergency generator will be constructed after July 11, 2005[Ref: §60.4200(a)(2)(i)].
- (3) An emergency diesel generator or diesel engine subject to the requirements of 40 CFR 60, Subpart IIII (“NSPS emergency diesel generator” or “NSPS emergency diesel engine”) shall:
 - (a) Conform to the standard specified in 60.4202 [Ref: §60.4205(b)];
 - (b) Be equipped with a non-resettable hour meter [Ref: §60.4209(a)]; and
 - (c) Have a cylinder displacement of less than 30 liters per cylinder [Ref: §60.4200(a)(1)].
- (4) The Permittee must comply with the requirements of the subpart by purchasing an engine certified to the emission standards specified in §60.4205(b) for the same

**NAVAL SUPPORT ACTIVITY BETHESDA
8945 EAST RIXEY ROAD, BLDG #16
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1183 & 9-1184**

model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications [Ref: §60.4211 (c)].

PART D – OPERATING CONDITIONS

- (1) Except as otherwise provided in this part, the Permittee, owner or operator (Permittee) shall operate the Cummins emergency generators (2018 model year), each with an output power rating of 450 kW in accordance with specifications included in the application and any operating procedures recommended by the equipment vendors unless the Permittee obtains from the Department written authorization for alternative operating procedures.
- (2) The Permittee, owner or operator of a stationary compression ignition internal combustion engine subject to the emissions standard of 40 CFR Part 60, Subpart IIII must operate and maintain the stationary CI ICE and control device according to the manufacturer's written instructions, or procedures developed by the Permittee, owner or operator that are approved by the engine manufacturer. In addition, the Permittee, owner and operator may only change those settings that are permitted by the manufacturer, and the Permittee, owner or operator must also meet all applicable requirements of 40 CFR Parts 89, 94 and/or 1068 as applicable [Ref: §60.4211(a)]. 40 CFR §80.510(b) requirements are: (1) Sulfur content: (i) 15 ppm maximum for NR diesel fuel. (ii) 500 ppm maximum for LM diesel fuel. (2) Cetane index or aromatic content: (i) A minimum cetane index of 40; or (ii) A maximum aromatic content of 35 volume percent.

Note: Compliance with this requirement demonstrates compliance with **COMAR 26.11.09.07A (2) (b)**, which limits the sulfur content of distillate fuel oil to 0.3 percent by weight."

- (3) The Permittee, owner or operator of a stationary CI ICE subject to the requirements of this Subpart with a displacement less than 30 liters per cylinder that uses diesel fuel must combust diesel fuel that meets the requirements of 40 CFR §80.510(b) for non-road diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to 2010 may be used until depleted [Ref: §60.4207(b)].
- (4) The Permittee, owner or operator of an emergency stationary CI ICE with a displacement of less than 30 liters per cylinder, which are not fire pump engines, must comply with emissions standard for new non-road CI in §60.4202 for all pollutants for the same model year and maximum engine power for the emergency CI ICE [Ref: §60.4205(b)].
- (5) The Permittee, owner or operator of a stationary CI ICE must operate and maintain stationary CI ICE that achieve the emissions standard in §§60.4204 and 4205, according to the manufacturer's written instructions, or procedures developed by the Permittee,

NAVAL SUPPORT ACTIVITY BETHESDA
8945 EAST RIXEY ROAD, BLDG #16
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1183 & 9-1184

owner or operator that are approved by the engine manufacturer, over the entire life of the new generators [Ref: 40 CFR §60.4206].

- (6) The Permittee, owner or operator of an emergency stationary CI ICE must operate the installation according to the requirements in paragraphs (f) (1) through f(2)(1) and f(3) of §60.4211(f)]. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1), f(2)(1) and f(3) of this section, presented below, is prohibited. If the Permittee does not operate the engine according to the requirements in paragraphs (f) (1), f(2)(1) and f(3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines:
- f(1) There is no time limit on the use of emergency stationary ICE in emergency situations.
- f(2) The Permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraphs (f) (2) (i) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2)(i).
- (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
- f(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(2)(1) of this section. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

PART E – TRAINING, RECORD KEEPING AND REPORTING REQUIREMENTS

- (1) The Permittee, owner or operator (Permittee) shall maintain for at least five (5) years, and shall make available to the Department upon request, annual records of the following: (a)

**NAVAL SUPPORT ACTIVITY BETHESDA
8945 EAST RIXEY ROAD, BLDG #16
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1183 & 9-1184**

hours utilized for maintenance checks and readiness testing of the Cummins diesel engine emergency generators; and (b) number of hours the Cummins diesel engine emergency generators operated during emergencies [Ref.: COMAR 26.11.01.05A(2) and COMAR 26.11.09.08G(1)(c)].

- (2) The Permittee shall maintain on site for the life of the source the following records for the emergency diesel generators:
 - (a) Documentation of the manufacture date of the diesel engines and the manufacturer model year of the diesel engines;
 - (b) The installation date of the emergency diesel generators; and
 - (c) The certifications of compliance or manufacturer engine test data required by 40 CFR §60.4211 and §60.4214(b).
- (3) The Permittee shall submit to the Department written certification of the capacity factor (as defined in 40 CFR §72.2) of the generators [Ref.: COMAR 26.11.09.08G (1) (a)].
- (4) The Permittee shall require each operator of the Cummins diesel engine emergency generators to attend operator training programs, at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and shall maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request. For purposes of this condition, the generator operator to be trained may be the person who maintains the generators and makes the necessary adjustments for efficient operation [Ref.: COMAR 26.11.09.08G (1) (d) & (e) and COMAR 26.11.09.08B (5) (a)].
- (5) The Permittee shall maintain annual fuel use records on site for at least 5 years, and make these records available to the Department upon request [Ref.: COMAR 26.11.09.08 K (3)].
- (6) The Permittee shall maintain at the facility for at least five (5) years, and shall make available to the Department upon request, records necessary to support annual certifications of emissions.
- (7) The Permittee shall report, in accordance with the requirements under COMAR 26.11.01.07, occurrences of excess emissions to the Compliance Program of the Air and Radiation Administration.
- (8) For any emergency diesel generator subject to 40 CFR Part 60, Subpart IIII, the Permittee shall for each fuel delivery, obtain from the fuel supplier a fuel supplier certification consisting of the name of the fuel oil supplier, the date of delivery, the amount of fuel

**NAVAL SUPPORT ACTIVITY BETHESDA
8945 EAST RIXEY ROAD, BLDG #16
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1183 & 9-1184**

delivered, and a statement from the fuel supplier that the diesel fuel oil complies with the specifications of 40 CFR §80.510. The Permittee shall maintain the required records on site for at least five (5) years.

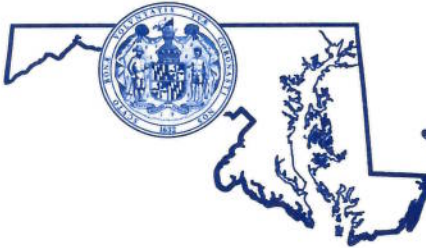
- (9) All other records required under this permit shall be maintained on site by the Permittee for at least five (5) years and shall be made available to the Department upon request.
- (10) All notifications and reports required by this permit shall be submitted to:

Air Quality Compliance Program Administrator
Air and Radiation Administration
Maryland Department of the Environment
1800 Washington Blvd., Suite 715
Baltimore, MD 21230

And

Director, Air Pollution Division
Mail Code 3AP00
1650 Arch Street
Philadelphia, PA 19103 – 2029

State of



Maryland

Lawrence J. Hogan, Jr.
Governor

Ben Grumbles
Secretary

Boyd K. Rutherford
Lt. Governor

DEPARTMENT OF THE ENVIRONMENT

Air and Radiation Administration
1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

☒ Construction Permit☐ Operating Permit

PERMIT NO. 031-2676-9-1179

DATE ISSUED

MAY 03 2018

PERMIT FEE \$500.00 (Paid)

EXPIRATION DATE

In accordance with
COMAR 26.11.02.04B

LEGAL OWNER & ADDRESS

Naval Support Activity Bethesda
4655 Taylor Road
Building 27 Floor 2
Bethesda, Maryland 20889

Attention: Susan Paul, IEPD

SITE

Armed Forces Radiobiology Research Institute
4450 Stone Lake Road
Bethesda, Maryland 20889
MONTGOMERY County
Premises # 031-2676
AI # 160728

SOURCE DESCRIPTION

Installation of one (1) Caterpillar Model 3456 DITA generator set consisting of one (1) 601 horsepower Caterpillar Model 3456 diesel engine powering a Caterpillar Model SR4B electric generator for standby emergency backup power rated at 400 kilowatts.

This source is subject to the conditions described on the attached pages.

Page 1 of 8


Program Manager


Director, Air and Radiation Administration

**ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE
4450 STONE LAKE ROAD, BETHESDA, MARYLAND 20889
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-2676-9-1179**

INDEX

- Part A – General Provisions
- Part B – Applicable Regulations
- Part C – Construction and Operating Conditions
- Part D – Record Keeping and Reporting

Part A – General Provisions

- (1) The following Air and Radiation Administration (ARA) permit to construct application is incorporated into the permit by reference:

Application for Permit to Construct & Registration Application for Emergency Generator (Form 42) received on March 28, 2018 for the installation of one (1) Caterpillar Model 3456 DITA generator set consisting of one (1) 601 horsepower Caterpillar Model 3456 diesel engine (manufactured May 20, 2003) powering an electric generator for standby emergency backup power rated at 400 kilowatts.

If there are any conflicts between representations in this permit and representations in the applications, the representations in the permit shall govern. Estimates of dimensions, volumes, emissions rates, operating rates, feed rates and hours of operation included in the applications do not constitute enforceable numeric limits beyond the extent necessary for compliance with applicable requirements.

- (2) Upon presentation of credentials, representatives of the Maryland Department of the Environment ("MDE" or the "Department") and the Montgomery County Department of Environmental Protection shall at any reasonable time be granted, without delay and without prior notification, access to the Permittee's property and permitted to:
- (a) inspect any construction authorized by this permit;
 - (b) sample, as necessary to determine compliance with requirements of this permit, any materials stored or processed on-site, any waste materials, and any discharge into the environment;
 - (c) inspect any monitoring equipment required by this permit;
 - (d) review and copy any records, including all documents required to be maintained by this permit, relevant to a determination of compliance with requirements of this permit; and

**ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE
4450 STONE LAKE ROAD, BETHESDA, MARYLAND 20889
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-2676-9-1179**

- (iii) The source for which the permit or approval was issued is not completed within a reasonable period after the date of issuance of the permit or approval.
- (b) COMAR 26.11.02.09A, which requires that the Permittee obtain a permit-to-construct if an installation is to be modified in a manner that would cause changes in the quantity, nature, or characteristics of emissions from the installation as referenced in this permit.
- (c) COMAR 26.11.09.05E(2), Emissions During Idle Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.
- (d) COMAR 26.11.09.05E(3), Emissions During Operating Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.
- (e) COMAR 26.11.09.05E(4), Exceptions.
 - (i) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
 - (ii) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
 - (A) Engines that are idled continuously when not in service: 30 minutes;
 - (B) All other engines: 15 minutes.
 - (iii) COMAR 26.11.09.05E(2) and (3) do not apply while maintenance, repair, or testing is being performed by qualified mechanics.
- (f) COMAR 26.11.09.07A(1 and 2), which limits the sulfur content of distillate fuel oils to not more than 0.3 percent by weight.

ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE
4450 STONE LAKE ROAD, BETHESDA, MARYLAND 20889
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-2676-9-1179

- (4) At all times the Permittee must operate and maintain the emergency generator, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by 40 CFR 63, Subpart ZZZZ have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **[Reference: 40 CFR §63.6605(b)]**
- (5) The Permittee must operate and maintain the emergency generator according to the manufacturer's emission-related written instructions or the Permittee must develop their own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. **[Reference: 40 CFR §63.6625(e), §63.6640(a), and Table 6, Item 9 to 40 CFR 63, Subpart ZZZZ]**
- (6) The emergency generator shall be equipped with a non-resettable hour meter. **[Reference: 40 CFR §63.6625(f)]**
- (7) The Permittee shall minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup apply. **[Reference: 40 CFR §63.6625(h)]**
- (8) The Permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Table 2d, Item 4 of 40 CFR 63, Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2d. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the Permittee is not required to change the oil. If any of the limits are exceeded, the Permittee must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the Permittee

**ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE
4450 STONE LAKE ROAD, BETHESDA, MARYLAND 20889
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-2676-9-1179**

[Reference: 40 CFR §63.6640(f), (f)(1), (f)(2)(i), and (f)(3)]

Part D – Record Keeping and Reporting

- (1) The Permittee shall maintain records of the maintenance conducted on the emergency generator to demonstrate that the emergency generator was operated and maintained according to the maintenance plan. [Reference: 40 CFR §63.6655(e)]
- (2) The Permittee shall maintain records of the hours of operation of the emergency generator that is recorded through the non-resettable hour meter. The Permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency, and how many hours are spent for non-emergency operation. [Reference: 40 CFR §63.6655(f)]
- (3) All records must be kept for at least five years and must be readily accessible in hard copy or electronic format, and readily available for expeditious review according to 40 CFR §63.10(b)(1). [Reference: 40 CFR §63.6660(a), (b), and (c)]

KEEP PERMIT AT SITE

TR# 16953

CONTROL NO. B- 05510



Lawrence J. Hogan, Jr.
Governor

Ben Grumbles
Secretary

DEPARTMENT OF THE ENVIRONMENT

Boyd K. Rutherford
Lt. Governor

Air and Radiation Administration
1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

☒ Construction Permit

☐ Operating Permit

PERMIT NO. 031-1124-9-1185
031-1124-9-1186

DATE ISSUED **SEP 07 2018**

PERMIT FEE \$1,000.00 (Paid)

EXPIRATION DATE In accordance with
COMAR 26.11.02.04B

LEGAL OWNER & ADDRESS

Naval Support Activity Bethesda
4655 Taylor Road, Building 27
Bethesda, MD 20889-5600
Attention: Mrs. Susan Paul, Director

SITE

Walter Reed Military Medical Center
8901 Wisconsin Avenue, Bldg 55
Bethesda, Maryland 20889-5600
Montgomery County
Premises 031-1124
AI #29

SOURCE DESCRIPTION

Installation of two (2) MTU Onsite Energy emergency generator sets each rated at 1500 kW.

This source is subject to the conditions described on the attached pages.

Page 1 of 10

Karen M. M.
Program Manager

Angel Spania
Director, Air and Radiation Administration

**NAVAL SUPPORT ACTIVITY BETHESDA
WATER REED MILITARY MEDICAL CENTER
8901 WISCONSIN AVENUE, BUILDING NO. 55
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1185 & 9-1186**

INDEX

- Part A – General Provisions
- Part B – Applicable Regulations
- Part C – Construction Conditions
- Part D – Operating Conditions
- Part E – Training, Record Keeping and Reporting Requirements

PART A – GENERAL PROVISIONS

- (1) The following Air and Radiation Administration's (ARA) permit to construct application and supplemental information are incorporated into this permit by reference:
 - (a) Air Quality Permit to Construct & Registration Application for Emergency Generator (Form Number MDE/ARA/PER.042) for the installation of two (2) emergency generator sets, each consisting of a 2328 bhp MTU diesel engine Model 12V- 4000G43 powering an MTU generator Model 12V4000DS1500 with an output power rating of 1500 kW, received on May 18, 2018.
 - (b) Vendor literature for the MTU diesel engine powered emergency generators received with the application on May 18, 2018.

If there are any conflicts between representations in this permit and representations in the applications, the representations in the permit shall govern. Estimates of dimensions, volumes, emissions rates, operating rates, feed rates and hours of operation included in the applications do not constitute enforceable numeric limits beyond the extent necessary for compliance with applicable requirements.

- (2) Upon presentation of credentials, representatives of the Maryland Department of the Environment ("MDE" or the "Department") and the Montgomery County Department of Environmental Protection shall at any reasonable time be granted, without delay and without prior notification, access to the Permittee's property and permitted to:
 - (a) Inspect any construction authorized by this permit;
 - (b) Sample, as necessary to determine compliance with requirements of this permit, any materials stored or processed on-site, any waste materials, and any discharge into the environment;
 - (c) Inspect any monitoring equipment required by this permit;

**NAVAL SUPPORT ACTIVITY BETHESDA
WATER REED MILITARY MEDICAL CENTER
8901 WISCONSIN AVENUE, BUILDING NO. 55
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1185 & 9-1186**

- (d) Review and copy any records, including all documents required to be maintained by this permit, relevant to a determination of compliance with the requirements of this permit; and
 - (e) Obtain any photographic documentation or evidence necessary to determine compliance with the requirements of this permit.
- (3) The Permittee shall notify the Department prior to increasing quantities and/or changing the types of any materials referenced in the application or limited by this permit. If the Department determines that such increases or changes constitute a modification, the Permittee shall obtain a permit-to-construct prior to implementing the modification.
- (4) Nothing in this permit authorizes the violation of any rule or regulation or the creation of nuisance or air pollution.
- (5) If any provision of this permit is declared by proper authority to be invalid, the remaining provisions of the permit shall remain in effect.
- (6) The addition of the two (2) MTU emergency generator sets, each rated at 1500 kW qualifies as an off-permit change to the facility's Title V permit. The Department recognizes the permit to construct application as a written notification of the proposed change and should be included in the application for the next renewal of the Part 70 permit.

PART B – APPLICABLE REGULATIONS

- (1) This source is subject to all applicable local and federal air pollution control requirements including, but not limited to, the following:
- (a) All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in federal New Source Performance Standards (NSPS) promulgated under 40 CFR Part 60, Subpart A (General Provisions) and Subpart IIII (Stationary Compression Ignition Internal Combustion Engines).
 - (b) All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in National Emissions Standards for Hazardous Air Pollutants (NESHAP) promulgated under 40 CFR 63, Subparts A (General Provisions) and Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines).

Note: The Permittee must meet the requirements of 40 CFR, Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR, Part 60,

**NAVAL SUPPORT ACTIVITY BETHESDA
WATER REED MILITARY MEDICAL CENTER
8901 WISCONSIN AVENUE, BUILDING NO. 55
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1185 & 9-1186**

Subpart IIII for the emergency generators. No further requirements apply to the emergency generators under 40 CFR, Part 63, Subpart ZZZZ [Ref.: 40 CFR §63.6590(c)(1)].

- (2) This source is subject to all applicable federally enforceable State air pollution control requirements including, but not limited to, the following regulations:
- (a) **COMAR 26.11.02.04B - Duration of Permits - Permits to Construct and Approvals**. “A permit to construct or an approval expires if, as determined by the Department:
 - (1) Substantial construction or modification is not commenced within 18 months after the date of issuance of the permit or approval, unless the Department specifies a longer period in the permit or approval;
 - (2) Construction or modification is substantially discontinued for a period of 18 months after the construction or modification has commenced; or
 - (3) The source for which the permit or approval was issued is not completed within a reasonable period after the date of issuance of the permit or approval.”
 - (b) **COMAR 26.11.02.09A - Sources Subject to Permit to Construct and Approval**
“A person may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits to construct and approvals: (6) All sources, including installations and air pollution control equipment, except as listed in Regulation .10 of this chapter--permit to construct required.”
 - (c) **COMAR 26.11.03.14A - Revision of Part 70 Permits--General Requirements**
“The Permittee shall submit an application to the Department to revise a Part 70 permit when required under Regulations .15----.17 of this chapter.”
 - (d) **COMAR 26.11.09.05E (2) - Visible Emissions** - “Emissions During Idle Mode. A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.”
 - (e) **COMAR 26.11.09.05E (3) - “Emissions During Operating Mode**. A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.”

**NAVAL SUPPORT ACTIVITY BETHESDA
WATER REED MILITARY MEDICAL CENTER
8901 WISCONSIN AVENUE, BUILDING NO. 55
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1185 & 9-1186**

(f) **COMAR 26.11.09.05E (4) “Exceptions:**

- (i) Section E (2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system;
- (ii) Section E (2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
 - (1) Engines that are idled continuously when not in service: 30 minutes,
 - (2) All other engines: 15 minutes; and
- (iii) Section E (2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics.”

(g) **COMAR 26.11.09.07A (2) (b) “In Areas III and IV - Sulfur Content Limitations for Fuel. A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds 0.3 percent by weight.”**

Note: Installations subject to 40 CFR Part 60, Subpart IIII must comply with the fuel standards of §60.4207 which limit the maximum sulfur content of the fuel to 15 ppm.

(h) **COMAR 26.11.09.08G – Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 percent or less**

- (1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:
 - (a) Provide certification of the capacity factor of the equipment to the Department in writing;
 - (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually. **Note:** To meet the definition of an emergency engine, the operations must be less than 100 hours per year;
 - (c) Maintain the results of the combustion analysis and any stack tests at the site for at least 2 years and make these results available to the Department and the EPA upon request;
 - (d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

**NAVAL SUPPORT ACTIVITY BETHESDA
WATER REED MILITARY MEDICAL CENTER
8901 WISCONSIN AVENUE, BUILDING NO. 55
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1185 & 9-1186**

- (e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.”
- (3) This source is subject to all applicable State-only enforceable air pollution control requirements including, but not limited to, the following regulations:
- (a) **COMAR 26.11.06.08 – Nuisance**
“An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution.”
- (b) **COMAR 26.11.06.09 - Odors**
“A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.”

PART C – CONSTRUCTION CONDITIONS

- (1) Except as otherwise provided in this part, the Permittee, owner or operator (Permittee) shall construct the MTU diesel engine emergency generators (2018 model year), each with an output power rating of 1500 kW, in accordance with the specifications contained in the permit-to-construct application. The Permittee shall install and configure the MTU diesel engine emergency generators in accordance with the manufacturer’s specifications.
- (2) The provisions of 40 CFR Part 60, Subpart IIII apply if a diesel engine emergency generator uses a diesel engine manufactured after April 1, 2006 and the diesel engine emergency generator will be constructed after July 11, 2005[Ref: §60.4200(a)(2)(i)].
- (3) An emergency diesel generator or diesel engine subject to the requirements of 40 CFR 60, Subpart IIII (“NSPS emergency diesel generator” or “NSPS emergency diesel engine”) shall:
- (a) Conform to the standard specified in 60.4202 [Ref: §60.4205(b)];
- (b) Be equipped with a non-resettable hour meter [Ref: §60.4209(a)]; and
- (c) Have a cylinder displacement of less than 30 liters per cylinder [Ref: §60.4200(a)(1)].

**NAVAL SUPPORT ACTIVITY BETHESDA
WATER REED MILITARY MEDICAL CENTER
8901 WISCONSIN AVENUE, BUILDING NO. 55
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1185 & 9-1186**

- (4) The Permittee must comply with the requirements of the subpart by purchasing an engine certified to the emission standards specified in §60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications [Ref: §60.4211 (c)].

PART D – OPERATING CONDITIONS

- (1) Except as otherwise provided in this part, the Permittee, owner or operator (Permittee) shall operate the MTU emergency generators (2018 model year), each with an output power rating of 450 kW in accordance with specifications included in the application and any operating procedures recommended by the equipment vendors unless the Permittee obtains from the Department written authorization for alternative operating procedures.
- (2) The Permittee, owner or operator of a stationary compression ignition internal combustion engine (CI ICE) subject to the emissions standard of 40 CFR Part 60, Subpart IIII must operate and maintain the stationary CI ICE and control device according to the manufacturer's written instructions, or procedures developed by the Permittee, owner or operator that are approved by the engine manufacturer. In addition, the Permittee, owner and operator may only change those settings that are permitted by the manufacturer, and the Permittee, owner or operator must also meet all applicable requirements of 40 CFR Parts 89, 94 and/or 1068 as applicable [Ref: §60.4211(a)]. 40 CFR §80.510(b) requirements are: (1) Sulfur content: (i) 15 ppm maximum for NR diesel fuel.(ii) 500 ppm maximum for LM diesel fuel. (2) Cetane index or aromatic content: (i) A minimum cetane index of 40; or (ii) A maximum aromatic content of 35 volume percent.

Note: Compliance with this requirement demonstrates compliance with **COMAR 26.11.09.07A (2) (b)**, which limits the sulfur content of distillate fuel oil to 0.3 percent by weight."

- (3) The Permittee, owner or operator of a stationary CI ICE subject to the requirements of this Subpart with a displacement less than 30 liters per cylinder that uses diesel fuel must combust diesel fuel that meets the requirements of 40 CFR §80.510(b) for non-road diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to 2010 may be used until depleted [Ref: §60.4207(b)].
- (4) The Permittee, owner or operator of an emergency stationary CI ICE with a displacement of less than 30 liters per cylinder, which are not fire pump engines, must comply with emissions standard for new non-road CI in §60.4202 for all pollutants for the same model year and maximum engine power for the emergency CI ICE [Ref: §60.4205(b)].
- (5) The Permittee, owner or operator of a stationary CI ICE must operate and maintain stationary CI ICE that achieve the emissions standard in §§60.4204 and 4205, according

**NAVAL SUPPORT ACTIVITY BETHESDA
WATER REED MILITARY MEDICAL CENTER
8901 WISCONSIN AVENUE, BUILDING NO. 55
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1185 & 9-1186**

to the manufacturer's written instructions, or procedures developed by the Permittee, owner or operator that are approved by the engine manufacturer, over the entire life of the new generators [Ref: 40 CFR §60.4206].

- (6) The Permittee, owner or operator of an emergency stationary CI ICE must operate the installation according to the requirements in paragraphs (f) (1) through f(2)(1) and f(3) of §60.4211(f)]. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1), f(2)(1) and f(3) of this section, presented below, is prohibited. If the Permittee does not operate the engine according to the requirements in paragraphs (f) (1), f(2)(1) and f(3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines:

f(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

f(2) The Permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraphs (f) (2) (i) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2)(i).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

f(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(2)(1) of this section. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

**NAVAL SUPPORT ACTIVITY BETHESDA
WATER REED MILITARY MEDICAL CENTER
8901 WISCONSIN AVENUE, BUILDING NO. 55
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1185 & 9-1186**

PART E – TRAINING, RECORD KEEPING AND REPORTING REQUIREMENTS

- (1) . The Permittee, owner or operator (Permittee) shall maintain for at least five (5) years, and shall make available to the Department upon request, annual records of the following: (a) hours utilized for maintenance checks and readiness testing of the MTU diesel engine emergency generators; and (b) number of hours the MTU diesel engine emergency generators operated during emergencies [Ref.: COMAR 26.11.01.05A(2) and COMAR 26.11.09.08G(1)(c)].
- (2) The Permittee shall maintain on site for the life of the source the following records for the emergency diesel generators:
 - (a) Documentation of the manufacture date of the diesel engines and the manufacturer model year of the diesel engines;
 - (b) The installation date of the emergency diesel generators; and
 - (c) The certifications of compliance or manufacturer engine test data required by 40 CFR §60.4211 and §60.4214(b).
- (3) The Permittee shall submit to the Department written certification of the capacity factor (as defined in 40 CFR §72.2) of the generators [Ref.: COMAR 26.11.09.08G (1) (a)].
- (4) The Permittee shall require each operator of the MTU diesel engine emergency generators to attend operator training programs, at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and shall maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request. For purposes of this condition, the generator operator to be trained may be the person who maintains the generators and makes the necessary adjustments for efficient operation [Ref.: COMAR 26.11.09.08G (1) (d) & (e) and COMAR 26.11.09.08B (5) (a)].
- (5) The Permittee shall maintain annual fuel use records on site for at least 5 years, and make these records available to the Department upon request [Ref.: COMAR 26.11.09.08 K (3)].
- (6) The Permittee shall maintain at the facility for at least five (5) years, and shall make available to the Department upon request, records necessary to support annual certifications of emissions.

**NAVAL SUPPORT ACTIVITY BETHESDA
WATER REED MILITARY MEDICAL CENTER
8901 WISCONSIN AVENUE, BUILDING NO. 55
BETHESDA, MD 20889-5609
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT NUMBER 031-1124-9-1185 & 9-1186**

- (7) The Permittee shall report, in accordance with the requirements under COMAR 26.11.01.07, occurrences of excess emissions to the Compliance Program of the Air and Radiation Administration.
- (8) For any emergency diesel generator subject to 40 CFR Part 60, Subpart IIII, the Permittee shall for each fuel delivery, obtain from the fuel supplier a fuel supplier certification consisting of the name of the fuel oil supplier, the date of delivery, the amount of fuel delivered, and a statement from the fuel supplier that the diesel fuel oil complies with the specifications of 40 CFR §80.510. The Permittee shall maintain the required records on site for at least five (5) years.
- (9) All other records required under this permit shall be maintained on site by the Permittee for at least five (5) years and shall be made available to the Department upon request.
- (10) All notifications and reports required by this permit shall be submitted to:

Air Quality Compliance Program Administrator
Air and Radiation Administration
Maryland Department of the Environment
1800 Washington Blvd., Suite 715
Baltimore, MD 21230

And

Director, Air Pollution Division
Mail Code 3AP00
1650 Arch Street
Philadelphia, PA 19103 – 2029



Maryland

Department of the Environment

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

SEP 07 2018

Mrs. Susan Paul, Director
Installation Environmental Program
Naval Support Activity Bethesda
4655 Taylor Road, Building 27
Bethesda MD 20889-5600

Dear Mrs. Paul:

Enclosed please find your Permit to Construct for the installation of two (2) MTU Onsite Energy emergency generator sets, each rated at 1500 kW. The units will be located at the Walter Reed Military Medical Center, 8901 Wisconsin Avenue, Building No. 55 in Bethesda, Montgomery County, Maryland.

The permit contains both general conditions, which apply to all air quality permit holders in Maryland, and specific conditions, which apply to the MTU emergency generators. The permit also includes citation of the requirements of 40 CFR Part 60, Subpart IIII - New Source Performance Standards (NSPS) for (Stationary Compression Ignition Internal Combustion Engines that apply.

The addition of the two (2) MTU emergency generators qualifies as an "Off-Permit" change to the facility's Part 70 operating permit. The Department recognizes the permit to construct application as a written notification of the proposed change. Please include the MTU emergency generators in the application for the next renewal of your Part 70 permit.

If you have any questions regarding the issuance of this permit, please contact Mr. George Ikhinmwin of my staff at (410) 537-3246.

Sincerely,

A handwritten signature in cursive script, reading "Karen G. Irons".

Karen G. Irons, Administrator
Air Quality Permits Program
Air & Radiation Administration

KGI/dar
Enclosure



Maryland

Department of the Environment

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

JUN 29 2018

Ms. Susan Paul, Director
Installation Environmental Programs
Naval Support Activity Bethesda
4655 Taylor Rd, Bldg 27, 2nd Floor
Bethesda, Maryland 20889

Dear Ms. Paul:

Enclosed please find your Permit to Construct for the three (3) Futera III MB 1500 boilers at Naval Support Activity Bethesda located at 8901 Wisconsin Ave, Bldg 14, Bethesda, Maryland 20889. The permit contains both general conditions, which apply to all air quality permit holders in Maryland, and specific conditions, which apply to the three (3) Futera III MB 1500 boilers that you have proposed to install.

The addition of three (3) Futera III MB 1500 boilers qualifies as an "Off-Permit" change to the facility's Title V - Part 70 Operating Permit. The Department recognizes the permit to construct application as written notification of the proposed change. Please include the three (3) Futera III MB 1500 boilers in the application for the next renewal of the Title V - Part 70 Operating Permit.

If you have any questions regarding this permit, please contact Alexander Paulos of my staff at 410-537-3609 or Alexander.Paulos@maryland.gov.

Sincerely,

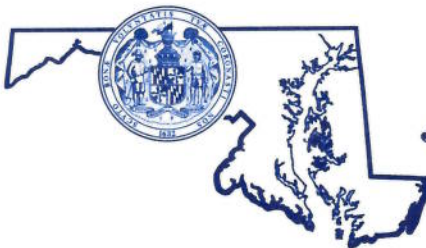
A handwritten signature in blue ink that reads "Karen Irons".

Karen G. Irons, Administrator
Air Quality Permits Program
Air & Radiation Administration

KGI/dar
Enclosure

Lawrence J. Hogan, Jr.
Governor

Boyd K. Rutherford
Lt. Governor



State of Maryland

Ben Grumbles
Secretary

DEPARTMENT OF THE ENVIRONMENT

Air and Radiation Administration
1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

☒ Construction Permit

☐ Operating Permit

PERMIT NO. 031-1124-5-2407&2409

DATE ISSUED

JUN 29 2018

PERMIT FEE \$1,200.00 (Paid)

EXPIRATION DATE In accordance with
COMAR 28.11.02.04B

LEGAL OWNER & ADDRESS

Naval Support Activity Bethesda
4655 Taylor Rd, Bldg 27, 2nd floor
Bethesda, Maryland 20889-5600

Attention: Ms. Susan Paul, Director

SITE

Naval Support Activity Bethesda
8901 Wisconsin Ave, Bldg 82
Bethesda, MD 20889
Premises # 031-1124
AI # 29

SOURCE DESCRIPTION

Installation of three (3) Futera III MB1500 natural gas fired boilers.

This source is subject to the conditions described on the attached pages.

Page 1 of 7


Program Manager


Director, Air and Radiation Administration

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-5-2407, 5-2408, & 5-2409**

INDEX

- Part A – General Provisions
- Part B – Applicable Regulations
- Part C – Construction Conditions
- Part D – Operating Conditions
- Part E – Record Keeping and Reporting

Part A – General Provisions

- (1) The following Air and Radiation Administration (ARA) permit-to-construct applications and supplemental information are incorporated into this permit by reference:
- (a) Application for Small Fuel Burning (Boiler/Heater) Equipment (Form 31) received May 23, 2018.
 - (b) Supplemental Information including manufacturer specifications and mechanical drawings of the facility received May 23, 2018.

If there are any conflicts between representations in this permit and representations in the applications, the representations in the permit shall govern. Estimates of dimensions, volumes, emissions rates, operating rates, feed rates and hours of operation included in the applications do not constitute enforceable numeric limits beyond the extent necessary for compliance with applicable requirements.

- (2) Upon presentation of credentials, representatives of the Maryland Department of the Environment ("MDE" or the "Department") and the Montgomery County Department of Environmental Protection shall at any reasonable time be granted, without delay and without prior notification, access to the Permittee's property and permitted to:
- (a) inspect any construction authorized by this permit;
 - (b) sample, as necessary to determine compliance with requirements of this permit, any materials stored or processed on-site, any waste materials, and any discharge into the environment;
 - (c) inspect any monitoring equipment required by this permit;
 - (d) review and copy any records, including all documents required to be maintained by this permit, relevant to a determination of compliance with requirements of this permit; and

NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-5-2407, 5-2408, & 5-2409

- (e) obtain any photographic documentation or evidence necessary to determine compliance with the requirements of this permit.
- (3) The Permittee shall notify the Department prior to increasing quantities and/or changing the types of any materials referenced in the application or limited by this permit. If the Department determines that such increases or changes constitute a modification, the Permittee shall obtain a permit-to-construct prior to implementing the modification.
- (4) Nothing in this permit authorizes the violation of any rule or regulation or the creation of a nuisance or air pollution.
- (5) If any provision of this permit is declared by proper authority to be invalid, the remaining provisions of the permit shall remain in effect.
- (6) The addition of three (3) Futera III MB 1500 boilers qualifies as an "Off-Permit" change to the facility's Title V - Part 70 Operating Permit. The Department recognizes the permit to construct application as written notification of the proposed change. The Permittee shall include the three (3) Futera III MB 1500 boilers in the application for the next renewal of the Title V - Part 70 Operating Permit.

Part B – Applicable Regulations

- (1) This source is subject to all applicable federal air pollution control requirements.
- (2) This source is subject to all applicable federally enforceable state air pollution control requirements including, but not limited to, the following regulations:

(a) COMAR 26.11.01.05-1B(1) – *Emissions Statements*.

"By April 1 of each year, beginning with April 1, 1993, a person subject to this regulation shall submit to the Department an emissions statement for the previous calendar year that meets the requirements of this regulation."

(b) COMAR 26.11.02.04B – *Duration of Permits*.

"Permits to Construct and Approvals. A permit to construct or an approval expires if, as determined by the Department

- (1) Substantial construction or modification is not commenced within 18 months after the date of issuance of the permit or approval, unless the Department specifies a longer period in the permit or approval;

NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-5-2407, 5-2408, & 5-2409

- (2) Construction or modification is substantially discontinued for a period of 18 months after the construction or modification has commenced; or
- (3) The source for which the permit or approval was issued is not completed within a reasonable period after the date of issuance of the permit or approval."

(c) COMAR 26.11.02.09A(6) – *Sources Subject to Permits to Construct and Approvals.*

"A person may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits to construct and approvals: (6) All sources, including installations and air pollution control equipment, except as listed in Regulation .10 of this chapter – permit to construct required."

(d) COMAR 26.11.03.14A – *Revisions of Part 70 permits – General Requirements.*

"The Permittee shall submit an application to the Department to revise a Part 70 permit when required under Regulations .15 - .17 of this chapter."

(e) COMAR 26.11.09.05A(2) – *Visible Emissions Standards.*

"In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are greater than 10 percent opacity."

(f) COMAR 26.11.09.08B(5) – *Operator Training.*

- a. "For the purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
- b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department."

NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-5-2407, 5-2408, & 5-2409

- (g) COMAR 26.11.09.08E – *Requirements for Fuel-Burning Equipment with a rated heat input capacity of 100 Million Btu Per Hour or Less.*

“A person who owns or operates fuel burning equipment with a rated heat input capacity of 100 million Btu per hour or less shall:

- (1) Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each installation;
- (2) Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;
- (3) Maintain the results of the combustion analysis on site for at least 2 years and make this data available to the Department and the EPA upon request;
- (4) Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
- (5) Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.”

- (3) This source is subject to all applicable State-only enforceable air pollution control requirements including, but not limited to, the following regulations:

- (a) COMAR 26.11.06.08 – *Nuisance.*

“An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution.”

- (b) COMAR 26.11.06.09 – *Odors.*

“A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.”

Part C – Construction Conditions

NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-5-2407, 5-2408, & 5-2409

- (1) Except as otherwise provided in this part, the three (3) Futera III MB 1500 boilers, each rated at 1.5 MMBtu/hr shall be constructed in accordance with specifications included in the incorporated applications.
- (2) The Permittee shall construct the three (3) Futera III MB 1500 boilers, each rated at 1.5 MMBtu/hr such that they are only capable of firing natural gas.

Part D – Operating Conditions

- (1) Except as otherwise provided in this part, the three (3) Futera III MB 1500 boilers, each rated at 1.5 MMBtu/hr shall be operated in accordance with specifications included in the application and any operating procedures recommended by equipment vendors unless the Permittee obtains from the Department written authorization for alternative operating procedures.
- (2) The Permittee shall only fire natural gas in the three (3) Futera III MB 1500 boilers, each rated at 1.5 MMBtu/hr.
- (3) The Permittee shall perform a combustion analysis and optimization on each boiler once per calendar year.

[Reference: COMAR 26.11.09.08E(2)]

- (4) The Permittee shall send each operator of the boiler to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors once every three (3) years.

[Reference: COMAR 26.11.09.08E(3)]

- (5) The Permittee shall operate the boilers such that there are no emissions other than water in an uncombined form, which are visible to human observers.

[Reference: COMAR 26.11.09.05A(2)]

Part E – Record Keeping and Reporting

- (1) The Permittee shall maintain for at least five (5) years, and shall make available to the Department upon request, records of the following information:
 - (a) The results of each annual combustion analysis.
 - (b) Complete records of attendance for operator training

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-5-2407, 5-2408, & 5-2409**

- (2) The Permittee shall report, in accordance with requirements under COMAR 26.11.01.07, occurrences of excess emissions to the Compliance Program of the Air and Radiation Administration.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Air and Radiation Management Administration • Air Quality Permits Program
1800 Washington Boulevard • Baltimore, Maryland 21230
(410)537-3230 • 1-800-633-6101 • www.mde.maryland.gov

Mail application and payment to the following address:

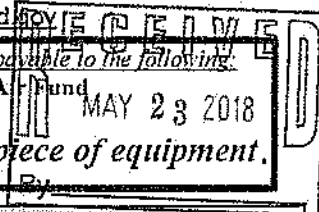
MDE/ARMA, PO Box 2037
Baltimore, MD 21203-2037

Don't forget to sign the application!

Make checks payable to the following:

MDE Clean Air Fund

\$400 per piece of equipment.



Request for Coverage: Air Quality General Permit to Construct

SMALL FUEL BURNING (BOILER/HEATER) EQUIPMENT

1) Business/Institution/Facility where the equipment will be located		☒ Check if this is a federal facility
Business/Institution/Facility Name: Naval Support Activity Bethesda		Phone: 301-295-2482
Contact Person's Name: Susan Paul		Email Address: Susan.paul@navy.mil
Street Address: 4655 Taylor Rd Bldg 27 2nd Floor		
City: Bethesda	State: MD	Zip Code: 20889 County: Montgomery
2) Owner ☐ Check if different from above. If checked, complete the following:		
Name: Naval Support Activity Bethesda		Phone: 301-295-2482
Mailing Address: 4655 Taylor Rd Bldg 27 2nd Floor		Email: Susan.paul@navy.mil
City: Bethesda	State: MD	Zip Code: 20889
3) Installer		
Contact Name: John Kraft		Phone: 703-369-7698
4) Equipment Information		
Manufacturer / Model: Futera III MB1500		Installation Date: November 10, 2012
Number Installed: <u>3</u>		Number Removed: <u>0</u> (Attach a list of removed equipment)
Maximum Rated Heat Input (from boiler plate): _____ Horsepower or <u>1.5</u> Million Btu per Hour		
5) Fuel Information		
Indicate the type and quantity of fuel burned. You must be able to check <u>ONE AND ONLY ONE</u> of the following fuel types to qualify for this permit:		
A. ☒ Natural Gas Only <u>2.6mil</u> cubic feet of Natural Gas burned per year		
B. ☐ Liquid Petroleum Gas (Propane) Only _____ gallons of Liquid Petroleum Gas (Propane) burned per year		
C. ☐ Natural Gas with Distillate Oil as backup fuel only during natural gas curtailment or supply interruption _____ cubic feet of Natural Gas burned per year AND _____ gallons of Distillate Oil burned per year as backup		
ATTENTION! Natural gas curtailment or supply interruption means any period during which the supply of natural gas is halted for reasons beyond the control of the facility. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or interruption. If you plan to burn distillate oil at times OTHER THAN natural gas curtailment or supply interruption, DO NOT SELECT THIS FUEL TYPE. See the fuel types listed under D and E below.		
D. ☐ Natural Gas or Distillate Oil with NO RESTRICTIONS on use of either fuel _____ cubic feet of Natural Gas burned per year AND _____ gallons of Distillate Oil burned per year		
E. ☐ Distillate Oil Only _____ gallons of Distillate Oil burned per year		
6) Business Operational Information		
% comfort heat: <u>100</u> % process heat: _____		
<u>24</u> hours per day <u>7</u> days per week <u>365</u> days per year		
7) Workers Compensation Information (Environmental Article §1-202)		
Workers insurance policy or binder number: <u>BKS57629911</u>		
☐ Check is self-employed or otherwise exempt from this requirement		
"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."		
Susan Paul		Susan Paul, ENV Programs Dir
Owners Signature		Printed Name and Title
		Date: 9 May 2018



Maryland

Department of the Environment

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

December 10, 2019

Ms. Susan Paul, Installation Environmental Program Director
Naval Support Activity Bethesda
4655 Taylor Road, Building 27 No.27
Bethesda, MD 20889

Dear Ms. Paul:

The Department has received your completed Request for Coverage form and fee for an Air Quality General Permit to Construct for Small Fuel Burning (Boiler/Heater) Equipment at the following location:

Source Name:	Walter Reed National Military Medical Center / National Intrepid Center of Excellence
Street Address:	4860 South Palmer Road, Building 51 Bethesda, MD 20889-5649
Equipment:	Three Lochinvar Crest FBN1751 gas fired boilers
I.D. No.:	031-1124-5-2492, 2493 & 2494
AI No.:	29

The permit is effective as stated in the General Permit. The cancelled check or other receipt, a copy of the Request for Coverage, the permit conditions from the application package, this letter, and any other supporting documents should be retained on site.

The addition of this equipment qualifies as an "Off-Permit" change to the facility's Part 70 operating permit. The Department recognizes the Request for Coverage as written notification of the proposed change. Please include this equipment in the application for the next renewal of the Part 70 permit.

If you have any questions, please contact Nolan Penney at nolan.penney@maryland.gov or (410) 537-3219.

Sincerely,

Suna Yi Sariscak, Manager
Air Quality Permits Program
Air and Radiation Administration

SYS\np

Cc: George Ikhinmwin, Permit Engineer

1.01 AIR QUALITY GENERAL PERMITS TO CONSTRUCT – SMALL FUEL BURNING EQUIPMENT

Question: Will I need a permit for installing new small fuel burning equipment replacing or moving existing equipment?

Why do I need this permit?

All new, modified, or replacement installations which are potential sources of air pollution (including fuel burning equipment) are regulated and require an air quality permit from the Maryland Department of the Environment except those installations which are exempt under Maryland's Air Quality Regulations, Code of Maryland Regulations COMAR 26.11.02. The Department has decided to regulate certain small stationary source installations through the issuance of an air quality general permit to construct (also referred to as a General Permit to Construct).

What laws or regulations give MDE the legal authority to issue this permit?

STATE: Environment Article, Title 2, Subtitle 4; COMAR 26.11.02.

What types of fuel burning equipment is eligible for this type of general permit?

This general permit covers boilers and space heaters which burn natural gas, liquid petroleum (propane), or distillate fuel oils (No 1 and No 2 Fuel Oil) with a rated heat input of 1 million BTU per hour up to 10 million BTU per hour .

The general permit is not applicable for stationary internal combustion engines, stationary combustion turbines, or fuel burning equipment that burns residual oils or solid fuels.

What is the process to get this permit?

- (1) Obtain an application packet at:
<http://www.mde.maryland.gov/airpermits>
Click on first link for General Permits, Right click the link for the packet, and select save link as to download. The packet includes the permit document and a "request for coverage" form.

Complete a "request for coverage" application form (which is the last page of the packet).

- (2) Mail the completed form and payment to:

**MDE/ARMA
P.O. Box 2037
Baltimore MD 21203-2037**

- (3) The Department mails a confirmation letter acknowledging the receipt of the request and fee payment.

How much will this permit cost?

The processing fee is \$400 per piece of equipment
Make Checks payable to: Maryland Clean Air Fund

When does this permit become effective?

Coverage under the general permit becomes effective on the date the Department receives the completed request for coverage form and fee. Retain the permit document (document with blue border) for your official records.

How long does it take to receive this confirmation letter once I submit a complete application?

30 days

Once I get this permit, how long will it last?

This is a one-time permit required prior to construction and/or installation or modification of the regulated emission source. If construction or installation does not take place within 18 months of permit issuance, then approval terminates.

Who do I contact with additional questions?

Nolan Penney
Air Quality Permits Program
Nolan.penney@maryland.gov
(410) 537-3230



MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION MANAGEMENT ADMINISTRATION
1800 WASHINGTON BLVD, STE 720
BALTIMORE, MARYLAND 21230-1720

Air Quality

GENERAL PERMIT TO CONSTRUCT
Application Package For

SMALL FUEL BURNING EQUIPMENT

**(BOILER/HEATER WITH A MAXIMUM RATED
HEAT INPUT FROM ONE TO LESS THAN TEN
MILLION BTU PER HOUR)**

CONTENTS

**PERMIT TO CONSTRUCT
APPLICATION FORM**

August 29, 2016
www.mde.maryland.gov

**MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION MANAGEMENT ADMINISTRATION**

**AIR QUALITY GENERAL PERMIT TO CONSTRUCT
SMALL FUEL BURNING (BOILER/HEATER) EQUIPMENT**

INDEX

- Part I - Applicability**
- Part II - Definitions**
- Part III - Specific Requirements for All Small Fuel Burning Equipment**
- Part IV - Specific Requirements for Distillate Oil-fired Burning Equipment**
- Part V - General Requirements**
- Part VI - Request for Coverage Requirements**

PART I - Applicability

- (A) This permit applies only to a person who owns, constructs (installs), or operates fuel burning equipment that:**
- (1) Has a maximum rated heat input of one to less than ten million btu (1.06 to less than 10.6 gigajoules) per hour; and
 - (2) Burns natural gas, liquid petroleum gas (propane), or distillate fuel oil.
- (B) This permit does not apply to:**
- (1) Stationary internal combustion engines;
 - (2) Stationary combustion turbines;
 - (3) Solid fuel burning equipment;
 - (4) Boilers that burn fuel other than natural gas or distillate fuel oil; or
 - (5) Major sources of nitrogen oxides (NO_x) or major sources of hazardous air pollutants (HAP).

PART II - Definitions

“Department” – means the Maryland Department of the Environment. (Reference: COMAR 26.11.01.01)

“Distillate fuel oil” – means all American Society for Testing and Materials numbered fuel oils other than residual fuel oil. (Reference: COMAR 26.11.01.01)

“Fuel burning equipment” – means any boiler that has the primary function of producing hot air, hot water, or steam through indirect heat transfer from the burning of fuels. (Reference: COMAR 26.11.01.01)

“Major Source of HAP” – means a stationary source or group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control of the same person, or persons under common control, belonging to a single major industrial grouping which emits or has the potential to emit: (1) 10 tons or more per year of any hazardous air pollutant listed pursuant to §112(b) of the Clean Air Act, or (2) 25 tons or more per year of any combination of hazardous air pollutants. (Reference: COMAR 26.11.02.01)

“Major Source of NO_x” – means a stationary source or group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control of the same person, or persons under common control, belonging to a single major industrial grouping which emits or has the potential to emit: (1) 25 tons per year for sources located in Baltimore City or Anne Arundel, Baltimore, Carroll, Cecil, Harford, Howard, Calvert, Charles, Frederick, Montgomery, or Prince George’s counties, or (2) 100 tons per year or more for sources located in Allegany, Caroline, Dorchester, Garrett, Kent, Queen Anne’s, St. Mary’s, Somerset, Talbot, Washington, Wicmico, or Worcester counties. (Reference: COMAR 26.11.02.01)

“Modification” – means any physical change in, or change in the operation of, a source or installation which causes a change in the quantity, nature or characteristics of emissions from the source or installation. However, this term excludes routine maintenance and routine repair, and increases in the hours of operation or in the production rate, unless these increases would be prohibited under any permit or approval conditions adopted by the Department. (Reference: COMAR 26.11.01.01)

“Natural gas” – means (1) a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth’s surface, of which the principal constituent is methane including intermediate gas streams generated during processing of natural gas at production sites or at gas processing plants. (2) Liquefied petroleum gas (e.g. propane or butane), as defined by the American Society for Testing and Materials in ASTM D1835. (3) a mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1150 BTU per dry standard cubic foot). (Reference: 40 CFR §63.11237)

“Opacity” – means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. (Reference: COMAR 26.11.01.01)

“Period of natural gas curtailment” – means a period of time during which the supply of natural gas to an affected facility is halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or supply interruption. (Reference: 40 CFR §63.11237)

“Permittee” – means a person who has obtained a permit from the Department. (Reference: COMAR 26.11.02.01)

PART III - Specific Requirements for All Small Fuel Burning Equipment

(A) Control of Nuisance and Air Pollution

Fuel burning equipment is subject to COMAR 26.11.06.08 and 26.11.06.09 which generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.

(B) Control of Visible Emissions from Fuel Burning Equipment

Fuel burning equipment is subject to COMAR 26.11.09.05A, which:

- (1) In Baltimore City and Anne Arundel, Baltimore, Carroll, Harford, Howard, Montgomery, or Prince George's counties, prohibits the discharge of emissions, other than water vapor in an uncombined form, which is visible to human observers; and
- (2) In the rest of the state, prohibits emissions greater than 20 percent opacity, other than water in an uncombined form.
- (3) Exceptions. The limitations of (1) and (2) above do not apply during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
 - (a) Visible emissions are not greater than 40% opacity, and
 - (b) Do not occur for more than six consecutive minutes in any sixty minute period.

(C) Control of Sulfur Oxides from Fuel Burning Equipment

Fuel burning equipment is subject to COMAR 26.11.09.07A(1)(c) or (2)(b) which limit the sulfur content of distillate fuel oil to 0.3% by weight for all areas of Maryland.

PART IV – Specific Requirements for Distillate Oil-fired Fuel Burning Equipment

(A) Applicability Requirements

These specific requirements only apply to oil-fired boilers that burn distillate fuel oil. Natural gas-fired boilers are exempt from these requirements including those that burn distillate fuel oil during periods of natural gas curtailment, gas supply emergencies, or periodic testing of distillate fuel oil that does not exceed 48 hours during any calendar year.

(B) Biennial Tune-up

A biennial tune-up must be conducted, with records, to demonstrate continuous compliance. Each tune-up must be conducted no more than 25 months after the previous tune-up. Each tune-up must be conducted as follows:

- (1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 36 months);
- (2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
- (3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly;
- (4) Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available;

- (5) Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made);
- (6) Maintain onsite and submit, if requested by the Department, a biennial report containing the following information:
 - a. The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler.
 - b. A description of any corrective actions taken as a part of the tune-up of the boiler.
 - c. The type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler; and
- (7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup. (Reference: 40 CFR §63.11223)

(C) Compliance Dates

- (1) Fuel burning equipment constructed after June 4, 2010 is considered a new source and must conduct the initial tune-up upon start-up of the boiler.
- (2) Fuel burning equipment constructed on or before June 4, 2010 is considered an existing source and must conduct the initial tune-up no later than March 21, 2012. (Reference: 40 CFR §63.11210)

(D) Notifications

The following notifications must be submitted to the Department:

- (1) An Initial Notification must be submitted no later than 120 days after startup of the boiler. The Request for Coverage form qualifies as the initial notification for this permit.
- (2) A Notification of Compliance Status must be submitted no later than 120 days after the compliance date specified in Part IV(C). In addition to the information required in 40 CFR §63.9(h)(2), the notification must include the following certification of compliance and be signed by a responsible official:

“This facility complies with the requirements of 40 CFR §63.11214 to conduct an initial tune-up of the boiler.” (Reference: 40 CFR §63.11225)

(E) Record Keeping

The following records must be kept in a form suitable and readily available for expeditious review for five years:

- (1) Copies of each notification and report submitted to comply with this standard and all documentation supporting submitted Initial Notifications and Notifications of Compliance Status.
- (2) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer’s specifications to which the boiler was tuned.

- (3) Records documenting the fuel type(s) used monthly by each boiler, including, but not limited to, a description of the fuel, and the total fuel usage amount with units of measure. (Reference: 40 CFR §63.11225)

(F) Reporting

Following the biennial tune-up, a compliance certification report for the previous calendar years must be prepared and submitted, upon request every two years, containing the following information:

- (1) Company name and address;
- (2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of 40 CFR 63, Subpart JJJJJ; and
- (3) If the source experiences any deviations from applicable requirements during the reporting period, include a description of deviations, the time periods during which deviations occurred, and the corrective actions taken. (Reference: 40 CFR §63.11225)

PART V – General Requirements

(A) Incorporation of Request for Coverage Into Permit

This permit includes the completed one page Request for Coverage, which serves as the application for the permit. If there is any conflict between the specific (Parts III and IV) and general requirements and the Request for Coverage, the specific and general requirements take precedence. If there is any conflict between the specific and general requirements, the specific requirements take precedence.

(B) Effective Date/Failure to Pay Fee

This permit is effective on the date that the Request for Coverage is completed and the permit fee is paid to the Department. If the fee is paid by check or money order that is mailed to the Department, the fee is considered to be paid on the date of mailing. If the fee is paid to the Department by any manner other than by mailing a check or money order, the effective date of the permit is the date that the Department receives payment. If a check or money order does not clear for any reason, the Permittee will be given 30 days to make proper payment including any interest and other charges that are due. If payment is not made within this time, the permit shall be considered to have been void from the outset. In order to establish the effective date of a permit, the Permittee should save the canceled check or money order receipt, a copy of the Request for Coverage, and related documents. These documents shall be provided to the Department on request.

(C) Applicant

The applicant for this permit shall be the legal entity or individual that, owns or operates the proposed source for which a permit to construct is required. After the permit is effective, the applicant may be referred to as the "Permittee."

(D) Location of Source

This permit authorizes the Permittee to construct and operate the installation or other source described in the Request for Coverage at the facility or other location described in the

application. The permit is not valid for any other source at the described location nor is it valid for the described source at any other location.

(E) Duration

This permit expires if, as determined in writing by the Department:

- (1) substantial construction or modification is not commenced within 18 months after the effective date of the permit;
- (2) construction or modification is substantially discontinued for a period of 18 months after it has commenced; or
- (3) construction or modification of the source for which the permit was issued is not completed within a reasonable period after the effective date of the permit.

(F) Permit to be Available

The Permittee shall maintain this permit at the location for which the permit was issued, unless it is clearly impractical to do so, and shall make the permit immediately available to authorized representatives of the Department upon request.

(G) Other Permits May Be Needed

This permit does not constitute a permit for any activity other than expressly authorized by this permit.

(H) Permit Not Transferable

This permit is not transferable. The Permittee should provide a copy of this permit to any subsequent owner or operator. The subsequent owner or operator should contact the Department to determine if a new permit is required. The provisions of COMAR 26.11 apply to the subsequent owners or operators whether or not the source is covered by a permit.

(I) Compliance With All Laws and Regulations

This permit does not authorize violation of any law or regulation. The Permittee shall at all times comply with all applicable laws and regulations, including:

- (1) the Maryland Ambient Air Quality Control statute. Annotated Code of Maryland, Environment Article, 2-101 et seq.;
- (2) Maryland air pollution control regulations. Code of Maryland Regulations (COMAR) 26.11, as amended by the Maryland Register;
- (3) the Federal Clean Air Act. 42 United States Code (U.S.C.) 7401 et seq.; and
- (4) federal air pollution control regulations. 40 Code of Federal Regulations (CFR) Parts 50-99, as amended by the Federal Register.

(J) Odors and Other Nuisances

This permit does not authorize construction or operation in a manner that unreasonably interferes with the proper enjoyment of the property of other persons, such as by causing unreasonable odors, or by otherwise creating air pollution.

(K) Workers' Compensation Act

Submission of the application for this permit constitutes certification that the applicant is in compliance with the Maryland Workers' Compensation Act, as required by The Annotated

Code of Maryland, Environment Article, 1-202, and Labor and Employment Article, Title 9. The permit shall be considered to have been void from the outset if this certification is invalid.

(L) Modifications

A "modification" normally means any physical change in, or change in the operation of, an installation which causes a change in the quantity, nature or characteristics of emissions from the installation. However, this term excludes routine maintenance and routine repair, and increases in the hours of operation or in the production rate, unless these increases are prohibited under any permit or approval issued by the Department.

A modification to the facility for which this general permit to construct applies is prohibited. Before making such a modification, the permittee must apply for and obtain an individual permit to construct if the source would no longer be eligible for a general permit to construct.

(M) Inspections/Right of Entry

Inspectors and other authorized officials from the Department or the appropriate local health or environmental department shall be allowed access to the property where the source is constructed or modified at any reasonable time for the purpose of determining compliance with this permit and applicable air pollution control laws and regulations, including:

- (1) inspecting all activities authorized by this permit;
- (2) taking samples of materials or other substances stored or processed at the property or discharged or otherwise removed from the property;
- (3) inspecting any monitoring equipment required by the permit and applicable laws and regulations;
- (4) having access to and copying any records related to the Department's determination of compliance, including all documents required to be kept by this permit and by applicable laws and regulations; and
- (5) taking photographs and making video recordings.

(N) Duty To Provide Information

The Permittee shall furnish to the Department, within 15 working days of the date of any request or other period of time that may be specified, all documents and other information which the Department requests to determine compliance with this permit and applicable air pollution control laws and regulations.

(O) Penalties for Violations

Maryland law provides for substantial penalties for violations of this permit and applicable air pollution control laws and regulations. These penalties include civil penalties of up to \$25,000 per day per violation, administrative penalties of up to \$2,500 per day per violation (not to exceed \$50,000 per action), injunctive relief, and criminal penalties for knowing violations (including up to one year in jail and a \$25,000 fine per violation per day). Additional criminal penalties apply to any person who knowingly provides false information to the Department or who knowingly tampers with any monitoring device required by State air pollution control law. Federal law may also provide for penalties for violations.

(P) Violations That Occurred Prior To Obtaining This Permit

This permit does not protect the Permittee for any violation of laws or regulations that may have occurred prior to the effective date of the permit, including constructing, modifying, or operating a source without a required permit.

(Q) Revocation or Suspension of a Permit

- (1) The Department may issue an order proposing to revoke or suspend this permit if it determines that:
 - (a) Any condition of the permit has been violated; or
 - (b) The permit was improperly obtained or has been improperly used.
- (2) The order shall become final unless the Permittee requests a hearing within 10 days after being served. If a hearing is requested, it shall be held pursuant to the Maryland Administrative Procedure Act, Annotated Code of Maryland, State Government Article, 10-201 et seq. and Environment Article, 2-605. A person to whom a proposed or final order or revocation or suspension has been issued may not obtain another general permit for the same source or similar source at the same location until it has been determined in writing by the Department that the revocation or suspension is no longer in effect or pending.

(R) Property Rights Not Created By Permit

This permit does not create any property rights.

(S) Severability

If any provision of this permit is determined to be invalid for any reason, the other provisions remain in effect to the extent reasonable, and the invalid provision shall be considered deleted from the permit.

(T) Federal Enforceability

The terms and conditions of this Air Quality General Permit to Construct are federally enforceable only to the extent that they reflect regulations or other requirements that have been approved by the U.S. Environmental Protection Agency for inclusion in the Maryland State Implementation Plan (SIP) for the control of air pollution.

PART VI - Request for Coverage Requirements

(A) Request for Coverage

A person who desires to be covered by this Air Quality General Permit to Construct shall provide all required information on the Request for Coverage form and submit the form to the Department together with the required fee of \$400 per piece of equipment. The fee must be paid by check or money order payable to: Maryland Department of the Environment/Clean Air Fund.

(B) Required Signatures

The Request for Coverage form shall be signed by the applicant or an authorized representative of the applicant who shall make the following certification:

“I certify under penalty of law that the information submitted in the Request for Coverage is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

(C) Where to Submit

A person shall submit the original of the Request For Coverage form and the required fee to the following address:

Maryland Department of the Environment
Air and Radiation Management Administration
P.O. Box 2037
Baltimore, Maryland 21203-2037

The Request for Coverage form and the permit fee may be delivered in person to the Department at the following address:

Maryland Department of the Environment
Air and Radiation Management Administration
1800 Washington Blvd
Baltimore, Maryland 21230-1720

The Air Quality General Permit to Construct is effective on the date that the Request for Coverage form is completed, signed, and the permit fee paid to the Department. See V (B) of this permit. The Department will mail a letter to the applicant acknowledging the receipt of the Request for Coverage and fee and that the source is now covered by the specifically requested Air Quality General Permit to Construct.

Questions regarding the Air Quality General Permit to Construct program may be directed to the Department's Air and Radiation Management Administration by calling (410) 537-3230.



George (Tad) S. Aburn, Jr., Director
Air and Radiation Management Administration

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MARYLAND DEPARTMENT OF THE ENVIRONMENT
Air and Radiation Management Administration • Air Quality Permits Program
1800 Washington Boulevard • Baltimore, Maryland 21230
(410)537-3230 • 1-800-633-6101 • www.mde.maryland.gov

Mail application and payment to the following address:

**MDE/ARMA, PO Box 2037
Baltimore, MD 21203-2037**

Don't forget to sign the application!

Make checks payable to the following:

MDE Clean Air Fund

\$400 per piece of equipment

Request for Coverage: Air Quality General Permit to Construct
SMALL FUEL BURNING (BOILER/HEATER) EQUIPMENT

1) Business/Institution/Facility where the equipment will be located		☐ Check if this is a federal facility
Business/Institution/Facility Name: _____		Phone: _____
Contact Person's Name: _____		Email Address: _____
Street Address: _____		
City: _____	State: _____	Zip Code: _____ County: _____
2) Owner ☐ Check if different from above. If checked, complete the following:		
Name: _____		Phone: _____
Mailing Address: _____		Email: _____
City: _____	State: _____	Zip Code: _____
3) Installer		
Contact Name: _____		Phone: _____
4) Equipment Information		
Manufacturer / Model: _____		Installation Date: _____
Number Installed: _____		Number Removed: _____ (Attach a list of removed equipment)
Maximum Rated Heat Input (from boiler plate): _____ Horsepower or _____ Million Btu per Hour		
5) Fuel Information		
Indicate the type and quantity of fuel burned. You must be able to check <u>ONE AND ONLY ONE</u> of the following fuel types to qualify for this permit:		
A. ☐ Natural Gas Only _____ cubic feet of Natural Gas burned per year		
B. ☐ Liquid Petroleum Gas (Propane) Only _____ gallons of Liquid Petroleum Gas (Propane) burned per year		
C. ☐ Natural Gas with Distillate Oil as backup fuel only during natural gas curtailment or supply interruption _____ cubic feet of Natural Gas burned per year AND _____ gallons of Distillate Oil burned per year as backup		
ATTENTION! Natural gas curtailment or supply interruption means any period during which the supply of natural gas is halted for reasons beyond the control of the facility. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or interruption. If you plan to burn distillate oil at times OTHER THAN natural gas curtailment or supply interruption, DO NOT SELECT THIS FUEL TYPE. See the fuel types listed under D and E below.		
D. ☐ Natural Gas or Distillate Oil with NO RESTRICTIONS on use of either fuel _____ cubic feet of Natural Gas burned per year AND _____ gallons of Distillate Oil burned per year		
E. ☐ Distillate Oil Only _____ gallons of Distillate Oil burned per year		
6) Business Operational Information		
% comfort heat: _____ % process heat: _____		
_____ hours per day _____ days per week _____ days per year		
7) Workers Compensation Information (Environmental Article §1-202)		
Workers insurance policy or binder number: _____		
☐ Check is self-employed or otherwise exempt from this requirement		
"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."		
Owners Signature	Printed Name and Title	Date



Maryland

Department of the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

Ms. Susan Paul
Installation Environmental Program Director
Naval Support Activity Bethesda
4655 Taylor Road, Bldg. 27
Bethesda, MD 20814

Dear Ms. Paul:

Enclosed please find your Permit to Construct for the installation of five (5) diesel-fired boilers each rated between 8 and 18 MMBtu/hr at Naval Support Activity Bethesda to be located at 4655 Taylor Road, Bethesda, MD. The permit contains both general conditions, which apply to all air quality permit holders in Maryland, and specific conditions, which apply to the five (5) diesel-fired boilers each rated between 8 and 18 MMBtu/hr that you have proposed to install.

The addition of five (5) diesel-fired boilers each rated between 8 and 18 MMBtu/hr qualifies as an "Off-Permit" change to the facility's Title V - Part 70 Operating Permit. The Department recognizes the permit to construct application as written notification of the proposed change. Please include the five (5) diesel-fired boilers each rated between 8 and 18 MMBtu/hr in the application for the next renewal of the Title V - Part 70 Operating Permit.

If you have any questions regarding this permit, please contact Schuyler Fearins of my staff at (410) 537-3764.

Sincerely,

Suna Yi Sariscak, Manager
Air Quality Permits Program
Air & Radiation Administration

SYS/jm

Enclosure

Larry Hogan
Governor

Ben Grumbles
Secretary

Air and Radiation Administration
1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

☒ Construction Permit

☐ Operating Permit

PERMIT NO. 031-1134-4-1427 thru -4-1431

DATE ISSUED See email for issue date.

PERMIT FEE \$1,300.00 (Paid)

EXPIRATION DATE In accordance with COMAR 26.11.02.04B

LEGAL OWNER & ADDRESS

Naval Support Activity Bethesda
4655 Taylor Road, Bldg 27
Bethesda, Maryland 20889
Attn: Ms. Susan Paul

SITE

Naval Support Activity Bethesda
4655 Taylor Road, Bldg 27
Bethesda, Maryland 20889
Premises # 031-1124
AI # 29

SOURCE DESCRIPTION

Installation of five (5) diesel-fired boilers each rated between 8 and 18 MMBtu/hr.

This source is subject to the conditions described on the attached pages.

Page 1 of 10

See email for approval.

Program Manager

See email for approval.

Director, Air and Radiation Administration

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1427 through 4-1431**

INDEX

Part A – General Provisions
Part B – Applicable Regulations
Part C – Construction Conditions
Part D – Operating Conditions
Part D2 – Operating Conditions – NSPS
Part D3 – Operating Conditions – NESHAP
Part E – Notification Requirements
Part F – Record Keeping and Reporting

This permit-to-construct incorporates requirements for the following registered installations:

ARA Registration Number	Description	Installation Date
031-1124-4-1427	One (1) Cleaver Brook CB-350 diesel-fired boiler rated at 14 MMBtu/hr. Located in USUHS Bldg 70.	2020
031-1124-4-1428	One (1) Kewanee H35-400-G0 diesel-fired boiler rated at 18 MMBtu/hr. Located in AFFRI Bldg 42C.	2020
031-1124-4-1429	One (1) Cleaver Brook CB-350 diesel-fired boiler rated at 14 MMBtu/hr. Located in CNIC Bldg 17.	2020
031-1124-4-1430	One (1) Cleaver Brook CB-200 diesel-fired boiler rated at 8 MMBtu/hr. Located in CNIC Bldg 60.	2020
031-1124-4-1431	One (1) Cleaver Brook CB-200 diesel-fired boiler rated at 8 MMBtu/hr. Located in CNIC Bldg 64.	2020

Part A – General Provisions

- (1) The following Air and Radiation Administration (ARA) permit-to-construct applications and supplemental information are incorporated into this permit by reference:
 - (a) Application for Fuel Burning Equipment (Form 11) received for five (5) diesel-fired boilers, each rated between 8 and 18 MMBTU/hr on March 3rd, 2020.
 - (b) Supplemental Information: Vendor literature and operation schedule received on March 3rd, 2020.

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1427 through 4-1431**

If there are any conflicts between representations in this permit and representations in the applications, the representations in the permit shall govern. Estimates of dimensions, volumes, emissions rates, operating rates, feed rates and hours of operation included in the applications do not constitute enforceable numeric limits beyond the extent necessary for compliance with applicable requirements.

- (2) Upon presentation of credentials, representatives of the Maryland Department of the Environment ("MDE" or the "Department") and the Montgomery County Department of Environmental Protection shall at any reasonable time be granted, without delay and without prior notification, access to the Permittee's property and permitted to:
 - (a) inspect any construction authorized by this permit;
 - (b) sample, as necessary to determine compliance with requirements of this permit, any materials stored or processed on-site, any waste materials, and any discharge into the environment;
 - (c) inspect any monitoring equipment required by this permit;
 - (d) review and copy any records, including all documents required to be maintained by this permit, relevant to a determination of compliance with requirements of this permit; and
 - (e) obtain any photographic documentation or evidence necessary to determine compliance with the requirements of this permit.
- (3) The Permittee shall notify the Department prior to increasing quantities and/or changing the types of any materials referenced in the application or limited by this permit. If the Department determines that such increases or changes constitute a modification, the Permittee shall obtain a permit-to-construct prior to implementing the modification.
- (4) Nothing in this permit authorizes the violation of any rule or regulation or the creation of a nuisance or air pollution.
- (5) If any provision of this permit is declared by proper authority to be invalid, the remaining provisions of the permit shall remain in effect.

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1427 through 4-1431**

- (6) The addition of the five (5) diesel-fired boilers each rated between 8 and 18 MMBtu/hr qualifies as an “Off Permit” change to the facility’s Part 70 Operating Permit. The Department recognizes the permit to construct application as written notification of the proposed change and should be included in the application for the next renewal of the Part 70 Permit.

Part B – Applicable Regulations

- (1) This source is subject to all applicable federally enforceable state air pollution control requirements including, but not limited to, the following regulations:
- (a) COMAR 26.11.01.05-1B(1), Emissions Statements. “By April 1 of each year, beginning with April 1, 1993, a person subject to this regulation shall submit to the Department an emissions statement for the previous calendar year that meets the requirements of this regulation.”
 - (b) COMAR 26.11.02.09A(6), Sources Subject to Permits to Construct and Approvals. “A person may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits to construct and approvals: (6) All sources, including installations and air pollution control equipment, except as listed in Regulation .10 of this chapter – permit to construct required.”
 - (c) COMAR 26.11.02.04B, Duration of Permits. “Permits to Construct and Approvals. A permit to construct or an approval expires if, as determined by the Department:
 - (1) Substantial construction or modification is not commenced within 18 months after the date of issuance of the permit or approval, unless the Department specifies a longer period in the permit or approval;
 - (2) Construction or modification is substantially discontinued for a period of 18 months after the construction or modification has commenced; or
 - (3) The source for which the permit or approval was issued is not completed within a reasonable period after the date of issuance of the permit or approval.”

NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1427 through 4-1431

- (d) COMAR 26.11.09.05A(1), Visible Emissions. “Areas I, II, V, and VI. In Areas I, II, V, and VI, a person may not cause or permit the discharge of emissions from any fuel-burning equipment other than water in an uncombined form, which is greater than 20 percent opacity.”
- (e) COMAR 26.11.09.05A(3), Exceptions. “Sections A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if: (1) the visible emissions are not greater than 40 percent opacity; and (2) the visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.”
- (f) COMAR 26.11.09.08F, Requirements for Space Heaters. “(1) A person who owns or operates a space heater as defined in Regulation .01B of this chapter shall:
 - (a) Submit to the Department a list of each affected installation on the premises and types of fuel used in each installation;
 - (b) Develop an operating and maintenance plan to minimize NO_x emissions based on the recommendations of equipment vendors and other information including the source’s operating and maintenance experience;
 - (c) Implement the operating and maintenance plan and maintain the plan at the premises for review upon request by the Department;
 - (d) Require installation operators to attend in-State operator training programs once every 3 years on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
 - (e) Prepare and maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request.
- (2) A person who owns or operates an installation that no longer qualifies as a space heater shall inform the Department not later than 60 days after the date when the fuel-burning equipment did not qualify, and shall meet the applicable fuel-burning equipment RACT requirements in this regulation.”
- (2) This source is subject to all applicable State-only enforceable air pollution control requirements including, but not limited to, the following regulations:

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1427 through 4-1431**

- (a) COMAR 26.11.06.08, Nuisance. “An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution.”
- (b) COMAR 26.11.06.09, Odors. “A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.”

Part C – Construction Conditions

- (1) Except as otherwise provided in this part, the five (5) diesel-fired boilers, each rated between 8 and 18 MMBTU/hr, shall be constructed in accordance with specifications included in the application.
- (2) Only diesel may be used as fuel in the five (5) boilers.

Part D – Operating Conditions

Except as otherwise provided in this part, the five (5) diesel-fired boilers, each rated between 8 and 18 MMBTU/hr, shall be operated in accordance with specifications included in the application and any operating procedures recommended by equipment vendors unless the Permittee obtains from the Department written authorization for alternative operating procedures.

Part D2 – Operating Conditions – NSPS

Note: *This part applies to the four (4) diesel-fired boilers rated greater than 10 MMBtu/hr (ARA Registration No. 031-1124-4-1427 through 1429) only.*

- (1) The Permittee shall not cause to be discharged into the atmosphere any gases that contain SO₂ in excess of 215 ng/J (0.5 lb/million Btu) heat input; or, as an alternative, the Permittee shall not combust oil that contains greater than 0.5 weight percent sulfur. Fuel oil sulfur limits apply at all times, including periods of startup, shutdown, and malfunction. **[Reference: 40 CFR §60.42c(d) and (i)]**

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1427 through 4-1431**

Note: Compliance with the requirement in Part B(2)(e) that the diesel fuel must have a sulfur content less than or equal to 0.3 percent by weight, demonstrates compliance with this requirement through fuel supplier certifications. **[Reference: 40 CFR §60.42c(h)(1) and §60.48c(f)]**

- (2) The Permittee shall not install any post-combustion technology to reduce PM or SO₂ emissions on the boiler without obtaining approval from the Department. **[Reference: 40 CFR §60.43c(e)(4) and COMAR 26.11.02.09A(6)]**
- (3) For the Permittee to demonstrate compliance with the fuel oil sulfur limits under §60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under §60.46c(d)(2). **[Reference: 40 CFR 60.44c(g)]**

Part D3 – Operating Conditions – NESHAP

- (1) At all times the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **[Reference: 40 CFR §63.11205(a)]**
- (2) The Permittee must not exceed 0.03 lb/MMBtu of PM (filterable), except during periods of startup and shutdown. **[Reference: 40 CFR §63.11201 and 40 CFR Part 63 Subpart JJJJJ Table 1]**

Note: Per 40 CFR §63.11210(f) and Condition D2(3), the exclusive use of ultra-low-sulfur liquid fuel exempts the Permittee from this condition and the subsequent monitoring and testing requirements.

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1427 through 4-1431**

- (3) the Permittee is not subject to the PM emission limit in Table 1 of this subpart, so long as the boilers combust only ultra-low-sulfur liquid fuel as defined in 40 CFR §63.11237 provided that the Permittee monitor and record on a monthly basis the type of fuel combusted. If the Permittee intends to burn a fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in §63.11237, you must conduct a performance test within 60 days of burning the new fuel. **[Reference: 40 CFR §63.11210(f)]**
- (4) The Permittee is required to complete a biennial tune-up as specified in 40 CFR §63.11223 beginning no later than 25 months, after the initial startup of the five (5) diesel-fired boilers. **[Reference: 40 CFR §63.11201, §63.11214(b), §63.11223(b), and 40 CFR Part 63 Subpart JJJJJJ Table 2]**

Part E – Notification Requirements

- (1) The Permittee shall submit notification of the date of modification and actual startup of the boiler. This notification shall include, at a minimum:
 - (a) The design heat capacity of the affected facility and identification of fuels to be combusted in the affected facility.
 - (b) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.
 - (c) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired. **[Reference: 40 CFR §60.48c(a)]**

Part F – Record Keeping and Reporting

- (1) The Permittee shall maintain for at least five (5) years, and shall make available to the Department upon request, records of the following information:
 - (a) Monthly records of the diesel fuel usage for each of the five (5) boilers.
 - (b) The operating and maintenance plan developed to minimize NO_x emissions and records of all maintenance performed on each boiler.

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1427 through 4-1431**

- (c) Training program attendance records for operators.
 - (d) Each notification and report that you submitted and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted. **[Reference: 40 CFR §63.11225(c)(1)]**
 - (e) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment. **[Reference: 40 CFR §63.11225(c)(4)]**
 - (f) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation. **[Reference: 40 CFR §63.11225(c)(5)]**
- (2) The Permittee must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified below.
- (a) Company name and address.
 - (b) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:
 - (i) “This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler.”
 - (ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.” **[Reference: 40 CFR §63.11225(b)]**

NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1427 through 4-1431

- (3) The Permittee shall submit to the Department and the EPA, no later than 30 days after the end of the six months reporting period, a semi-annual report including the following:
- (a) Hours of operation of the boiler.
 - (b) Calendar dates covered in the reporting period.
 - (c) Records of the amounts of each fuel combusted during each calendar month.
 - (d) Fuel supplier certifications to include the following information:
 - (i) The name of the oil supplier;
 - (ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and
 - (iii) The sulfur content or maximum sulfur content of the oil.
 - (e) A certified statement signed by the Permittee stating that the records of fuel supplier certifications submitted represent all of the fuel oil combusted during the six month reporting period. **[Reference: 40 CFR §60.48c(e)(1), (e)(11), (f)(1), (g)(2), and (j)]**
- (4) The Permittee shall report, in accordance with requirements under COMAR 26.11.01.07, occurrences of excess emissions to the Compliance Program of the Air and Radiation Administration.



Maryland

Department of the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

Ms. Susan Paul, Director
Installation Environmental Program
Naval Support Activity Bethesda
4655 Taylor Road, Bldg 27
Bethesda, MD 20814

Dear Ms. Paul:

Enclosed please find your Permit to Construct for the installation of one (1) Kewanee H35-1000 diesel-fired boiler rated at 42 MMBtu/hr at Naval Support Activity Bethesda to be located at 4655 Taylor Road, Bethesda, MD. The permit contains both general conditions, which apply to all air quality permit holders in Maryland, and specific conditions, which apply to the one (1) diesel-fired boiler rated at 42 MMBtu/hr that you have proposed to install.

The addition of one (1) diesel-fired boiler rated at 42 MMBtu/hr qualifies as an "Off-Permit" change to the facility's Title V - Part 70 Operating Permit. The Department recognizes the permit to construct application as written notification of the proposed change. Please include the boiler in the application for the next renewal of the Title V - Part 70 Operating Permit.

If you have any questions regarding this permit, please contact Schuyler Fearins of my staff at schuyler.fearins@maryland.gov.

Sincerely,

Suna Yi Sariscak, Manager
Air Quality Permits Program
Air & Radiation Administration

SYS/jm

Enclosure

NOTE: Language in this PTC was not incorporated into the Application Forms, as it was received too late in the renewal submittal process.

Larry Hogan
Governor

Ben Grumbles
Secretary

Air and Radiation Administration
1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

☒ Construction Permit

☐ Operating Permit

PERMIT NO. 031-1124-4-1426

DATE ISSUED See email for issue date.

PERMIT FEE \$1,500.00 (Paid)

EXPIRATION DATE In accordance with
COMAR 26.11.02.04B

LEGAL OWNER & ADDRESS

Naval Support Activity Bethesda
4655 Taylor Road, Bldg 27
Bethesda, MD 20889
Attn: Ms. Susan Paul, Director
Installation Environmental Program

SITE

Naval Support Activity Bethesda
4655 Taylor Road, Bldg 27
Bethesda, MD 20889
Premises # 031-1124
AI #29

SOURCE DESCRIPTION

Installation of one (1) Kewanee H35-1000 diesel-fired boiler rated at 42 MMBtu/hr.

This source is subject to the conditions described on the attached pages.

Page 1 of 11

See email for approval.
Program Manager

See email for approval.
Director, Air and Radiation Administration

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1426**

INDEX

Part A – General Provisions
Part B – Applicable Regulations
Part C – Construction Conditions
Part D – Operating Conditions
Part D2 – Operating Conditions – NSPS
Part D3 – Operating Conditions – NESHAP
Part E – Notification Requirements
Part F – Record Keeping and Reporting

This permit-to-construct incorporates requirements for the following registered installations:

ARA Registration Number	Description	Installation Date
031-1124-4-1426	One (1) Kewanee H35-1000 diesel-fired boiler rated at 42 MMBtu/hr. Located in USUHS Bldg 70.	2020

Part A – General Provisions

- (1) The following Air and Radiation Management Administration (ARA) permit-to-construct applications and supplemental information are incorporated into this permit by reference:
 - (a) Application for Fuel Burning Equipment (Form 11) received for one (1) diesel-fired boiler rated at 42 MMBTU/hr on March 3rd, 2020.
 - (b) Supplemental Information: Vendor literature and operation schedule received on March 3rd, 2020.

If there are any conflicts between representations in this permit and representations in the applications, the representations in the permit shall govern. Estimates of dimensions, volumes, emissions rates, operating rates, feed rates and hours of operation included in the applications do not constitute enforceable numeric limits beyond the extent necessary for compliance with applicable requirements.

- (2) Upon presentation of credentials, representatives of the Maryland Department of the Environment (“MDE” or the “Department”) and the Montgomery County Department of Environmental Protection shall at any reasonable time be granted, without delay and without prior notification, access to the Permittee’s property and permitted to:

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1426**

- (a) inspect any construction authorized by this permit;
 - (b) sample, as necessary to determine compliance with requirements of this permit, any materials stored or processed on-site, any waste materials, and any discharge into the environment;
 - (c) inspect any monitoring equipment required by this permit;
 - (d) review and copy any records, including all documents required to be maintained by this permit, relevant to a determination of compliance with requirements of this permit; and
 - (e) obtain any photographic documentation or evidence necessary to determine compliance with the requirements of this permit.
- (3) The Permittee shall notify the Department prior to increasing quantities and/or changing the types of any materials referenced in the application or limited by this permit. If the Department determines that such increases or changes constitute a modification, the Permittee shall obtain a permit-to-construct prior to implementing the modification.
- (4) Nothing in this permit authorizes the violation of any rule or regulation or the creation of a nuisance or air pollution.
- (5) If any provision of this permit is declared by proper authority to be invalid, the remaining provisions of the permit shall remain in effect.
- (6) The addition of the one (1) diesel-fired boiler rated at 42 MMBtu/hr qualifies as an "Off Permit" change to the facility's Part 70 Operating Permit. The Department recognizes the permit to construct application as written notification of the proposed change and should be included in the application for the next renewal of the Part 70 Permit.

Part B – Applicable Regulations

- (1) This source is subject to all applicable federally enforceable state air pollution control requirements including, but not limited to, the following regulations:

NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1426

- (a) COMAR 26.11.01.05-1B(1), Emissions Statements. “By April 1 of each year, beginning with April 1, 1993, a person subject to this regulation shall submit to the Department an emissions statement for the previous calendar year that meets the requirements of this regulation.”
- (b) COMAR 26.11.02.09A(6), Sources Subject to Permits to Construct and Approvals. “A person may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits to construct and approvals: (6) All sources, including installations and air pollution control equipment, except as listed in Regulation .10 of this chapter – permit to construct required.”
- (c) COMAR 26.11.02.04B, Duration of Permits. “Permits to Construct and Approvals. A permit to construct or an approval expires if, as determined by the Department:
 - (1) Substantial construction or modification is not commenced within 18 months after the date of issuance of the permit or approval, unless the Department specifies a longer period in the permit or approval;
 - (2) Construction or modification is substantially discontinued for a period of 18 months after the construction or modification has commenced; or
 - (3) The source for which the permit or approval was issued is not completed within a reasonable period after the date of issuance of the permit or approval.”
- (d) COMAR 26.11.09.05A(1), Visible Emissions. “Areas I, II, V, and VI. In Areas I, II, V, and VI, a person may not cause or permit the discharge of emissions from any fuel-burning equipment other than water in an uncombined form, which is greater than 20 percent opacity.”
- (e) COMAR 26.11.09.05A(3), Exceptions. “Sections A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if: (1) the visible emissions are not greater than 40 percent opacity; and (2) the visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.”

NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1426

- (f) COMAR 26.11.09.08E, Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 Million Btu Per Hour or Less.
“A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 Million Btu per hour or less shall:
 - (1) Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each;
 - (2) Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;
 - (3) Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request;
 - (4) Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
 - (5) Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.”
- (g) COMAR 26.11.09.08B(5), Operator Training.
 - (1) “For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
 - (2) The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department. “
- (3) This source is subject to all applicable State-only enforceable air pollution control requirements including, but not limited to, the following regulations:
 - (a) COMAR 26.11.06.08, Nuisance. “An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution.”
 - (b) COMAR 26.11.06.09, Odors. “A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.”

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1426**

Part C – Construction Conditions

- (1) Except as otherwise provided in this part, the one (1) diesel-fired boiler, rated at 42 MMBTU/hr, shall be constructed in accordance with specifications included in the application.
- (2) Only diesel may be used as fuel in the one (1) boiler.

Part D – Operating Conditions

Except as otherwise provided in this part, the one (1) diesel-fired boiler, rated at 42 MMBTU/hr, shall be operated in accordance with specifications included in the application and any operating procedures recommended by equipment vendors unless the Permittee obtains from the Department written authorization for alternative operating procedures.

Part D2 – Operating Conditions – NSPS

- (1) The Permittee shall not cause to be discharged into the atmosphere any gases that contain SO₂ in excess of 215 ng/J (0.50 lb/MMBtu) heat input from oil; or, as an alternative, the Permittee shall not combust oil that contains greater than 0.5 weight percent sulfur. **[Reference: 40 CFR §60.42c(d)]**
- (2) The Permittee may demonstrate compliance with the emission limits or fuel oil sulfur limit based on a certification from the fuel supplier, as described under 40 CFR §60.48c(f), as applicable. **[Reference: 40 CFR §60.42c(h)]**
- (3) The Permittee shall not cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. **[Reference: 40 CFR §60.43c(c)]**
- (4) PM and opacity standards apply at all times, except during periods of startup, shutdown, or malfunction. **[Reference: 40 CFR §60.43c(d)]**
- (5) The Permittee shall not cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in 40 CFR §60.42c(e)(2), (e)(3), and (e)(4). **[Reference: 40 CFR §60.42c(e)(1)]**

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1426**

- (6) If the Permittee combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under 40 CFR §60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO₂ emissions is not subject to the PM limit in 40 CFR Part 60 Subpart Dc. **[Reference: 40 CFR §60.42c(e)(4)]**
- (7) As the Permittee seeks to demonstrate compliance with the fuel oil sulfur limits under 40 CFR §60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the Permittee shall sample the oil in the fuel tank after each new shipment of oil is received, as described under 40 CFR §60.46c(d)(2). **[Reference: 40 CFR §60.44c(g)]**
- (8) The Permittee, subject to the PM and/or opacity standards under 40 CFR §60.43c, shall conduct an initial performance test as required under 40 CFR §60.8, and shall conduct subsequent performance tests as requested by the Department, to determine compliance with the standards using the following procedures and reference methods. **[Reference: 40 CFR §60.45c(a)]**
- (9) The Permittee, seeking to demonstrate compliance with the PM standards under 40 CFR §60.43c(b)(2), shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used. **[Reference: 40 CFR §60.45c(b)]**

Part D3 – Operating Conditions – NESHP

- (1) At all times the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved.

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1426**

Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **[Reference: 40 CFR §63.11205(a)]**

- (2) The Permittee must not exceed 0.03 lb/MMBtu of PM (filterable), except during periods of startup and shutdown. **[Reference: 40 CFR §63.11201 and 40 CFR Part 63 Subpart JJJJJJ Table 1]**

Note: Per 40 CFR §63.11210(f) and Condition D2(3), the exclusive use of ultra-low-sulfur liquid fuel exempts the Permittee from this condition and the subsequent monitoring and testing requirements.

- (3) The Permittee is not subject to the PM emission limit in Table 1 of this subpart, so long as the boiler combust only ultra-low-sulfur liquid fuel as defined in 40 CFR §63.11237 provided that the Permittee monitor and record on a monthly basis the type of fuel combusted. If the Permittee intends to burn a fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in §63.11237, you must conduct a performance test within 60 days of burning the new fuel. **[Reference: 40 CFR §63.11210(f)]**
- (4) The Permittee is required to complete a biennial tune-up as specified in 40 CFR §63.11223 beginning no later than 25 months, after the initial startup of the one (1) diesel-fired boiler. **[Reference: 40 CFR §63.11201, §63.11214(b), §63.11223(b), and 40 CFR Part 63 Subpart JJJJJJ Table 2]**

Part E – Notification Requirements

- (1) The Permittee shall submit notification of the date of modification and actual startup of the boiler. This notification shall include, at a minimum:
- (a) The design heat capacity of the affected facility and identification of fuels to be combusted in the affected facility.
 - (b) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.
 - (c) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired. **[Reference: 40 CFR §60.48c(a)]**

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1426**

Part F – Record Keeping and Reporting

- (1) The Permittee shall maintain for at least five (5) years, and shall make available to the Department upon request, records of the following information:
 - (a) Monthly records of the diesel fuel usage for each of the one (1) boiler.
 - (b) The operating and maintenance plan developed to minimize NO_x emissions and records of all maintenance performed on each boiler.
 - (c) Training program attendance records for operators.
 - (d) Each notification and report that you submitted and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted. **[Reference: 40 CFR §63.11225(c)(1)]**
 - (e) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment. **[Reference: 40 CFR §63.11225(c)(4)]**
 - (f) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation. **[Reference: 40 CFR §63.11225(c)(5)]**
- (2) The Permittee must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified below.
 - (a) Company name and address.
 - (b) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

**NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1426**

- (i) “This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler.”
 - (ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.” **[Reference: 40 CFR §63.11225(b)]**
- (3) The Permittee, as a facility subject to the PM and opacity limits of §60.43c, shall submit to the Department the performance test data from the initial and any subsequent performance tests. **[Reference: 40 CFR §60.48c(b)]**
- (4) The Permittee, as a facility subject to the opacity limits in 40 CFR §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified below, as applicable to the visible emissions monitoring method used.
 - (a) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.
 - (i) Dates and time intervals of all opacity observation periods;
 - (ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and
 - (iii) Copies of all visible emission observer opacity field data sheets;
 - (b) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.
 - (i) Dates and time intervals of all visible emissions observation periods;
 - (ii) Name and affiliation for each visible emission observer participating in the performance test;
 - (iii) Copies of all visible emission observer opacity field data sheets; and
 - (iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements. **[Reference: 40 CFR §60.48c(c)]**

NAVAL SUPPORT ACTIVITY BETHESDA
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-1124-4-1426

- (5) The Permittee shall submit to the Department and the EPA, no later than 30 days after the end of the six months reporting period, a semi-annual report including the following:
- (a) Hours of operation of the boiler;
 - (b) Calendar dates covered in the reporting period;
 - (c) Records of the amounts of each fuel combusted during each calendar month;
 - (d) Fuel supplier certifications to include the following information:
 - (i) The name of the oil supplier;
 - (ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and
 - (iii) The sulfur content or maximum sulfur content of the oil.
 - (e) A certified statement signed by the Permittee stating that the records of fuel supplier certifications submitted represent all of the fuel oil combusted during the six month reporting period. **[Reference: 40 CFR §60.48c(e)(1), (e)(11), (f)(1), (g)(2), and (j)]**
- (6) The Permittee shall report, in accordance with requirements under COMAR 26.11.01.07, occurrences of excess emissions to the Compliance Program of the Air and Radiation Management Administration.