



DEPARTMENT ORDER

**Naval Support Activity (NSA) Cutler
Washington County
Cutler, Maine
A-210-77-6-A**

**Departmental
Findings of Fact and Order
New Source Review
NSR #6**

FINDINGS OF FACT

After review of the air emission license, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Naval Support Activity (NSA) Cutler
LICENSE TYPE	06-096 C.M.R. ch. 115, Minor Modification
NAICS CODES	9711 National Security (Federal Facility) 4911 Electrical Power Generation 3443 Oil Storage Tanks
NATURE OF BUSINESS	Naval communications, electricity generation, space heating
FACILITY LOCATION	Rout 191, Cutler, Maine

B. NSR License Description

Naval Support Activity (NSA) Cutler (Cutler), formerly referred to as the Naval Computer and Telecommunications Area Master Station Atlantic Detachment, has requested a New Source Review (NSR) license to remove emergency engine VLF-503-01 and replace it with a new propane-fired emergency engine.

C. Emission Equipment

The following equipment is addressed in this NSR license:

Generators/Engines

Equipment	Max. Heat Input Capacity (MMBtu/hr)	Max. Firing Rate	Fuel Type, % sulfur	Mfr. Date	Install. Date
VLF-503-02	1.66	664 scf/hr	Propane, negligible	2020	2021
VLF-503-01*	0.80	1185 scf/hr	Natural gas, negligible	2003	2004

*Removed from license

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the issued date of this license.

The application for the addition of engine VLF-503-02 and removal of engine VLF-503-01 does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing, or recordkeeping requirements.

The modification of a major source is considered a major or minor modification based on whether or not expected emissions increases exceed the “Significant Emission Increase” levels as given in *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100. For a major stationary source, the expected emissions increase from each new, modified, or affected unit may be calculated as equal to the difference between the post-modification projected actual emissions and the baseline actual emissions for each NSR regulated pollutant.

1. Baseline Actual Emissions

Baseline actual emissions for new equipment are considered to be zero for all pollutants.

2. Projected Actual Emissions

New emission units must use potential to emit emissions for projected actual emissions.

This project includes the installation of the new emergency engine VLF-503-02. PAE for the engine is based on total potential emissions from operating 100 hours per year.

Projected actual emissions from the affected equipment are shown below.

Projected Actual Emissions

Equipment	PM (tpy)	PM₁₀ (tpy)	PM_{2.5} (tpy)	SO₂ (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
VLF-503-02	0.001	0.001	0.001	0.00005	0.19	0.29	0.003
Total	0.001	0.001	0.001	0.00005	0.19	0.29	0.003

3. Emissions Increases

Emissions increases are calculated by subtracting BAE and excludable emissions from the PAE. The emission increase is then compared to the significant emissions increase levels.

Pollutant	Projected Actual Emissions (ton/year)	Significant Emissions Increase Levels (ton/year)
PM	0.001	25
PM ₁₀	0.001	15
PM _{2.5}	0.001	10
SO ₂	0.00005	40
NO _x	0.19	40
CO	0.29	100
VOC	0.003	40

4. Classification

Since emissions increases do not exceed significant emissions increase levels, this NSR license is determined to be a minor modification under *Minor and Major Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115. Cutler has submitted an application to incorporate the requirements of this NSR license into the facility's Part 70 air emission license.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories

exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts.

B. Emergency Generator VLF-503-02

Cutler has proposed the installation of a new 100 kW emergency generator, designated VLF-503-02, to replace existing generator VLF-503-01. VLF-503-02 is a generator set consisting of an engine and an electrical generator. VLF-503-02 has an engine rated at 1.66 MMBtu/hr which fires propane. VLF-503-02 was manufactured in 2020.

1. BACT Findings

BACT for PM/PM₁₀/PM_{2.5}, NO_x, CO, and VOC emissions will be met through an engine design that is compliant with 40 C.F.R. Part 60, Subpart JJJJ requirements. BACT for SO₂ will be met by the use of propane as fuel.

The BACT emission limits for VLF-503-02 are based on the following:

- PM/PM₁₀/PM_{2.5} - 0.0095 lb/MMBtu from AP-42 Table 3.2-3, dated 7/2000
- SO₂ - 5.88 E-04 lb/MMBtu from AP-42 Table 3.2-3, dated 7/2000
- NO_x - 2.27 lb/MMBtu from AP-42 Table 3.2-3, dated 7/2000
- CO - 3.51 lb/MMBtu from AP-42 Table 3.2-3, dated 7/2000
- VOC - 0.0296 lb/MMBtu from AP-42 Table 3.2-3, dated 7/2000
- Opacity - 06-096 C.M.R. ch. 115, BACT

The BACT emission limits for VLF-503-02 are the following:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
VLF-503-02	0.02	0.02	0.02	0.001	3.8	5.8	0.05

Visible emissions from VLF-503-02 shall not exceed 10% opacity on a six-minute block average basis.

The Department has determined that the proposed BACT visible emission limit is more stringent than the applicable limit in 06-096 C.M.R. ch. 101. Therefore, the visible emission limit for VLF-503-02 has been streamlined to the more stringent BACT limit, and only this more stringent limit shall be included in the air emission license.

2. 40 C.F.R. Part 60, Subpart JJJJ

Standards of Performance for Spark Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart JJJJ is applicable to the emergency engine listed above since the unit was ordered after June 12, 2006, and manufactured after January 1, 2009. [40 C.F.R. § 60.4230] By meeting the requirements of 40 C.F.R. Part 60, Subpart JJJJ, the unit also meets the requirements found in the *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 C.F.R. Part 63, Subpart ZZZZ. [40 C.F.R. § 63.6590(c)]

A summary of the currently applicable federal 40 C.F.R. Part 60, Subpart JJJJ requirements is listed below.

a. Emergency Engine Designation and Operating Criteria

Under 40 C.F.R. Part 60, Subpart JJJJ, a stationary reciprocating internal combustion engine (ICE) is considered an emergency stationary ICE (emergency engine) as long as the engine is operated in accordance with the following criteria. Operation of an engine outside of the criteria specified below may cause the engine to no longer be considered an emergency engine under 40 C.F.R. Part 60, Subpart JJJJ, resulting in the engine being subject to requirements applicable to non-emergency engines.

(1) Emergency Situation Operation (On-Site)

There is no operating time limit on the use of an emergency engine to provide electrical power or mechanical work during an emergency situation. Examples of use of an emergency engine during emergency situations include the following:

- Use of an engine to produce power for critical networks or equipment (including power supplied to portions of a facility) because of failure or interruption of electric power from the local utility (or the normal power source, if the facility runs on its own power production);
- Use of an engine to mitigate an on-site disaster or equipment failure;
- Use of an engine to pump water in the case of fire, flood, natural disaster, or severe weather conditions; and
- Similar instances.

(2) Non-Emergency Situation Operation

An emergency engine may be operated up to a maximum of 100 hours per calendar year for maintenance checks, readiness testing, and other non-emergency situations as described below.

- (i) An emergency engine may be operated for a maximum of 100 hours per calendar year 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 more than 100 hours per calendar year.
- (ii) An emergency engine may be operated for up to 50 hours per calendar year for other non-emergency situations. **However, these operating hours are counted as part of the 100 hours per calendar year operating limit described in paragraph (2) and (2) (i) above.**

The 50 hours per calendar year operating limit for other non-emergency situations cannot be used for peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[40 C.F.R. §§ 60.4243(d) and 60.4248]

b. 40 C.F.R. Part 60, Subpart JJJJ Requirements

(1) Manufacturer Certification Requirement

The engine shall be certified by the manufacturer as meeting the emission standards for new nonroad spark ignition engines found in 40 C.F.R. Part 60, Subpart JJJJ, Table 1. [40 C.F.R. § 60.4233]

(2) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on the engine. [40 C.F.R. § 60.4237]

(3) Operation and Maintenance Requirement

The engine shall be operated and maintained according to the manufacturer's written instructions or procedures developed by Cutler that are approved by the engine manufacturer. Cutler may only change those settings that are permitted by the manufacturer. [40 C.F.R. § 60.4243]

(4) Annual Time Limit for Maintenance and Testing

As an emergency engine, the unit shall be limited to 100 hours/year for maintenance and testing. The emergency engine may operate up to 50 hours per year in non-emergency situations, but those 50 hours are included in the 100 hours total allowed for maintenance and testing. The 50 hours for non-emergency use 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. [40 C.F.R. § 60.4243(d)]

(5) Recordkeeping

Cutler shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, the number of hours the unit operated for non-emergency purposes, and the reason the engine was in operation during each time. [40 C.F.R. § 60.4245(b)]

C. Incorporation Into the Part 70 Air Emission License

Per *Part 70 Air Emission License Regulations*, 06-096 C.M.R. ch. 140 § 1(C)(8), for a modification at the facility that has undergone NSR requirements or been processed through 06-096 C.M.R. ch. 115, the source must apply for an amendment to their Part 70 license within one year of commencing the proposed operations, as provided in 40 C.F.R. Part 70.5. An application to incorporate the requirements of this NSR license into the Part 70 air emission license has been submitted to the Department.

D. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee. Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included. Maximum potential emissions were calculated based on the following assumptions:

- Firing 254,040 gal/yr distillate fuel in boilers VLF-103-B#7 and VLF-103-B#8 (combined);
- Firing 2,504,221 gal/yr distillate fuel in engines HF-401-D#5, VLF-103-D#2, VLF-103-D#3, VLF-103-D#4, VLF-103-D#5, and VLF-103-D#6 (combined); and
- 100 hours/year of operation for each emergency engine (non-emergency operation hours).

Please note, this information provides the basis for fee calculation only and should not be construed to represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of the facility's license.

Total Licensed Annual Emissions for the Facility
Tons/year
(used to calculate the annual license fee)

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
VLF-013-B#7 & #8	2.1	2.1	0.1	2.6	0.7	0.1
Non-Emergency Engines	14.8	14.8	0.3	549.0	43.8	17.2
Emergency Engines	0.1	0.1	--	0.4	0.4	0.1
Total TPY	17.0	17.0	0.4	552.0	44.9	17.4

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

Cutler previously submitted an ambient air quality impact analysis outlined in air emission license A-210-77-5-A (dated May 18, 2020) demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards (AAQS). An additional ambient air quality impact analysis is not required for this NSR license.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants New Source Review License A-210-77-6-A pursuant to the preconstruction licensing requirements of 06-096 C.M.R. ch. 115 and subject to the specific conditions below.

Severability. The invalidity or unenforceability of any provision of this License or part thereof shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

SPECIFIC CONDITIONS

(1) Emergency Generator VLF-503-02

A. Emergency Generator VLF-503-02 shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 C.M.R. ch. 115, BACT]

B. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BACT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
VLF-503-02	0.02	0.02	0.02	0.001	3.8	5.8	0.05

C. Visible Emissions

Visible emissions from VLF-503-02 shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]

D. Emergency Generator VLF-503-02 shall meet the applicable requirements of 40 C.F.R. Part 60, Subpart JJJJ, including the following:
[incorporated under 06-096 C.M.R. ch. 115, BACT]

1. Manufacturer Certification

The engine shall be certified by the manufacturer as meeting the emission standards for new nonroad spark ignition engines found in 40 C.F.R. Part 60, Subpart JJJJ, Table 1.

2. Non-Resettable Hour Meter

A non-resettable hour meter shall be installed and operated on the engine. [40 C.F.R. § 60.4237 and 06-096 C.M.R. ch. 115, BPT]

3. Annual Time Limit for Maintenance and Testing

a. As an emergency engine, VLF-503-02 shall be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity). The limits are based on a calendar year. Compliance shall be demonstrated by records (electronic or written log) of all engine operating hours. [40 C.F.R. § 60.4243(d) and 06-096 C.M.R. ch. 115, BPT]

- b. Cutler shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, the number of hours the unit operated for non-emergency purposes, and the reason the engine was in operation during each time.
[40 C.F.R. § 60.4245(b)]

4. Operation and Maintenance

The engine shall be operated and maintained according to the manufacturer's written instructions or procedures developed by Cutler that are approved by the engine manufacturer. Cutler may only change those settings that are permitted by the manufacturer. [40 C.F.R. § 60.4243]

DONE AND DATED IN AUGUSTA, MAINE THIS 2nd DAY OF AUGUST, 2021.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:  for
MELANIE LOYZIM, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: April 1, 2021

Date of application acceptance: April 6, 2021

Date filed with the Board of Environmental Protection:

This Order prepared by Benjamin Goundie, Bureau of Air Quality.

FILED
AUG 02, 2021
State of Maine
Board of Environmental Protection