



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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**Naval Computer and  
Telecommunications Area Master  
Station Atlantic Detachment Cutler  
Washington County  
Cutler, Maine  
A-210-70-E-A**

**Departmental  
Findings of Fact and Order  
Part 70 Air Emission License  
Amendment #1**

**FINDINGS OF FACT**

After review of the Part 70 License amendment application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A, §344 and §590, the Maine Department of Environmental Protection (the Department) finds the following facts:

**I. REGISTRATION**

A. Introduction

FACILITY	Naval Computer and Telecommunications Area Master Station Atlantic Detachment (NCTAMS LANT DET)
LICENSE TYPE	Part 70 Significant License 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	Route 191, Cutler, Maine

NCTAMS LANT DET generates electricity from diesel engines to operate communications equipment and provide energy for space heating requirements.

The NCTAMS LANT DET facility has the potential to emit more than 100 tons per year (TPY) of nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO); therefore, the source is a major source for these criteria pollutants. NCTAMS LANT DET does not have the potential to emit more than 10 TPY of a single hazardous air pollutant (HAP) or more than 25 TPY of combined HAP; therefore, the source is an area source for HAP.

B. Amendment Description

NCTAMS LANT DET submitted an application on March 25, 2013, for a Significant Modification to their Part 70 Air Emission License A-210-70-D-R

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(issued June 19, 2012) for their Cutler, Maine facility. The amendment application requests the extension of the NO<sub>x</sub> emissions testing due date beyond June 19, 2013. The application also includes a proposed list of units to be tested, revised from the original license requirement based on the operational status of the units.

Under Special Condition (19)(D) of license A-210-70-D-R, stack testing for NO<sub>x</sub> emissions from seven specified diesel engines is required within 12 months of the date of license signature; thus, testing was to be completed by June 19, 2013.

The facility proposes that given the duration and complexity of repairs several of these engines have undergone or are currently undergoing, more engines would be operational and available for emissions testing if the deadline was extended to the end of the calendar year. In addition, safety issues specific to the Cutler facility require additional training for testing personnel per U.S. Navy safety constraints. The stack test due date extension would help to facilitate the required training of appropriate personnel.

The Department has determined that an extension of the stack testing due date to September 30, 2013, is appropriate to meet the needs of the facility without causing unnecessary delay of the emissions testing. To proactively address any further breakdowns or malfunctions of the engines, any engine required to be tested which is inoperable at the time emissions testing is being conducted for the 9/30/2013 due date shall be tested within six months after becoming fully operational.

The operational status of two of the specified engines has changed, as follows:

<u>Engine</u>	<u>Updated Operational Status</u>
VLF-103-D#1	Non-operational; disabled fuel supply system. VLF-103-D#1 is hereby removed from the facility's air emission license.
HF-401-D#5	Used as an emergency engine only; to be limited to 500 hours/year of operation, documented by the use of a non-resettable hour meter on the engine

NCTAMS LANT DET has requested that these two units be removed from the list of units required to be tested. The Department concurs with the reasons for this request; thus, the two units in the table above are neither required to undergo emissions testing by the 9/30/2013 due date nor to undergo subsequent emissions testing unless specifically requested by the Department.

The following engines will remain subject to the emissions testing requirement:

<u>Engine</u>	<u>Updated Emissions Testing Status</u>
VLF-103-D#2	Emissions testing for NO <sub>x</sub> according to Method 7E of 40 CFR Part 60, Appendix A or other method as approved by the Department, shall be conducted on each of these units before September 30, 2013, and every third calendar year thereafter.*
VLF-103-D#3	
VLF-103-D#4	
VLF-103-D#5	
VLF-103-D#6	

\* Any unit required to be tested as specified in the above table which is inoperable at the time emissions testing is being conducted shall be tested within six months after becoming fully operational. For each unit deemed inoperable for NO<sub>x</sub> emissions testing before September 30, 2013, NCTAMS LANT DET shall document the following and include the information to supplement the emissions testing report for the 2013 testing:

- Specifics of why each inoperable engine is such;
- The status of repairs at the time of 2013 emissions testing protocol preparation; and
- Projected schedule for completion of repairs.

NCTAMS LANT DET has proposed specific parametric monitoring relating to engine operation and potential air pollutant emissions, to continuously monitor and periodically record engine operational parameters indicative of optimal engine operation and minimized NO<sub>x</sub> emissions, in accordance with Specific Condition (19) E of air emission license A-210-70-D-R. The facility proposes the following parametric monitoring for each engine:

<u>Parameter</u>	<u>Indicator Range</u>	<u>Monitoring Method</u>	<u>Frequency</u>	
			<u>Monitor</u>	<u>Record</u>
<i>VLF-103-D#2, D#3, D#4, and D#5</i>				
Turbo Charger Exhaust Inlet Temperature, °F	1100 °F (engine hot) 1200 °F (max pre-turbo)	Temperature probe	Continuously	Twice per 8-hour shift when the engine is operating
Oil Outlet (engine) Temperature, °F	160 – 170 °F 180 °F alarm			
<i>VLF-103-D#6</i>				
Coolant Temperature	115 – 180 °F	Temperature probe	Continuously	Twice per 8-hour shift when the engine is operating
Coolant Level	Manufacturer's high/low indicators			

As temperature increases in the cylinder, so does the cylinder pressure. With timing retard, an increase in pressure results in an increase in NO<sub>x</sub> formation.

Oil outlet temperature provides a more noticeable change in temperature. An alarm at 180 °F provides an early indicator and will allow the engine to be shut down before overall exhaust temperatures rise.

C. Application Classification

The application for NCTAMS LANT DET does not include the licensing of increased emissions; however, the revision of the emissions testing due date for the specified units could be considered a relaxation of testing and reporting license terms or conditions. Therefore, the license application is considered to be a Part 70 Significant License Modification processed under *Part 70 Air Emission License Regulations*, 06-096 CMR 140 (as amended).

**II. BEST PRACTICAL TREATMENT (BPT)**

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 06-096 CMR 100 (as amended).

BPT was established in Air Emission License A-210-70-D-R (June 19, 2012). A BPT analysis is not required for this requested license change, because no modifications to the facility will be made and no increases in emissions will result.

**ORDER**

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

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

The Department hereby grants the Part 70 license amendment A-210-70-E-A pursuant to 06-096 CMR 140 and subject to the specific conditions below.

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

### SPECIFIC CONDITIONS

This Part 70 license amendment establishes the following changes. All other conditions contained in the Part 70 air emission license shall remain in effect as written unless amended by a future licensing action.

Specific Condition (15) of Air Emission License A-210-70-D-R is hereby removed.

(15) **VLf-103-D#1**

Deleted.

These additional subparts shall be added to Specific Condition (18) of Air Emission License A-210-70-D-R:

(18) **HF-401-D#5**

- C. A non-resettable hour meter shall be installed and operated on the generator HF-401-D#5. [40 CFR §63.6625(f)]
- D. The generator HF-401-D#5 shall be limited to 500 hours per year total operation, based on a 12-month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours based on the non-resettable hour meter. [06-096 CMR 140, BPT]

Specific Condition (19) of Air Emission License A-210-70-D-R shall be replaced with the following:

(19) **NO<sub>x</sub> RACT Requirements**

A. Emission Limits

NO<sub>x</sub> emissions from the following units shall not exceed the specified limits:

#### Diesel Engine NO<sub>x</sub> Limits

<b>Equipment</b>	<b>NO<sub>x</sub> lb/hr</b>	<b>Origin and Authority</b>	<b>NO<sub>x</sub> lb/MMBtu</b>	<b>Origin and Authority</b>
VLf-401-D#5	21.17	06-096 CMR 140, BPT	3.2	A-210-70-B-A (3/18/2004), BPT
VLf-103-D#2	102.46			
VLf-103-D#3	102.46			
VLf-103-D#4	102.46			
VLf-103-D#5	102.46			
VLf-103-D#6	25.61			

B. Design and Control

NCTAMS LANT DET shall maintain timing retard to minimize NO<sub>x</sub> emissions as recommended by the manufacturer on units VLF-103-D#2, VLF-103-D#3, VLF-103-D#4, and VLF-103-D#5. [A-210-71-F-A (7/25/1995), 06-096 CMR 138]

C. Emissions Testing [06-096 CMR 140, BPT]

1. NCTAMS LANT DET shall perform emissions testing for NO<sub>x</sub> according to Method 7E of 40 CFR Part 60, Appendix A or other method as approved by the Department, on the following units before September 30, 2013:

<u>Engine</u>
VLF-103-D#2
VLF-103-D#3
VLF-103-D#4
VLF-103-D#5
VLF-103-D#6

2. Any unit inoperable at the time of testing before September 30, 2013, shall be tested for NO<sub>x</sub> according to Method 7E of 40 CFR Part 60, Appendix A or other method as approved by the Department, within six months of becoming fully operational.

For each unit deemed inoperable for NO<sub>x</sub> emissions testing before September 30, 2013, according to Method 7E of 40 CFR Part 60, Appendix A or other method as approved by the Department, NCTAMS LANT DET shall document the following and include the information to supplement the emissions testing report for the 2013 testing:

- a. Specifics of why each inoperable engine is such;
  - b. The status of repairs at the time of 2013 emissions testing protocol preparation; and
  - c. Projected schedule for completion of repairs.
3. NO<sub>x</sub> emissions testing conducted according to Method 7E of 40 CFR Part 60, Appendix A or other method as approved by the Department, shall subsequently be performed once every third calendar year for each of the units specified in the table above. Any unit inoperable at the time of testing and subsequently tested within six months of becoming fully operational shall also be included for testing with the other units in the next three-year cycle.

D. Monitoring and Recording

1. NCTAMS LANT DET shall continuously monitor and record the following engine operational parameters to ensure optimal engine operation and minimized NO<sub>x</sub> emissions. [06-096 CMR 140, BPT]

Parameter	Indicator Range	Monitoring Method	Frequency	
			Monitor	Record
<i>VLF-103-D#2, D#3, D#4, and D#5</i>				
Turbo Charger Exhaust Inlet Temperature, °F	1100 °F (engine hot) 1200 °F (max pre-turbo)	Temperature probe	Continuously	Twice per 8-hour shift when the engine is operating
Oil Outlet (engine) Temperature, °F	160 – 170 °F 180 °F alarm			
<i>VLF-103-D#6</i>				
Coolant Temperature	115 – 180 °F	Temperature probe	Continuously	Twice per 8-hour shift when the engine is operating
Coolant Level	Manufacturer's high/low indicators			

2. For any shift, for each of the above engines which is not operated, NCTAMS LANT DET shall document that the engine was not in operation; no recorded temperatures are required.
3. In the event that one of the required sensors specified above fails, NCTAMS LANT DET shall replace the failed sensor within a reasonable timeframe for sensor replacement but not to exceed 21 days, and shall continue to monitor and record other engine performance parameters in the interim. Documentation of the time of detection of the sensor failure and the time of sensor replacement shall fulfill the monitoring requirements for that specific unit for up to a 21-day replacement time period.

The facility may exceed the 21-day replacement time period and remain in compliance with this license condition in the rare case that the engine cannot be taken down because of lack of back-up engine to fulfill functional requirements of the facility. In such a case, NCTAMS LANT DET shall notify the Department, shall document the reasons for such continued operation, and shall replace the failed sensor(s) as expeditiously as possible.

E. Operational Limit

1. For electrical power generating purposes at the VLF Antenna Array Site, only VLF-103-D#6 may be operated when peak plant load demand drops below 750 kW except during testing, routine maintenance, equipment upgrades, and training. These exceptions shall not exceed 250 hours per calendar year.
2. NCTAMS LANT DET shall maintain records to document compliance with this condition and shall make the records available upon request by the U. S. Environmental Protection Agency (EPA) or the Department. The duration and reason for operating under an exception as described in this condition shall be documented and submitted as part of the semi-annual report. [06-096 CMR 140, BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS 6 DAY OF September, 2013.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for  
PATRICIA W. AHO, COMMISSIONER

**The term of this amendment shall be concurrent with the term of Air Emission License A-210-70-D-R.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 25, 2013

Date of application acceptance: March 28, 2013

Date filed with the Board of Environmental Protection:

This Order prepared by Jane E. Gilbert, Bureau of Air Quality.

