



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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**Maine Army National Guard  
Penobscot County  
Bangor, Maine  
A-755-71-I-R/A (SM)**

**Departmental  
Findings of Fact and Order  
Air Emission License  
Renewal/Amendment**

**FINDINGS OF FACT**

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

**I. REGISTRATION**

**A. Introduction**

Maine Army National Guard (MEARNG) has applied to renew their Air Emission License permitting the operation of emission sources associated with their facilities – including several maintenance buildings; ground vehicle and rotary wing aircraft staging, service, and repair; housing; armory buildings; and a Reserve Center – at and in the vicinity of the Bangor International Airport. MEARNG has also requested an amendment to their license in order to include changes made in upgrading and converting existing, distillate fuel-fired heating units to natural gas-fired systems, installing more efficient boilers, and the elimination of some fuel storage tanks.

The equipment addressed in this license is located at various facilities on Hildreth Street, North; Florida Avenue; Hayes Street; Filmore Street; and Cleveland Avenue; all in Bangor, Maine.

**B. Emission Equipment**

The following equipment is addressed in this air emission license:

**1. Boilers and Heaters**

MEARNG utilizes several boilers, furnaces, heaters, and hot water heaters at this collective facility. Several of these units are not required to be included in the air emission license because of their rated input capacity. Those units

required to be included in the license and for which there are applicable state and/or federal requirements are listed in the following table.

**Boilers and Heaters with Applicable Requirements**

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Fuel Firing Rate*</u>	<u>Fuel Type</u>	<u>Date of Manufacture</u>	<u>Stack #</u>
<b><i>AFRC (Armed Forces Reserve Center) 300 Hildreth Street, North</i></b>					
Boiler AFRC-1	4.55	32.5 gal/hr	Distillate Fuel (0.5% sulfur)	1996	AFRC-A
Boiler AFRC-2	4.55	32.5 gal/hr	Distillate Fuel (0.5% sulfur)	1998	AFRC-B
<b><i>Building #255 (Band Armory) 42 Hayes Street</i></b>					
Boiler 255-1	1.30	13.0 gal/hr	Distillate Fuel (0.5% sulfur)	1986	255-A
<b><i>Building #260 (AASF) 311 Florida Avenue</i></b>					
Boiler 260-1	1.14	1118 cf/hr	Natural Gas	2002	260-A
		7.9 gal/hr	Distillate Fuel (0.5% sulfur)		
Boiler 260-2	4.40	4404 cf/hr	Natural Gas		260-B
		30.5 gal/hr	Distillate Fuel (0.5% sulfur)		
Boiler 260-3	4.40	4404 cf/hr	Natural Gas		260-C
		30.5 gal/hr	Distillate Fuel (0.5% sulfur)		
Boiler 260-4	4.40	4404 cf/hr	Natural Gas		260-D
		30.5 gal/hr	Distillate Fuel (0.5% sulfur)		
<b><i>Building #345 (112<sup>th</sup> Armory) Filmore Street</i></b>					
Boiler 345-1 (old) removed from license	1.75	25.0 gal/hr	Distillate Fuel (0.5% sulfur)	1981	345-A
Boiler 345-1 (new) **	1.50	13.2 gal/hr	Distillate Fuel (0.5% sulfur)	2009	345-A
<b><i>Building #346 (Pine Tree Inn) 22 Cleveland Avenue - reverted to City of Bangor in 2013; no longer MEARNG property</i></b>					
Boiler 346-1 removed from license	1.75	25.0	Distillate Fuel (0.5% sulfur)	1980	346-A

\* Maximum firing rates in the table and the following table were calculated based on the following fuel heating values, as applicable: Distillate Fuel, 140,000 Btu/gal; Natural Gas, 1050 Btu/scf; and Propane, 2520 Btu/scf.

\*\*From this point forward in this license, the label "Boiler 345-1" shall be used to refer to the newer boiler (1.5 MMBtu/hour, manufactured in 2009) and not the old Boiler 345-1 (manuf. date 1981) which has been removed from the license.

The following table lists units operated at the facility but which are not required for inclusion in the air emission license, per 06-096 CMR 115, Appendix B, #2; and for which there are no applicable requirements under 40 CFR Part 63, Subpart JJJJJ, either because they fire natural gas or propane, or

because they are not boilers as defined by Subpart JJJJJJ. They are included here for inventory purposes only.

**Boilers and Heaters Included for Inventory Purposes Only**

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Fuel Firing Rate</u>	<u>Fuel Type</u>	<u>Date of Manufacture</u>	<u>Stack #</u>
<b><i>AFRC (Armed Forces Reserve Center) 300 Hildreth Street, North</i></b>					
Hot Water Heater	0.46	4.0 gal/hr (estimated)	Distillate Fuel (0.5% sulfur)	1996 (approx.)	AFRC-C
<b><i>Building #250 (FMS #3) 295 Florida Avenue</i></b>					
Boiler 250-1 (old, removed from license)	1.54	11.0 gal/hr	Distillate Fuel (0.5% sulfur)	1986	250-A
Boiler 250-1 (new)	0.75	715 scf/hr	Natural Gas	2010	250-A
Boiler 250-2 (new)	0.75	715 scf/hr			
Forced Hot Air Furnace #1	0.15	1.25 gal/hr	Distillate Fuel (0.5% sulfur)	2005	250-B
Forced Hot Air Furnace #2	0.15	1.25 gal/hr			250-C
Hot Water Heater	0.014	0.25 gal/hr			--
Dehumidifier	0.153	61 scf/hr	Propane	2008	250-E
<b><i>Building #251 (Hobby Shop) 280 Florida Avenue</i></b>					
Forced Hot Air Furnace	0.25	4.0 gal/hr	Distillate Fuel (0.5% sulfur)	2002	251-A
<b><i>POL Storage Building (AASF POL Storage Building) 311 Florida Avenue</i></b>					
Furnace	0.35	333 scf/hr	Natural Gas	2004 (NG in 2014)	260-POL
		5.5 gal/hr	Distillate Fuel (0.5% sulfur)		
<b><i>Aviation Readiness Center 311 Florida Avenue</i></b>					
Rooftop Heater #1	0.225	214 scf/hr	Natural Gas	2014	ARC-RTU1
Rooftop Heater #2	0.32	305 scf/hr			ARC-RTU2
Rooftop Heater #3	0.225	214 scf/hr			ARC-RTU3
Rooftop Heater #4	0.225	214 scf/hr			ARC-RTU4
Rooftop Heater #5	0.225	214 scf/hr			ARC-RTU5
Rooftop Heater, Food Service Area	0.458	436 scf/hr			ARC-MUA1
Ceiling Heater, Loading/Receiving	0.055	52 scf/hr		ARC-UH1	
Ceiling Heater, Mechanical Room #1	0.055	52 scf/hr	Natural Gas	2014	ARC-UH2
Ceiling Heater, Work Bay #1	0.17	162 scf/hr			ARC-UH3
Ceiling Heater, Work Bay #2	0.17	162 scf/hr			ARC-UH4
Ceiling Heater, Mechanical Room #2	0.055	52 scf/hr	Natural Gas	2014	ARC-UH5

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Fuel Firing Rate</u>	<u>Fuel Type</u>	<u>Date of Manufacture</u>	<u>Stack #</u>
<b><i>Building RTI (Regional Training Institute)</i></b>			<b><i>289 Hildreth Street, North</i></b>		
Back-Up Boiler	0.4	381 scf/hr	Natural Gas	2013	RTI
Boiler RTI-1 (Dining Hall) (4 units)	0.14 each	134 scf/hr		2012	RTI-A
Boiler RTI-2 (Billet North)	0.15	143 scf/hr			RTI-B
Boiler RTI-3 (Billet East)	0.15	143 scf/hr			RTI-C
Boiler RTI-4 (Billet West)	0.15	143 scf/hr			RTI-D
HW Heater (Dining Hall)	0.25	239 scf/hr		RTI-HW1	
HW Heater (Billet North)	0.20	191 scf/hr		RTI-HW2	
HW Heater (Billet East)	0.15	143 scf/hr		RTI-HW3	
HW Heater (Billet West)	0.15	143 scf/hr		RTI-HW4	
Ceiling Heater	0.12	48 scf/hr		Propane	2013
Ceiling Heater	0.12	48 scf/hr	RTI-EST2		

2. Generators and Engines

**Generators and Engines**

<u>Equipment</u>	<u>Max. Capacity (MMBtu/hour)</u>	<u>Output Capacity</u>	<u>Firing Rate</u>	<u>Fuel Type</u>	<u>Date of Manufacture</u>	<u>Stack #</u>
<b><i>Building #250 (FMS #3)</i></b>			<b><i>295 Florida Avenue</i></b>			
Generator (FMS#3)	1.38	142 kW	10.0 gal/hr	Distillate Fuel (0.0015% sulfur)	2009	250-D
<b><i>Building #254 (Hangar – COLD STORAGE)</i></b>			<b><i>68 Hayes Street</i></b>			
Fire Pump 254-1	0.56	57.4 kW	4.0 gal/hr	Distillate Fuel (0.0015% sulfur)	2011	254-FP1
Fire Pump 254-2	0.56	57.4 kW	4.0 gal/hr			254-FP2
<b><i>Building #260 (AASF)</i></b>			<b><i>311 Florida Avenue</i></b>			
Generator DG-260	4.50	461 kW	34.8 gal/hr	Distillate Fuel (0.0015% sulfur)	2002	260-DF
Fire Pump 260-FP1	1.40	144 kW	10.2 gal/hr	Distillate Fuel (0.0015% sulfur)	2002	260-FP1
Fire Pump 260-FP2	1.40	144 kW	10.2 gal/hr			260-FP2
Fire Pump 260-FP3	1.40	144 kW	10.2 gal/hr			260-FP3
<b><i>RTI Phase #1 (Regional Training Institute)</i></b>			<b><i>289 Hildreth Street, North</i></b>			
Generator (RTI)	7.89	809 kW	57.2 gal/hr	Distillate Fuel (0.0015% sulfur)	2010	RTI-G
<b><i>Aviation Readiness Center</i></b>			<b><i>311 Florida Avenue</i></b>			
Emergency Generator (ARC)	2.72	378 kW	19.4 gal/hr	Distillate Fuel (0.0015% sulfur)	2014	ARC-G

MEARNG also operates a non-emergency, propane-fired generator which is used infrequently and as needed at the Bangor Training Site Range. The unit

is not required to be included in the air emission license because its rated input capacity is below the licensing threshold. [06-096 CMR 115, Appendix B, Part B(3)] It is mentioned here for completeness purposes only. However, it is subject to federal regulation 40 CFR Part 60, Subpart JJJJ, which requirements are not addressed in this air emission license.

### 3. Fuel Storage Tanks

MEARNG utilizes 21 fuel storage tanks at this facility. The capacities of many of the fuel storage tanks are below licensing threshold levels identified in 06-096 CMR 115, Appendix B, #7. These units are listed on the license renewal application but are not specifically addressed in this license renewal and amendment. The fuel storage tanks at the facility which have capacity greater than 10,000 gallons, the licensing threshold level, are included in the following table.

<u>Tank</u>	<u>Capacity (gallons)</u>	<u>Material Stored</u>	<u>Tank Type</u>	<u>Tank Size (length) x (diameter)</u>	<u>Installation Year</u>
9 (Bldg. 260)	25,000	Distillate Fuel	Single-wall steel with secondary containment	38.75ft x 10.5 ft	2005
13 (AFRC)	12,000			32 ft x 8 ft	1990

### 4. Other Emissions Sources

MEARNG also uses paints, paint thinner, spray cleaners, and spray paints in the various buildings covered by these license. In total, less than 50 gallons of these miscellaneous items are used on the premises annually.

### C. Application Classification

The application for MEARNG includes the installation of new or modified equipment. Therefore, the license is considered to be a renewal of currently licensed emission units and a license amendment, and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (CMR) 115 (as amended). With the heat input limit on the boilers at the facility and the restriction on hours of operation of the emergency generators, the facility is licensed below the major source thresholds for criteria pollutants and is considered a synthetic minor. With the heat input limit on the boilers and the restriction on hours of operation of the emergency generators, the facility is licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of HAP.

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations. Emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Significant Level</u>
PM	2.5	3.5	1.0	100
PM <sub>10</sub>	2.5	3.5	1.0	100
SO <sub>2</sub>	8.9	8.8	- 0.1	100
NO <sub>x</sub>	12.5	24.0	11.5	100
CO	2.6	6.6	3.0	100
VOC	1.9	1.3	- 0.6	50
CO <sub>2e</sub>	< 100,000	< 100,000	0.0	100,000

This modification is determined to be a minor modification and has been processed as such.

## 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 CMR 100 (as amended). 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 *Definitions Regulation*, 06-096 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

### B. Distillate Fuel-Fired Boilers: Boilers AFRC-1, AFRC-2, 255-1, and 345-1

MEARNG operates Boilers **AFRC-1**, **AFRC-2**, **255-1**, and **345-1** for facility heating purposes. The boilers are rated at 4.55 MMBtu/hour, 4.55 MMBtu/hour, 1.30 MMBtu/hour, and 1.50 MMBtu/hour, respectively, and all fire distillate fuel with a maximum sulfur content of 0.5% by weight. The boilers were installed in 1996, 1998, 1986, and 2009, respectively. Each exhausts through its own stack.

#### 1. New Source Performance Standards (NSPS)

Due to their sizes, these four boilers are not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hour manufactured after June 9, 1989.

2. National Emission Standards for Hazardous Air Pollutants (NESHAP):  
40 CFR Part 63, Subpart JJJJJ

Boilers **AFRC-1**, **AFRC-2**, **255-1**, and **345-1** are subject to applicable requirements of 40 CFR Part 63, Subpart JJJJJ, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*. The units are considered existing oil boilers rated less than 10 MMBtu/hour.

A summary of the currently applicable federal requirements of 40 CFR Part 63, Subpart JJJJJ is listed below. At this time, the Department has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule promulgated by EPA; however, MEARNG is still subject to the requirements. Notification forms and additional rule information can be found on the following website: <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

a. Compliance Dates, Notifications, and Work Practice Requirements

i. Initial Notification of Compliance

MEARNG submitted an Initial Notification to EPA before January 20, 2014, in compliance with this Subpart. [40 CFR §63.11225(a)(2)]

ii. Boiler Tune-Up Program

- (a) A boiler tune-up program was due to be implemented to include the initial tune-up of applicable boilers no later than March 21, 2014. [40 CFR §63.11196(a)(1)]
- (b) The boiler tune-up program is required to demonstrate continuous compliance in accordance with the following for each boiler subject to this Subpart:
- (1) As applicable, inspect each burner and clean or replace any component of each burner as necessary. Delay of burner inspection until the next scheduled shutdown is permitted, not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hour or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hour, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR §63.11223(b)(1)]
- (2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR §63.11223(b)(2)]
- (3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning

properly. Delay of the inspection until the next scheduled shutdown is permitted, not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hour or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hour, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR §63.11223(b)(3)]

- (4) Optimize total emissions of CO, consistent with the manufacturer's specifications. [40 CFR §63.11223(b)(4)]
- (5) Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after 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). Measurements may be taken using a portable CO analyzer. [40 CFR §63.11223(b)(5)]
- (6) If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up of the unit. [40 CFR §63.11223(b)(7)]
- (c) After conducting the initial boiler tune-up, an initial compliance report – called a Notification of Compliance Status – shall be submitted to EPA no later than July 19, 2014. [40 CFR §63.11225(a)(4) and 40 CFR §63.11214(b)]

Note: EPA requires submission of Notification of Compliance Status reports for tune-ups through their electronic reporting system. [40 CFR §63.1125(a)(4)(vi)]

- (d) The facility shall implement a boiler tune-up program after the initial tune-up has been completed and the Notification of Compliance Status has been submitted.
- (1) Each subsequent tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of each boiler. Because each of these boilers have a heat input capacity of less than 5 MMBtu/hour, they are considered "existing oil fired boilers with less frequent tune-up requirements," in accordance with 40 CFR §63.11223(a) and Table 2 of 40 CFR Part 63, Subpart JJJJJ. As such, a subsequent tune-up for each of these boilers is required every five years.



- (2) After each tune-up, a tune-up compliance report shall be written and maintained on-site in accordance with the recordkeeping requirements specified below. This tune-up compliance report is to be submitted to EPA only upon EPA's request.

The report shall specify the concentration of CO (ppmv) and oxygen (volume %) in the effluent stream, measured at high fire or typical operating load both before and after the boiler tune-up; a description of any corrective actions taken as part of the tune-up of the boiler; and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR §63.11223(b)(6)] The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR §63.11225(b)]

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63, Subpart JJJJJ, including the following [40 CFR §63.11225(c)]: copies of notifications and reports with supporting compliance documentation; identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) and quantities used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; actions taken during periods of malfunction to minimize emissions; and actions taken to restore the malfunctioning boiler to its usual manner of operation.

Records shall be in a form suitable and readily available for expeditious review. Each record shall be kept for five years following the date of each recorded action. Each record shall be maintained on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least two years after the date of each recorded action. The records may be kept off-site for the remaining three years. [40 CFR §63.11225(d)]

3. BACT/BPT Findings

The BACT/BPT emission limits for Boilers **AFRC-1**, **AFRC-2**, **255-1**, and **345-1** were based on the following:

PM, PM <sub>10</sub>	- 0.12 lb/MMBtu based on 06-096 CMR 103 for Boilers AFRC-1 and AFRC-2
	- 2 lb/1000 gal based on AP-42 Table 1.3-1 (5/10) for Boilers 255-1 and 345-1
SO <sub>2</sub>	- 0.5 lb/MMBtu based on firing ASTM D396 compliant #2 fuel oil (0.5% sulfur by weight)
NO <sub>x</sub>	- 20 lb/1000 gal based on AP-42, Table 1.3-1 (5/10)
CO	- 5 lb/1000 gal based on AP-42, Table 1.3-1 (5/10)
VOC	- 0.34 lb/1000 gal based on AP-42, Table 1.3-3 (5/10)
Visible Emissions	- 06-096 CMR 101

The BPT emission limits for these boilers are the following:

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler AFRC-1 (4.55 MMBtu/hr) distillate fuel	0.55	0.55	2.28	0.65	0.16	0.01
Boiler AFRC-2 (4.55 MMBtu/hr) distillate fuel	0.55	0.55	2.28	0.65	0.16	0.01
Boiler 255-1 (1.30 MMBtu/hr) distillate fuel	0.03	0.03	0.65	0.26	0.07	0.004
Boiler 345-1 (1.50 MMBtu/hr) distillate fuel	0.03	0.03	0.75	0.26	0.07	0.004

Visible emissions from each boiler shall not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a three-hour period.

**C. Dual Fuel-Fired Boilers: Boilers 260-1, 260-2, 260-3, and 260-4**

MEARNG operates Boilers 260-1, 260-2, 260-3, and 260-4 for heating purposes for the facility. Boiler 260-1 is rated at 1.14 MMBtu/hour, and the other three boilers are rated at 4.40 MMBtu/hour each. All four of these boilers are designed to fire natural gas, and distillate fuel. All four of the boilers were installed in 2002, and each exhausts through its own stack.

**1. New Source Performance Standards**

Due to their sizes, these four boilers are not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, for units greater than 10 MMBtu/hour manufactured after June 9, 1989.

2. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 CFR Part 63, Subpart JJJJJ

Boilers 260-1, 260-2, 260-3, and 260-4 may be subject to applicable requirements of 40 CFR Part 63, Subpart JJJJJ: *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*. Gas-fired boilers are exempt from 40 CFR Part 63, Subpart JJJJJ; however, boilers which fire fuel oil are not. A “gas-fired boiler” is defined as any boiler that burns gaseous fuels 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. [40 CFR §63.11237]

These dual-fired units have no applicable requirements under 40 CFR Part 63, Subpart JJJJJ if each is operated as a gas-fired boiler, in accordance with the definition in this Subpart. If it is not operated as a gas-fired boiler, MEARNG shall comply with the applicable requirements under Subpart JJJJJ, as outlined in the previous section of this license for oil-fired boilers.

Any boilers designed to burn fuels besides natural gas prior to June 4, 2010 will be considered an existing boiler under this rule. A boiler which currently fires natural gas, but converts back to firing another fuel (such distillate fuel) in the future, would become subject as an existing boiler at the time it is converted back to fuel oil.

3. BACT/BPT Findings

The BACT/BPT emission limits for Boilers **260-1**, **260-2**, **260-3**, and **260-4** were based on the following:

Distillate Fuel

PM, PM <sub>10</sub>	– 0.12 lb/MMBtu based on 06-096 CMR 103 for Boilers 260-2, 260-3, and 260-4 – 2 lb/1000 gal based on AP-42 Table 1.3-1 (5/10) for Boiler 260-1
SO <sub>2</sub>	– 0.5 lb/MMBtu based on firing ASTM D396 compliant distillate fuel (0.5% sulfur by weight)
NO <sub>x</sub>	– 20 lb/1000 gal based on AP-42, Table 1.3-1 (5/10)
CO	– 5 lb/1000 gal based on AP-42, Table 1.3-1 (5/10)
VOC	– 0.34 lb/1000 gal based on AP-42, Table 1.3-3 (5/10)
Visible Emissions	– 06-096 CMR 101 (2)(B)(1)(b)

Natural Gas

PM, PM <sub>10</sub>	–	0.05 lb/MMBtu based on 06-096 CMR 115, BPT
SO <sub>2</sub>	–	0.6 lb/MMscf based on AP-42, Table 1.4-2 (7/98)
NO <sub>x</sub>	–	100 lb/MMscf based on AP-42, Table 1.4-1 (7/98)
CO	–	84 lb/MMscf based on AP-42, Table 1.4-1 (7/98)
VOC	–	5.5 lb/MMscf based on AP-42, Table 1.4-2 (7/98)
Visible Emissions	–	06-096 CMR 101 (2)(B)(1)(c)

BPT emission limits for these boilers are the following:

<u>Unit</u>	<u>Fuel</u>	<u>PM (lb/hr)</u>	<u>PM<sub>10</sub> (lb/hr)</u>	<u>SO<sub>2</sub> (lb/hr)</u>	<u>NO<sub>x</sub> (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Boiler 260-1 (1.14 MMBtu/hr)	Distillate Fuel	0.02	0.02	0.57	0.16	0.04	0.003
	Natural Gas	0.06	0.06	negligible	0.11	0.09	0.006
Boiler 260-2 (4.40 MMBtu/hr)	Distillate Fuel	0.53	0.53	2.20	0.61	0.15	0.01
	Natural Gas	0.22	0.22	0.003	0.44	0.37	0.024
Boiler 260-3 (4.40 MMBtu/hr)	Distillate Fuel	0.53	0.53	2.20	0.61	0.15	0.01
	Natural Gas	0.22	0.22	0.003	0.44	0.37	0.024
Boiler 260-4 (4.40 MMBtu/hr)	Distillate Fuel	0.53	0.53	2.20	0.61	0.15	0.01
	Natural Gas	0.22	0.22	0.003	0.44	0.37	0.024

Visible emissions from any of these units firing distillate fuel shall not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a three-hour period.

Visible emissions from any of these units firing natural gas shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a three-hour period.

4. Periodic Monitoring

Periodic monitoring for the boiler shall include recordkeeping to document fuel use both on a monthly and 12-month rolling total basis. Documentation shall include the type of fuel used and sulfur content of the fuel.

D. Annual Boiler Fuel Limits [A-755-71-F-R (March 31, 2009)]

MEARNG has a licensed, facility-wide boiler heat input restriction of 35,000 MMBtu/year. This is the equivalent of 250,000 gallons/year of distillate fuel (including #2 fuel oil, diesel fuel oil, and kerosene) or 35 MMscf/year of natural gas. Because the facility operates some fuel oil-fired boilers and other natural gas-fired boilers, the facility shall continue to be subject to the 35,000 MMBtu/year restriction to allow the operational flexibility to utilize either fuel.

Compliance with the facility-wide boiler heat input restriction shall be

documented via fuel use records maintained on a 12-month rolling total basis. The fuel use records shall include the amount and type of each fuel fired monthly, certification of meeting the sulfur content restrictions and/or ASTM D396 criteria for #2 fuel oil, and calculations converting the fuel usage into MMBtu heat input on a monthly basis.

Heat input shall be calculated using the following formulas:

1. For distillate fuel use: Heat input = (distillate fuel usage (in gallons) x 140,000 Btu per gallon of distillate fuel)
2. For K1 Kerosene use: Heat input = (K1 Kerosene usage (in gallons) x 135,000 Btu per gallon of K1 Kerosene)
3. For natural gas fuel use: Heat input = (natural gas fuel usage (in standard cubic feet, scf) x 1020 Btu per scf of natural gas)

E. Distillate Fuel Specifications

Prior to July 1, 2016, or by the date otherwise stated in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired at the facility shall be ASTM D396 compliant distillate fuel (maximum sulfur content of 0.5% by weight). Per 38 MRSA §603-A(2)(A)(3), beginning July 1, 2016, or on the date specified in the statute, the distillate fuel fired at the facility shall have a maximum sulfur content of 0.005% by weight (50 ppm); and beginning January 1, 2018, or on the date specified in the statute, the distillate fuel fired at the facility shall have a maximum sulfur content of 0.0015% by weight (15 ppm). The specific dates contained in this paragraph reflect the current dates in the statute as of the effective date of this license; however, if the statute is revised, the facility shall comply with the revised dates upon promulgation of the statute revision.

F. Emergency Generators and Engines

MEARNG operates four emergency generators and five emergency fire pump engines, as follows:

<u>Emergency Generators</u>	<u>Emergency Fire Pump Engines</u>
Generator (FMS#3)	Fire Pump 254-1
Generator DG-260	Fire Pump 254-2
Generator (RTI)	Fire Pump 260-FP1
Generator (ARC)	Fire Pump 260-FP2
	Fire Pump 260-FP3

The generators and emergency fire pump engines are subject to different federal regulations, based on their rated input capacity and dates of manufacture, as specified in the following table.

Equipment	Max. Capacity (MMBtu/hour)	Fuel Type	Date of Manufacture	Applicable Requirements?	
				Fed	Why?
<b>Emergency Generators</b>					
Generator (FMS#3)	1.38	Distillate Fuel (0.0015% sulfur)	2009	III	Manuf. after 4/1/2006
Generator DG-260	4.50		2002	ZZZZ	Existing, constructed before 6/12/06
Generator (RTI)	7.89		2010	III	Manuf. after 4/1/2006
Emergency Generator (ARC)	2.72		2014	III	Manuf. after 4/1/2006
<b>Fire Pump Engines</b>					
Fire Pump 254-1	0.56	Distillate Fuel (0.0015% sulfur)	2011	III	Manuf. after 7/1/2006 (fire pump)
Fire Pump 254-2	0.56				
Fire Pump 260-FP1	1.40		2002	ZZZZ	Existing, constructed before 6/12/06
Fire Pump 260-FP2	1.40				
Fire Pump 260-FP3	1.40				

1. BACT/BPT Findings

Distillate Fuel-Fired Generators and Engines less than 431 kW (600 hp)

The BACT/BPT emission limits for the generators and engines with an output capacity less than 431 kW (600 hp) are based on the following:

**Generator (FMS#3)**

**Emergency Generator (ARC)**

**Fire Pump 254-1**

**Fire Pump 254-2**

**Fire Pump 260-FP1**

**Fire Pump 260-FP2**

**Fire Pump 260-FP3**

PM, PM <sub>10</sub>	- 0.80 g/kW-hr; Table 4 to 40 CFR Part 60, Subpart III, for <b>Fire Pump 254-1 and Fire Pump 254-2</b> ;
SO <sub>2</sub>	- 0.31 lb/MMBtu; AP-42 Table 3.3-1 (10/96) for the other units
NO <sub>x</sub>	- 0.0015 lb/MMBtu; combustion of distillate fuel with a max. sulfur content not to exceed 15 ppm (0.0015% sulfur)
CO	- 4.41 lb/MMBtu; AP-42 Table 3.3-1 (10/96)
VOC	- 5.0 g/kW-hr; Table 4 to 40 CFR Part 60, Subpart III, for <b>Fire Pump 254-1 and Fire Pump 254-2</b> ;
NMHC + NO <sub>x</sub>	- 0.95 lb/MMBtu; AP-42 Table 3.3-1 (10/96) for the other units
(NMHC = non-methane hydrocarbons)	- 0.36 lb/MMBtu; AP-42 Table 3.3-1 (10/96)
Visible Emissions	- 10.5 g/kW-hr; Table 4 to 40 CFR Part 60, Subpart III, for <b>Fire Pump 254-1 and Fire Pump 254-2</b>
	- 06-096 CMR 101 (2)(B)(1)(d)

Distillate Fuel-Fired Generators and Engines greater than 431 kW (600 hp)  
 The BACT/BPT emission limits for the generators and engines with an output capacity greater than 431 kW (600 hp) are based on the following:

**Generator DG-260**  
**Generator (RTI)**

PM, PM <sub>10</sub>	- 0.12 lb/MMBtu; 06-096 CMR 103
SO <sub>2</sub>	- 0.0015 lb/MMBtu; combustion of distillate fuel with a max. sulfur content not to exceed 15 ppm (0.0015% sulfur)
NO <sub>x</sub>	- 3.2 lb/MMBtu; AP-42 Table 3.4-1 (10/96)
CO	- 0.85 lb/MMBtu; AP-42 Table 3.4-1 (10/96)
VOC	- 0.09 lb/MMBtu; AP-42 Table 3.4-1 (10/96)
Visible Emissions	- 06-096 CMR 101 (2)(B)(1)(d)

The BACT/BPT emission limits for the generators and engines are the following:

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM<sub>10</sub> (lb/hr)</u>	<u>SO<sub>2</sub> (lb/hr)</u>	<u>NO<sub>x</sub> (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>	<u>NMHC + NO<sub>x</sub> (lb/hr)</u>
Generator (FMS#3) 1.38 MMBtu/hr, distillate fuel	0.43	0.43	0.002	6.09	1.31	0.50	--
Generator DG-260 4.50 MMBtu/hr, distillate fuel	0.57	0.57	0.01	14.40	3.83	0.41	--
Generator (RTI) 7.89 MMBtu/hr, distillate fuel	1.81	1.81	0.01	25.25	6.71	0.71	--
Emergency Generator (ARC) 2.72 MMBtu/hr, distillate fuel	0.84	0.84	0.004	12.00	1.77	0.98	--
Fire Pump 254-1 0.56 MMBtu/hr, distillate fuel	0.10	0.10	0.001	2.47	0.63	0.20	1.33
Fire Pump 254-2 0.56 MMBtu/hr, distillate fuel	0.10	0.10	0.001	2.47	0.63	0.20	1.33
Fire Pump 260-FP1 1.40 MMBtu/hr, distillate fuel	0.43	0.43	0.002	6.17	1.33	0.50	--
Fire Pump 260-FP2 1.40 MMBtu/hr, distillate fuel	0.43	0.43	0.002	6.17	1.33	0.50	--
Fire Pump 260-FP3 1.40 MMBtu/hr, distillate fuel	0.43	0.43	0.002	6.17	1.33	0.50	--

Visible emissions from each of the distillate fuel-fired emergency generators and engines shall not exceed 20% opacity on a six-minute block average, except for no more than two six-minute block averages in a three-hour period.

2. Definition: Emergency Stationary Reciprocating Internal Combustion Engine

Federal regulations which may be applicable to one or more of the above identified generators and engines are NSPS 40 CFR Part 60, Subpart IIII for compression ignition units, and NESHAP 40 CFR Part 63, Subpart ZZZZ.

The NSPS subpart provides a definition for Emergency stationary internal combustion engines (ICE), and the NESHAP subpart provides a definition for emergency stationary reciprocating internal combustion engines (RICE). With the exception of the acronyms ICE vs. RICE, the definitions are identical, as provided here. [40 CFR Part 60, Subpart III at 40 CFR §60.4211(f) and §60.4219; 40 CFR Part 63, Subpart ZZZZ]

#### Emergency Definition

*Emergency stationary ICE or emergency stationary RICE* is any stationary reciprocating internal combustion engine that meets all of the following criteria:

- a. The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. There is no time limit on the use of emergency stationary ICE in emergency situations.
- b. Paragraph (a) above notwithstanding, the emergency stationary ICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year:
  - (1) 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.
  - (2) Emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, *Capacity and Energy Emergencies*, or other authorized entity as determined by the Reliability Coordinator, has declared an "Energy Emergency Alert Level 2" as defined in the NERC Reliability Standard EOP-002-3.
  - (3) Periods where there is a deviation of voltage or frequency of 5% or greater below standard voltage or frequency.
- c. Paragraphs (a) and (b) above notwithstanding, emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency



situations. These 50 hours are counted as part of the 100 hours per calendar year as provided in paragraph (b) above.

The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving, non-emergency 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, except if the following conditions are met:

- (1) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
- (2) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
- (3) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission, or local standards or guidelines.
- (4) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (5) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission, or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

3. NSPS: 40 CFR Part 60, Subpart IIII

The federal regulation 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)*, is applicable to the emergency generators identified as **Generator (FMS#3)**, **Generator (RTI)**, and **Emergency Generator (ARC)** because the units were ordered after July 11, 2005, and manufactured after April 1, 2006; and the emergency fire pump engines identified as **Fire Pump 254-1** and **Fire Pump 254-2**, since the units were manufactured after July 1, 2006. By meeting the requirements of Subpart IIII, these units also meet the requirements found in 40 CFR Part 63, Subpart ZZZZ.

a. 40 CFR Part 60, Subpart IIII Requirements

(1) Manufacturer Certification Requirement

MEARNG's generators subject to this Subpart that are not fire pump engines shall be certified by the manufacturer as meeting the emission standards for new non-road compression ignition engines found in 40 CFR §60.4202. [40 CFR §60.4205(b)]

MEARNG's fire pump engines **Fire Pump 254-1** and **Fire Pump 254-2** must comply with the emission standards in Table 4 of Subpart III, for all pollutants. These emission standards have been incorporated in the table of emission limits in section II (F)(1) of these Findings. [40 CFR §60.4205(c)]

(2) Ultra-Low Sulfur Diesel Fuel Requirement

The distillate fuel fired in the generators and fire pump engines shall not exceed 15 ppm sulfur (0.0015% sulfur by weight), except that any existing distillate fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [40 CFR §60.4207(b)]

(3) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on each generator and engine. [40 CFR §60.4209(a)]

(4) Operation and Maintenance Requirements

The generators and engines shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by facility that are approved by the engine manufacturer. MEARNG may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

(5) Annual Time Limit for Maintenance and Testing

The generators and engines shall each be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency 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 unless the conditions in §60.4211(f)(3)(i) are met). [40 CFR §60.4211(f)]

(6) Initial Notification Requirement

No initial notification is required for emergency engines. [40 CFR §60.4214(b)]

(7) Recordkeeping

MEARNG shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the number of hours spent for emergency operation, including what classified the operation as emergency, and the number of hours spent for non-emergency purposes. If the generators are operated during a period of demand response or deviation from standard voltage or frequency or to supply power during a non-emergency situation as part

of a financial arrangement with another entity as specified in 40 CFR §60.4211(f)(3)(i), MEARNG shall keep records of the notification of the emergency situation, and the date, start time, and end time of each generator operation for these purposes. [40 CFR §60.4214(b)]

(8) Annual Reporting Requirements for Demand Response Availability Over 15 Hours Per Year (for **Generator (FMS#3)**, **Generator (RTI)**, and **Emergency Generator (ARC)**, each of which is greater than 100 brake hp)

If MEARNG operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in 40 CFR §60.4214(d)(1)(i) through (vii). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI), accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

[40 CFR §60.4214(d)]

4. NESHAP: 40 CFR Part 63, Subpart ZZZZ

The federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines*, is applicable to the emergency generator identified in the table above as **Generator DG-260** and the emergency fire pump engines identified as **Fire Pump 260-FP1**, **Fire Pump 260-FP2**, and **Fire Pump 260-FP2**. The units are considered existing, emergency stationary reciprocating internal combustion engines at an area HAP source and are not subject to New Source Performance Standards regulations. EPA's August 9, 2010 memo (*Guidance Regarding Definition of Residential, Commercial, and Institutional Emergency Stationary RICE in the*

*NESHAP for Stationary RICE*) specifically does not exempt these units from the federal requirements.

Generator DG-260 and the emergency fire pump engines Fire Pump 260-FP1, Fire Pump 260-FP2, and Fire Pump 260-FP2 shall be limited to the usage outlined in 40 CFR §63.6640(f) and therefore may be classified as existing emergency stationary RICE as defined in 40 CFR Part 63, Subpart ZZZZ. Failure to comply with all of the requirements listed in 40 CFR §63.6640(f) may cause any of these engines to not be considered an emergency engine and therefore subject to all the requirements for a non-emergency engine.

The following sections identify 40 CFR Part 63, Subpart ZZZZ requirements.

a. Operation and Maintenance Requirements

	<b>Operating Limitations (40 CFR §63.6603(a) and Table 2(d))</b>
Compression ignition (diesel, fuel oil) units: <b>Generator DG-260</b> <b>Fire Pump 260-FP1</b> <b>Fire Pump 260-FP2</b> <b>Fire Pump 260-FP2</b>	- Change oil and filter every 500 hours of operation or annually, whichever comes first; - Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary; and - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Each generator shall be operated and maintained according to the manufacturer's emission-related written instructions, or MEARNG shall develop a maintenance plan which provides to the extent practicable for the maintenance and operation of each engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

b. Optional Oil Analysis Program

MEARNG has the option of utilizing an oil analysis program which complies with the requirements of 40 CFR §63.6625(i) in order to extend the specified oil change requirement. If this option is used, MEARNG must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engines. [40 CFR §63.6625(i)]

c. Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on each generator and engine. [40 CFR §63.6625(f)]

d. Startup Idle and Startup Time Minimization Requirements

During periods of startup, the facility must minimize each engine's time spent at idle and minimize each engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR §63.6625(h) & 40 CFR Part 63, Subpart ZZZZ Table 2d]

e. Annual Time Limit for Maintenance and Testing

Each generator and engine shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations. (This does not include peak shaving, non-emergency 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 unless the conditions in 40 CFR §63.6640(f)(4)(ii) are met.) [40 CFR §63.6640(f)]

f. Recordkeeping Requirements

MEARNG shall keep records that include maintenance conducted on each generator and engine and the hours of operation of each unit recorded through its non-resettable hour meter. Documentation for each unit shall include the number of hours spent for emergency operation, including what classified the operation as emergency, and the number of hours spent for non-emergency. If a generator is operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §63.6640(f)(4)(ii), MEARNG shall keep records of the notification of the emergency situation, and the date, start time, and end time of operation for these purposes. [40 CFR §63.6655(e) and (f)]

g. Requirements for Demand Response Availability Over 15 Hours Per Year (and greater than 100 brake hp)

If MEARNG operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or for supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §63.6640(f)(4)(ii), beginning January 1, 2015, the distillate fuel fired in the generator shall not exceed 15 ppm sulfur (0.0015%). Any existing distillate fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. [40 CFR §63.6604(b)]

If MEARNG operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in 40 CFR §63.6650(h)(1)(i) through (ix). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI), accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection  
 U.S. Environmental Protection Agency  
 5 Post Office Square, Suite 100  
 Boston, MA 02109-3912

[40 CFR §63.6650(h)]

G. Parts Washers

MEARNG makes use of two 34-gallon capacity parts washer units, designated Sink #1 (located in building FMS#3) and Sink #2 (located in building AASF). The parts washers use Safety Kleen MIL-PRF-680 (Naptha) as the solvent. The parts washers at the MEARNG facility are subject to *Solvent Cleaners*, 06-096 CMR 130 (as amended), and records shall be kept documenting compliance.

H. Fuel Storage Tanks

The fuel storage tanks identified in the following table have capacities greater than the licensing threshold level of 10,000 gallons. Both of these are above-ground tanks and are equipped with tank overfill and leak detection sensors and alarms.

<u>Tank</u>	<u>Capacity (gallons)</u>	<u>Material Stored</u>	<u>Tank Type</u>	<u>Tank Size</u>	<u>Installation Year</u>
9 (Bldg. 260)	25,000 (94.64 m <sup>3</sup> )	Distillate Fuel	Single-wall steel with secondary containment	38.75ft (length) x 10.5 ft (diameter)	2005
13 (AFRC)	12,000 (45.42 m <sup>3</sup> )			32 ft (length) x 8 ft (diameter)	1990

1. NSPS: 40 CFR Part 60, Subpart Kb

Federal regulation NSPS 40 CFR Part 60, Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984*, applies to such storage vessels with a capacity greater than or equal to 75 cubic meters; thus, MEARNG's Tank 9 (Bldg. 260) is subject to this Subpart. [40 CFR Part 60, Subpart Kb, §60.110b(a)]

Because the fuels stored in this tank has a true vapor pressure less than values identified in this Subpart requiring monitoring or controls, applicable requirements from Subpart Kb are the following:

- a. MEARNG shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel for the life of the vessel. [40 CFR §60.116b (a) and (b)]
- b. MEARNG's Tank 9 (Bldg. 260) has a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa\*. In accordance with Subpart Kb §60.116b (d), MEARNG shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds 27.6 kPa, possibly triggering applicability of additional requirements under this Subpart. [40 CFR §60.116b (d)]

\* According to EPA's AP-42, Table 7.1-2 (11/06), distillate fuel oil has a maximum true vapor pressure ranging from 0.022 kPa @ 40 °F to 0.1517 kPa @ 100 °F, well below the threshold values of this Subpart.

For crude oil or refined petroleum products, MEARNG may determine the vapor pressure using available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product, using the maximum local monthly average ambient temperature as reported by the National Weather Service, to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference in 40 CFR §60.116b (e)(2) – see 40 CFR §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

For types of crude oil or petroleum product with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method above, the vapor pressure is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

[40 CFR §60.116b (e)(2)]

2. Maine Rule 06-096 CMR 111, *Petroleum Liquid Storage Vapor Control*

There are no petroleum liquid storage tanks at MEARNG's Bangor facility subject to this rule, since the minimum tank size threshold for applicability is 39,000 gallons. [06-096 CMR 111 (1)(B) and (C)]

I. Annual Emissions

1. Total Annual Emissions

MEARNG shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on the following:

- Maximum emissions for the boilers with an annual heat input restriction of 35,000 MMBtu/year using the worst case scenario for each pollutant from the firing of distillate fuel oil or natural gas
- 100 hours/year of operating time for each of the generators and engines

**Total Licensed Annual Emissions for the Facility**  
**Tons/year**

(used to calculate the annual license fee)

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Boilers	2.1	2.1	8.8	2.5	1.5	0.1
Generators	0.2	0.2	0.001	2.9	0.7	0.1
Fire Pump Engines	0.1	0.1	0.001	1.2	0.3	0.1
<b>Total TPY</b>	<b>2.4</b>	<b>2.4</b>	<b>8.8</b>	<b>6.6</b>	<b>2.5</b>	<b>0.3</b>

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21 *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO<sub>2</sub>e).

Based on the facility's fuel use limit(s); the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98; and the global warming potentials contained in 40 CFR Part 98; MEARNG is below the major source threshold of 100,000 tons of CO<sub>2</sub>e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.



### III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with 06-096 CMR 115, an ambient air quality impact analysis is not required for a minor source if the total emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

<u>Pollutant</u>	<u>Tons/Year</u>
PM <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	50
CO	250

The total facility licensed emissions are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this 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, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-755-71-I-R/A, subject to the following conditions.

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.

### STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).

- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353-A. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]

- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- A. Perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
    - 1. Within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring, or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
    - 2. Pursuant to any other requirement of this license to perform stack testing.
  - B. Install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
  - C. Submit a written report to the Department within thirty (30) days from date of test completion.  
[06-096 CMR 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. Within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
  - B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
  - C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.  
[06-096 CMR 115]

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records; make such reports; install, use, and maintain such monitoring equipment; sample such emissions in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe; and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

#### **SPECIFIC CONDITIONS**

(16) **Fuel Specifications**

- A. Prior to January 1, 2016 or the date specified in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired at the facility shall be ASTM D396 compliant (max. sulfur content of 0.5% by weight). [06-096 CMR 115, BPT]
- B. Beginning July 1, 2016, or on the date specified in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired at the facility shall have a maximum sulfur content of 0.005% by weight (50 ppm). [38 MRSA §603-A(2)(A)(3)]
- C. Beginning July 1, 2018 or on the date specified in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired at the facility shall have a maximum sulfur content of 0.0015% by weight (15 ppm). [38 MRSA §603-A(2)(A)(3)]
- D. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel oil delivered. Records of annual fuel use shall be kept on both a monthly and a 12-month rolling total basis. [06-096 CMR 115, BPT]

(17) **Distillate Fuel-Fired Boilers: Boilers AFRC-1, AFRC-2, 255-1, and 345-1**

A. Emissions shall not exceed the following:

<u>Emission Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Origin and Authority</u>
Boilers AFRC-1 and AFRC-2	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

B. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM<sub>10</sub> (lb/hr)</u>	<u>SO<sub>2</sub> (lb/hr)</u>	<u>NO<sub>x</sub> (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Boiler AFRC-1 (4.55 MMBtu/hr) distillate fuel	0.55	0.55	2.28	0.65	0.16	0.01
Boiler AFRC-2 (4.55 MMBtu/hr) distillate fuel	0.55	0.55	2.28	0.65	0.16	0.01
Boiler 255-1 (1.30 MMBtu/hr) distillate fuel	0.03	0.03	0.65	0.26	0.07	0.004
Boiler 345-1 (1.50 MMBtu/hr) distillate fuel	0.03	0.03	0.75	0.26	0.07	0.004

C. Visible emissions from each boiler shall not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a three-hour period. [06-096 CMR 101]

D. MEARNG shall comply with the following requirements for Boilers AFRC-1, AFRC-2, 255-1, and 345-1. [40 CFR Part 63, Subpart JJJJJ and 06-096 CMR 115, BPT]

1. Boiler Tune-Up Program

- a. A boiler tune-up program was due to be implemented to include the initial tune-up of applicable boilers no later than March 21, 2014. [40 CFR §63.11196(a)(1)]
- b. The boiler tune-up program is required to demonstrate continuous compliance in accordance with the following for each boiler subject to this Subpart:
  - (i) As applicable, inspect each burner and clean or replace any component of each burner as necessary. Delay of burner inspection until the next scheduled shutdown is permitted, not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hour or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hour, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR §63.11223(b)(1)]

- (ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR §63.11223(b)(2)]
- (iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted, not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hour or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hour, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR §63.11223(b)(3)]
- (iv) Optimize total emissions of CO, consistent with the manufacturer's specifications. [40 CFR §63.11223(b)(4)]
- (v) Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after 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). Measurements may be taken using a portable CO analyzer. [40 CFR §63.11223(b)(5)]
- (vi) If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up of the unit. [40 CFR §63.11223(b)(7)]
- c. After conducting the initial boiler tune-up, an initial compliance report – called a Notification of Compliance Status – shall be submitted to EPA no later than July 19, 2014. [40 CFR §63.11225(a)(4) and 40 CFR §63.11214(b)]
- d. The facility shall implement a boiler tune-up program after the initial tune-up has been completed and the Notification of Compliance Status has been submitted.
  - (i) Each subsequent tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of each boiler. Because each of these boilers have a heat input capacity of less than 5 MMBtu/hour, they are considered “existing oil fired boilers with less frequent tune-up requirements,” in accordance with 40 CFR §63.11223(a) and Table 2 of 40 CFR Part 63, Subpart JJJJJ. As such, a subsequent tune-up for each of these boilers is required every five years.
  - (ii) After each tune-up, a tune-up compliance report shall be written and maintained on-site in accordance with the recordkeeping

requirements specified below. This tune-up compliance report is to be submitted to EPA only upon EPA's request.

The report shall specify the concentration of CO (ppmv) and oxygen (volume %) in the effluent stream, measured at high fire or typical operating load both before and after the boiler tune-up; a description of any corrective actions taken as part of the tune-up of the boiler; and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR §63.11223(b)(6)]

The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR §63.11225(b)]

## 2. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63, Subpart JJJJJ, including the following [40 CFR §63.11225(c)]: copies of notifications and reports with supporting compliance documentation; identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) and quantities used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; actions taken during periods of malfunction to minimize emissions; and actions taken to restore the malfunctioning boiler to its usual manner of operation.

Records shall be in a form suitable and readily available for expeditious review. Each record shall be kept for five years following the date of each recorded action. Each record shall be maintained on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least two years after the date of each recorded action. The records may be kept off-site for the remaining three years. [40 CFR §63.11225(d)]

### (18) Dual Fuel-Fired Boilers: Boilers 260-1, 260-2, 260-3, and 260-4

A. Emissions from Boilers 260-2, 260-3, and 260-4 shall not exceed the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Origin and Authority</u>
Boiler 260-2	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Boiler 260-3			
Boiler 260-4			

B. Emissions from the boilers shall not exceed the following [06-096 CMR 115, BPT]:

Unit	Fuel	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler 260-1 (1.14 MMBtu/hr)	Distillate Fuel	0.02	0.02	0.57	0.16	0.04	0.003
	Natural Gas	0.06	0.06	negligible	0.11	0.09	0.006
Boiler 260-2 (4.40 MMBtu/hr)	Distillate Fuel	0.53	0.53	2.20	0.61	0.15	0.01
	Natural Gas	0.22	0.22	0.003	0.44	0.37	0.024
Boiler 260-3 (4.40 MMBtu/hr)	Distillate Fuel	0.53	0.53	2.20	0.61	0.15	0.01
	Natural Gas	0.22	0.22	0.003	0.44	0.37	0.024
Boiler 260-4 (4.40 MMBtu/hr)	Distillate Fuel	0.53	0.53	2.20	0.61	0.15	0.01
	Natural Gas	0.22	0.22	0.003	0.44	0.37	0.024

C. Visible Emissions

1. Visible emissions from any of these units firing distillate fuel oil shall not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a three hour period. [06-096 CMR 101 (2)(B)(1)(b)]
2. Visible emissions from any of these units firing natural gas shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a three hour period. [06-096 CMR 101 (2)(B)(1)(c)]

D. Periodic monitoring for the boiler shall include recordkeeping to document fuel use both on a monthly and 12-month rolling total basis. Documentation shall include the type of fuel used and sulfur content of the fuel.

E. At such time as any of these boilers is not operated as a gas-fired boiler, MEARNG shall comply with the applicable requirements under Subpart JJJJJ, as outlined in Specific Condition (17) D of this license for oil-fired boilers, as applicable.

(19) **Annual Boiler Fuel Limits**

- A. MEARNG shall be restricted to a facility-wide boiler heat input restriction of 35,000 MMBtu/year based on a twelve-month rolling total basis, firing either distillate fuel, natural gas, or a combination of the two fuels.
- B. Compliance with the facility-wide boiler heat input restriction shall be documented via fuel use records maintained on a 12-month rolling total basis. The fuel use record shall include the amount and type of each fuel fired monthly, certification of meeting the sulfur content restrictions and/or



ASTM D396 criteria for #2 fuel oil, and calculations converting the fuel usage into MMBtu heat input on a monthly basis.

Heat input for the boilers shall be calculated based on the quantity of fuel combusted, using the following formulas:

1. For distillate fuel use: Heat input = (distillate fuel usage (in gallons) x 140,000 Btu per gallon of distillate fuel)
2. For K1 Kerosene use: Heat input = (K1 Kerosene usage (in gallons) x 135,000 Btu per gallon of K1 Kerosene)
3. For natural gas fuel use: Heat input = (natural gas fuel usage (in scf) x 1020 Btu per scf of natural gas)

[A-755-71-F-R (March 31, 2009)]

(20) **Generators and Engines**

- A. Each of the emergency generators and engines shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115]
- B. The fuel sulfur content for generators and fire pump engines firing distillate fuel shall be limited to 0.0015% sulfur by weight. Compliance shall be demonstrated by fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 CMR 115, BPT]
- C. Emissions shall not exceed the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Origin and Authority</u>
Generator DG-260 and Generator (RTI)	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

- D. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM<sub>10</sub> (lb/hr)</u>	<u>SO<sub>2</sub> (lb/hr)</u>	<u>NO<sub>x</sub> (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>	<u>NMHC + NO<sub>x</sub> (lb/hr)</u>
Generator (FMS#3) 1.38 MMBtu/hr, distillate fuel	0.43	0.43	0.002	6.09	1.31	0.50	--
Generator DG-260 4.50 MMBtu/hr, distillate fuel	0.57	0.57	0.01	14.40	3.83	0.41	--
Generator (RTI) 7.89 MMBtu/hr, distillate fuel	1.81	1.81	0.01	25.25	6.71	0.71	--
Emergency Generator (ARC) 2.72 MMBtu/hr, distillate fuel	0.84	0.84	0.004	12.00	1.77	0.98	--
Fire Pump 254-1 0.56 MMBtu/hr, distillate fuel	0.10	0.10	0.001	2.47	0.63	0.20	1.33

<b>Unit</b>	<b>PM (lb/hr)</b>	<b>PM<sub>10</sub> (lb/hr)</b>	<b>SO<sub>2</sub> (lb/hr)</b>	<b>NO<sub>x</sub> (lb/hr)</b>	<b>CO (lb/hr)</b>	<b>VOC (lb/hr)</b>	<b>NMHC + NO<sub>x</sub> (lb/hr)</b>
Fire Pump 254-2 0.56 MMBtu/hr, distillate fuel	0.10	0.10	0.001	2.47	0.63	0.20	1.33
Fire Pump 260-FP1 1.40 MMBtu/hr, distillate fuel	0.43	0.43	0.002	6.17	1.33	0.50	--
Fire Pump 260-FP2 1.40 MMBtu/hr, distillate fuel	0.43	0.43	0.002	6.17	1.33	0.50	--
Fire Pump 260-FP3 1.40 MMBtu/hr, distillate fuel	0.43	0.43	0.002	6.17	1.33	0.50	--

E. Visible Emissions

Visible emissions from each of the distillate fuel-fired emergency generators and engines shall not exceed 20% opacity on a six-minute block average, except for no more than two six-minute block averages in a three-hour period. [06-096 CMR 101 (2)(B)(1)(d)]

F. Subpart III Requirements

The emergency generators **Generator (FMS#3)**, **Generator (RTI)**, and **Emergency Generator (ARC)** and the emergency fire pump engines **Fire Pump 254-1** and **Fire Pump 254-2** shall meet the applicable requirements of 40 CFR Part 60, Subpart III, including the following:

1. Manufacturer Certification Requirement

MEARNG's generators subject to this Subpart that are not fire pump engines shall be certified by the manufacturer as meeting the emission standards for new non-road compression ignition engines found in 40 CFR §60.4202. [40 CFR §60.4205(b)]

MEARNG's fire pump engines **Fire Pump 254-1** and **Fire Pump 254-2** shall comply with the applicable emission standards in Table 4 of 40 CFR Part 60, Subpart III. [40 CFR §60.4205(c)]

2. Ultra-Low Sulfur Diesel Fuel Requirement

The distillate fuel fired in the generators and fire pump engines shall not exceed 15 ppm sulfur (0.0015% sulfur by weight), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [40 CFR §60.4207(b) and 06-096 CMR 115, BPT]

3. Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on each generator and engine. [40 CFR §60.4209(a)]

4. Operation and Maintenance Requirements

The generators and engines shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures

developed by facility that are approved by the engine manufacturer. MEARNG may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

5. Annual Time Limit for Maintenance and Testing

The generators and engines shall each be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations. This does not include peak shaving, non-emergency 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 unless the conditions in §60.4211(f)(3)(i) are met. [40 CFR §60.4211(f) and 06-096 CMR 115, BPT]

6. Recordkeeping

MEARNG shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the number of hours spent for emergency operation, including what classified the operation as emergency, and the number of hours spent for non-emergency purposes. If the generators are operated during a period of demand response or deviation from standard voltage or frequency or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §60.4211(f)(3)(i), MEARNG shall keep records of the notification of the emergency situation, and the date, start time, and end time of each generator operation for these purposes. [40 CFR §60.4214(b)]

7. Annual Reporting Requirements for Demand Response Availability Over 15 Hours Per Year (for **Generator (FMS#3)**, **Generator (RTI)**, and **Emergency Generator (ARC)**, which are generators greater than 100 brake hp)

If MEARNG operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in 40 CFR §60.4214(d)(1)(i) through (vii). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI), accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form is

not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

[40 CFR §60.4214(d)]

H. NESHAP 40 CFR Part 63, Subpart ZZZZ Requirements

The emergency **Generator DG-260** and the emergency fire pump engines **Fire Pump 260-FP1**, **Fire Pump 260-FP2**, and **Fire Pump 260-FP2** shall meet the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, including the following:

1. Operation and Maintenance Requirements

MEARNG shall meet the following operational limitations for each of the emergency generators and fire pump engines subject to this subpart:

- a. Change the oil and filter annually,
- b. Inspect the air cleaner annually and replace as necessary, and
- c. Inspect the hoses and belts annually and replace as necessary.

A log shall be maintained documenting compliance with these requirements.

[40 CFR §63.6603(a) and Table 2(d); and 06-096 CMR 115]

Each generator and fire pump engine shall be operated and maintained according to the manufacturer's emission-related written instructions, or MEARNG shall develop a maintenance plan which provides to the extent practicable for the maintenance and operation of each engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

2. Optional Oil Analysis Program

MEARNG has the option of utilizing an oil analysis program which complies with the requirements of 40 CFR §63.6625(i) in order to extend the specified oil change requirement. If this option is used, MEARNG must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engines. [40 CFR §63.6625(i)]

3. Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on each generator and engine. [40 CFR §63.6625(f)]

4. Startup Idle and Startup Time Minimization Requirements  
During periods of startup, the facility must minimize each engine's time spent at idle and minimize each engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR §63.6625(h) & 40 CFR Part 63, Subpart ZZZZ Table 2d]
5. Annual Maintenance and Testing Time Limits  
Each generator and engine shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations. This does not include peak shaving, non-emergency 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 unless the conditions in 40 CFR §63.6640(f)(4)(ii) are met. [40 CFR §63.6640(f) and 06-096 CMR 115]
6. Recordkeeping Requirements  
MEARNG shall keep records that include maintenance conducted on each generator and engine and the hours of operation of each unit recorded through its non-resettable hour meter. Documentation for each unit shall include the number of hours spent for emergency operation, including what classified the operation as emergency, and the number of hours spent for non-emergency. If a generator is operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §63.6640(f)(4)(ii), MEARNG shall keep records of the notification of the emergency situation, and the date, start time, and end time of operation for these purposes. [40 CFR §63.6655(e) and (f)]
7. Requirements for Demand Response Availability Over 15 Hours Per Year (and greater than 100 brake hp)

If MEARNG operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or for supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §63.6640(f)(4)(ii), beginning January 1, 2015, the distillate fuel fired in the generator shall not exceed 15 ppm sulfur (0.0015%). Any fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. [40 CFR §63.6604(b)]

If MEARNG operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program,

during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in 40 CFR §63.6650(h)(1)(i) through (ix). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI), accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

[40 CFR §63.6650(h)]

(21) **Parts Washers**

Parts washers at MEARNG are subject to *Solvent Cleaners*, 06-096 CMR 130 (as amended).

- A. MEARNG shall keep records of the amount of solvent added to each parts washer. [06-096 CMR 115, BPT]
- B. The following are exempt from the requirements of 06-096 CMR 130 [06-096 CMR 130]:
  1. Solvent cleaners using less than two liters (68 oz.) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
  2. Wipe cleaning; and,
  3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.
- C. The following standards apply to cold cleaning machines that are applicable sources under Chapter 130.
  1. MEARNG shall attach a permanent conspicuous label to each unit summarizing the following operational standards [06-096 CMR 130]:
    - a. Waste solvent shall be collected and stored in closed containers.
    - b. Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.
    - c. Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized, or shower type spray) at a

- pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.
- d. The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
  - e. Sponges, fabric, wood, leather, paper products, and other absorbent materials shall not be cleaned in a parts washer.
  - f. When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.
  - g. Spills during solvent transfer shall be cleaned immediately. Sorbent material used to clean spills shall then be immediately stored in covered containers.
  - h. Work area fans shall not blow across the opening of the parts washer unit.
  - i. The solvent level shall not exceed the fill line.
2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches. [06-096 CMR 130]

**(22) Fuel Storage Tanks**

- A. MEARNG shall keep readily accessible records showing the dimension of Tank 9 (Bldg. 260) and an analysis showing the capacity of Tank 9 (Bldg. 260) for the life of the vessel. [40 CFR §60.116b (a) and (b)]
- B. MEARNG shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid stored in Tank 9 (Bldg. 260) exceeds 27.6 kPa. [40 CFR §60.116b (d)]
- C. For crude oil or refined petroleum products, MEARNG may determine the vapor pressure using available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product, using the maximum local monthly average ambient temperature as reported by the National Weather Service, to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference in 40 CFR §60.116b (e)(2) – see 40 CFR §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

For types of crude oil or petroleum product with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method above, the vapor pressure is to be determined from

Maine Army National Guard  
Penobscot County  
Bangor, Maine  
A-755-71-I-R/A (SM)

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available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

[40 CFR §60.116b (e)(2)]

- (23) MEARNG shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 18 DAY OF July, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

**The term of this license shall be ten (10) years from the signature date above.**

[Note: If a renewal application, determined as complete by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 MRSA §10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: January 26, 2012 and February 4, 2014

Date of application acceptance: February 23, 2012 and February 4, 2014

Date filed with the Board of Environmental Protection:

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

