



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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**The University of Maine System
Cumberland County
Gorham, Maine
A-462-71-Q-R (SM)**

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

FINDINGS OF FACT

After review of the air emissions license renewal application, 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 (Department) finds the following facts:

I. REGISTRATION

A. Introduction

The University of Maine System includes the University of Southern Maine, Gorham Campus (USM-Gorham). USM-Gorham has applied to renew their Air Emission License permitting the operation of emission sources associated with their educational campus facility.

The equipment addressed in this license is located at 37 College Avenue in Gorham, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers (Continued on next page)

<u>Equipment</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Max. Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>	<u>Stack #</u>
Boiler #5	3.75	26.8 gal/hr	Distillate, 0.5% S	2006	8
		3,676 scf/hr	Natural Gas		
Boiler #6	3.75	26.8 gal/hr	Distillate, 0.5% S	2006	8
		3,676 scf/hr	Natural Gas		
Boiler #7	3.12	22.0 gal/hr	Distillate, 0.5% S	2006	8
		3,059 scf/hr	Natural Gas		
Boiler #8	21	150 gal/hr	Distillate, 0.5% S	2013	10
		21,000 scf/hr	Natural Gas		

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Boilers (Continued)

<u>Equipment</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Max. Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>	<u>Stack #</u>
Boiler #9	21	150 gal/hr	Distillate, 0.5% S	2013	11
		21,000 scf/hr	Natural Gas		
Boiler #10	6.3	45 gal/hr	Distillate, 0.5% S	2013	12
		6,300 scf/hr	Natural Gas		
Boiler #11	1.6	1,633 scf/hr	Natural Gas	2013	13

Generators

<u>Equipment</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Max. Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>	<u>Stack #</u>
Generator #1	0.78	5.7gal/hr	Distillate, 0.0015% S	1999	5
Generator #2	1.6	11.7 gal/hr	Distillate, 0.0015% S	1999	6
Generator #3	0.62	608 scf/hr	Natural Gas	2003	7
Generator #4	0.55	535 scf/hr	Natural Gas	2006	9
Generator #5	1.4	1,463 scf/hr	Natural Gas	2013	14
Generator #6	0.8	756 scf/hr	Natural Gas	2014	15

C. Application Classification

The application for USM-Gorham does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of currently licensed emission units only 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 annual fuel limit on the boilers and the operating hours restriction on the emergency generators, the facility is licensed below the major source thresholds for both criteria pollutants and hazardous air pollutants (HAP) and is therefore considered a synthetic minor and an area source of HAP.

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.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;

- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boilers #5 - #11

USM-Gorham has in operation seven (7) boilers, designated Boilers #5 - #11, that are operated for facility steam and heat needs. Boilers #5 - #11 are rated at 3.75 MMBtu/hr, 3.75 MMBtu/hr, 3.12 MMBtu/hr, 21 MMBtu/hr, 21 MMBtu/hr, 6.3 MMBtu/hr, and 1.6 MMBtu/hr, respectively. Boilers #5 - #10 are dual fired units with natural gas fired as the primary fuel and distillate fuel fired as backup. Boiler #11 only fires natural gas. Boilers #5, #6, and #7 were installed in 2006 and exhaust through a combined stack, designated Stack #8. Boilers #8, #9, #10, and #11 were installed in 2013 and each exhausts through its own stack, Stacks #10, #11, #12, and #13, respectively.

Due to the size and year of manufacture, Boilers #8 and #9 are 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/hr manufactured after June 9, 1989. USM-Gorham submitted the fuel supplier certification for the initial performance test and notification of the date of construction and actual start-up of Boilers #8 and #9, including the design heat input capacity of the boilers and the type of fuels being combusted, in December of 2014 to EPA and the Department. USM-Gorham shall continue to comply with all requirements of 40 CFR Part 60, Subpart Dc applicable to Boilers #8 and 9 including, but not limited to, recording and maintaining records of the amounts of each fuel combusted during each calendar month with fuel certifications and submitting to EPA and the Department semi-annual reports including include the calendar dates covered in the reporting period and records of fuel supplier certifications. [40 CFR §60.48c(g)] Boilers #5, #6, #7, #10, and #11 are each rated less than 10 MMBtu/hr and are therefore exempt from the regulation.

1. BPT Findings

The BPT emission limits for the boilers were based on the following:

Distillate Fuel [Applicable to Boilers #5 - #10]

- | | | |
|---------------------|---|--|
| PM/PM ₁₀ | - | 0.08 lb/MMBtu based on 06-096 CMR 115, BPT |
| SO ₂ | - | Based on firing ASTM D396 compliant #2 fuel oil (0.5% sulfur by weight) |
| NO _x | - | 20 lb/1000 gal from AP-42, Table 1.3-1, dated 5/10 |
| CO | - | 5 lb/1000 gal from AP-42, Table 1.3-1, dated 5/10 |
| VOC | - | 0.34 lb/1000 gal from AP-42, Table 1.3-3, dated 5/10 for Boilers #5, #6, #7, and #10 |
| | - | 0.2 lb/1000 gal from AP-42, Table 1.3-3, dated 5/10 for Boilers #8 and #9 |
| Opacity | - | 06-096 CMR 101 |

Natural Gas [Applicable to Boilers #5 - #11]

- PM/PM₁₀ – 0.05 lb/MMBtu based on 06-096 CMR 115, BPT
- SO₂ – 0.6 lb/MMscf from AP-42, Table 1.4-2, dated 7/98
- NO_x – 100 lb/MMscf from AP-42, Table 1.4-1, dated 7/98
- CO – 84 lb/MMscf from AP-42, Table 1.4-1, dated 7/98
- VOC – 5.5 lb/MMscf from AP-42, Table 1.4-2, dated 7/98
- Opacity – 06-096 CMR 101

The BPT emission limits for the boilers are the following:

Units	Pollutant	Distillate Fuel lb/MMBtu	Natural Gas lb/MMBtu
Boiler #5	PM	0.08	0.05
Boiler #6	PM	0.08	0.05
Boiler #7	PM	0.08	0.05
Boiler #8	PM	0.08	0.05
Boiler #9	PM	0.08	0.05
Boiler #10	PM	0.08	0.05

Units	Fuel Type	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #5	Distillate Fuel	0.30	0.30	1.89	0.54	0.13	0.01
	Natural Gas	0.19	0.19	0.01	0.37	0.31	0.02
Boiler #6	Distillate Fuel	0.30	0.30	1.89	0.54	0.13	0.01
	Natural Gas	0.19	0.19	0.01	0.37	0.31	0.02
Boiler #7	Distillate Fuel	0.25	0.25	1.57	0.45	0.11	0.01
	Natural Gas	0.16	0.16	0.01	0.31	0.26	0.02
Boiler #8	Distillate Fuel	1.68	1.68	10.58	3.00	0.75	0.03
	Natural Gas	1.05	1.05	0.01	2.10	1.76	0.12
Boiler #9	Distillate Fuel	1.68	1.68	10.58	3.00	0.75	0.03
	Natural Gas	1.05	1.05	0.01	2.10	1.76	0.12
Boiler #10	Distillate Fuel	0.50	0.50	3.17	0.90	0.23	0.02
	Natural Gas	0.32	0.32	0.01	0.63	0.53	0.03
Boiler #11	Natural Gas	0.08	0.08	0.01	0.16	0.14	0.01

a. Visible Emissions:

Visible emissions from each boiler¹ shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period.

Notes: ¹ Boilers #5, #6, and #7 exhaust to a combined stack (Stack #8), which is subject to the visible emission limit above.

b. Annual Limits:

- (i) Boilers #5, #6, and #7 shall be limited to a combined 65,000 gallons/year of distillate fuel and 9,000,000 scf/year of natural gas based on a calendar year.
- (ii) Boilers #8, #9, and #10 shall be limited to a combined 600,000 gallons/year of distillate fuel and 92,000,000 scf/year of natural gas based on a calendar year.

c. Distillate Fuel [Boilers #5 - #10]:

Prior to July 1, 2016, or by the date otherwise stated in 38 MRS §603-A(2)(A)(3), the distillate fuel fired at the facility in Boilers #5-#10 shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight). Per 38 MRS §603-A(2)(A)(3), beginning July 1, 2016, or on the date specified in the statute, the facility shall fire distillate fuel with a maximum sulfur content limit of 0.005% by weight (50 ppm), and beginning January 1, 2018, or on the date specified in the statute, the facility shall fire distillate fuel with a maximum sulfur content limit 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.

2. Periodic Monitoring

Periodic monitoring for the boilers shall include recordkeeping to document fuel use both on a monthly and calendar year basis. Documentation shall include the quantity and type of fuel used and sulfur content of the fuel, if applicable. Separate documentation shall be kept for Boilers #5, #6, and #7, Boilers #8, #9, and #10, and Boiler #11 so as maintain records that show the facility does not exceed the annual fuel limits for each set.

3. 40 CFR Part 63 Subpart JJJJJ

Boilers #5 - #10 are subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ). Boilers #5 - #7 are considered existing oil boilers and Boilers #8 - #10 are considered new oil boilers.

Since Boilers #5 - #10 each have the capability to fire both natural gas and distillate fuel, a boiler may be exempt depending on how it is operated and the fuel it fires. 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 Part 63.11237]

Boiler #11 fires only natural gas and is therefore exempt from the federal regulation. Operation of Boilers #5 - #10 such that they do not fit the definition of a "gas-fired boiler" given above would cause the respective boiler(s) to be subject to 40 CFR Part 63, Subpart JJJJJ.

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

A summary of the currently applicable federal 40 CFR Part 63 Subpart JJJJJ requirements 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 USM-Gorham 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/boilerpvg.html>.

a. Compliance Dates, Notifications, and Work Practice Requirements

i. Initial Notification of Compliance

An Initial Notification submittal to EPA was due no later than January 20, 2014 for Boilers #5 - #7. An Initial Notification of Boilers #8 - #10 was due within 120 days after the boilers became subject to the standard. [40 CFR Part 63.11225(a)(2)]

ii. Boiler Tune-Up Program

(a) A boiler tune-up program should have been implemented to include the initial tune-up of Boilers #5 - #7 no later than March 21, 2014. [40 CFR Part 63.11223]

Boilers #8 - #10, which are considered new sources, were not required to complete an initial performance tune-up. [40 CFR Part 63.11210(f)]

1. Each subsequent tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

Boiler Category	Tune-Up Frequency
New or Existing Oil, Biomass and Coal fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below	Every 2 years
<i>New and Existing Oil, Biomass, and Coal fired Boilers with less frequent tune up requirements</i>	
Seasonal (see definition §63.11237)	Every 5 years
Limited use (see definition §63.11237)	Every 5 years
With a heat input capacity of <5MMBtu/hr	Every 5 years
Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up	Every 5 years

[40 CFR Part 63.11223(a) and Table 2]

2. The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, 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 Part 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 Part 63.11225(b)]
- (b) The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
1. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 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 Part 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/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(3)]
4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 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 Part 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. [40 CFR Part 63.11223(b)(7)]
- (c) After conducting the initial boiler tune-up for Boilers #5 - #7, a Notification of Compliance Status should have been submitted to EPA no later than July 19, 2014. The EPA required submission of the Notification of Compliance Status reports for tune-ups through their electronic reporting system. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]

Per EPA, new boilers (Boilers #8 - #10) that only have the requirement to conduct regular tune-ups (not including an initial boiler tune-up) do not need to submit a Notification of Compliance Status.

iii. Boilers #8 and #9

- (a) Boilers #8 and #9 shall minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. [40 CFR Part 63, Subpart JJJJJ, Table 2]
- (b) Boilers #8 and #9 do not need to meet a PM emission limit of 0.03 lb/MMBtu because the units are classified as new-oil fired boilers that combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM emission limit under 40 CFR Part 63, Subpart JJJJJ and they do not use a post combustion technology that provides USM-Gorham with monitors and records on a monthly basis of the type of fuel combusted. [40 CFR Part 63.11210(e) and 40 CFR Part 63, Subpart JJJJJ, Table 1]
- (c) Boilers #8 and #9, which each have a heat input capacity larger than 10 MMBtu/hour each, are not required to have an energy assessment

performed due to the boilers being classified as new units. [40 CFR Part 63, Subpart JJJJJ, Table 2(16)]

b. Recordkeeping and Reporting

- i. Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJ including the following [40 CFR Part 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) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and 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.
- ii. An Annual Compliance Certification Report for the previous calendar year must be prepared by March 1 of each year and submitted, if requested, to the EPA and the Department. However, if the source experiences any deviations from the applicable requirements during the reporting period, the report must be submitted by March 15. The report shall include the company name and address; a compliance statement signed by a responsible official certifying the truth, accuracy, and completeness; and a description of any deviations and corrective actions taken. [40 CFR Part 63.11225(b)]

C. Generators #1 - #6

USM-Gorham operates six (6) emergency generators. Generators #1 - #6 are rated at 0.78 MMBtu/hr, 1.6 MMBtu/hr, 0.62 MMBtu/hr, 0.55 MMBtu/hr, 1.4 MMBtu/hr, and 0.8 MMBtu/hr, respectively, and were manufactured in 1999, 1999, 2003, 2006, 2013, and 2014, respectively. Generators #1 and #2 fired distillate fuel and Generators #3, #4, #5, and #6 fire natural gas.

1. BPT Findings

The BPT emission limits for Generators #1 and #2 are based on the following:

Distillate Fuel

PM/PM ₁₀	- 0.12 lb/MMBtu based on 06-096 CMR 115, BPT
SO ₂	- Combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO _x	- 4.41 lb/MMBtu from AP-42, Table 3.3-1, dated 10/96
CO	- 0.95 lb/MMBtu from AP-42, Table 3.3-1, dated 10/96
VOC	- 0.35 lb/MMBtu from AP-42, Table 3.3-1, dated 10/96
Opacity	- 06-096 CMR 101

The BPT emission limits for Generators #3 and #4 are based on the following:

Natural Gas

- PM/PM₁₀ - 0.05 lb/MMBtu based on 06-096 CMR 115, BPT
- SO₂ - 5.88E-04 lb/MMBtu from AP-42, Table 3.2-2, dated 7/00
- NO_x - 4.08 lb/MMBtu from AP-42, Table 3.2-2, dated 7/00
- CO - 0.317 lb/MMBtu from AP-42, Table 3.2-2, dated 7/00
- VOC - 0.118 lb/MMBtu from AP-42, Table 3.2-2, dated 7/00
- Opacity - 06-096 CMR 115, BPT

The BPT emission limits for Generator #5 are based on the following:

Natural Gas

- PM/PM₁₀ - 0.05 lb/MMBtu based on 06-096 CMR 115, BPT
- SO₂ - 5.88E-04 lb/MMBtu from AP-42, Table 3.2-2, dated 7/00
- NO_x - 2 g/HP-hr from 40 CFR §60.4233(e)
- CO - 0.317 lb/MMBtu from AP-42, Table 3.2-2, dated 7/00
- VOC - 0.118 lb/MMBtu from AP-42, Table 3.2-2, dated 7/00
- Opacity - 06-096 CMR 115, BPT

The BPT emission limits for Generator #6 are based on the following:

Natural Gas

- PM/PM₁₀ - 0.05 lb/MMBtu based on 06-096 CMR 115, BPT
- SO₂ - 5.88E-04 lb/MMBtu from AP-42, Table 3.2-2, dated 7/00
- NO_x - 2.28 g/HP-hr based on the manufacturer's data
- CO - 90.12 g/HP-hr based on the manufacturer's data
- VOC - 1.28 g/HP-hr based on the manufacturer's data
- Opacity - 06-096 CMR 115, BPT

The BPT emission limits for the generators are the following:

<u>Units</u>	<u>Fuel Type</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM₁₀</u> <u>(lb/hr)</u>	<u>SO₂</u> <u>(lb/hr)</u>	<u>NO_x</u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
Generator #1	Distillate Fuel	0.09	0.09	0.01	3.44	0.74	0.27
Generator #2	Distillate Fuel	0.19	0.19	0.01	7.06	1.52	0.56
Generator #3	Natural Gas	0.03	0.03	0.01	2.53	0.20	0.07
Generator #4	Natural Gas	0.03	0.03	0.01	2.24	0.17	0.06
Generator #5	Natural Gas	0.07	0.07	0.01	0.75	0.46	0.17
Generator #6	Natural Gas	0.04	0.04	0.01	0.39	15.55	0.22

Visible emissions from Generators #1 and #2 shall each not exceed 20% opacity on a 6-minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period.

Visible emissions from Generators #3, #4, #5, and #6 shall each not exceed an opacity of 10% on a 6-minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period.

Generators #1 - #4 shall each be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. There is no limit on emergency operation. Generators #1 - #4 shall each be equipped with a non-resettable hour-meter to record operating time. To demonstrate compliance with the operating hours limit, USM-Gorham shall keep records of the total hours of operation and the hours of emergency operation for Generators #1 - #4.

Generators #1 - #4 are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Generators #1 - #4 are not to be used for prime power when reliable offsite power is available; nor to operate or to be 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.

2. 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 not applicable to Generators #1 - #4 listed above. The units are considered existing, emergency stationary reciprocating internal combustion engines at an area HAP source. However, they are considered exempt from the requirements of Subpart ZZZZ since they are categorized as institutional emergency engines and they do not operate or are not 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 §63.6640(f)(4)(ii).

Operation of Generators #1 - #4 such that each exceeds 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 §63.6640(f)(4)(ii), would cause the generator(s) to be subject to 40 CFR Part 63, Subpart ZZZZ, and require compliance with all applicable requirements.

Generators #5 and #6 are classified as new, emergency stationary reciprocating internal combustion engines at an area HAP source. Generators #5 and #6 meet the requirements found in the *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart JJJJ, as discussed below. [40 CFR §63.6590(c)(1)]

3. 40 CFR Part 60, Subpart JJJJ

The federal regulation 40 CFR Part 60, Subpart JJJJ, *Standards of Performance for Spark Ignition Internal Combustion Engines (SI ICE)* is applicable to Generators #5 and #6 listed above since the units were ordered after June 12, 2006 and manufactured after January 1, 2009. By meeting the requirements of Subpart JJJJ, the units also meet the requirements found in the *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 CFR Part 63, Subpart ZZZZ.

Generators #3 and 4 were installed in 2004 and 2007, respectively, and therefore are not subject to 40 CFR Part 60, Subpart JJJJ. Generators #1 and #2 fire distillate fuel, thereby the engines are not spark ignition and 40 CFR Part 60, Subpart JJJJ does not apply.

a. Emergency Definition:

Emergency stationary ICE means any stationary reciprocating internal combustion engine that meets all of the following criteria:

- (1) 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
- (2) Paragraph (1) 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:
 - (i) 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.

- (ii) 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 (incorporated by reference, see §63.14), 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.
 - (iii) Periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
- (3) Paragraphs (1) and (2) 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 for maintenance checks and readiness testing, emergency demand response, and periods of voltage deviation or low frequency, as provided in paragraph (2) 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:

- (i) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
- (ii) 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.
- (iii) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
- (iv) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (v) 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.

b. 40 CFR Part 60, Subpart JJJJ Requirements:

(1) Manufacturer Certification Requirement

Generators #5 (HP \geq 130) and #6 (25 < HP < 130) shall be certified by the manufacturer as meeting the emission standards for new nonroad spark ignition engines found in 40 CFR Part 60, Subpart JJJJ, Table 1:

Engine Type	Max. Engine Power	Manuf. Date	Emission Standards (g/HP-hr)		
			NO _x	CO	VOC
Emergency	25 < HP < 130	1/1/2009	10	387	N/A
	HP \geq 130	-	2.0	4.0	1.0

(2) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on Generators #5 and #6. [40 CFR §60.4237]

(3) Operation and Maintenance Requirement

Generators #5 and #6 shall be operated and maintained according to the manufacturer's written instructions or procedures developed by USM-Gorham that are approved by the engine manufacturer. USM-Gorham may only change those settings that are permitted by the manufacturer. [40 CFR §60.4243]

(4) Annual Time Limit for Maintenance and Testing

Generators #5 and #6 shall each be limited to 100 hours/year for maintenance and testing. The emergency engines may operate up to 50 hours per year in non-emergency situations, but those 50 hours are included in the 100 hours allowed for maintenance and testing. The 50 hours for non-emergency use cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR §60.4243(d)]

(5) Recordkeeping

USM-Gorham shall keep records that include maintenance conducted on Generators #5 and #6 and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. 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 §60.4243(d)(3)(i), USM-Gorham shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [40 CFR §60.4245(b)]

(6) Alternative Fuel

USM-Gorham may operate Generators #5 and #6 using propane for a maximum of 100 hours per year for each engine as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the USM-Gorham is required to conduct a performance test to demonstrate compliance with the emission standards of §60.4233. [40 CFR §60.4243(e)]

(7) Annual Reporting Requirement for Demand Response Availability Over 15 Hours Per Year (only applicable to Generator #5 because it is greater than 100 brake hp):

If Generator #5 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 §60.4243(d)(3)(i), USM-Gorham shall submit an annual report containing the information in §60.4245(e)(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 annual 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) that is accessed through EPA's Central Data Exchange (CDX) (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 §60.4245(e)]

D. Annual Emissions

1. Total Annual Emissions

USM-Gorham shall be restricted to the following annual emissions, based on a calendar year. The tons per year limits for Boilers #5, #6, and #7 were calculated based on a combined 65,000 gallons/year of distillate fuel and 9,000,000 scf/year of natural gas and for Boilers #8, #9, and #10 the calculations were based on a combined 600,000 gallons/year of distillate fuel and 92,000,000 scf/year of natural gas. The allotted distillate fuel and natural gas fuel limits for both Boilers #5 - #7 and Boilers

#8 - #10 can each be used up entirely without exceeding the maximum allowable operation of 8,760 hours per year for each set of boilers. The tons per year limits for Boiler #11 was calculated based on a maximum operation of 8,760 hours/year and each emergency generator (Generators #1 - #6) was based on an operation of 100 hours/year.

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

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Boilers #5, #6, #7						
Distillate Fuel	0.4	0.4	2.3	0.7	0.2	0.1
Natural Gas	0.2	0.2	0.1	0.5	0.4	0.1
Boilers #8, #9, #10						
Distillate Fuel	3.4	3.4	21.3	6.0	1.5	0.1
Natural Gas	2.3	2.3	0.1	4.6	3.9	0.3
Boiler #11	0.4	0.4	0.1	0.7	0.6	0.1
Generator #1	0.1	0.1	0.1	0.2	0.1	0.1
Generator #2	0.1	0.1	0.1	0.4	0.1	0.1
Generator #3	0.1	0.1	0.1	0.1	0.1	0.1
Generator #4	0.1	0.1	0.1	0.1	0.1	0.1
Generator #5	0.1	0.1	0.1	0.2	0.1	0.1
Generator #6	0.1	0.1	0.1	0.1	0.8	0.1
Total TPY	7.3	7.3	24.5	13.6	7.9	1.3

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 (CO₂e).

Based on the facility's fuel use limits, 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, USM-Gorham is below the major source threshold of 100,000 tons of CO₂e 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 shall be 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 licensed annual 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 ₁₀	25
SO ₂	50
NO _x	50
CO	250

The total licensed annual emissions for the facility 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-462-71-Q-R subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License 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) **Boilers #5, #6, #7, #8, #9, and #10**

A. Fuel

1. Boilers #5 - #10 are each licensed to fire distillate fuel and natural gas.
2. Total fuel use for Boilers #5, #6, and #7 shall not exceed 65,000 gal/yr of distillate fuel and 9,000,000 scf/yr of natural gas, based on a calendar year total basis.
3. Total fuel use for Boilers #8, #9, and #10 shall not exceed 600,000 gal/yr of distillate fuel and 92,000,000 scf/yr of natural gas, based on a calendar year total basis.
4. Prior to July 1, 2016 or on the date specified in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired in the boilers shall be ASTM D396 compliant #2 fuel oil (max. sulfur content of 0.5% by weight). [06-096 CMR 115, BPT]
5. Beginning July 1, 2016 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire distillate fuel with a maximum sulfur content limit of 0.005% by weight (50 ppm). [38 MRSA §603-A(2)(A)(3)]
6. Beginning January 1, 2018 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire distillate fuel with a maximum sulfur content limit of 0.0015% by weight (15 ppm). [38 MRSA §603-A(2)(A)(3)]
7. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered (if applicable). Records of annual fuel use shall be kept on a monthly and calendar year total basis. [06-096 CMR 115, BPT] Separate records shall be kept for Boiler #5 - #7 and Boilers #8 - #10 to show compliance with each fuel limit for a respective boiler set.

B. Emissions shall not exceed the following:

Units	Pollutant	lb/MMBtu	Origin and Authority
Distillate Fuel Boiler	PM	0.08	06-096 CMR 115, BPT
Natural Gas Boiler	PM	0.05	06-096 CMR 115, BPT

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

Units	Fuel Type	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #5	Distillate fuel	0.30	0.30	1.89	0.54	0.13	0.01
	Natural gas	0.19	0.19	0.01	0.37	0.31	0.02
Boiler #6	Distillate	0.30	0.30	1.89	0.54	0.13	0.01
	Natural gas	0.19	0.19	0.01	0.37	0.31	0.02
Boiler #7	Distillate	0.25	0.25	1.57	0.45	0.11	0.01
	Natural gas	0.16	0.16	0.01	0.31	0.26	0.02
Boiler #8	Distillate	1.68	1.68	10.58	3.00	0.75	0.03
	Natural gas	1.05	1.05	0.01	2.10	1.76	0.12
Boiler #9	Distillate	1.68	1.68	10.58	3.00	0.75	0.03
	Natural gas	1.05	1.05	0.01	2.10	1.76	0.12
Boiler #10	Distillate	0.50	0.50	3.17	0.90	0.23	0.02
	Natural gas	0.32	0.32	0.01	0.63	0.53	0.03

D. Visible emissions from each boiler¹ shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 3 hour period.

Notes: ¹ Boilers #5, #6, and #7 exhaust to a combined stack (Stack #8), which is subject to the visible emission limit above.

E. USM-Gorham shall comply with all requirements of 40 CFR Part 60, Subpart Dc applicable to Boilers #8 and 9 including, but not limited to, the following:

1. USM-Gorham shall record and maintain records of the amounts of each fuel combusted during each calendar month with fuel certifications. [40 CFR §60.48c(g)]
2. USM-Gorham shall submit to EPA and the Department semi-annual reports. These reports shall include the calendar dates covered in the reporting period and records of fuel supplier certifications. The semi-annual reports are due within 30 days of the end of each 6-month period.
3. The following address for EPA shall be used for any reports or notifications required to be copied to them:

Compliance Clerk
 USEPA Region 1
 5 Post Office Sq. Suite 100
 Boston, MA 02109-3912

F. Boiler MACT (40 CFR Part 63, Subpart JJJJJ) Requirements for Boiler #5 - #10
 [incorporated under 06-096 CMR 115, BPT]

1. An Initial Notification submittal to EPA was due no later than January 20, 2014 for Boilers #5 - #7. An Initial Notification submittal to EPA for Boilers #8 - #10 was due within 120 days after the source became subject to the standard. [40 CFR Part 63.11225(a)(2)]
2. The facility should have implemented a boiler tune-up program to include the initial tune-up of Boilers #5 - #7 no later than March 21, 2014. [40 CFR Part 63.11223]

Boilers #8 - #10 are considered new boilers and therefore it was not required to conduct an initial tune-up of each boiler.

- (a) Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

Boiler Category	Tune-Up Frequency
New or Existing Oil, Biomass and Coal fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below	Every 2 years
<i>New and Existing Oil, Biomass, and Coal fired Boilers with less frequent tune up requirements</i>	
Seasonal (see definition §63.11237)	Every 5 years
Limited use (see definition §63.11237)	Every 5 years
With a heat input capacity of <5MMBtu/hr	Every 5 years
Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up	Every 5 years

[40 CFR Part 63.11223(a) and Table 2]

- (b) The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, 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 Part 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 Part 63.11225(b)]

3. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
 - (a) As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(1)]
 - (b) 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 Part 63.11223(b)(2)]
 - (c) 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/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(3)]
 - (d) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
 - (e) 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 Part 63.11223(b)(5)]
 - (f) 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. [40 CFR Part 63.11223(b)(7)]
4. After conducting the initial boiler tune-up for Boilers #5, #6, and #7, a Notification of Compliance Status submittal to EPA was due no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]
5. Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJ including the following [40 CFR Part 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) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and 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.

(17) **Boiler #11**

A. Fuel

1. Boiler #11 is licensed to fire natural gas. [06-096 CMR 115, BPT]
2. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of the fuel delivered. Records of annual fuel use shall be kept on a monthly and calendar year total basis. [06-096 CMR 115, BPT]

B. Emissions for Boiler #11 shall not exceed the following [06-096 CMR 115, BPT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #11	0.08	0.08	0.01	0.16	0.14	0.01

- C. Visible emissions from Boiler #11 shall not exceed 10% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a 3-hour period. [06-096 CMR 101]

(18) **Generators #1-#4**

- A. Generators #1 - #4 shall each be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115]

B. Fuel

1. Generators #1 and #2 are licensed to fire distillate fuel.
2. Generators #3 and #4 are licensed to fire natural gas.
3. The fuel sulfur content for Generators #1 and #2 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. USM-Gorham shall keep records that include maintenance conducted on Generators #1 - #4 and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. [06-096 CMR 115, BACT]

- D. If Generators #1 - #4 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, USM-Gorham shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [06-096 CMR 115, BACT]

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

Units	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.09	0.09	0.01	3.44	0.74	0.27
Generator #2	0.19	0.19	0.01	7.06	1.52	0.56
Generator #3	0.03	0.03	0.01	2.53	0.20	0.07
Generator #4	0.03	0.03	0.01	2.24	0.17	0.06

F. Visible Emissions

1. Visible emissions from each of the distillate fuel-fired generators (Generators #1 and #2) shall not exceed 20% opacity on a 6 minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period. [06-096 CMR 101]
2. Visible emissions from each of the natural gas fired generators (Generators #3 and #4) shall not exceed 10% opacity on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period. [06-096 CMR 115, BPT]

G. Generators #1 - #4 are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Generators #1 - #4 are not to be used for prime power when reliable offsite power is available; nor to operate or to be 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.

(19) **Generators #5 and #6**

- A. Generators #5 and #6 shall each be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115]
- B. Generators #5 and #6 are licensed to fire natural gas.
- C. Emissions for Generators #5 and #6 shall not exceed the following [06-096 CMR 115, BPT]:

Units	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #5	0.07	0.07	0.01	0.75	0.46	0.17
Generator #6	0.04	0.04	0.01	0.39	15.55	0.22

- D. Visible emissions from Generators #5 and #6 shall each not exceed 10% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a 3-hour period. [06-096 CMR 115, BPT]
- E. The Emergency Generators #5 and #6 shall meet the applicable requirements of 40 CFR Part 60, Subpart JJJJ, including the following:

1. Manufacturer Certification

Generators #5 and #6 shall be certified by the manufacturer as meeting the emission standards for new nonroad spark ignition engines found in 40 CFR Part 60, Subpart JJJJ, Table 1 [40 CFR §60.4233(e)]:

Engine Type	Max. Engine Power	Manuf. Date	Emission Standards (g/HP-hr)		
			NO _x	CO	VOC
Emergency	25 < HP < 130	1/1/2009	10	387	N/A
	HP ≥ 130	-	2.0	4.0	1.0

2. Non-Resettable Hour Meter

A non-resettable hour meter shall be installed and operated on Generators #5 and #6. [40 CFR §60.4237 and 06-096 CMR 115, BPT]

3. Annual Time Limit for Maintenance and Testing

- a. Generators #5 and #6 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 §60.4243(d)(3)(i) are met). The limits are based on a calendar year. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §60.4243(d) and 06-096 CMR 115]
- b. USM-Gorham shall keep records that include maintenance conducted on Generators #5 and #6 and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If Generators #5 and #6 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

§60.4243(d)(3)(i), USM-Gorham shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes.

4. Operation and Maintenance

Generators #5 and #6 shall be operated and maintained according to the manufacturer's written instructions or procedures developed by USM-Gorham that are approved by the engine manufacturer. USM-Gorham may only change those settings that are permitted by the manufacturer. [40 CFR §60.4243]

5. Alternative Fuel

USM-Gorham may operate Generators #5 and #6 using propane for a maximum of 100 hours per year for each generator as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, USM-Gorham is required to conduct a performance test to demonstrate compliance with the emission standards of 40 CFR §60.4233. [40 CFR §60.4243(e)]

6. Annual Reporting For Demand Response Availability Over 15 Hours Per Year (only applicable to Generator #5 because it is greater than 100 brake hp)

If Generator #5 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 §60.4243(d)(3)(i), USM-Gorham shall submit an annual report containing the information in §60.4245(e)(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 annual 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) that is accessed through EPA's Central Data Exchange (CDX) (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 §60.4245(e)]

- (20) USM-Gorham 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 29 DAY OF December, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

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

[Note: If a complete renewal application, as determined 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 renewal of the license.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 09/04/2014
Date of application acceptance: 09/04/2014

Date filed with the Board of Environmental Protection:

This Order prepared by Allison M. Hazard, Bureau of Air Quality.

