



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE  
GOVERNOR

PATRICIA W. AHO  
COMMISSIONER

**President and Trustees of Bates  
College  
Androscoggin County  
Lewiston, Maine  
A-373-71-J-N (SM)**

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

**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 M.R.S.A., §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

**I. REGISTRATION**

**A. Introduction**

The Air Emission License for President and Trustees of Bates College (Bates College) expired on May 2, 2012. Bates College submitted an application on May 11, 2012 to renew and amend their expired license permitting the operation of emission sources associated with their educational facility.

Updates from the previous license include the removal of three boilers and the addition of two new emergency generators and four small heating boilers. The visible emission limit for the steam plant stack is also being revised.

The equipment addressed in this license is located throughout the Bates Campus in Lewiston, Maine.

**B. Emission Equipment**

The following equipment is addressed in this air emission license:

AUGUSTA  
17 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0017  
(207) 287-7688 FAX: (207) 287-7826  
RAY BLDG., HOSPITAL ST.

BANGOR  
106 HOGAN ROAD, SUITE 6  
BANGOR, MAINE 04401  
(207) 941-4570 FAX: (207) 941-4584

PORTLAND  
312 CANCO ROAD  
PORTLAND, MAINE 04103  
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE  
1235 CENTRAL DRIVE, SKYWAY PARK  
PRESQUE ISLE, MAINE 04769  
(207) 764-0477 FAX: (207) 760-3143

Boilers/Furnaces

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type</u>	<u>Install. Date</u>	<u>Stack #</u>
Boiler #1 (Cutten Steam Plant)	29.4	210 gal/hr	#2 oil, 0.5% s	1995	1
		29,000 scf/hr	natural gas		
Boiler #2 (Cutten Steam Plant)	29.4	210 gal/hr	#2 oil, 0.5% s	1995	1
		29,000 scf/hr	natural gas		
Boiler #3 (Cutten Steam Plant)	29.4	210 gal/hr	#2 oil, 0.5% s	1995	1
		29,000 scf/hr	natural gas		
Furnace #10 (Underhill Arena)	2.5	2500 scf/hr	natural gas	1994	5
Furnace #11 (Underhill Arena)	2.5	2500 scf/hr	natural gas	1994	6
Boiler #12 (Rzasa House/Villages)	2.5	17.9 gal/hr	#2 oil, 0.5% s	1993	**
		2500 scf/hr	natural gas		
Boiler #13 (Rzasa House/Villages)	2.5	17.9 gal/hr	#2 oil, 0.5% s	1993	**
		2500 scf/hr	natural gas		
Boiler #14 (Rzasa House/Villages)	2.5	17.9 gal/hr	#2 oil, 0.5% s	1993	**
		2500 scf/hr	natural gas		
Boiler #16 (Chase Hall/Commons)	3.8	3650 scf/hr	natural gas	1990	**
Boiler #17 (Parker Hall)	1.8	12.65 gal/hr	#2 oil, 0.5% s	1989	**
Boiler #19 (Smith Hall)	1.8	12.65 gal/hr	#2 oil, 0.5% s	1988	**
Merrill Boiler * (Merrill Gym)	1.2	1176 scf/hr	natural gas	2008	2
Ladd Boiler * (Ladd Hall)	1.5	1471 scf/hr	natural gas	2009	**
Pettengill Boiler #1 * (Pettengill Hall)	1.1	1078 scf/hr	natural gas	2009	**
Pettengill Boiler #2 * (Pettengill Hall)	1.1	1078 scf/hr	natural gas	2009	**

Table notes: s = sulfur in fuel

\* Merrill Boiler, Ladd Boiler, and the two Pettengill Boilers are new to the license.

\*\* Stacks do not have specific numerical designations.

Boilers #4 and #5 in Merrill Gym have been permanently disabled and Boiler #18 in Roger-Williams Hall was removed in 2010. The three units were listed in the previous license, but are no longer considered licensed sources.

**Generators**

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Power Output (kW)</u>	<u>Firing Rate</u>	<u>Fuel Type</u>	<u>Install. Date</u>	<u>Stack #</u>
Generator #1 (Cutten Steam Plant)	2.6	250	19.0 gal/hr	diesel, 0.0015% s	1995	4
Generator #2 (Benjamin Mays Center)	1.1	100	8.3 gal/hr	diesel, 0.0015% s	1993	**
Generator #3 (Pettengill Hall)	3.0	265	21.5 gal/hr	diesel, 0.0015% s	1999	7
Generator #4 (Resident Hall)	1.4	125	10.4 gal/hr	diesel, 0.0015% s	2007	**
Generator #5 (Dining)	3.4	300	24.9 gal/hr	diesel, 0.0015% s	2007	**
Generator #6 * (Carnegie Hall)	1.1	100	1118 scf/hr	natural gas	2009	**
Generator #7 * (Garcelon Housing)	2.0	150	1954 scf/hr	natural gas	2012	**

Table notes: s = sulfur in fuel

\* Generators #6 and #7 are new to the license.

\*\* Stacks do not have specific numerical designations.

The previous license included a degreaser in the Olin Arts Center which has since been replaced by a new unit using a 0% volatile organic compound solvent. Based on the solvent composition, the facility's degreasers are not required to be included in the air emission license.

Bates College operates units considered insignificant activities for licensing purposes which are either categorically exempt or below the size and emissions thresholds in *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115, Appendix B (as amended). Insignificant activities at Bates College include smaller fuel burning units, degreasers with solvents containing less than 5% volatile organic compounds by weight, and education and maintenance activities such as painting, landscaping, cleaning and woodworking.

C. Application Classification

The previous air emission license for Bates College expired on May 2, 2012. A complete application was not submitted prior to the expiration date, therefore Bates College is considered to be an existing source applying for an after-the-fact renewal with an amendment to remove three boilers and add four boilers and two generators. The Department has determined the facility is a minor source and the application has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (as amended). With the fuel limit on the boilers and the operating hour restriction on the emergency generators, the facility is licensed below the major source thresholds and is considered a synthetic minor.

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 an after-the-fact renewal requires an analysis similar to a Best Available Control Technology analysis per 06-096 CMR 115 (as amended).

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.

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 #1, #2, and #3 – Steam Plant

Boilers #1, #2, and #3 are Cleaver Brooks boilers each rated at 29.4 MMBtu/hr with the ability to fire either #2 fuel oil or natural gas. The units were installed in 1995 at the Cutten Steam Plant to supply campus heat. Each boiler is equipped

with low NO<sub>x</sub> burners and utilizes 5% flue gas recirculation. The boilers exhaust through a common stack (stack #1).

Due to the size and manufactured dates of the boilers, they 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.

### 1. BPT Findings

The BPT emission limits for Boilers #1, #2, and #3 were based on the BACT analysis conducted for the steam plant construction and the associated air quality impact modeling (air license A-373-74-D-A/R, issued April 6, 1995), as follows:

#### #2 Fuel Oil:

PM/PM<sub>10</sub> – 0.03 lb/MMBtu  
 SO<sub>2</sub> – based on firing ASTM D396 #2 fuel oil (0.5% sulfur); 0.5 lb/MMBtu  
 NO<sub>x</sub> – 0.2 lb/MMBtu  
 CO – 0.07 lb/MMBtu  
 VOC – 0.03 lb/MMBtu  
 Opacity – based on previous BACT from the common stack

#### Natural Gas:

PM/PM<sub>10</sub> – 0.01 lb/MMBtu  
 SO<sub>2</sub> – 0.01 lb/MMBtu  
 NO<sub>x</sub> – 0.07 lb/MMBtu  
 CO – 0.15 lb/MMBtu  
 VOC – 0.02 lb/MMBtu  
 Opacity – based on previous BACT from the common stack

The BPT emission limits for Boilers #1, #2, and #3 are the following:

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 #1 (29.4 MMBtu/hr)	#2 fuel oil	0.88	0.88	14.70	5.88	2.06	0.88
	nat'l gas	0.29	0.29	0.29	2.06	4.41	0.59
Boiler #2 (29.4 MMBtu/hr)	#2 fuel oil	0.88	0.88	14.70	5.88	2.06	0.88
	nat'l gas	0.29	0.29	0.29	2.06	4.41	0.59
Boiler #3 (29.4 MMBtu/hr)	#2 fuel oil	0.88	0.88	14.70	5.88	2.06	0.88
	nat'l gas	0.29	0.29	0.29	2.06	4.41	0.59

Boilers #1, #2, and #3 are over the 3 MMBtu/hr size threshold in 06-096 CMR 103; however, the units are subject to a more stringent BPT PM emission limit of 0.03 lb/MMBtu in addition to the lb/hr emission limit.

The visible emissions limit from the common boiler stack for Boilers #1, #2, and #3 was originally based on a BACT limit similar to the limit found in 40 CFR Part 60, Subpart Dc of 'no greater than 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average not to exceed 27%' (see A-373-74-D-A/R). An averaging time of a continuous 3 hour period was added in a subsequent renewal. However, the visible emission limit in 40 CFR Part 60, Subpart Dc is required only for units over 30 MMBtu/hr, along with a requirement for an opacity monitor. Since the boilers are under 30 MMBtu/hr and EPA's Reference Method 9 is used to determine compliance, the visible emissions limit for the common boiler stack shall be revised to: Visible emissions from the common boiler stack for Boilers #1, #2, and #3 shall not exceed 20% 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.

The total fuel heat input for Boilers #1, #2, and #3 shall be limited to 140,000 MMBtu/yr based on a 12 month rolling total, allowing for a combination of natural gas and fuel oil to be fired. The 140,000 MMBtu/yr limit is equivalent to 1,000,000 gallons/year of #2 fuel oil if no natural gas is fired and 137,254,902 scf/yr of natural gas if no #2 fuel oil is fired.

Prior to January 1, 2016 or by the date otherwise stated in 38 MRSA §603-A(2)(A)(3), the #2 fuel oil fired in Boilers #1, #2, and #3 shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight). Per 38 MRSA §603-A(2)(A)(3), beginning January 1, 2016 or on the date specified in the statute, the #2 fuel oil fired in Boilers #1, #2, and #3 shall not exceed 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 #2 fuel oil fired in Boilers #1, #2, and #3 shall not exceed 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 Boilers #1, #2, and #3 shall include recordkeeping of fuel use on a monthly basis. Documentation shall include the amount and

type of fuel used, the Btu value of the fuel, and the monthly and 12 month rolling total fuel heat input Btu calculations.

C. Non-Steam Plant Boilers

Bates College operates a number of additional boilers on campus. The two furnaces located in the Underhill Arena (Furnace #10 and #11) are each rated at 2.5 MMBtu/hr and fire natural gas. The three boilers located at the Rzasa House/Villages (Boilers #12, #13, and #14) are each rated at 2.5 MMBtu/hr and are capable of firing either #2 fuel oil or natural gas. Boiler #16 located at Chase Hall/Commons is rated at 3.8 MMBtu/hr and fires natural gas. Boiler #17 located at Parker Hall and Boiler #19 located at Smith Hall are each rated at 1.8 MMBtu/hr and fire #2 fuel oil.

The four boilers new to the license all fire natural gas and have the following capacities: The Merrill Boiler is rated at 1.2 MMBtu/hr, the Ladd Boiler is rated at 1.5 MMBtu/hr, and the Pettengill Boilers #1 and #2 are each rated at 1.1 MMBtu/hr.

Boilers #4 and #5 (in Merrill Gym) and Boiler #18 (in Roger-Williams Hall) are no longer included on this license.

Due to the size of the non-steam plant boilers, they 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/hr manufactured after June 9, 1989.

1. BACT/BPT Findings

BACT for the four boilers not previously licensed includes the use of natural gas and the inclusion of these boilers in the non-steam plant fuel heat input annual limit.

The BACT/BPT emission limits for the non-steam plant boilers were based on the following:

#2 Fuel Oil

PM/PM <sub>10</sub> –	0.12 lb/MMBtu based on 06-096 CMR 103
SO <sub>2</sub> –	based on firing ASTM D396 compliant #2 fuel oil (0.5% sulfur); 0.5 lb/MMBtu
NO <sub>x</sub> –	0.36 lb/MMBtu based on BPT
CO –	5 lb/1000 gal, AP-42, Table 1.3-1, dated 5/10
VOC –	0.34 lb/1000 gal, AP-42, Table 1.3-3, dated 5/10
Opacity –	06-096 CMR 101

Natural gas

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

Fuel heating values were assumed to be 1020 Btu/scf for natural gas and 140,000 Btu/gal for #2 fuel oil.

The BPT emission limits for the non-steam plant boilers are the following:

<u>Unit</u>	<u>Fuel</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM<sub>10</sub></u> <u>(lb/hr)</u>	<u>SO<sub>2</sub></u> <u>(lb/hr)</u>	<u>NO<sub>x</sub></u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
Furnace #10 Underhill Arena (2.5 MMBtu/hr)	Nat'l gas	0.13	0.13	0.002	0.25	0.21	0.01
Furnace #11 Underhill Arena (2.5 MMBtu/hr)	Nat'l gas	0.13	0.13	0.002	0.25	0.21	0.01
Boiler # 12 Rzasa House/Villages (2.5 MMBtu/hr)	#2 fuel oil	0.30	0.30	1.25	0.90	0.09	0.01
	Nat'l gas	0.13	0.13	0.002	0.25	0.21	0.01
Boiler # 13 Rzasa House/Villages (2.5 MMBtu/hr)	#2 fuel oil	0.30	0.30	1.25	0.90	0.09	0.01
	Nat'l gas	0.13	0.13	0.002	0.25	0.21	0.01
Boiler # 14 Rzasa House/Villages (2.5 MMBtu/hr)	#2 fuel oil	0.30	0.30	1.25	0.90	0.09	0.01
	Nat'l gas	0.13	0.13	0.002	0.25	0.21	0.01
Boiler #16 Chase Hall/Commons (3.8 MMBtu/hr)	Nat'l gas	0.19	0.19	0.002	0.37	0.31	0.02
Boiler #17 Parker Hall (1.8 MMBtu/hr)	#2 fuel oil	0.22	0.22	0.90	0.65	0.06	0.004
Boiler #19 Smith Hall (1.8 MMBtu/hr)	#2 fuel oil	0.22	0.22	0.90	0.65	0.06	0.004
Merrill Boiler Merrill Gym (1.2 MMBtu/hr)	Nat'l gas	0.06	0.06	0.001	0.12	0.10	0.01

Ladd Boiler Ladd Hall (1.5 MMBtu/hr)	Nat'l gas	0.08	0.08	0.001	0.15	0.12	0.008
Pettengill Boiler #1 Pettengill Hall (1.1 MMBtu/hr)	Nat'l gas	0.06	0.06	0.001	0.11	0.09	0.005
Pettengill Boiler #2 Pettengill Hall (1.1 MMBtu/hr)	Nat'l gas	0.06	0.06	0.001	0.11	0.09	0.005

Boiler #16 is over the 3 MMBtu/hr size threshold in 06-096 CMR 103; however, the unit is subject to a more stringent BPT PM emission limit of 0.05 lb/MMBtu in addition to the lb/hr emission limit.

Visible emissions from each boiler firing #2 fuel oil shall not exceed 20% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 3 hour period.

Visible emissions from each boiler firing natural gas 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.

The total fuel heat input for the licensed non-steam plant boilers shall be limited to 70,000 MMBtu/yr based on a 12 month rolling total, allowing for a combination of natural gas and fuel oil to be fired. The 70,000 MMBtu/yr limit is equivalent to 500,000 gallons/year of #2 fuel oil if no natural gas is fired and 68,627,451 scf/yr of natural gas if no #2 fuel oil is fired.

Prior to January 1, 2016 or by the date otherwise stated in 38 MRSA §603-A(2)(A)(3), the #2 fuel oil fired in the non-steam plant boilers shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight). Per 38 MRSA §603-A(2)(A)(3), beginning January 1, 2016 or on the date specified in the statute, the #2 fuel oil fired in the non-steam plant boilers shall not exceed 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 #2 fuel oil fired in the non-steam plant boilers shall not exceed 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 non-steam plant boilers shall include recordkeeping of fuel use on a monthly basis. Documentation shall include the amount and type of fuel used, the Btu value of the fuel, and the monthly and 12 month rolling total fuel heat input Btu calculations.

D. 40 CFR Part 63, Subpart JJJJJ

Boilers #1, #2, and #3 and the non-steam plant boilers firing #2 fuel oil may be subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ). The units are considered existing oil boilers.

Gas-fired boilers are exempt from 40 CFR Part 63, Subpart JJJJJ. However, boilers which fire #2 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]

Any boilers designed to burn fuels besides natural gas prior to June 4, 2010 are considered existing boilers under this rule. A boiler which currently fires natural gas, but converts back to firing another fuel (such as #2 fuel oil) in the future, would become subject as an existing boiler at the time it is converted back to fuel oil.

For informational purposes, 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 Bates College 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>.

1. Compliance Dates, Notifications, and Work Practice Requirements

a. Initial Notification of Compliance

An Initial Notification submittal to EPA is due no later than January 20, 2014. [40 CFR Part 63.11225(a)(2)]

- b. Boiler Tune-Up Program
- i. A boiler tune-up program shall be implemented to include the initial tune-up of applicable boilers no later than March 21, 2014. [40 CFR Part 63.11196(a)(1)]
  - ii. 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 system, 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 system, 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)]
  - iii. After conducting the initial boiler tune-up, a Notification of Compliance Status shall be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]

iv. The facility shall implement a boiler tune-up program after the initial tune-up and initial compliance report (called a Notification of Compliance Status) has been submitted.

(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:

<b>Boiler Category</b>	<b>Tune-Up Frequency</b>
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><b>New and Existing Oil, Biomass, and Coal fired Boilers with less frequent tune up requirements</b></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)]

c. Energy Assessment

Boilers #1, #2, and #3 may be subject to the energy assessment requirement as follows:

i. A one-time energy assessment shall be performed by a qualified energy assessor on the applicable boilers no later than March 21, 2014. [40 CFR Part 63.11196(a)(3)]

ii. The energy assessment shall include a visual inspection of the boiler system; an evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints; an inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator; a review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage; a list of major energy conservation measures that are within the facility's control; a list of the energy savings potential of the energy conservation measures identified; and a comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

[40 CFR Part 63, Table 2(4)]

iii. A Notification of Compliance Status shall be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(c)]

3. Recordkeeping

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.

Note: EPA will require submission of Notification of Compliance Status reports for tune-ups and energy assessments through their electronic reporting system. However, the system will not be in place until October 2013, so sources may submit the written NOCS to the EPA Administrator. [63.1125(a)(4)(vi)]

E. Emergency Generators #1-#7

Bates College operates seven emergency generators.

Generators #1 - #3 are diesel oil fired units which were manufactured and installed in the 1990s and have the following ratings: Generator #1 located at the Cutten Steam Plant is 2.6 MMBtu/hr (250 kW), Generator #2 located at the Benjamin Mays Center is 1.1 MMBtu/hr (100 kW), and Generator #3 located at Pettengill Hall is 3.0 MMBtu/hr (265 kW).

Generators #4 and #5 are also diesel oil fired units, but were manufactured in 2007 and have the following ratings: Generator #4 located at the Resident Hall is 1.4 MMBtu/hr (125 kW) and Generator #5 located at Dining is 3.4 MMBtu/hr (300 kW).

Generators #6 and #7 are natural gas fired units that were manufactured in 2009 and 2012, respectively, and have the following ratings: Generator #6 located at Carnegie Hall is 1.1 MMBtu/hr (100 kW) and Generator #7 located at Garcelon Housing is 2.0 MMBtu/hr (150 kW). These two units are new to the license.

1. BACT/BPT Findings

BACT for the two emergency generators not previously licensed (Generators #6 and #7) includes the use of natural gas and a 500 hours/year operating limit for each unit.

The BACT/BPT emission limits for generators #1-#7 are based on the following:

Diesel

PM/PM <sub>10</sub>	– 0.12 lb/MMBtu based on 06-096 CMR 103 and BPT
SO <sub>2</sub>	– 0.0015 lb/MMBtu, based on firing 0.0015% sulfur diesel
NO <sub>x</sub>	– 4.41 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96)
CO	– 0.95 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96)
VOC	– 0.36 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96)
Opacity	– 06-096 CMR 101

Natural Gas

- PM/PM<sub>10</sub> – 0.00991 lb/MMBtu, AP-42, Section 3.3-2 for 4-stroke lean-burn engines (dated 7/2000)
- SO<sub>2</sub> – 0.000588 lb/MMBtu, AP-42, Section 3.3-2 for 4-stroke lean-burn engines (dated 7/2000)
- NO<sub>x</sub> – 4.08 lb/MMBtu, AP-42, Section 3.3-2 for 4-stroke lean-burn engines (dated 7/2000)
- CO – 0.317 lb/MMBtu, AP-42, Section 3.3-2 for 4-stroke lean-burn engines (dated 7/2000)
- VOC – 0.118 lb/MMBtu, AP-42, Section 3.3-2 for 4-stroke lean-burn engines (dated 7/2000)
- Opacity – 06-096 CMR 115, BACT

The BACT/BPT emission limits for the generators 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>
Generator #1 Cutten Steam Plant (2.6 MMBtu/hr) diesel	0.31	0.31	0.004	11.47	2.47	0.94
Generator # 2 Benjamin Mays Center (1.1 MMBtu/hr) diesel	0.13	0.13	0.002	4.85	1.05	0.40
Generator #3 Pettengill Hall (3.0 MMBtu/hr) diesel	0.36	0.36	0.005	13.23	2.85	1.08
Generator #4 Resident Hall (1.4 MMBtu/hr) diesel	0.17	0.17	0.002	6.18	1.33	0.50
Generator #5 Dining (3.4 MMBtu/hr) diesel	0.41	0.41	0.005	15.00	3.23	1.22
Generator #6 Carnegie Hall (1.1 MMBtu/hr) nat'l gas	0.01	0.01	0.001	4.49	0.35	0.13
Generator #7 Garcelon Housing (2.0 MMBtu/hr) nat'l gas	0.02	0.02	0.001	8.16	0.63	0.24

Generators #3 and #5 are each over the 3 MMBtu/hr size threshold in 06-096 CMR 103; therefore, the units are required to meet a BPT PM emission limit of 0.12 lb/MMBtu in addition to the lb/hr emission limit.

Visible emissions from each of the diesel fired emergency generators (Generators #1 - #5) 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.

Visible emissions from each of the natural gas fired emergency generators (Generators #6 and #7) shall 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.

Each of the emergency generators shall be limited to 500 hours of operation a year, based on a 12-month rolling total. Bates College shall keep records of the hours of operation for each unit.

The sulfur content of the diesel fuel oil fired in all of the diesel generators shall not exceed a maximum of 0.0015%. The previous license allowed for a diesel fuel sulfur content of 0.05%.

2. Generators #1-#3: 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 the Generators #1 - #3. 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 a residential, commercial, or institutional emergency engine 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 the emergency generators 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 Bates College would need to comply with all applicable requirements.

3. Generators #4 and #5: 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 Generators #4 and #5 since the units were ordered after July 11, 2005 and manufactured after April 1, 2006. By meeting the requirements of Subpart IIII, 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.

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.
- (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.

[40 CFR §60.4211(f) and §60.4219]

b. 40 CFR Part 60, Subpart III Requirements:

The emergency generators shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 CFR §60.4202. [40 CFR §60.4205(b)]

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

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

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

The emergency generators 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)]

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

If Bates College operates the emergency generators 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 §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in §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 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](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:

President and Trustees of Bates  
College  
Androscoggin County  
Lewiston, Maine  
A-373-71-J-N (SM)

Departmental  
Findings of Fact and Order  
Air Emission License  
After-the-Fact  
Renewal/Amendment

20

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. Generators #6 and #7: 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 #6 and #7 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.

a. Emergency Definition:

See the emergency definition summarized in Section (II)(E)(3)(a) of this license. [40 CFR §60.4243(d) and §60.4248]

b. 40 CFR Part 60, Subpart JJJJ Requirements:

The emergency generators 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.

A non-resettable hour meter shall be installed and operated on each emergency generator. [40 CFR §60.4237]

The emergency generators shall be operated and maintained according to the manufacturer's written instructions or procedures developed by Bates College that are approved by the engine manufacturer. Bates College may only change those settings that are permitted by the manufacturer. [40 CFR §60.4243]

The emergency generators 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)]

If Bates College operates the emergency generators 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), the facility 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](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 §60.4245(e)]

F. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour.

G. Annual Emissions

1. Total Annual Emissions

Bates College shall be restricted to the following annual emissions, on a 12 month rolling total. The tons per year limits were calculated based on the 140,000 MMBtu/year limit for the steam plant boilers, the 70,000 MMBtu/year limit for the non-steam plant boilers, and the 500 hours/year operation restriction for each emergency generator.

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

	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Steam Plant Boilers #1-#3	2.1	2.1	35.0	14.0	10.5	2.1
Non-Steam Plant Boilers	4.2	4.2	17.5	12.5	2.9	0.2
Generator #1	0.08	0.08	negl.	2.88	0.62	0.23
Generator #2	0.03	0.03	negl.	1.21	0.26	0.10
Generator #3	0.09	0.09	negl.	3.31	0.71	0.27
Generator #4	0.04	0.04	negl.	1.54	0.33	0.13
Generator #5	0.10	0.10	negl.	3.75	0.81	0.31
Generator #6	0.003	0.003	negl.	1.12	0.09	0.03
Generator #7	0.005	0.005	negl.	2.04	0.16	0.06
<b>Total TPY</b>	<b>6.6</b>	<b>6.6</b>	<b>52.5</b>	<b>42.4</b>	<b>16.4</b>	<b>3.4</b>

Table Notes: Worst case scenarios were used to calculate tons/year emissions. From the steam plant boilers, fuel oil firing was used for PM, SO<sub>2</sub>, NO<sub>x</sub>, and VOC emissions and natural gas firing was used for CO emissions. For the non-steam plant boilers, fuel oil firing was used for PM, SO<sub>2</sub>, and NO<sub>x</sub> emissions and natural gas firing was used for CO and VOC emissions

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, Bates College 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

Bates College previously submitted an ambient air quality impact analysis for air emission license A-373-74-D-A/R (dated April 6, 1995) demonstrating that emissions from the facility, in conjunction with all other sources, do not violate Ambient Air Quality Standards (AAQS). An additional air quality impact analysis is not required for this renewal.

### 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-373-71-J-N 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 #1, #2, and #3 – Steam Plant**

A. Fuels

1. Boilers #1, #2, and #3 may fire #2 fuel oil or natural gas with a total fuel heat input not to exceed 140,000 MMBtu/year, based on a 12 month rolling total. [06-096 CMR 115, BPT]
2. Prior to January 1, 2016 or the date specified in 38 MRSA §603-A(2)(A)(3), the #2 fuel oil fired in the boilers shall be ASTM D396 compliant (max. sulfur content of 0.5% by weight). [06-096 CMR 115, BPT]
3. Beginning January 1, 2016 or on the date specified in 38 MRSA §603-A(2)(A)(3), the #2 fuel oil fired in the boilers shall not exceed a maximum sulfur content limit of 0.005% by weight (50 ppm). [38 MRSA §603-A(2)(A)(3)]
4. Beginning January 1, 2018 or on the date specified in 38 MRSA §603-A(2)(A)(3), the #2 fuel oil fired in the boilers shall not exceed a maximum sulfur content limit of 0.0015% by weight (15 ppm). [38 MRSA §603-A(2)(A)(3)]
5. Compliance shall be demonstrated by:
  - a. fuel records from the supplier(s) showing the quantity, type, and the percent sulfur of the fuel delivered (if applicable); and
  - b. documentation of the amount and type of fuel(s) used on a monthly basis, the Btu value of the fuel(s), and the monthly and 12 month rolling total fuel heat input Btu calculations.

[06-096 CMR 115, BPT]

- B. Emissions shall not exceed the following [06-096 CMR 115, BPT and A-373-74-D-A/R]:

Emission Unit	Pollutant	lb/MMBtu
Boiler #1	PM	0.03
Boiler #2	PM	0.03
Boiler #3	PM	0.03

- C. Emissions shall not exceed the following [06-096 CMR 115, BPT and A-373-71-D-A/R]:

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 #1 (29.4 MMBtu/hr)	#2 fuel oil	0.88	0.88	14.70	5.88	2.06	0.88
	nat'l gas	0.29	0.29	0.29	2.06	4.41	0.59
Boiler #2 (29.4 MMBtu/hr)	#2 fuel oil	0.88	0.88	14.70	5.88	2.06	0.88
	nat'l gas	0.29	0.29	0.29	2.06	4.41	0.59
Boiler #3 (29.4 MMBtu/hr)	#2 fuel oil	0.88	0.88	14.70	5.88	2.06	0.88
	nat'l gas	0.29	0.29	0.29	2.06	4.41	0.59

- D. Visible emissions from the common boiler stack for Boilers #1, #2, and #3 shall not exceed 20% 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 and 06-096 CMR 101]

- E. Bates College shall comply with all requirements of 40 CFR Part 60, Subpart Dc applicable to Boilers #1, #2, and #3 including, but not limited to, the following:

1. Bates College shall record and maintain monthly records with fuel certifications. [40 CFR Part 60, §60.48c(g)]
2. Bates College 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

(17) **Non-Steam Plant Boilers**

A. Fuels

1. The non-steam plant boilers may fire #2 fuel oil or natural gas with a total fuel heat input not to exceed 70,000 MMBtu/year, based on a 12 month rolling total. [06-096 CMR 115, BPT]
2. Prior to January 1, 2016, the #2 fuel oil fired in the boilers shall be ASTM D396 compliant (max. sulfur content of 0.5% by weight). [06-096 CMR 115, BPT]
3. Beginning January 1, 2016, the #2 fuel oil fired in the boilers shall not exceed a maximum sulfur content limit of 0.005% by weight (50 ppm). [38 MRSA §603-A(2)(A)(3)]
4. Beginning January 1, 2018, the #2 fuel oil fired in the boilers shall not exceed a maximum sulfur content limit of 0.0015% by weight (15 ppm). [38 MRSA §603-A(2)(A)(3)]
5. Compliance shall be demonstrated by:
  - a. fuel records from the supplier(s) showing the quantity, type, and the percent sulfur of the fuel delivered (if applicable); and
  - b. documentation of the amount and type of fuel(s) used on a monthly basis, the Btu value of the fuel(s), and the monthly and 12 month rolling total fuel heat input Btu calculations.
 [06-096 CMR 115, BPT]

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

Unit	Pollutant	lb/MMBtu
Boiler #16	PM	0.05

C. Emissions 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)
Furnace #10 Underhill Arena (2.5 MMBtu/hr)	Nat'l gas	0.13	0.13	0.002	0.25	0.21	0.01
Furnace #11 Underhill Arena (2.5 MMBtu/hr)	Nat'l gas	0.13	0.13	0.002	0.25	0.21	0.01
Boiler # 12 Rzasa House/Villages (2.5 MMBtu/hr)	#2 fuel oil	0.30	0.30	1.25	0.90	0.09	0.01
	Nat'l gas	0.13	0.13	0.002	0.25	0.21	0.01

Boiler # 13 Rzasa House/Villages (2.5 MMBtu/hr)	#2 fuel oil	0.30	0.30	1.25	0.90	0.09	0.01
	Nat'l gas	0.13	0.13	0.002	0.25	0.21	0.01
Boiler # 14 Rzasa House/Villages (2.5 MMBtu/hr)	#2 fuel oil	0.30	0.30	1.25	0.90	0.09	0.01
	Nat'l gas	0.13	0.13	0.002	0.25	0.21	0.01
Boiler #16 Chase Hall/Commons (3.8 MMBtu/hr)	Nat'l gas	0.19	0.19	0.002	0.37	0.31	0.02
Boiler #17 Parker Hall (1.8 MMBtu/hr)	#2 fuel oil	0.22	0.22	0.90	0.65	0.06	0.004
Boiler #19 Smith Hall (1.8 MMBtu/hr)	#2 fuel oil	0.22	0.22	0.90	0.65	0.06	0.004
Merrill Boiler Merrill Gym (1.2 MMBtu/hr)	Nat'l gas	0.06	0.06	0.001	0.12	0.10	0.01
Ladd Boiler Ladd Hall (1.5 MMBtu/hr)	Nat'l gas	0.08	0.08	0.001	0.15	0.12	0.008
Pettengill Boiler #1 Pettengill Hall (1.1 MMBtu/hr)	Nat'l gas	0.06	0.06	0.001	0.11	0.09	0.005
Pettengill Boiler #2 Pettengill Hall (1.1 MMBtu/hr)	Nat'l gas	0.06	0.06	0.001	0.11	0.09	0.005

D. Visible Emissions

1. Visible emissions from each boiler firing fuel oil shall not exceed 20% opacity on a 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]
2. Visible emissions from each boiler firing natural gas 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 101]

(18) **Emergency Generators #1-#5 (Diesel Units)**

- A. The diesel emergency generators are each limited to 500 hours per year total operation, based on a 12-month rolling total. Compliance shall be

demonstrated by a written log of all generator operating hours. [06-096 CMR 115]

B. The diesel fuel sulfur content for Generators #1-#5 shall be limited to 0.0015% sulfur. 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 [06-096 CMR 103(2)(B)(1)(a)]:

Unit	Pollutant	lb/MMBtu
Generator #3	PM	0.12
Generator #5	PM	0.12

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

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)
Generator #1 Cutten Steam Plant (2.6 MMBtu/hr) diesel	0.31	0.31	0.004	11.47	2.47	0.94
Generator # 2 Benjamin Mays Center (1.1 MMBtu/hr) diesel	0.13	0.13	0.002	4.85	1.05	0.40
Generator #3 Pettengill Hall (3.0 MMBtu/hr) diesel	0.36	0.36	0.005	13.23	2.85	1.08
Generator #4 Resident Hall (1.4 MMBtu/hr) diesel	0.17	0.17	0.002	6.18	1.33	0.50
Generator #5 Dining (3.4 MMBtu/hr) diesel	0.41	0.41	0.005	15.00	3.23	1.22

E. Visible Emissions

Visible emissions from each of the diesel generators 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]

F. Emergency Generators #1-#3 Operating Limitations

1. Emergency generators #1-#3 are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Emergency generators 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. [06-096 CMR 115, BPT]
2. Operation of the emergency generators #1-#3 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), causes the generator(s) to be subject to 40 CFR Part 63, Subpart ZZZZ. If this generator operational scenario occurs, Bates College shall comply with all applicable requirements. [40 CFR Part 63, Subpart ZZZZ]

G. Emergency Generators #4 and #5 shall meet the applicable requirements of 40 CFR Part 60, Subpart IIII, including the following:

1. The emergency generators shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in §60.4202. [40 CFR §60.4205(b)]
2. The diesel fuel fired in the emergency generators shall not exceed 15 ppm sulfur (0.0015% sulfur), except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. Compliance with the fuel sulfur content limit shall be based on fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [40 CFR §60.4207(b) and 06-096 CMR 115]
3. A non-resettable hour meter shall be installed and operated on each emergency generator. [40 CFR §60.4209(a)]
4. The emergency generators 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). These limits are based on a calendar year. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §60.4211(f) and 06-096 CMR 115]

5. The emergency generators shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by Bates College that are approved by the engine manufacturer. Bates College may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]
6. If Bates College operates emergency generators #4 and #5 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 §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in §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 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](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 [40 CFR §60.4214(d)]:

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

**(19) Emergency Generators #6 and #7 (Natural Gas Units)**

- A. The natural gas emergency generators are each limited to 500 hours per year total operation, based on a 12-month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [06-096 CMR 115]

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

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM<sub>10</sub></u> <u>(lb/hr)</u>	<u>SO<sub>2</sub></u> <u>(lb/hr)</u>	<u>NO<sub>x</sub></u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
Generator #6 Carnegie Hall (1.1 MMBtu/hr) nat'l gas	0.01	0.01	0.001	4.49	0.35	0.13
Generator #7 Garcelon Housing (2.0 MMBtu/hr) nat'l gas	0.02	0.02	0.001	8.16	0.63	0.24

C. Visible Emissions

Visible emissions from each of the natural gas emergency generators shall not exceed 10% opacity on a 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, BACT]

D. Emergency Generators #6 and #7 shall meet the applicable requirements of 40 CFR Part 60, Subpart JJJJ, including the following:

1. The emergency generators 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.
2. A non-resettable hour meter shall be installed and operated on each emergency generator. [40 CFR §60.4237 and 06-096 CMR 115, BPT]
3. The emergency generators 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]
4. The emergency generators shall be operated and maintained according to the manufacturer's written instructions or procedures developed by Bates College that are approved by the engine manufacturer. Bates College may

only change those settings that are permitted by the manufacturer. [40 CFR §60.4243]

5. If Bates College operates emergency generators #6 and #7 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), the facility 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](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 [40 CFR §60.4245(e)]:

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

(20) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour. [06-096 CMR 101]

(21) **Annual Emission Statement**

In accordance with *Emission Statements*, 06-096 CMR 137 (as amended), the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of either:

- 1) A computer program and accompanying instructions supplied by the Department; or
- 2) A written emission statement containing the information required in 06-096 CMR 137.

President and Trustees of Bates  
College  
Androscoggin County  
Lewiston, Maine  
A-373-71-J-N (SM)

Departmental  
Findings of Fact and Order  
Air Emission License  
After-the-Fact  
Renewal/Amendment

35

The emission statement must be submitted as specified by the date in 06-096  
CMR 137.

- (22) Bates College 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 23 DAY OF May, 2013.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Carr 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: May 11, 2012

Date of application acceptance: May 15, 2012

Date filed with the Board of Environmental Protection:

This Order prepared by Kathleen E. Tarbuck, Bureau of Air Quality.



