



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

**University of Maine System–Machias
Washington County
Machias, Maine
A-463-71-M-N**

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

FINDINGS OF FACT

After review of the air emissions license amendment and after-the-fact 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 Air Emission License for the University of Maine System at Machias (University of Maine at Machias) expired on February 25, 2013. The University of Maine at Machias has applied to renew and update their expired license permitting the operation of emission sources associated with their education facility.

The equipment addressed in this license is located throughout the campus, which has a mailing address of 116 O’Brien Avenue, Machias, 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

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate (gal/hr)	Fuel Type	Dates of Manufacture and Installation	Stack #
Reynolds Center Boiler Series (4 in series)	1.68 total (0.42 each)	12 total (3 each)	distillate fuel	2011	RC- S1
Kimball Hall Boiler	2.1	14.90	distillate fuel	1954	KIM-S1
Powers Hall Boiler 1	2.14	15.30	distillate fuel	1973	POW-S1
Powers Hall Boiler 2	2.14	15.30	distillate fuel	1973	POW-S1
Torrey Merrill Boiler Series (2 in series)	2.2 total (1.1 each)	15.8 total (7.90 each)	distillate fuel	2008	TOR-S1
Dorward Hall Boiler Series (3 in series)	3.15 total (1.05 each)	22.5 total (7.5 each)	distillate fuel	1998	DOR-S1
Science Building Boiler 1	1.31	9.40	distillate fuel	1997	SCI-S1
Science Building Boiler 2	1.31	9.40	distillate fuel	1997	SCI-S1

Table Notes:

- Boilers in series are considered as a total to determine whether or not the insignificant activity threshold is met.
- The submitted fuel firing rate was used to determine the maximum heat input capacity, along with a distillate fuel heat content of 0.14 MMBtu/gal.
- Updates and corrections from the previous license and amendments have been incorporated in the equipment list table.

Additional pieces of equipment are under the insignificant activity thresholds of 06-096 CMR 115, Appendix B and are not incorporated into the air emission license. Current insignificant equipment includes the Kilburn units in series, the Sennett Hall units piped in parallel to run independently (but can be run together during heavy load periods), the Obrian House unit and the Childcare Center unit. All of these boilers are under 1 MMBtu/hr.

Generator

Equipment	Power Rating (KW)	Maximum Heat Input (MMBtu/hr)	Firing Rate (gal/hr)	Fuel Type	Date of Manufacture	Date of Installation
Emergency Generator Dorward Hall	80	0.61	6.50	propane	2003	2004

C. Application Classification

The previous air emission license for the University of Maine at Machias expired on February 25, 2013. A complete application was not submitted prior to the expiration date, therefore the University of Maine at Machias is considered to be an existing source applying for an after-the-fact renewal. Some of the equipment has been updated and revised since the previous renewal, but the annual fuel limit is not changing. 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).

Even without the annual fuel limit on the boilers and the operating hours restriction on the emergency generator, the University of Maine at Machias is considered a natural minor source for criteria pollutants and an area source of Hazardous Air Pollutants (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 an after-the-fact renewal requires an analysis similar to a Best Available Control Technology (BACT) analysis per 06-096 CMR 115 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Boilers

The University of Maine at Machias operates numerous distillate fuel fired boilers on campus for heating purposes. The rated input capacities for the boilers for this license were calculated from the boiler plate fuel firing rates.

The Reynolds Center Boiler Series consists of four units set up in series with a total maximum heat input capacity rating of 1.68 MMBtu/hr (12.0 gal/hr total), manufactured and installed in 2011, and exhausting through stack RC-S1. Each unit is the Energy Kinetics System 2000, Model EK-3.

The Kimball Hall Boiler has a maximum heat input capacity rating of 2.1 MMBtu/hr (14.90 gal/hr) and was manufactured and installed in 1954, exhausting through stack KIM-S1. The Kimball Hall unit is a Smith 450 Mills, 9 section boiler.

Powers Hall Boilers 1 and 2 are separate units, each with a maximum heat input capacity rating of 2.14 MMBtu/hr (15.30 gal/hr each), manufactured and installed in 1973, and exhausting through stack POW-S1. The Powers Hall boilers are W-McLain-BL1284 Series 2 units and are piped in parallel, allowing each unit to be independently operated. During the cold times of the year, the units are run together to provide the needed output for the building load.

The Torrey-Merrill Boiler Series consists of two units set up in series with a total maximum heat input capacity rating of 2.2 MMBtu/hr (15.80 gal/hr total), manufactured and installed in 2008, and exhausting through stack TOR-S1. The boilers are Smith 28, S/W-04 units.

The Dorward Hall Boiler Series consists of three units set up in series with a total maximum heat input capacity rating of 3.15 MMBtu/hr (22.50 gal/hr total), manufactured and installed in 1998 and exhausting through stack DOR-S1. The boilers are Smith 19, Series 8 units.

The Science Hall Boilers 1 and 2 are two separate units, each with a maximum heat input capacity of 1.31 MMBtu/hr (9.40 gal/hr each), manufactured and installed in 1997 and exhausting through stack SC-S1. The boilers are W-McLain-588 units and are piped in parallel, allowing each unit to be independently operated. During the cold times of the year, the units are run together to provide the needed output for the building load.

The boilers all have a rated input capacity under 10 MMBtu/hr, as well a pre-1989 manufactured date for three of the units; therefore, the boilers are not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

1. BACT Findings

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

PM/PM ₁₀	– 0.12 lb/MMBtu based on 06-096 CMR 103 for units over 3 MMBtu/hr and BACT for units under 3 MMBtu/hr
SO ₂	– based on firing ASTM D396 compliant #2 fuel oil (0.5% sulfur by weight); 0.5 lb/MMBtu
NO _x	– 0.35 lb/MMBtu based on boilers of similar size and age
CO	– 5 lb/1000 gal based on AP-42, Table 1.3-1, dated 5/10; 0.0357 lb/MMBtu
VOC	– 0.34 lb/1000 gal based on AP-42, Table 1.3-3, dated 5/10; 0.00243 lb/MMBtu
Opacity	– 06-096 CMR 101

The BACT emission limits for the boilers are the following:

Unit	Pollutant	lb/MMBtu
Dorward Hall Boiler Series	PM	0.12

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Reynolds Center Boiler Series (1.68 MMBtu/hr total)	0.20	0.20	0.84	0.59	0.06	0.01
Kimball Hall Boiler (2.1 MMBtu/hr)	0.25	0.25	1.05	0.74	0.07	0.01
Powers Hall Boiler 1 (2.14 MMBtu/hr)	0.26	0.26	1.07	0.75	0.08	0.01
Powers Hall Boiler 2 (2.14 MMBtu/hr)	0.26	0.26	1.07	0.75	0.08	0.01
Torrey Merrill Boiler Series (2.2 MMBtu/hr total)	0.26	0.26	1.1	0.77	0.08	0.01
Dorward Hall Boiler Series (3.15 MMBtu/hr total)	0.38	0.38	1.58	1.10	0.11	0.01
Science Building Boiler 1 (1.31 MMBtu/hr total)	0.16	0.16	0.66	0.46	0.05	0.01
Science Building Boiler 2 (1.31 MMBtu/hr total)	0.16	0.16	0.66	0.46	0.05	0.01

Visible emissions from each boiler firing distillate fuel 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.

The University Maine at Machias shall be limited to 300,000 gallons/yr of distillate fuel on a calendar year total basis.

Prior to July 1, 2016 or by the date otherwise stated in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired at the facility shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight). Per 38 MRSA §603-A(2)(A)(3), beginning July 1, 2016 or on the date specified in the statute, the 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 total basis. Documentation shall include the amount and type of fuel used.

1. 40 CFR Part 63 Subpart JJJJJ

The Kimball Hall Boiler and Powers Hall Boilers 1 and 2 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). The units are considered existing oil boilers. The rule exempts hot water boilers (excluding steam units) less than 1.6 MMBtu/hr as part of the hot water heater exemption; therefore individual units at the facility rated less than 1.6 MMBtu/hr are not listed as being subject to the rule.

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 the University of Maine at Machias is still subject to the requirements. Notification forms and additional rule information can be found on the following website: <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

a. Compliance Dates, Notifications, and Work Practice Requirements

i. Initial Notification of Compliance

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

ii. Boiler Tune-Up Program

(a) A boiler tune-up program shall have been implemented to include the initial tune-up of applicable existing boilers no later than March 21, 2014. [40 CFR Part 63.11223]

1. 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 <u><5MMBtu/hr</u>	Every <u>5</u> 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, a Notification of Compliance Status shall have been submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]

b. 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.

EPA requires submission of Notification of Compliance Status reports for tune-ups and energy assessments through their electronic reporting system. [63.1125(a)(4)(vi)]

C. Emergency Generator – Dorward Hall

The University of Maine at Machias operates an emergency generator located at Dorward Hall. The 80 kilowatt emergency generator is rated at 0.61 MMBtu/hr (6.50 gal/hr) and fires propane. The Caterpillar Olympian-80 generator was manufactured in 2003 and installed in 2004.

1. BACT Findings

The BACT emission limits for the generator are based on the following natural gas firing reciprocating engine factors due to the lack of reliable emission factors for propane firing engines:

- PM/PM₁₀ - 0.12 lb/MMBtu based on previous license BPT
- SO₂ - 0.000588 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 - 0.319 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 101

The BACT emission limits for the generator are the following:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator – Dorward Hall (0.61 MMBtu/hr) Propane	0.07	0.07	negl.	2.49	0.19	0.07

Visible emissions from the propane fired emergency generator 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.

The emergency generator shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. There is no limit on emergency operation. The emergency generator shall be equipped with a non-resettable hour-meter to record operating time. To demonstrate compliance with the operating hours limit, the University of Maine at Machias shall keep records of the total hours of operation and the hours of emergency operation for the unit.

Emergency generators 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.

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 the emergency generator listed above. The unit is considered an existing, emergency stationary reciprocating internal combustion engine at an area HAP source. However, it is considered exempt from the requirements of Subpart ZZZZ since it is categorized as a residential, commercial, or institutional emergency engine and it does 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 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 to be subject to 40 CFR Part 63, Subpart ZZZZ, and require compliance with all applicable requirements.

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 not applicable to the emergency generator listed above since the unit was ordered before June 12, 2006 and manufactured before January 1, 2009.

D. 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.

E. Annual Emissions

1. Total Annual Emissions

The University of Maine at Machias shall be restricted to the following annual emissions, based on a calendar year total. The tons per year limits were calculated based on 300,000 gal/yr distillate fuel in the boilers and 100 hrs/yr for the emergency generator.

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	2.52	2.52	10.5	7.35	0.75	0.05
Emergency Generator – Dorward Hall	0.004	0.004	negl.	0.12	0.01	0.004
Total TPY	2.5	2.5	10.5	7.4	0.8	0.05

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 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, the University of Maine at Machias 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-463-71-M-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**

A. Fuel

1. Total fuel use for the boilers shall not exceed 300,000 gal/yr of distillate fuel, on a calendar year total basis. [06-096 CMR 115, BACT]
2. Prior to July 1, 2016 or the date specified in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired in the boiler shall be ASTM D396 compliant #2 fuel oil (max. sulfur content of 0.5% by weight). [06-096 CMR 115, BACT]
3. 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)]
4. 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)]
5. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and 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, BACT]

B. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu
Dorward Hall Boiler Series	PM	0.12

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Reynolds Center Boiler Series (1.68 MMBtu/hr total)	0.20	0.20	0.84	0.59	0.06	0.01
Kimball Hall Boiler (2.1 MMBtu/hr)	0.25	0.25	1.05	0.74	0.07	0.01
Powers Hall Boiler 1 (2.14 MMBtu/hr)	0.26	0.26	1.07	0.75	0.08	0.01
Powers Hall Boiler 2 (2.14 MMBtu/hr)	0.26	0.26	1.07	0.75	0.08	0.01
Torrey Merrill Boiler Series (2.2 MMBtu/hr total)	0.26	0.26	1.1	0.77	0.08	0.01
Dorward Hall Boiler Series (3.15 MMBtu/hr total)	0.38	0.38	1.58	1.10	0.11	0.01
Science Building Boiler 1 (1.31 MMBtu/hr total)	0.16	0.16	0.66	0.46	0.05	0.01
Science Building Boiler 2 (1.31 MMBtu/hr total)	0.16	0.16	0.66	0.46	0.05	0.01

- D. Visible emissions from each of the boilers 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 continuous 3-hour period. [06-096 CMR 101]
- E. 40 CFR Part 63, Subpart JJJJJ (Boiler MACT) Requirements for the Kimball Hall Boiler and the Powers Hall Boilers 1 and 2
 [incorporated under 06-096 CMR 115, BACT]
1. An Initial Notification submittal to EPA was due no later than January 20, 2014. [40 CFR Part 63.11225(a)(2)]
 2. The facility shall implement a boiler tune-up program to include the initial tune-up of applicable existing boilers. The boiler tune-up program was due no later than March 21, 2014. [40 CFR Part 63.11223]
 - (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 <u><5MMBtu/hr</u>	Every <u>5</u> 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, a Notification of Compliance Status was to be submitted to EPA, 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) Emergency Generator – Dorward Hall

- A. The emergency generator shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115]
- B. The University of Maine at Machias shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the 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]

- C. If the generator is operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity, the University of Maine at Machias 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]
- D. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator – Dorward Hall (0.61 MMBtu/hr) propane	0.07	0.07	negl.	2.49	0.19	0.07

E. Visible Emissions

Visible emissions from the propane fired generator 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, BACT]

- F. Emergency generators 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, BACT]

University of Maine System—Machias
Washington County
Machias, Maine
A-463-71-M-N

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

- (18) The University of Maine at Machias 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 10 DAY OF November, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Corne 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: February 28, 2014

Date of application acceptance: March 3, 2014

Date filed with the Board of Environmental Protection:

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

