University of New England
Cumberland County
Portland, Maine
A-111-71-M-M

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

FINDINGS OF FACT

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

I. REGISTRATION

A. Introduction

The University of New England (UNE) was issued Air Emission License A-111-71-L-R/A on September 18, 2014, permitting the operation of emission sources associated with their educational facility.

UNE has requested a minor revision to their license in order to address three newly acquired boilers. In November 2015, UNE purchased the National Guard Armory at 772 Stevens Avenue located in Portland, Maine. The UNE campus is located at 716 Stevens Avenue, Portland and is adjacent to the National Guard Armory.

B. Emission Equipment

The following equipment is addressed in this air emission license amendment:

Boilers

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type, % sulfur	Date of Manuf.
Boiler #7 - HB Smith M450L	3.6	25.7 gal/hr	Distillate, 0.5%	1982
*Lochinvar CH-0751	0.64	618.9 scf/hr	Natural Gas	--
*Lochinvar CH-0751	0.64	618.9 scf/hr	Natural Gas	--

* The two Lochinvar CH-0751 boilers are below the thresholds for licensing and are considered insignificant activities according to Appendix B, 06-096 CMR 115. These boilers are listed here for inventory purposes only.

C. Application Classification

UNE is limited to the use of 250,000 gal/year of distillate fuel in all of the facility's boilers, which will include the distillate fuel fired in Boiler #7, resulting in no increase in licensed annual emissions for any pollutant. Therefore, this amendment is determined to be a minor revision and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment.

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. Boiler #7

UNE operates Boiler #7 for heat. Boiler #7 was installed in 1982 and is rated at 3.6 MMBtu/hr firing distillate fuel. Boiler #7 exhausts through its own stack.

1. BPT Findings

Distillate Fuel means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396, diesel fuel oil numbers 1 or 2, as defined in ASTM D975, kerosene, as defined in ASTM D3699, biodiesel as defined in ASTM D6751, or biodiesel blends as defined in ASTM D7467.

The BPT emission limits for Boiler #7 were based on the following:

PM/PM_{10}	–	0.08 lb/MMBtu based on 06-096 CMR 115, BPT
SO_2	–	based on firing distillate fuel with a maximum sulfur content of 0.5% by weight
NO_x	–	20 lb/1000 gal based on AP-42, Table 1.3-1, dated 5/10
CO	–	5 lb/1000 gal based on AP-42, Table 1.3-1, dated 5/10
VOC	–	0.34 lb/1000 gal based on AP-42, Table 1.3-3, dated 5/10
Opacity	–	06-096 CMR 115, BPT

The BPT emission limits for the Boiler #7 are the following:

Unit	Pollutant	lb/MMBtu
Boiler #7	PM	0.08

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #7 distillate fuel	0.29	0.29	1.81	0.51	0.13	0.01

Visible emissions from Boiler #7 shall not exceed 10% opacity on a 6-minute block average basis.

UNE shall be limited to the use of 250,000 gal/year of distillate fuel and 40 million scf/year of natural gas in all its boilers. [A-111-71-L-R/A (9/18/14)]

Fuel Sulfur Content Requirements

Boiler #7 is licensed to fire distillate fuel which, by definition, has a sulfur content of 0.5% or less by weight. Per 38 M.R.S.A. §603-A(2)(A)(3), as of July 1, 2018, no person shall import, distribute, or offer for sale any distillate fuel with a sulfur content greater than 0.0015% by weight (15 ppm). Therefore, beginning July 1, 2018, the distillate fuel purchased or otherwise obtained for use in Boiler #7 shall not exceed 0.0015% by weight (15 ppm).

2. 40 CFR Part 60, Subpart Dc

Due to the size and year of manufacture, Boiler #7 is 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.

3. 40 CFR Part 63, Subpart JJJJJJ

Boiler #7 is subject to the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources (40 CFR Part 63 Subpart JJJJJJ). The unit is considered an existing oil boiler rated less than 10 MMBtu/hr.

The previous owner of Boiler #7 submitted the Initial Notification of Applicability and the Notification of Compliance Status for Boiler #7 as required by Subpart JJJJJJ. UNE shall continue to comply with the requirements of 40 CFR Part 63 Subpart JJJJJJ as outlined in their license A-111-71-L-R/A including the tune-up requirements and the reporting and recordkeeping requirements, including the Subpart JJJJJJ requirements applicable to Boiler #7.

C. Annual Emissions

No licensed emission increases are occurring as a result of this minor revision.

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-111-71-M-M subject to the conditions found in Air Emission License A-111-71-L-R/A and 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.

SPECIFIC CONDITIONS

The following replaces Condition (16) A, B, C, and D of Air Emission License A-111-71-L-R/A

(16) **Boilers**

A. Fuel

1. Total natural gas usage, for all boilers combined, shall not exceed 40.0 million scf/year based on a calendar year. [06-096 CMR 115, BPT]
2. Total distillate fuel usage, for all boilers combined, shall not exceed 250,000 gal/year based on a calendar year. [06-096 CMR 115, BPT]
3. Prior to July 1, 2018, the facility shall fire distillate fuel with a maximum sulfur content not to exceed 0.5% by weight. [06-096 CMR 115, BPT]
4. Beginning July 1, 2018, the facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 pm). [06-096 CMR 115, BPT]

Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered (if applicable). Records of annual fuel use shall be kept on a monthly and calendar year total basis.

[06-096 CMR 115, BPT and 40 CFR 60.48c(g)]

B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1 (natural gas)	PM	0.05	06-096 CMR 115, BPT
Boiler #3 (natural gas)	PM	0.05	06-096 CMR 115, BPT
Boiler #3 (distillate fuel)	PM	0.08	06-096 CMR 115, BPT
Boiler #7 (distillate fuel)	PM	0.08	06-096 CMR 115, BPT

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

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.53	0.53	neg	1.02	0.86	0.06
Boiler #2 (natural gas)	0.15	0.15	neg	0.28	0.24	0.02
Boiler #2 (distillate fuel)	0.23	0.23	1.46	0.41	0.10	0.01
Boiler #3 (natural gas)	0.42	0.42	neg	0.82	0.69	0.04

Boiler #3 (distillate fuel)	0.67	0.67	4.23	1.20	0.30	0.02
Boiler #4	0.05	0.05	neg	0.10	0.08	0.01
Boiler #5	0.11	0.11	neg	0.21	0.18	0.01
Boiler #6	0.11	0.11	neg	0.21	0.18	0.01
Boiler #7	0.29	0.29	1.81	0.51	0.13	0.01

D. Visible emissions from each of the boiler stacks shall not exceed 10% opacity on a 6-minute block average basis. [06-096 CMR 115, BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS 5 DAY OF April , 2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PAUL MERCER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-111-71-L-R/A.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: December 9, 2015
Date of application acceptance: December 11, 2015

Date filed with the Board of Environmental Protection:

This Order prepared by Lisa P. Higgins, Bureau of Air Quality.

Filed
APR 0 6 2016
State of Maine
Board of Environmental Protection