



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI  
GOVERNOR

DAVID P. LITTELL  
COMMISSIONER

**Penobscot Bay Medical Center** )  
**Knox County** )  
**Glen Cove-Rockport, ME** )  
**A-504-71-H-A** )

**Departmental**  
**Findings of Fact and Order**  
**Air Emissions License**  
**Amendment #2**

After review of the air emissions license 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., Section 344 and Section 590, the Department finds the following facts:

**I. REGISTRATION**

A. Introduction

Penobscot Bay Medical Center (PBMC) of Rockland, Maine was issued Air Emission License A-504-71-F-R on December 20, 2006, permitting the operation of air emission sources associated with their health care facility. This License was amended on April 3, 2008, to replace the existing boilers with three new models.

PBMC has requested a modification to their License in order to allow the firing of #6 fuel oil in Boilers #1, #2, and #3 as well as #2 fuel oil. The annual fuel limit shall be altered from a gallons per year basis to MMBtu per year basis to accommodate the different fuels. This amendment shall also correct the heat input of each boiler from 8.2 MMBtu/hr to 8.4 MMBtu/hr.

B. Emission Equipment

This amendment will address the following air emission units:

**Fuel Burning Equipment**

<u>Boilers</u>	<u>Date of Construction</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type</u>	<u>Stack #</u>
Boiler #1	2008	8.4	59.8 55.8	#2 fuel oil #6 fuel oil	1
Boiler #2	2008	8.4	59.8 55.8	#2 fuel oil #6 fuel oil	1
Boiler #3	2008	8.4	59.8 55.8	#2 fuel oil #6 fuel oil	1

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AUGUSTA, MAINE 04333-0017  
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106 HOGAN ROAD  
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PORTLAND  
312 CANCO ROAD  
PORTLAND, MAINE 04103  
(207) 822-6300 FAX: (207) 822-6303

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### C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the “Significant Emission Levels” as defined in the Department’s regulations. This modification is determined to be a minor modification and has been processed as such.

## II. BEST PRACTICAL TREATMENT (BPT)

### A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Department regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

### B. Boilers #1, #2, and #3

Boilers #1, #2, and #3 were manufactured in 2008 and each has a design capacity of 8.4 MMBtu/hr operating on #2 and #6 fuel oil. These boilers are not subject to New Source Performance Standards (NSPS) Subpart Dc, which is applicable to boilers with a heat input of 10 MMBtu/hr or greater and manufactured after June 9, 1989.

BACT for Boilers #1, #2 and #3 is the following:

1. *Low Sulfur Fuel*, 06-096 CMR 106 (last amended June 9, 1999) regulates fuel sulfur content. However, the use of #2 fuel oil that meets the criteria in ASTM D396, or the firing of #6 fuel oil with a sulfur content not to exceed 0.5% is more stringent and shall be considered BACT.
2. *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (last amended November 3, 1990) regulates PM emission limits when firing #6 fuel oil (0.12 lb/MMBtu). However, when firing #2 fuel oil, a PM emission limit of 0.08 lb/MMBtu is more stringent and shall be considered BACT. The PM<sub>10</sub> limits are derived from the PM limits.
3. NO<sub>x</sub>, CO and VOC emission limits are based on AP-42 data dated 9/98.

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4. Visible emissions from the combined stack serving 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 3 hour period.

C. Annual Emission Restrictions

1. Annual emissions from the boilers are calculated based on the worst-case scenario of firing 100% #6 fuel oil for PM/PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, and VOC. CO emissions are based on firing 100% #2 fuel oil. PBMC is limited to firing 84,000 MMBtu of #2 or #6 fuel oil on a 12 month rolling total.
2. Back-up Generators #1A and #2A shall each be limited to 500 hours of operation per year.
3. Back-up Generators #1A and #2A shall each be limited to the use of Diesel fuel with a sulfur content not to exceed 0.05%.
4. PBMC is limited to the following annual emissions, based on a 12 month rolling total:

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

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Boilers	5.04	5.04	21.00	15.40	1.50	0.32
Generator #1A	0.06	0.06	0.03	2.32	0.50	0.18
Generator #2A	0.25	0.25	0.06	3.92	1.04	0.11
<b>Total</b>	<b>5.35</b>	<b>5.35</b>	<b>21.09</b>	<b>21.64</b>	<b>3.04</b>	<b>0.61</b>

**III. AMBIENT AIR QUALITY ANALYSIS**

According to 06-096 CMR 115, the level of air quality analyses required for a minor source shall be determined on a case-by case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

**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,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

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The Department hereby grants Air Emission License A-504-71-H-A subject to the conditions found in Air Emission License A-504-71-F-R, 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 shall replace Condition 16 in Air Emission License A-504-71-G-A.

**(16) Boilers #1, #2 and #3**

- A. PBMC is permitted to operate Boilers #1, #2 and #3, each rated at 8.4 MMBtu/hr. [06-096 CMR 115, BACT]
- B. PBMC shall not exceed 84,000 MMBtu/yr fired in the boilers of #2 fuel oil which meets the criteria in ASTM D396 or #6 fuel oil with a sulfur content not to exceed 0.5%. Records from the supplier documenting quantity delivered, fuel type, and sulfur content (#6 fuel oil only) shall be kept for compliance purposes. Records of annual fuel use shall be kept on a 12-month rolling total basis. [06-096 CMR 115, BACT]
- C. Emissions shall not exceed the following:

<b>Emission Unit</b>	<b>Pollutant</b>	<b>lb/MMBtu</b>	<b>Origin and Authority</b>
Boiler #1	PM	0.08, #2 fuel oil 0.12, #6 fuel oil	06-096 CMR 103, Section 2(B)(1)(a), BACT
Boiler #2	PM	0.08, #2 fuel oil 0.12, #6 fuel oil	06-096 CMR 103, Section 2(B)(1)(a), BACT
Boiler #3	PM	0.08, #2 fuel oil 0.12, #6 fuel oil	06-096 CMR 103, Section 2(B)(1)(a), BACT

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D. Emissions shall not exceed the following for each boiler firing #2 fuel oil [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler	0.67	0.67	4.19	1.20	0.30	0.02

E. Emissions shall not exceed the following for each boiler firing #6 fuel oil [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler	1.00	1.00	4.19	3.07	0.28	0.06

F. Visible emissions from the combined stack serving 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, BACT]

The following is a new condition:

(1) **Air Toxics Emission Statement**

If PBMC exceeds the thresholds for HAPs listed in Appendix A of 06-096 CMR 137 in an inventory year, in accordance with 06-096 CMR 137 the licensee shall report, every three years (2008, 2011, etc.) or as otherwise stated in 06-096 CMR 137, the information necessary to accurately update the State's toxic air pollutants emission inventory in a format prescribed by the Department containing the information required in 06-096 CMR 137.

NOTE: Based on AP-42 emission factors (EF) for fuel burning equipment, PBMC will most likely exceed the 06-096 CMR 137 thresholds of HAPs based on fuel burning alone should the facility exceed the firing of 236,686 gallons of #6 fuel oil (nickel with an AP-42 EF of 8.45e-2 pounds per 1000 gallons) in a calendar year.

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Reports and questions should be directed to:

Attn: HAP Inventory Coordinator  
Maine DEP  
Bureau of Air Quality  
17 State House Station  
Augusta, ME 04333-0017

Phone: (207) 287-2437

[06-096 CMR 137]

DONE AND DATED IN AUGUSTA, MAINE THIS 30th DAY OF July 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Brody  
DAVID P. LITTELL, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-504-71-F-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 9/4/2008

Date of application acceptance: 9/25/2008

Date filed with the Board of Environmental Protection:

This Order prepared by Jonathan Voisine, Bureau of Air Quality.

