



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE  
GOVERNOR

JAMES P. BROOKS  
ACTING COMMISSIONER

Penobscot Bay Medical Center	)	<b>Departmental Findings of Fact and Order Air Emissions License Amendment #3</b>
Knox County	)	
Glen Cove-Rockport, ME	)	
A-504-71-I-A	)	

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 Rockport, Maine was issued Air Emission License A-504-71-F-R on December 20, 2006, permitting the operation of two boilers and two emergency generators.

PBMC has applied to amend this License in order to add a third emergency generator to be designated Generator #3.

B. Emission Equipment

**Electrical Generation Equipment**

<b>Equipment</b>	<b>Max. Capacity (MMBtu/hr)</b>	<b>Maximum Firing Rate</b>	<b>Fuel</b>
Generator #3	4.7	34.4 gal/hr	Diesel, 15 ppm S

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 Increase Levels" as defined in the Department's regulations. This modification is determined to be a minor modification and has been processed as such.

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 04679-2094  
(207) 764-0477 FAX: (207) 760-3143

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## 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 new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in 06-096 CMR 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

### B. Generator #3

Emergency Generator is defined as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary engines 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 engines used to pump water in the case of fire or flood. Stationary engines used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Generator #3 was ordered after July 11, 2005 and manufactured after April 1, 2006. Therefore, Generator #1 is subject to New Source Performance Standards 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. By meeting the requirements of Subpart IIII, the generators also meet the requirements of Subpart ZZZZ.

A summary of the BACT analysis for Generator #3 is the following:

1. Generator #3 shall fire only diesel fuel with a maximum sulfur content not to exceed 15 ppm.
2. Generator #3 shall be limited to 100 hr/yr of operation for maintenance checks and readiness testing. Generator #3 shall be limited to 500 hours per year of total operation. Both of these limits are based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.
3. Generator #3 shall be equipped with a non-resettable hour meter.

4. 06-096 CMR 103 regulates PM emission limits. However, the manufacturer has certified this generator will not exceed a more stringent emission rate of 0.15 g/hp-hr (0.05 lb/MMBtu). This more stringent emission rate shall be considered BACT. The PM<sub>10</sub> limits are derived from the PM limits.
5. NO<sub>x</sub>, CO, and VOC emission limits are based upon the manufacturer's not-to-exceed data.
6. PBMC shall operate and maintain Generator #3 in accordance with the manufacturer's written instructions. PBMC shall not change settings that are not approved in writing by the manufacturer.
7. Visible emissions from Generator #3 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 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. Generators #1A and #2A shall each be limited to 500 hours of operation per year.
3. Generators #1A and #2A shall each be limited to the use of Diesel fuel with a sulfur content not to exceed 0.05%.
4. Generator #3 shall be limited to 500 hours of operation per year, and fire only diesel fuel with a sulfur content not to exceed 15 ppm.
5. PBMC is limited to the following annual emissions, based on a 12 month rolling total:

**Total Allowable Annual Emission 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	15.4	1.5	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
Generator #3	0.06	0.06	0.01	2.00*	1.08	2.00*
<b>Total</b>	<b>5.4</b>	<b>5.4</b>	<b>21.1</b>	<b>23.6</b>	<b>4.1</b>	<b>2.6</b>

\* This is a combined NO<sub>x</sub>-VOC emission rate, and by applying it individually to NO<sub>x</sub> and VOC is an over estimation of actual emissions.

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### 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.

The Department hereby grants Air Emission License A-504-71-I-A 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.

### SPECIFIC CONDITIONS

The following is a new condition:

(1) **Generator #3**

- A. Generator #3 shall fire only diesel fuel with a maximum sulfur content not to exceed 15 ppm. [40 CFR 60.4207(b)]
- B. Compliance with the sulfur content limits shall be based on fuel records from the supplier showing the type of fuel delivered and the sulfur content of the fuel. [06-096 CMR 115, BACT]
- C. Generator #3 shall be limited to 100 hr/yr of operation for maintenance checks and readiness testing. Generator #3 shall be limited to 500 hours per year of total operation. Both of these limits are based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR 60.4211(E) and 06-096 CMR 115, BACT]

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D. Generator #3 shall be equipped with a non-resettable hour meter.  
 [40 CFR 60.4209(a)]

E. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #3	PM	0.05	06-096 CMR 103(2)(B)(1)(a), BACT

F. Emissions shall not exceed the following [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)
Generator #3	0.25	0.25	0.01	7.99*	4.33	7.99*

\* This is a combined NO<sub>x</sub>-VOC emission rate, and by applying it individually to NO<sub>x</sub> and VOC is an over estimation of actual emissions.

G. Generator #3 is subject to PM, CO, and NO<sub>x</sub> + VOC emission requirements set forth in 40 CFR 60, Subpart IIII. Compliance with these emission requirements shall be demonstrated by certification from the manufacturer that this engine class meets the appropriate Tier standards. [40 CFR 60, Subpart IIII]

H. PBMC shall operate and maintain Generator #3 in accordance with the manufacturer's written instructions. PBMC shall not change settings that are not approved in writing by the manufacturer. [40 CFR 60.4211(a)]

I. Visible emissions from the Generator #3 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

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- (2) PBMC 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 (Title 38 MRSA §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 7<sup>th</sup> DAY OF June, 2011.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Melanie L. Brooks for  
JAMES P. BROOKS, ACTING 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: 8/3/2010

Date of application acceptance: 8/17/2010

Date filed with the Board of Environmental Protection:

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

