



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

**Maine Medical Center
(Linen Processing Facility)
Cumberland County
Westbrook, Maine
A-945-71-B-R**

**Departmental
Findings of Fact and Order
Air Emission License**

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 Department finds the following facts:

I. REGISTRATION

A. Introduction

Maine Medical Center has applied to renew the Air Emission License for the linen processing facility in Westbrook. The renewal includes an update to the boiler and the five tumble dryers heat input values. Boiler 2 is to be removed from the license since the unit was never installed.

The equipment in this license is located at 53 Scott Drive in Westbrook, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boiler

<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	6.123	6123 cf/hr*	Natural Gas	2006	1

* Based on a natural gas heat content of 1000 Btu/scf.

Note: Boiler 2 (1.38 MMBtu/hr) was previously licensed, but never installed. It will no longer be listed on the 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 04679-2094
(207) 764-0477 FAX: (207) 760-3143

Process Equipment - Dryers

Equipment	Production Rate	Burner Capacity (MMBtu/hr)	Pollution Control Equipment	Install. Date	Stack #
Dryer 1	550 lb/hr of linens	1.37 nat'l gas	Lint Screens & Exhaust Recirc.	2006	3
Dryer 2	550 lb/hr of linens	1.37 nat'l gas	Lint Screens & Exhaust Recirc.	2006	4
Dryer 3	550 lb/hr of linens	1.37 nat'l gas	Lint Screens & Exhaust Recirc.	2006	5
Dryer 4	550 lb/hr of linens	1.37 nat'l gas	Lint Screens & Exhaust Recirc.	2006	6
Dryer 5	550 lb/hr of linens	1.37 nat'l gas	Lint Screens & Exhaust Recirc.	2006	7

C. Application Classification

The application for Maine Medical Center does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of current licensed emission units only and has been processed as a natural minor source through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (as amended).

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 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 1

Boiler 1 is a natural gas fired Cleaver Brooks firetube boiler (Model CBI-700-150LE) rated at 6.123 MMBtu/hr (6123 scf/hr) and installed in 2006. The boiler provides heat for the facility and exhausts through its own 43 foot stack. In the previous license the heat input capacity was incorrectly listed as 6.28 MMBtu/hr.

Boiler 1 includes a “Low Emissions Option” which utilizes induced flue gas recirculation with an integral front head that routes the flue gases from the fourth pass to the burner assembly for the purposes of reducing NO_x emissions. Maine Medical Center operates and maintains the boiler in accordance with the manufacturer’s recommendations.

Due to the size of Boiler 1, the unit 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.

Boiler 1 is not subject to 40 CFR Part 63 Subpart JJJJJ, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* since the unit fires natural gas.

BPT Findings

The BPT emission limits for Boiler 1 were based on the following:

- PM/PM₁₀ – 0.05 lb/MMBtu based a previous BACT finding; 0.31 lb/hr
- SO₂ – 0.6 lb/MMscf, AP-42 Table 1.4-2, dated 7/98; 0.004 lb/hr
- NO_x – 100 lb/MMscf, AP-42 Table 1.4-1, dated 7/98; 0.61 lb/hr
- CO – 84 lb/MMscf, AP-42 Table 1.4-1, dated 7/98; 0.51 lb/hr
- VOC – 5.5 lb/MMscf, AP-42 Table 1.4-2, dated 7/98; 0.03 lb/hr
- Opacity – Visible emissions from Boiler 1 shall not exceed 10% opacity on a 6 minute block average.

Periodic Monitoring

Periodic monitoring for the boiler shall include recordkeeping to document fuel use on a monthly and calendar year basis.

C. Dryers 1-5

Linens washed at the facility are dried by five natural gas dryer tumblers. Each drying tumbler has a capacity of 550 lbs linen/hr (220 lbs/load at 2-2.5 loads/hour) and a burner rated at 1.37 MMBtu/hr. The previous license listed the

burner capacities at 1.1 MMBtu/hr. Each linen dryer tumbler exhausts through its own stack.

To minimize particulate emissions, each drying tumbler is equipped with a built-in lint screen and a portion of the exhaust is recirculated. The lint screens are mesh 41, having a mesh width of 0.40 millimeters. These screens are expected to have a capture efficiency of approximately 78%. Of the 22% of material that goes through the screens, approximately 60% is recirculated through the burners and 40% is exhausted to the air. This equates to an overall particulate control efficiency of approximately 90%, however the actual emission rate is dependent on several factors, including but not limited to the age and quality of the linens, filter condition, and the amount of exhaust leakage. Maine Medical Center shall properly operate and maintain the drying tumblers and related equipment in accordance with the manufacturer's recommendations.

BPT Findings

The BPT emission limits for each dryer were based on the following:

PM/PM₁₀ – 0.2 lb/hr based a previous BACT finding which includes the natural gas emissions in addition to the process emissions from drying the linens

SO₂ – 0.6 lb/MMscf, AP-42 Table 1.4-2, dated 7/98; 0.001 lb/hr

NO_x – 100 lb/MMscf, AP-42 Table 1.4-1, dated 7/98; 0.14 lb/hr

CO – 84 lb/MMscf, AP-42 Table 1.4-1, dated 7/98; 0.12 lb/hr

VOC – 5.5 lb/MMscf, AP-42 Table 1.4-2, dated 7/98; 0.01 lb/hr

Opacity – Visible emissions from each dryer 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 1-hour period.

Periodic Monitoring

Periodic monitoring for the dryers shall include recordkeeping to document fuel use on a monthly and calendar year basis.

D. Annual Emissions

Maine Medical Center shall be restricted to the following annual emissions, based on a calendar year total. The tons per year limits were calculated based on the boiler and dryers operating 8760 hrs/year:

Total Licensed Annual Emissions for the Facility

Tons/year

(used to calculate the annual license fee)

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boiler	1.34	1.34	0.02	2.68	2.25	0.15
Dryers	4.38	4.38	0.02	3.0	2.52	0.17
Total TPY	5.7	5.7	0.04	5.7	4.8	0.3

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling is not required for a renewal if the total emissions of any pollutant released do not exceed the following and there are no extenuating circumstances:

<u>Pollutant</u>	<u>Tons/Year</u>
PM	25
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on the total facility licensed emissions, Maine Medical Center is below the emissions level required for modeling.

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-945-71-B-R 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 emission 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) **Boiler 1**

- A. Maine Medical Center shall utilize natural gas in the boiler and shall operate and maintain the boiler in accordance with the manufacturer's recommendations. [06-096 CMR 115, BPT]

B. Records of annual fuel use shall be kept on a monthly and calendar year basis. [06-096 CMR 115, BPT]

C. Emissions from Boiler 1 shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1	PM	0.05	06-096 CMR 115, BPT

D. Emissions from Boiler 1 shall not exceed the following [06-096 CMR 115, BPT]:

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.31	0.31	0.004	0.61	0.51	0.03

E. Visible emissions from Boiler #1 shall not exceed 10% opacity on a six (6) minute block average. [06-096 CMR 115, BPT]

(17) Dryers (1-5)

A. Maine Medical Center shall utilize natural gas in the drying tumblers and shall operate and maintain the drying tumblers and related equipment, including the lint screens and exhaust recirculation systems, in accordance with the manufacturer's recommendations to minimize emissions. [06-096 CMR 115, BPT]

B. Records of annual fuel use shall be kept on a monthly and calendar year basis. [06-096 CMR 115, BPT]

C. Emissions from each of the five drying tumblers shall not exceed the following [06-096 CMR 115, BPT]:

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Drying Tumbler (1.37 MMBtu/hr each)	0.2	0.2	0.001	0.14	0.12	0.01

D. Visible emissions from each of the drying tumblers 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 1-hour period. [06-096 CMR 115, BPT]

Maine Medical Center
(Linen Processing Facility)
Cumberland County
Westbrook Maine
A-945-71-B-R

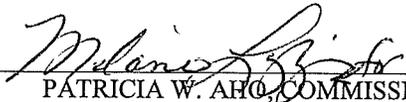
Departmental
Findings of Fact and Order
Air Emission License

10

- (18) Maine Medical Center 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 18th DAY OF December, 2011.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: 
PATRICIA W. AHO, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: May 25, 2011

Date of application acceptance: June 16, 2011

Date filed with the Board of Environmental Protection:

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

