



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE  
GOVERNOR

PATRICIA W. AHO  
COMMISSIONER

**Spring Harbor Hospital  
Cumberland County  
Westbrook, Maine  
A-828-71-C-R**

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

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

Spring Harbor Hospital (SHH) has applied to renew their Air Emission License permitting the operation of emission sources associated with their behavioral health care facility.

The equipment addressed in this license is located at 123 Andover Rd, Westbrook, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

**Boilers**

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (scf/hr)</u>	<u>Fuel Type</u>	<u>Install. Date</u>	<u>Stack #</u>
Boiler #1	6.3	6300	Natural Gas	2002	1
Boiler #2	6.3	6300	Natural Gas	2002	1
Boiler #3	1.3	1300	Natural Gas	2002	1
Heater #1	2.7	2700	Natural Gas	2002	3
Heater #2	2.7	2700	Natural Gas	2002	3
Heater #3	2.7	2700	Natural Gas	2002	3

### Generators

<u>Equipment</u>	<u>Horse Power (HP)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Install. Date</u>	<u>Stack #</u>
Generator #1	635	30.3	Diesel, 0.0015%	2002	2

#### C. Application Classification

The application for SHH does not include the installation of new or modified equipment. Emission factors have been updated to reflect the most current values resulting in modified licensed emissions. Therefore, the license is considered to be a renewal of currently licensed emission units only and has been processed 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. Boilers #1, #2 and #3

SHH operates three boilers, designated Boilers #1, #2 and #3. Boilers #1 and #2 each have a maximum design heat input capacity of 6.3 MMBtu/hr and are operated for facility heating purposes. Boiler #3 is a Clean Steam Boiler operated for facility humidity control and is rated at 1.3 MMBtu/hr. Each boiler is a natural gas fired unit that was installed in 2002. The boilers exhausts through a common stack, Stack #1.

Due to the size of Boilers #1, #2 and #3, the units 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. BPT Findings

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

- PM/PM<sub>10</sub> – 0.01 lb/MMBtu based on vendor supplied data;
- SO<sub>2</sub> – 0.6 lb/MMscf: AP-42, Table 1.4-2 (dated 7/98);
- NO<sub>x</sub> – (i) 0.12 lb/MMBtu based on vendor supplied data for Hot Water Boilers (Boilers #1 & #2);  
(ii) 0.182 lb/MMBtu based on vendor supplied data for Clean Steam Boilers (Boiler #3);
- CO – (i) 0.15 lb/MMBtu based on vendor supplied data for Hot Water Boilers (Boilers #1 & #2);  
(ii) 0.05 lb/MMBtu based on vendor supplied data for Clean Steam Boilers (Boiler #3);
- VOC – 0.02 lb/MMBtu based on vendor supplied data;
- Opacity – Visible emissions from Stack #1 serving Boilers #1, #2 and #3 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 BPT emission limits for the boilers are the following:

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	0.06	0.06	0.004	0.76	0.95	0.13
Boiler #2	0.06	0.06	0.004	0.76	0.95	0.13
Boiler #3	0.01	0.01	0.001	0.24	0.07	0.03

2. Periodic Monitoring

Periodic monitoring for the boilers shall include recordkeeping to document fuel use both on a monthly and calendar year basis. Documentation shall include the quantity and type of fuel used.

3. 40 CFR Part 63 Subpart JJJJJ

Boilers #1, #2 and #3 fire natural gas and are therefore not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ).

C. Heaters #1, #2 and #3

SHH operates three hot water heaters, designated Heaters #1, #2 and #3. Heaters #1, #2 and #3 each have a maximum design heat input capacity of 2.7 MMBtu/hr and are operated for facility hot water needs. Each heater is a natural gas fired unit that was installed in 2002. The heaters exhausts through a common stack, Stack #3.

Due to the size of Heaters #1, #2 and #3, the units 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. BPT Findings

The BPT emission limits for the heaters were based on the following:

- PM/PM<sub>10</sub> – 0.01 lb/MMBtu based on vendor supplied data;
- SO<sub>2</sub> – 0.6 lb/MMscf: AP-42, Table 1.4-2 (dated 7/98);
- NO<sub>x</sub> – 0.182 lb/MMBtu based on vendor supplied data;
- CO – 0.15 lb/MMBtu based on vendor supplied data;
- VOC – 0.02 lb/MMBtu based on vendor supplied data;
- Opacity – Visible emissions from Stack #3 serving Heaters #1, #2 and #3 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 BPT emission limits for the heaters are the following:

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)
Heater #1	0.03	0.03	0.002	0.49	0.41	0.05
Heater #2	0.03	0.03	0.002	0.49	0.41	0.05
Heater #3	0.03	0.03	0.002	0.49	0.41	0.05

2. Periodic Monitoring

Periodic monitoring for the heaters shall include recordkeeping to document fuel use both on a monthly and calendar year basis. Documentation shall include the quantity and type of fuel used.

3. 40 CFR Part 63 Subpart JJJJJ

Heaters #1, #2 and #3 fire natural gas and are therefore not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial*,

*Commercial, and Institutional Boilers Area Sources (40 CFR Part 63 Subpart JJJJJ).*

D. Generator #1

SHH maintains one back-up emergency generator, designated Generator #1. The emergency generator is rated at 4.2 MMBtu/hr (635 HP) and fires diesel fuel oil with a maximum sulfur content not to exceed 0.0015% by weight. Generator #1 was manufactured in 2002.

1. BPT Findings

The BPT emission limits for the generator are based on the following:

- PM/PM<sub>10</sub> – 0.12 lb/MMBtu based on 06-096 CMR 103;
- SO<sub>2</sub> – 0.0015 lb/MMBtu, based on firing 0.0015% sulfur, 06-096 CMR 115, BPT;
- NO<sub>x</sub> – 8.52 (g/HP-hr) based on vendor supplied data;
- CO – 8.5 (g/HP-hr) based on vendor supplied data;
- VOC – 0.97 (g/HP-hr) based on vendor supplied data;
- Opacity – Visible emissions from the diesel emergency generator shall not exceed 20% opacity on a 6-minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period.

The BPT emission limits for the generator are the following:

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM<sub>10</sub></u> <u>(lb/hr)</u>	<u>SO<sub>2</sub></u> <u>(lb/hr)</u>	<u>NO<sub>x</sub></u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
Generator #1	0.50	0.50	0.01	11.93	11.90	1.36

The emergency generator shall be limited to 500 hours of operation a year, based on a calendar year. SHH shall keep a record of the hours of operation of the unit.

The emergency generator operating time is limited to emergency situations and required testing and maintenance. Examples include stationary reciprocating internal combustion engines (RICE) 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 RICE used to pump water in the case of fire or flood, etc. Stationary RICE used for peak shaving are not considered emergency stationary RICE. Generator #1 is not to be used for prime power when reliable offsite power is available; nor used to supply power to an electric grid

as part of a financial arrangement with an independent system operator (ISO) or 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. Generator #1 is considered an existing, emergency stationary reciprocating internal combustion engines at an area HAP source; however, it is considered exempt from the requirements of Subpart ZZZZ since it is categorized as an institutional emergency engine. An institutional emergency engine is defined by this Subpart as follows:

an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations. [40 CFR § 63.6675]

E. Annual Emissions

1. Total Annual Emissions

SHH shall be restricted to the following annual emissions, based on a calendar year. The tons per year limits were calculated based on 500 hrs/yr for the emergency generator and a maximum operation time of 8,760 hr/yr for each of the natural gas boilers and heaters:

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

	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Boiler #1	0.28	0.28	0.02	3.41	4.26	0.57
Boiler #2	0.28	0.28	0.02	3.41	4.26	0.57
Boiler #3	0.06	0.06	0.003	1.07	0.29	0.12
Heater #1	0.12	0.12	0.01	2.22	1.83	0.24
Heater #2	0.12	0.12	0.01	2.22	1.83	0.24
Heater #3	0.12	0.12	0.01	2.22	1.83	0.24
Generator #1	0.12	0.12	0.002	2.98	2.98	0.34
<b>Total TPY</b>	<b>1.1</b>	<b>1.1</b>	<b>0.1</b>	<b>17.5</b>	<b>17.3</b>	<b>2.3</b>

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 (CO<sub>2</sub>e).

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, SHH is below the major source threshold of 100,000 tons of CO<sub>2</sub>e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

**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 <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	100
CO	250

Based on the total facility licensed emissions, SHH 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, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-828-71-C-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) Boilers #1, #2 and #3**

**A. Fuel**

1. The boilers shall fire only natural gas. [06-096 CMR 115, BPT]
2. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of the fuel delivered. Records of annual fuel use shall be kept on a monthly and calendar year basis. [06-096 CMR 115, BPT]

**B. 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	0.12	06-096 CMR 103(2)(B)(1)(a)
Boiler #2	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

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

<b>Emission Unit</b>	<b>PM (lb/hr)</b>	<b>PM<sub>10</sub> (lb/hr)</b>	<b>SO<sub>2</sub> (lb/hr)</b>	<b>NO<sub>x</sub> (lb/hr)</b>	<b>CO (lb/hr)</b>	<b>VOC (lb/hr)</b>
Boiler #1	0.06	0.06	0.004	0.76	0.95	0.13
Boiler #2	0.06	0.06	0.004	0.76	0.95	0.13
Boiler #3	0.01	0.01	0.001	0.24	0.07	0.03

- D. Visible emissions from Stack #1 serving Boilers #1, #2 and #3 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. [06-096 CMR 101]**

**(17) Heaters #1, #2 and #3**

**A. Fuel**

1. The heaters shall fire only natural gas. [06-096 CMR 115, BPT]
2. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of the fuel delivered. Records of annual fuel use shall be kept on a monthly and calendar year basis. [06-096 CMR 115, BPT]

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

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)
Heater #1	0.03	0.03	0.002	0.49	0.41	0.05
Heater #2	0.03	0.03	0.002	0.49	0.41	0.05
Heater #3	0.03	0.03	0.002	0.49	0.41	0.05

C. Visible emissions from Stack #3 serving Heaters #1, #2 and #3 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. [06-096 CMR 101]

(18) **Generator #1**

- A. The emergency generator is limited to 500 hours per year total operation, based on a calendar year total. Compliance shall be demonstrated by a written log of the generator operating hours. [06-096 CMR 115]
- B. The fuel oil sulfur content for Generator #1 shall be limited to 0.0015% sulfur. Compliance shall be demonstrated by fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 CMR 115, BPT]
- C. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

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 #1	0.50	0.50	0.01	11.93	11.90	1.36

- D. Visible emissions from the diesel emergency generator shall not exceed 20% opacity on a 6-minute block average, except for no more than two 6-minute block averages in a 3-hour period. [06-096 CMR 101]
- E. The emergency generator operating time is limited to emergency situations and required testing and maintenance. Examples include stationary reciprocating internal combustion engines (RICE) 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 RICE used to pump water in the case of fire or flood, etc. Stationary RICE used for peak shaving are not considered emergency stationary RICE. Generator #1 is not to be used for prime power when reliable offsite power is available; nor used to supply power to an electric grid

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as part of a financial arrangement with an independent system operator (ISO) or another entity. [06-096 CMR 115, BPT]

- (19) SHH 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 12 DAY OF December, 2012.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Maureen Allen Robert Corra 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, 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: 8/17/2012

Date of application acceptance: 8/23/2012

Date filed with the Board of Environmental Protection:

This Order prepared by Allison M. Hazard, Bureau of Air Quality.



