



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

**Inland Hospital
Kennebec County
Waterville, Maine
A-110-71-J-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

Inland Hospital has applied to renew their Air Emission License permitting the operation of emission sources associated with their healthcare facility.

The equipment addressed in this license is located at 200 Kennedy Memorial Drive, Waterville, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

Equipment	Maximum Capacity (MMBTU/hr)	Maximum Firing Rate (gal/hr)	Fuel Type	Stack #
Boiler #1	5.3	35.0	#4 fuel oil, 1.0%S	1
Boiler #2	5.3	35.0	#4 fuel oil, 1.0%S	1
Boiler #3	3.3	22.5	#4 fuel oil, 1.0%S	1

Generators

Equipment	Power Output (kW)	Maximum Capacity (MMBTU/hr)	Maximum Firing Rate (gal/hr)	Fuel Type	Stack #
Emergency Generator #1	360	3.5	25.6	Diesel fuel, 0.0015%S	2

C. Application Classification

The application for Inland Hospital 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 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

Inland Hospital operates three boilers to provide steam, heat and hot water to their healthcare facility: Boilers #1, #2 and #3 fire #4 fuel oil and are rated at 5.3, 5.3 and 3.3 MMBTU/hour, respectively. Boilers #1, #2 and #3 were manufactured in 1972, 1972 and 1987, respectively, and exhaust through a common stack (designated Stack #1) at a height of 68 feet above local ground level.

Due to their size and date of manufacture/installation, none of the boilers are 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/hour manufactured after June 9, 1989.

1. BPT Findings

The BPT emission limits for Boiler #1, #2 and #3 were based on the following:

PM/PM₁₀ Boilers #1 & #2: 0.2 lb/MMBTU for #4 fuel oil, 06-096 CMR 103
Boiler #3: 0.12 lb/MMBTU for #4 fuel oil, 06-096 CMR 103
SO₂ 1.05 lb/MMBTU, firing #4 fuel oil (1.0% sulfur)

NO_x 0.5 lb/MMBTU, previous BACT determination
CO 5 lb/1000 gal, AP-42, Table 1.3-1, dated 5/10
VOC 0.28 lb/1000 gal, AP-42, Table 1.3-3, dated 5/10
Opacity Based on 06-096 CMR 101, Visible Emission Regulation: visible emissions from Stack #1 shall not exceed 30% on a six-minute block average basis, except for no more than two six-minute block averages in a three-hour period.

The pound/hour limits for Boiler #1, #2 and #3 are as follows:

Equipment	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	1.1	1.1	5.6	2.7	0.2	0.1
Boiler #2	1.1	1.1	5.6	2.7	0.2	0.1
Boiler #3	0.4	0.4	3.5	1.7	0.1	0.1

Boilers #1, #2 and #3 shall be limited to firing no greater than 200,000 gallons/year of #4 fuel oil, with a sulfur content not to exceed 1.0% sulfur by weight, on a twelve-month rolling total basis.

When firing #4 fuel oil prior to January 1, 2018, Boilers #1, #2 and #3 shall fire #4 fuel oil with a maximum sulfur content limit of 1.0% by weight. Per 38 MRSA §603-A(1) and (2), when firing #4 fuel oil after January 1, 2018, Boilers #1, #2 and #3 shall fire #4 fuel oil with a maximum sulfur content limit of 0.5% by weight.

Periodic Monitoring

Periodic monitoring for the boilers shall include recordkeeping to document fuel use both on a monthly and twelve-month rolling total basis. Documentation shall include the type of fuel used and sulfur content of the fuel.

2. 40 CFR Part 63 Subpart JJJJJJ

Boilers #1, #2 and #3 may be subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJJ).

For informational purposes, a summary of the currently applicable federal 40 CFR Part 63 Subpart JJJJJJ requirements is listed below. At this time, the Maine Department of Environmental Protection has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule

promulgated by USEPA, however Inland Hospital is still subject to the requirements. Notification forms and additional rule information can be found on the following website:
<http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

a. Compliance Dates, Notifications, and Work Practice Requirements

i. Initial Notification of Compliance

An Initial Notification submittal to USEPA was due on September 17, 2011. [40 CFR Part 63.11225(a)(2)]

ii. Boiler Tune-Up Program

(a) A boiler tune-up program shall be implemented to include the tune-up of applicable boilers by March 21, 2012, according to the rule currently in place. [40 CFR Part 63.11196(a)(1)] However, a No Action Assurance letter was issued on March 13, 2012, stating that USEPA will exercise its enforcement discretion to not pursue enforcement action for failure to complete the required tune-up by the stated compliance date. The rule is expected to have a future compliance date in either 2013 or 2014 once the final revisions are promulgated.

(b) The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:

1. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; however, the burner must be inspected at least once every 36 months. [40 CFR Part 63.11223(b)(1)]
2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. [40 CFR Part 63.11223(b)(3)]
4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
5. Measure the concentration in the effluent stream of CO in parts per million (ppm), by volume, and oxygen in volume percent,

before and after adjustments are made. [40 CFR Part 63.11223(b)(5)]

6. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of start-up. [40 CFR Part 63.11223(b)(7)]

(c) A Notification of Compliance Status shall be submitted to USEPA no later than 120 days after conducting the initial boiler tune-up. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]

(d) Inland Hospital shall implement a boiler tune-up program after the initial tune-up and initial compliance report has been submitted.

1. Each tune-up shall be conducted at a frequency specified by the rule and based on the size and age of the boiler. [40 CFR Part 63.11223(a)]
2. The tune-up compliance report shall be maintained onsite and, if requested, submitted to USEPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the type and amount of fuel used over the 12 months prior to the tune-up of the boiler. [40 CFR Part 63.11223(b)(6)] The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. Records shall be in a form suitable and readily available for expeditious review.

C. Emergency Generator #1

Inland Hospital operates one emergency generator, designated Emergency Generator #1. Emergency Generator #1 was manufactured in 1989, is rated at 3.5 MMBTU/hour and fires 0.0015%S (15ppm) diesel fuel at a rate of 25.6 gallons/hour.

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 Emergency Generator #1. Emergency Generator #1 is considered an existing, emergency stationary reciprocating internal combustion engine at an area HAP source; however, it is considered exempt from the requirements of Subpart ZZZZ since it is categorized as a residential, commercial, or institutional emergency engine.

BPT Findings

The BPT emission limits for Emergency Generator #1 were based on the following:

PM/PM₁₀ 0.12 lb/MMBTU, previous BACT determination
SO₂ 0.0015 lb/MMBTU, firing 0.0015%S (15ppm) diesel fuel
NO_x 4.41 lb/MMBTU from AP-42, Table 3.3-1, dated 10/96
CO 0.95 lb/MMBTU from AP-42, Table 3.3-1, dated 10/96
VOC 0.35 lb/MMBTU from AP-42, Table 3.3-1, dated 10/96
Opacity Visible emissions from the diesel generator stack (designated Stack #2) shall not exceed 20% on a six-minute block average basis, except for no more than two six-minute block averages in a continuous three-hour period.

The pound/hour limit for Emergency Generator #1 is as follows:

Equipment	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator #1	0.4	0.4	0.1	15.5	3.3	1.2

The diesel fuel fired in Emergency Generator #1 shall have a sulfur content of no greater than 0.0015% (15ppm) sulfur by weight. Emergency Generator #1 shall be limited to 500 hours of operation, on a twelve-month rolling total basis. Inland Hospital shall maintain records of the hours of operation for Emergency Generator #1.

Emergency Generator #1 is only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Emergency 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.

D. Annual Emissions

1. Total Annual Emissions

Inland Hospital shall be restricted to the following annual emissions:

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

Equipment	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Boilers #1, #2 and #3	3.0	3.0	15.7	7.5	0.5	0.1
Emergency Generator #1	0.1	0.1	0.1	3.9	0.8	0.3
Total TPY	3.1	3.1	15.8	11.4	1.3	0.4

The annual emissions were based on Boilers #1, #2 and #3 firing a total of 200,000 gallons/year of #4 fuel oil (1.0%S) and Emergency Generator #1 limited to 500 hours/year operation, both on a twelve-month rolling total basis.

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 (CO₂e).

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, Inland Hospital is below the major

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source threshold of 100,000 tons of CO₂e 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:

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

Based on the total facility licensed emissions, Inland Hospital 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 (BPT) / Best Available Control Technology (BACT),
- 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-110-71-J-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 months after receipt of such approval or if construction is discontinued for a period of eighteen 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 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 calendar days of receipt of a notification to test from the Department or USEPA, 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 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 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 USEPA 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 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. Fuels

1. Total fuel use for Boilers #1, #2 and #3 combined shall not exceed 200,000 gallons/year of #4 fuel oil, on a twelve-month rolling total basis. [06-096 CMR 115, BPT]
2. Prior to January 1, 2018, any #4 fuel oil fired in Boilers #1, #2 and #3 shall have a maximum sulfur content limit of 1.0% by weight. [38 MRSA §603-A(2)(A)(1), BPT]
3. Beginning January 1, 2018, any #4 fuel oil fired in Boilers #1, #2 and #3 shall have a maximum sulfur content limit 0.5% by weight. [38 MRSA §603-A(2)(A)(1)]
4. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered. Records of annual fuel use shall be kept on a monthly and twelve-month rolling total basis. [06-096 CMR 115, BPT]

B. Emissions from Boilers #1, #2 and #3 shall not exceed the following:

Equipment	Pollutant	lb/MMBTU	Origin and Authority
Boilers #1 and #2	PM	0.20	06-096 CMR 103(2)(A)(1)
Boiler #3	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

C. Emissions from Boilers #1, #2 and #3 shall not exceed the following [06-096 CMR 115, BPT]:

Equipment	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	1.1	1.1	5.6	2.7	0.2	0.1
Boiler #2	1.1	1.1	5.6	2.7	0.2	0.1
Boiler #3	0.4	0.4	3.5	1.7	0.1	0.1

D. Visible emissions from Stack #1, servicing Boilers #1, #2 and #3, shall not exceed 30% on a six-minute block average basis, except for no more than two six-minute block averages in a three-hour period. [06-096 CMR 101]

(17) **Emergency Generators #1**

- A. The diesel fuel fired in Emergency Generator #1 shall not exceed 15 ppm sulfur (0.0015% sulfur). Compliance with the fuel sulfur content limit shall be based on fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 CMR 115]
- B. Emergency Generator #1 is limited to 500 hours per year of total operation, based on a twelve-month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [06-096 CMR 115]
- C. Emissions from Emergency Generator #1 shall not exceed the following:

Equipment	Pollutant	lb/MMBtu	Origin and Authority
Emergency Generator #1	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

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

Equipment	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator #1	0.4	0.4	0.1	15.5	3.3	1.2

- E. Visible emissions from Stack #2, servicing Emergency Generator #1, shall not exceed 20% on a six-minute block average basis, except for no more than two six-minute block averages in a continuous three-hour period. [06-096 CMR 101]
- F. Emergency Generator #1 is only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Emergency 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. [06-096 CMR 115, BPT]

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- (18) Inland Hospital 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 18 DAY OF December, 2012.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *Marie Allen Robert Cone* *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: November 13, 2012

Date of application acceptance: November 19, 2012

Date filed with the Board of Environmental Protection:

This Order prepared by Kevin J Ostrowski, Bureau of Air Quality.

