



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI  
GOVERNOR

DAVID P. LITTELL  
COMMISSIONER

**St. Mary's Regional Medical Center  
Androscoggin County  
Lewiston, Maine  
A-146-71-O-A (SM)**

**Departmental  
Findings of Fact and Order  
Air Emission License  
Amendment #1**

After review of the air emissions license amendment 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**

1. St. Mary's Regional Medical Center (St. Mary's) was issued Air Emission License A-146-71-N-R/M on May 15, 2006, permitting the operation of emission sources associated with their health care facility.
2. The equipment addressed in this license is located at 91 Campus Road, Lewiston, ME.
3. St. Mary's has requested an amendment to their license in order to replace the two Cyclotherm boilers at d'Youville Pavilion with two new boilers.

**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</u>	<u>Fuel Type, % sulfur</u>	<u>Stack</u>
Cleaver Brooks Boiler #1	3.35	23.9 gal/hr 54.2 cfm	#2 Fuel Oil, 0.5% S Natural Gas, Neg.	#2
Cleaver Brooks Boiler #2	3.35	23.9 gal/hr 54.2 cfm	#2 Fuel Oil, 0.5% S Natural Gas, Neg.	#3

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

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. The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Significance Level</u>
PM	5.9	5.9	0.0	100
PM <sub>10</sub>	5.9	5.9	0.0	100
SO <sub>2</sub>	17.4	17.4	0.0	100
NO <sub>x</sub>	41.6	41.6	0.0	100
CO	13.9	13.9	0.0	100
VOC	1.2	1.2	0.0	50

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 *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). 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 and #2, d'Youville Pavilion

The new Boilers #1 and #2 are Cleaver Brooks CB200 Boilers, with integral head dual fuel burners, firing natural gas and #2 fuel oil. These boilers were manufactured and installed in 2010, and each has a maximum heat input capacity of 3.35 MMBtu per hour. Because of the heat input capacity, these boilers 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.

A summary of the BACT analysis for Boilers #1 and #2 is the following:

For firing #2 fuel oil:

1. The total fuel use for the d'Youville pavilion shall not exceed 150,000 gallons per year of ASTM D396 compliant #2 fuel oil, based on a 12-month rolling total, with a maximum sulfur content not to exceed 0.5% by weight.
2. *Low Sulfur Fuel*, 06-096 CMR 106 (last amended June 9, 1999) regulates fuel sulfur content, however in this case it was determined a more stringent limit of 0.5% is appropriate and shall be used.
3. *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (last amended November 3, 1990) regulates PM emission limits, however a more stringent limit of .08 lb/MMBtu is BACT and shall be used. The PM<sub>10</sub> limits are derived from the PM limits.
4. NO<sub>x</sub> emission limits are based on data from similar #2 oil fired boilers of this size and age.
5. CO and VOC emission limits are based upon AP-42 data dated 9/98.
6. Visible emissions from each of the stacks serving the d'Youville boilers shall not exceed 20 percent 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.

For firing natural gas:

1. Total natural gas use for the facility shall not exceed 200,000,000 scf per year, based on a 12-month rolling total.
2. PM, SO<sub>2</sub>, NO<sub>x</sub>, CO and VOC emission limits are based on AP-42 data dated 7/98. PM<sub>10</sub> limits are based on PM limits.
3. Visible emissions from each of the stacks serving the d'Youville Boilers #1 and #2 shall not exceed 20 percent opacity on a six (6) minute block average, except for no more that one (1) six (6) minute block average in a continuous 3-hour period.

C. Annual Emissions

St. Mary's shall be restricted to the following annual emissions, based on a 12-month rolling total and the following fuel limits:

1. 150,000 gallons per year of #2 fuel oil with a maximum sulfur content not to exceed 0.5% by weight, fired in d'Youville Pavilion boilers.
2. 550,000 gallons per year of #2 fuel oil, with a maximum sulfur content not to exceed 0.5% by weight, fired at the Central Plant. For purposes of calculation, 500 hours consumption of #2 fuel oil is considered to be fired in each of the Central Plant generators and the remainder in the Central Plant boilers.
3. A facility natural gas limit of 200,000,000 scf/year. For the purpose of calculation, 500 hours consumption of natural gas was considered to be fired in the Maison Marccotte Generator.
4. 500 hours operation of the d'Youville Generator #1, firing diesel fuel with a sulfur content not to exceed 0.05% by weight.

**Total Licensed Annual Emissions for the Facility**

**Tons per year**

(Used to calculate the annual license fee)

	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Central Plant Boilers - #2	3.46	3.46	12.20	12.11	1.24	0.08
Central Plant Generators - #2	0.47	0.47	1.38	12.48	3.32	0.32
D'Youville Boilers - #2	1.05	1.05	5.29	3.68	0.38	0.03
D'Youville Generator - diesel	0.11	0.11	0.02	1.61	0.35	0.13
Facility Natural Gas	0.76	0.76	0.06	11.75	8.61	0.60
<b>Total TPY</b>	<b>5.8</b>	<b>5.8</b>	<b>18.9</b>	<b>41.6</b>	<b>13.9</b>	<b>1.2</b>

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-146-71-O-A subject to the conditions found in Air Emission License A-146-71-N-R/M, and in the following conditions.

**Special Condition (18) below shall replace Special Condition (18) in current license A-146-71-N-R\M**

**(18) d'Youville Pavilion Cleaver Brooks Boilers #1 and #2**

- A. Total fuel use for the Cleaver Brooks Boilers #1 and #2 shall not exceed 150,000 gallons per year of ASTM D396 #2 fuel oil with a maximum sulfur content not to exceed 0.5 percent by weight. Compliance shall be demonstrated by fuel records from the supplier showing the quantity of fuel delivered and the percent sulfur of the fuel. Records of annual fuel use shall be kept on a 12-month rolling total basis. [06-096 CMR 115, BPT]
- B. Boilers #1 and #2 may fire natural gas. The facility shall be limited to 200,000,000 scf per year of natural gas, based on a 12-month rolling total
- C. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Cleaver Brooks Boiler #1	PM	0.08	06-096 CMR 103(2)(B)(1)(a)
Cleaver Brooks Boiler #2	PM	0.08	06-096 CMR 103(2)(B)(1)(a)

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

Emission Unit	Fuel Type	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)
Cleaver Brooks Boiler #1	#2 oil	0.1	0.1	0.35	0.35	0.005	0.00034
	Nat. Gas	0.03	0.03	0.01	0.33	0.28	0.02
Cleaver Brooks Boiler #2	#2 oil	0.1	0.1	0.35	0.35	0.005	0.00034
	Nat. Gas	0.03	0.03	0.01	0.33	0.28	0.02

- E. Visible emissions from Boilers #1 and #2 shall each not exceed 20 percent 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]

DONE AND DATED IN AUGUSTA, MAINE THIS *1st* DAY OF *September*, 2010.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:   
DAVID P. LITTLE, COMMISSIONER

**The term of this amendment shall be concurrent with the term of Air Emission License A-146-71-N-R/M.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 7/26/2010

Date of application acceptance: 7/26/2010

Date filed with the Board of Environmental Protection:

This Order prepared by N. Lynn Cornfield, Bureau of Air Quality.

