STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

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ACTING COMMISSIONER

St. Joseph Hospital	)	**Departmental**
Penobscot County	)	**Finding of Fact and Order**
Bangor, Maine	)	**Air Emission License**
A-237-71-N-A	)	**Amendment #2**

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

St. Joseph Hospital (SJH) of Bangor, Maine was issued Air Emission License A-237-71-L-R on January 30, 2008, permitting the operation of air emission sources associated with their health-care facility. This License was amended on January 22, 2009.

SJH has requested a minor modification to their License in order to replace Boiler #4 with two new boilers each rated at 3.0 MMBtu/hr. SJH has also requested that their two emergency generators be permitted to respond to the ISO-New England's Demand Response Program (the "ISO Program").

B. Emission Equipment

The following air emission units are addressed in this amendment:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBTU/hr)	Fuel Type	Maximum Firing Rate	Stack
Boiler #7*	3.0	Natural Gas	3000 scf/hr	2
Boiler #8*	3.0	Natural Gas	3000 scf/hr	2
Emergency Generator #5	3.7	Diesel Fuel	27 gal/hr	n/a
Emergency Generator #6	5.6	Diesel Fuel	41 gal/hr	n/a

* indicates new equipment

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. 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 #7 and #8

SJH is installing two new natural gas fired boilers to replace Boiler #4 which has failed. The new Boilers #7 and #8 are each rated at 3.0 MMBtu/hr. They are therefore not subject to New Source Performance Standards (NSPS) 40 CFR Part 60 Subpart Dc, for boilers with heat inputs greater than 10 MMBtu/hr and constructed after June 9, 1989. As the boilers fire only natural gas, they are not subject to National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 63, Subpart JJJJJJ.

BACT for Boilers #7 and #8 is the following:

1. *Low Sulfur Fuel*, 06-096 CMR 106 (as amended) regulates fuel sulfur content. However the use of natural gas is more stringent and shall be considered BACT.
2. *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (as amended) regulates PM emission limits. However, a PM emission limit of 0.05 lb/MMBtu is more stringent and shall be considered BACT. The PM_{10} limits are derived from the PM limits.
3. NO_X, CO and VOC emission limits based upon AP-42 data dated 7/98.

4. Visible emissions from the combined stack serving Boilers #7 and #8 (stack #2) 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 3 hour period.

C. ISO Demand Response Program

SJH operates two diesel-fired emergency engines (3.7 and 5.6 MMBtu/hr), and is proposing to participate in the ISO-New England's Demand Response Program (the "ISO Program"). The ISO Program has been designed to alleviate potential reliability concerns in the region, which if not addressed could result in electric service interruptions. Use of emergency engines in the ISO Program occurs when ISO declares an Operating Procedure 4 (OP-4).

SJH air license includes the following operating restrictions for the emergency generator: "Back-up generators are only to be operated for maintenance purposes and for situations arising from sudden and reasonably foreseeable events beyond the control of the source. Back-up generators are not to be used for prime power when reliable off-site power is available." Therefore, the emergency generator cannot currently participate in the ISO Program due to this license restriction. SJH has requested their license be modified for up to 60 hours of emergency demand response (DR) use for the following reasons:

- In January 2010, EnerNOC, Inc. convinced the EPA about the merits of emergency DR and EPA included a carve out provision in the NESHAP (40 CFR 63 Subpart ZZZZ). However, EPA included a 15 hour per year limit which becomes effective May 3, 2013. In May 2010, EnerNOC (and other companies) filed both petitions for reconsideration and review asking that the EPA modify the NESHAP to increase the 15 hour limit to the minimum of the ISO tariff or 60 hours. Since ISO New England does not specify an emergency DR limit, SJH is asking that the use of engines in emergency DR programs be increased from 15 to 60 hours for New England.

- EPA accepted the petition; held a public meeting in January 2011; and collected public comments through February 14, 2011. The EPA received over 116 letters of which 96% supported EnerNOC's petition or asked for more (e.g., the use of engines for peak shaving). Meetings with EPA and EnerNOC, Inc. in April 2011 indicated EPA plans to proceed with a proposed rule change this summer.

- The use of emergency engines for emergency DR is still a measure of last resort. The last time (and only time in Maine) ISO New England used engines for an OP-4 action was August 2, 2006.

To be consistent with the petition and likely future EPA action, this amendment will allow SJH 60 hours of emergency demand response. However, if EPA does not change the NESHAP rule, which currently limits OP-4 operation to 15 hours after May 3, 2013, then SJH is required to meet what is required per the rule at that time.

D. Annual Facility Emissions

1. Boilers #1, #2, #3, #7 and #8 shall not exceed a combined total of 45,000 MMBtu of #2 fuel oil or Natural Gas on a 12-month rolling total basis.
2. Annual emissions are based on the worst-case scenario of firing 100% #2 fuel oil for PM, SO_2, NO_X, and VOC, and firing 100% Natural Gas for CO in the boilers.
3. Each emergency generator shall not operate for more than 150 hours per 12-month rolling year.
4. The following emissions shall not be exceeded on a 12-month rolling total:

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

	PM	PM_{10}	SO_2	NO_x	CO	VOC
Boilers	1.80	1.80	11.35	3.22	1.85	0.09
Generator #5	0.03	0.03	0.01	1.22	0.26	0.10
Generator #6	0.05	0.05	0.02	1.34	0.36	0.04
Total TPY	**1.88**	**1.88**	**11.38**	**5.78**	**2.47**	**0.23**

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 total facility emissions, SJH is below the emissions level required for modeling and monitoring.

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-237-71-N-A subject to the conditions found in Air Emission Licenses A-237-71-M-M and A-237-71-L-R and 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 shall replace Condition 16 in Air Emission License A-237-71-M-M

(16) Boilers #1, #2, #3, #7 and #8

1. Combined fuel use for the boilers shall not exceed 45,000 MMBtu of Natural Gas or #2 fuel oil that meets the criteria in ASTM D396 on a 12 month rolling total. Compliance shall be demonstrated by fuel records from the supplier documenting the type and quantity of fuel delivered. Records of annual fuel use shall be kept on a 12-month rolling total basis. [06-096 CMR 115, BPT, BACT].
2. The boilers shall each have a PM emission limit of 0.08 lb/MMBtu when firing #2 fuel oil, or a PM emission limit of 0.05 lb/MMBtu when firing Natural Gas. [06-096 CMR 103, BPT, BACT]
3. Emissions shall not exceed the following when firing #2 fuel oil: [06-096 CMR 115, BPT]

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.42	0.42	2.67	0.76	0.19	0.02
Boiler #2	0.42	0.42	2.67	0.76	0.19	0.02
Boiler #3	0.84	0.84	5.29	1.50	0.38	0.04

4. Emissions shall not exceed the following when firing Natural Gas: [06-096 CMR 115, BPT, BACT]

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.27	0.27	0.01	0.52	0.44	0.03
Boiler #2	0.27	0.27	0.01	0.52	0.44	0.03
Boiler #3	0.53	0.53	0.01	1.03	0.86	0.06
Boiler #7	0.15	0.15	0.01	0.30	0.25	0.02
Boiler #8	0.15	0.15	0.01	0.30	0.25	0.02

5. Visible emissions from the combined stack that serves Boilers #1 - #3 (stack #1) shall not exceed 10% opacity 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]
6. Visible emissions from the combined stack that serves Boilers #7 - #8 (stack #2) shall not exceed 10% opacity 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]

The following are new Conditions:

(1) OP-4 Emergencies [06-096 CMR 115, 40 CFR Part 63 Subpart ZZZZ, BPT]

A. SJH shall only operate the emergency generator for periods of maintenance, emergencies when off-site power is unavailable, and ISO New England OP-4 emergencies.

B. SJH shall keep records for OP-4 emergencies which include the date, which the generator was operated, start time and stop time for the generator, and documentation that SJH was contacted by ISO New England and asked to reduce consumption as part of an OP-4 event.

C. SJH shall not operate the emergency generator for more than 60 hours between January 1st and December 31st of each year in response to an OP-4 emergency.

D. If EPA does not change 40 CFR Part 63 Subpart ZZZZ NESHAP rule, then SJH is required to meet all applicable requirements per the federal rule by the applicable compliance dates.

(2) SJH 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 31st DAY OF May 2011.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Melanie Loyzim for
JAMES P. BROOKS, ACTING COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-237-71-L-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 5/5/2010
Date of application acceptance: 5/11/2010

Date filed with the Board of Environmental Protection: _____

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

Filed
MAY 31 2011
State of Maine
Board of Environmental Protection