



DEPARTMENT ORDER

**Trustees of St. Joseph's College
d/b/a Saint Joseph's College of Maine
Cumberland County
Standish, Maine
A-729-71-H-M**

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

FINDINGS OF FACT

After review of the air emission license minor revision application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Trustees of St. Joseph's College d/b/a Saint Joseph's College of Maine (St. Joseph's College) was issued Air Emission License A-729-71-G-R/A on November 20, 2018, for the operation of emission sources associated with their educational facility.

St. Joseph's College has requested a minor revision to their license in order to remove Boilers #3, #4, and #5 from their license. In addition, the Department will update the fuel sulfur content to 0.0015% sulfur per 38 M.R.S. § 603-A(2)(A)(3).

St. Joseph's college also requested that the power output rating of Emergency Generator #4 be corrected from 20 kW to 24 kW. Generator #4 is considered an insignificant activity for air licensing purposes, however, it is listed in the license because it is subject to the federal regulations for reciprocating internal combustion engines.

The equipment addressed in this license minor revision is located at 278 Whites Bridge Road, Standish, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license amendment:

Boilers

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Location</u>	<u>Stack #</u>
Boiler #1	2.0	15	Distillate, 0.0015%	Mercy Hall	1
Boiler #2	2.0	15	Distillate, 0.0015%	Mercy Hall	1
Boiler #3 - removed	1.5	10.7	Distillate, 0.5%	Saint Joseph's Hall	2
Boiler #4 - removed	2.5	18.9	Distillate, 0.5%	Saint Joseph's Hall	2
Boiler #5 - removed	4	28.6	Distillate, 0.5%	Saint Joseph's Hall	2

The following table is a listing of the generators that are considered insignificant and listed here for inventory purposes only. Although they are not licensed, they may be subject to the federal regulations for propane fired (spark ignition) and distillate fired (compression ignition) engines.

<u>Equipment</u>	<u>Power Output KW</u>	<u>Make</u>	<u>Location</u>
*Emergency Generator #4	24	Kohler	Carmel Hall
Emergency Generator #5	20	Onan	Alfond Center
Emergency Generator #7	4	Daton	Standish Hall
Emergency Generator #8	40	Olympian	Feeney Hall

* Power output updated

C. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the issued date of this license.

This amendment will not increase emissions of any pollutant. Therefore, this amendment is determined to be a minor revision 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 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

B. Process Description

St. Joseph's College has requested the removal of Boilers #3, #4, and #5 from their air emission license. The three distillate-fuel fired boilers at Saint Joseph's Hall have been removed and replaced with three liquefied petroleum gas fired boilers with individual heat input capacities of 0.6 MMBtu/hr. The new units are below the licensing thresholds and are considered insignificant.

C. Distillate Fuel Sulfur Content

St. Joseph's College operates Boiler #1 and Boiler #2, for hot water and heating needs. The boilers are each rated at 2.0 MMBtu/hr and fire distillate fuel.

Per 38 M.R.S. § 603-A(2)(A)(3), as of July 1, 2018, no person shall import, distribute, or offer for sale any distillate fuel with a sulfur content greater than 0.0015% by weight (15 ppm). Therefore, the distillate fuel purchased or otherwise obtained for use in Boiler #1 and Boiler #2 shall not exceed 0.0015% by weight (15 ppm).

1. BPT Findings

The BPT emission limits for Boilers #1 and #2 were based on the following:

Distillate Fuel

PM/PM ₁₀	– 0.08 lb/MMBtu based on 06-096 C.M.R. ch. 115, BPT
SO ₂	– based on firing distillate fuel with a maximum sulfur content of 0.0015% by weight
NO _x	– 20 lb/1000 gal based on AP-42 Table 1.3-1 dated 5/10
CO	– 5 lb/1000 gal based on AP-42 Table 1.3-1 dated 5/10
VOC	– 0.34 lb/1000 gal based on AP-42 Table 1.3-3 dated 5/10
Visible Emissions	– 06-096 C.M.R. ch. 115, BPT

The BPT emission limits for Boilers #1 and #2 are the following:

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1 (2.0 MMBtu/hr) distillate fuel	0.24	0.24	0.01	0.30	0.07	0.01
Boiler #2 (2.0 MMBtu/hr) distillate fuel	0.24	0.24	0.01	0.30	0.07	0.01

Visible emissions from Boilers #1 and #2 each shall not exceed 20% opacity on a six-minute block average basis.

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 type of fuel used and sulfur content of the fuel.

3. National Emission Standards for Hazardous Air Pollutants (NESHAP):
40 C.F.R. Part 63, Subpart JJJJJ

Boilers #1 and #2 shall continue to be subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJ as outlined in A-729-71-G-R/A.

The replacement boilers for Boilers #3, #4 and #5 meet the definition of gas fired boilers which are exempt from this regulation.

D. Annual Emissions

Total Annual Emissions

St. Joseph's College shall be restricted to the following annual emissions, based on a calendar year. The tons per year limits were calculated based on continuous operation of the boilers, furnaces, and on 100 hrs/yr (each) of operation of the generators.

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

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boilers	2.5	2.5	0.1	3.7	1.3	0.2
Furnaces	0.5	0.5	0.1	1.5	0.9	0.1
Generators	0.1	0.1	0.1	0.4	0.5	0.1
Total TPY	3.1	3.1	0.3	5.6	2.7	0.4

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

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 Amendment A-729-71-H-M subject to the conditions found in Air Emission License A-729-71-G-R/A and in the following Specific Conditions listed below.

Severability. The invalidity or unenforceability of any provision of this License Amendment or part thereof shall not affect the remainder of the provision or any other provisions. This License Amendment 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 replaces Specific Condition (16) of A-729-71-G-R/A.

(16) Distillate Fired Boiler #1 and Boiler #2

A. Fuel

1. The facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm).
[06-096 C.M.R. ch. 115, BPT]
2. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered (if applicable). Records of annual fuel use shall be kept on a monthly and calendar year total basis.
[06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following [06-096 C.M.R. ch. 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	0.24	0.24	0.01	0.30	0.07	0.01
Boiler #2	0.24	0.24	0.01	0.30	0.07	0.01

- C. Visible emissions from the boilers shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]**
- D. St. Joseph's College shall comply with all requirements of 40 C.F.R. Part 63, Subpart JJJJJ applicable to Boilers #1 and #2 including, but not limited to, the following:
[incorporated under 06-096 C.M.R. ch. 115, BPT]**

1. The facility shall implement a boiler tune-up program. [40 C.F.R. § 63.11223]
 - a. Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

Boiler Category	Tune-Up Frequency
Oil fired boilers with a heat input capacity of ≤5MMBtu/hr	Every 5 years

[40 C.F.R. § 63.11223(a) and Table 2]

- 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, not to exceed 36 months from the previous inspection. Delay of the burner inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour, boilers with oxygen trim systems, seasonal boilers, and limited use boilers.
[40 C.F.R. § 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 C.F.R. § 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. Delay of the inspection until the next scheduled shutdown is permitted, not to exceed 36 months from the previous inspection. Delay of the inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 C.F.R. § 63.11223(b)(3)]
 - (4) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 C.F.R. § 63.11223(b)(4)]
 - (5) Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
[40 C.F.R. § 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 30 days of start-up.
[40 C.F.R. § 63.11223(b)(7)]
- c. Tune-Up Report: A tune-up report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information:
- (1) The concentration of CO in the effluent stream (ppmv) and oxygen (volume percent) measured at high fire or typical operating load both **before** and **after** the boiler tune-up;
 - (2) A description of any corrective actions taken as part of the tune-up of the boiler; and
 - (3) The types and amounts of fuels used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of

using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit. [40 C.F.R. § 63.11223(b)(6)]

2. Compliance Report

A compliance report shall be prepared by March 1st every five years which covers the previous five calendar years. The report shall be maintained by the source and submitted to the Department and/or to the EPA upon request. The report must include the items contained in §§ 63.11225(b)(1) and (2), including the following: [40 C.F.R. § 63.11225(b)]

- a. Company name and address;
- b. A statement of whether the source has complied with all the relevant requirements of this Subpart;
- c. A statement certifying truth, accuracy, and completeness of the notification and signed by a responsible official and containing the official's name, title, phone number, email address, and signature;
- d. The following certifications, as applicable:
 - (1) "This facility complies with the requirements in 40 C.F.R. § 63.11223 to conduct tune-ups of each boiler in accordance with the frequency specified in this Subpart."
 - (2) "No secondary materials that are solid waste were combusted in any affected unit."
 - (3) "This facility complies with the requirement in §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

3. Records shall be maintained consistent with the requirements of 40 C.F.R. Part 63, Subpart JJJJJ including the following [40 C.F.R. § 63.11225(c)]:
 - a. Copies of notifications and reports with supporting compliance documentation;
 - b. 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;
 - c. Records of the occurrence and duration of each malfunction of each applicable boiler; and
 - d. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler.

Records shall be in a form suitable and readily available for expeditious review.

DONE AND DATED IN AUGUSTA, MAINE THIS 18 DAY OF December, 2018.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Melanie Loyzim for
MELANIE LOYZIM, ACTING COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-729-71-G-R/A.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 9/17/18
Date of application acceptance: 9/18/18

Date filed with the Board of Environmental Protection:

This Order prepared by Lisa P. Higgins, Bureau of Air Quality.

