



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

**Fiberight LLC and  
Municipal Review Committee, Inc.  
Penobscot County  
Hampden, Maine  
A-1111-71-C-A**

**Departmental  
Findings of Fact and Order  
Air Emission License  
Amendment #2  
After-the-Fact**

**FINDINGS OF FACT**

After review of the air emission license amendment 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**

Fiberight LLC (Fiberight) applied for an Air Emission License permitting the operation of emission sources associated with a Municipal Solid Waste (MSW) processing facility. Municipal Review Committee, Inc. also applied as a co-applicant. Sufficient documentation was provided to the Department to demonstrate Title, Right, or Interest for both companies. Therefore, wherever "Fiberight" is used throughout this document, it is intended to refer to both entities equally and jointly.

Fiberight was issued Air Emission License A-1111-71-A-N on July 14, 2016, for the operation of emission sources associated with their MSW processing facility. The license was subsequently amended on April 1, 2019 (A-1111-71-B-A).

The equipment addressed in this license is located on Bouchard Lane in Hampden, Maine.

Fiberight has requested an amendment to their license in order to address make-up air units not previously included in their license.

B. Emission Equipment

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

**Make-up Air Units**

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate (scfh)	Fuel Type	Date of Manuf.	Date of Install.
HX-34000	5.57	5,353	Natural Gas	2019	2019
HX-34001	5.57	5,353	Natural Gas	2019	2019
HX-34100	3.56	3,475	Natural Gas	2019	2019

Fibrigh has additional natural gas-fired make-up air units and heaters throughout the facility which are considered insignificant actives due to their size. (Boilers/heaters with a heat input less than 1.0 MMBtu/hr and stationary engines with a heat input less than 0.5 MMBtu/hr are considered insignificant activities.)

C. Application Classification

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

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the “Significant Emission” levels as defined in the Department’s *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100. The emission increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions, as follows:

Pollutant	Current License (TPY)	Future License (TPY)	Net Change (TPY)	Significant Emission Levels
PM	13.7	13.7	-0-	100
PM <sub>10</sub>	13.7	13.7	-0-	100
SO <sub>2</sub>	49.9	49.9	-0-	100
NO <sub>x</sub>	41.0	41.0	-0-	100
CO	93.3	93.3	-0-	100
VOC	12.9	12.9	-0-	50

This modification is determined to be a minor modification and has been processed as such.

**D. Facility Classification**

With the licensed facility-wide annual emission limits, the facility is licensed as follows:

- As a synthetic minor source of air emissions, because Fiberight is subject to license restrictions that keep facility emissions below major source thresholds for criteria pollutants; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP.

Emissions of CO and HAP are licensed above 80% of the major source threshold. Therefore, this facility is classified as an “80% Synthetic Minor” for the purpose of determining the minimum required compliance inspection frequency in accordance with Maine’s Compliance Monitoring Strategy.

**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.

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 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts.

**B. Make-up Air Units**

Fiberight operates three make-up air units which are above the insignificance thresholds (HX-34000, HX-34001, and HX-34100). These units are used to maintain the ambient temperature of the waste processing area at a minimum of 40 °F. All three units fire only natural gas. HX-34000 and HX-34001 are each rated at a heat input of 5.57 MMBtu/hr and HX-34100 is rated at a heat input of 3.56 MMBtu/hr based on a fuel heating value of 1025 Btu/scf.

1. BACT Findings

Following is a BACT analysis for control of emissions from the make-up air units.

a. Particulate Matter (PM, PM<sub>10</sub>)

Fiberight has proposed to burn only low-ash content fuels (natural gas) in the make-up air units. Additional add-on pollution controls are not economically feasible.

BACT for PM/PM<sub>10</sub> emissions from the make-up air units is the firing of only natural gas and the emission limits listed in the tables below.

b. Sulfur Dioxide (SO<sub>2</sub>)

Fiberight has proposed to fire only natural gas in the make-up air units. The use of this fuel results in minimal emissions of SO<sub>2</sub>, and additional add-on pollution controls are not economically feasible.

BACT for SO<sub>2</sub> emissions from the make-up air units is the firing of only natural gas and the emission limits listed in the tables below.

c. Nitrogen Oxides (NO<sub>x</sub>)

Several control strategies for the control of NO<sub>x</sub> were considered including Selective Catalytic Reduction (SCR), Selective Non-Catalytic Reduction (SNCR), water/steam injection, flue gas recirculation (FGR), and good combustion practices. However, none of these systems is considered feasible for the location and application of these small, natural gas-fired units.

BACT for NO<sub>x</sub> emissions from the make-up air units is the firing of only natural gas, good combustion practices, and the emission limits listed in the tables below.

d. Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)

Fiberight has proposed to fire only low-ash content natural gas in the make-up air units and to optimize combustion using efficient burner combustion technology. Additional add-on pollution controls are not economically feasible.

BACT for CO and VOC emissions from the make-up air units is the firing of only natural gas, the use of efficient burner combustion technology, and the emission limits listed in the tables below.

e. Emission Limits

The BACT emission limits for the make-up air units were based on the following:

PM/PM <sub>10</sub>	–	0.05 lb/MMBtu based on 06-096 C.M.R. ch. 115, BACT
SO <sub>2</sub>	–	0.6 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
NO <sub>x</sub>	–	100 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
CO	–	84 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
VOC	–	5.5 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
Visible Emissions	–	06-096 C.M.R. ch. 115, BACT

The BACT emission limits for the make-up air units are the following:

Unit	Pollutant	lb/MMBtu
HX-34000	PM	0.05
HX-34001	PM	0.05
HX-34100	PM	0.05

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)
HX-34000	0.28	0.28	neg.	0.54	0.46	0.03
HX-34001	0.28	0.28	neg.	0.54	0.46	0.03
HX-34100	0.18	0.18	neg.	0.35	0.29	0.02

2. Visible Emissions

Visible emissions from HX-34000, HX-34001, and HX-34100 shall each not exceed 10% opacity on a six-minute block average basis.

3. New Source Performance Standards (NSPS): 40 C.F.R. Part 60, Subpart Dc

The make-up air units are not boilers. Additionally, they are each less than 10 MMBtu/hr. Therefore, the make-up air units are not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

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

The make-up air units do not heat water. They do not meet the definition of a “boiler” and therefore are not subject to *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJ.

**C. Facility-Wide Emission Limits**

The facility is subject to facility-wide emission limits for all combustion equipment. Fiberight has requested that the make-up air units be included in the existing facility-wide limits and that there be no increase in licensed emissions.

Therefore, Fiberight shall be limited to the following annual emissions for Boilers #1, #2, and #3, the ZBRID TO, Flare #1, HX-34000, HX-34001, and HX-34100 (all units combined) based on a 12-month rolling total basis:

<b>Pollutant</b>	<b>Ton/Year</b>
PM	13.7
PM <sub>10</sub>	13.7
SO <sub>2</sub>	49.9
NO <sub>x</sub>	41.0
CO	93.3
VOC	7.1

Compliance shall be demonstrated by monthly calculations of emissions based on the following:

1. Amount of each fuel fired in Boilers #1, #2, and #3, HX-34000, HX-34001, and HX-34100 (see note below);
2. Moisture content of the PHS fired in Boilers #1 and #2;
3. Amount of gas burned in the ZBRID TO and Flare #1;
4. H<sub>2</sub>S concentration of the gas burned in Boiler #3, ZBRID TO, and Flare #1; and
5. Emission factors based on the equipment's licensed emission limits or performance test results.

Note: In determining the fuel use for the make-up air units, Fiberight may conservatively use all natural gas fired by units other than the boilers. Alternatively, Fiberight may conservatively calculate fuel use for the make-up air units based on the hours the units were in operation and the maximum hourly fuel use for each unit.

Updated calculations of facility-wide monthly and 12-month rolling total emissions shall be completed by the 20<sup>th</sup> of each month and made available to the Department upon request.

D. Annual Emissions

Fiberight shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year limits are based on federally-enforceable emission limits contained in the Order section of this license and maximum VOC emissions of 2.9 ton/year from each scrubber train.

**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
Combustion Equipment	13.7	13.7	49.9	41.0	93.3	7.1
Scrubber Trains (2)	–	–	–	–	–	5.8
<b>Total TPY</b>	<b>13.7</b>	<b>13.7</b>	<b>49.9</b>	<b>41.0</b>	<b>93.3</b>	<b>12.9</b>

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

Pollutant	lb/year
Mercury	10.0

III. **AMBIENT AIR QUALITY ANALYSIS**

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with 06-096 C.M.R. ch. 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	50
CO	250

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license amendment.

**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-1111-71-C-A subject to the conditions found in Air Emission License A-1111-71-A-N, in amendment A-1111-71-B-A, and the following conditions.

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 shall replace Condition (17) of Air Emission License A-1111-71-B-A:**

**(17) Facility-Wide Emission Limits**

- A. Fiberight shall not exceed the following emission limits (12-month rolling total) for Boilers #1, #2, #3, Flare #1, ZBRID TO, Flare #1, HX-34000, HX-34001, and HX-34100 (all units combined):  
[06-096 C.M.R. ch. 115, BACT]

<b>Pollutant</b>	<b>Ton/Year</b>
PM	13.7
PM <sub>10</sub>	13.7
SO <sub>2</sub>	49.9
NO <sub>x</sub>	41.0
CO	93.3
VOC	7.1

Note: Emissions of VOC from the scrubber trains are not included in the VOC limit above.

- B. Fiberight shall not exceed facility-wide total annual emissions of 9.9 tpy of any single HAP and 24.9 tpy of any combination of HAPs based on a 12-month rolling total.  
[06-096 C.M.R. ch. 115, BACT]



- C. Fiberight shall not exceed a facility-wide total annual emission limit of 10.0 pounds per year of mercury based on a 12-month rolling total. [06-096 C.M.R. ch. 115, BACT]
- D. Compliance with the annual emission limits shall be demonstrated by monthly calculations of emissions based on the following:
1. Amount of each fuel fired in Boilers #1, #2, and #3, HX-34000, HX-34001, and HX-34100 (see note below);
  2. Moisture content of the PHS fired in Boilers #1 and #2;
  3. Amount of gas burned in the ZBRID TO and Flare #1;
  4. H<sub>2</sub>S concentration of the gas burned in Boiler #3, ZBRID TO, and Flare #1; and
  5. Emission factors based on the equipment's licensed emission limits or performance test results.
- [06-096 C.M.R. ch. 115, BPT]

Note: In determining the fuel use for the make-up air units, Fiberight may conservatively use all natural gas fired by units other than the boilers. Alternatively, Fiberight may conservatively calculate fuel use for the make-up air units based on the hours the units were in operation and the maximum hourly fuel use for each unit.

- E. Updated calculations of facility-wide monthly and 12-month rolling total emissions shall be completed by the 20<sup>th</sup> of each month and made available to the Department upon request. [06-096 C.M.R. ch. 115, BPT]

**The following shall replace Condition (28)(B) of Air Emission License A-1111-71-B-A:**

**(28) Annual Emission Statement**

- B. Fiberight shall keep the following records in order to comply with 06-096 C.M.R. ch. 137:
1. The amount of each fuel fired in Boilers #1, #2, and #3, HX-34000, HX-34001, and HX-34100 (each) on a monthly basis (see note);
  2. The moisture content of the PHS fired in Boilers #1 and #2;
  3. The amount of gas burned in the ZBRID TO and Flare #1;
  4. The H<sub>2</sub>S concentration of the gas burned in Boiler #3, ZBRID TO and Flare #1;
  5. Calculations of the VOC and/or HAP emissions from the scrubber trains on a calendar year total basis; and
  6. Hours each emission unit was active or operating on a monthly basis.
- [06-096 C.M.R. ch. 137]

Note: In determining the fuel use for the make-up air units, Fiberight may conservatively use all natural gas fired by units other than the boilers. Alternatively, Fiberight may conservatively calculate fuel use for the make-up air units based on the hours the units were in operation and the maximum hourly fuel use for each unit.

**The following are New Conditions:**

**(31) Make-up Air Units (HX-34000, HX-34001, and HX-34100)**

A. HX-34000, HX-34001, and HX-34100 shall fire only natural gas.  
[06-096 C.M.R. ch. 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>
HX-34000	PM	0.05	06-096 C.M.R. ch. 115, BACT
HX-34001	PM	0.05	06-096 C.M.R. ch. 115, BACT
HX-34100	PM	0.05	06-096 C.M.R. ch. 115, BACT

C. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BACT]:

<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>
HX-34000	0.28	0.28	neg.	0.54	0.46	0.03
HX-34001	0.28	0.28	neg.	0.54	0.46	0.03
HX-34100	0.18	0.18	neg.	0.35	0.29	0.02

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D. Visible emissions from HX-34000, HX-34001, and HX-34100 shall each not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]

DONE AND DATED IN AUGUSTA, MAINE THIS 9th DAY OF October, 2019.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:  for

GERALD D. REID, COMMISSIONER

**The term of this amendment shall be concurrent with the term of Air Emission License A-1111-71-A-N**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 9/17/19

Date of application acceptance: 9/17/19

Date filed with the Board of Environmental Protection:

This Order prepared by Lynn Muzzey, Bureau of Air Quality.

