



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

DARRYL N. BROWN
COMMISSIONER

Cascades Auburn Fiber, Inc.
Androscoggin County
Auburn, Maine
A-600-71-J-R

Departmental
Findings of Fact and Order
Air Emission License

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., §344 and §590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

1. Cascades Auburn Fiber, Inc. (Cascades) has applied to renew their Air Emission License permitting the operation of emission sources associated with their market de-inked pulp mill.
2. The equipment addressed in this license is located at 586 Lewiston Junction Road, Auburn, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
Boiler 1	36.0	35,000 scf/hr 398 gal/hr	Natural Gas Propane	1
Heater 1	3.0	2,913 scf/hr 33.2 gal/hr	Natural Gas Propane	n/a
Heater 2	3.0	2,913 scf/hr 33.2 gal/hr	Natural Gas Propane	n/a
Heater 3	3.0	2,913 scf/hr 33.2 gal/hr	Natural Gas Propane	n/a
Heater 4	3.0	2,913 scf/hr 33.2 gal/hr	Natural Gas Propane	n/a
Fire Pump	0.8	5.84 gal/hr	Diesel, 0.0015% S	n/a

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AUGUSTA, MAINE 04333-0017
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PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04679-2094
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C. Application Classification

The application for Cascades 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 current 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. Boiler 1

Boiler 1 has a maximum design capacity of 36.0 MMBtu/hr and is a fire tube package boiler which supplies process steam for the facility by combusting natural gas and/or propane.

The boiler was installed in 1995, and is therefore 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.

In addition, propane and natural gas-fired boilers are not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ).

A summary of the BPT analysis for each of the pollutants emitted by Boiler 1 (36.0 MMBtu/hr) is the following:

1. SO₂

The use of natural gas and propane fuels represents BPT for the release of SO₂ emissions from the boiler. By combusting natural gas and propane, rather than oil, the amount of sulfur dioxide available in the fuel is minimized. Therefore, SO₂ emissions are minimized without the need for post combustion controls.

2. NO_x

Cascades has selected low NO_x burners with flue gas recirculation for controlling NO_x emissions from the fire tube boiler. BPT for Boiler 1 determined the emission limit of 0.08 lb/MMBtu shall be used when firing natural gas/propane.

Annual tune-ups as prescribed in 06-096 CMR 138 (as amended) shall replace the need for flue gas recirculation monitoring and recording, and also shall replace the analog flue gas oxygen monitoring and recording system. The annual tune-up shall comply with the following requirements:

- A. A tune-up procedure file must be kept on-site and made available to the Department upon request,
- B. An oxygen/carbon monoxide curve or an oxygen/smoke curve must be kept on file,
- C. Once the optimum excess oxygen setting has been determined, Cascades shall periodically verify that the setting remains at that value, and
- D. If the minimum oxygen level found is substantially higher than the value provided by the combustion unit manufacturer, Cascades must improve the fuel and air mixing, thereby allowing operation with less air.

3. PM, PM₁₀, CO and VOC

Combustion control has been implemented by Cascades to minimize PM, PM₁₀, CO and VOC emissions from Boiler 1. 06-096 CMR 103 (as amended) regulates PM emissions; however, in this case a PM emission limit of 0.01 lb/MMBtu shall be considered BPT. The PM₁₀ emission limits are derived from the PM limits. Proper boiler design and combustion optimization reduces the formation of semi-oxidized combustion products including PM, CO, and VOC. The combustion zone is extended in the fire tube design, improving fuel residence time and carbon burnout. Fuel and air valves are controlled by preset levers with set point fuel to air ratios corresponding to

low through high firing rates. The controls and instruments mentioned above represent BPT for the release of PM, PM₁₀, CO, and VOC emissions from the boiler.

4. Visible emissions from the boiler shall not exceed 10% 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.

C. Heaters

The four in-plant makeup heaters heat outside air by direct firing of natural gas or propane and operate only when outside temperatures are below 45-50°F. The dry makeup air generated heats the facility process area. The process area will be exhausted by separate exhaust ventilators.

Based on the size and use the four heaters, the direct firing of natural gas or propane represents BPT for the emissions from these units. The direct firing produces a cooler gas flame resulting in low thermal NO_x formation and the fuel type and overall operation of the heaters results in minimal total emissions.

Visible emissions from the heaters shall each not exceed 10% 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.

D. Fire Pump

Cascades operates a fire pump rated at 0.8 MMBtu/hr for emergency purposes. A BPT summary for the fire pump is the following:

1. The fire pump shall fire only diesel fuel with a maximum sulfur content not to exceed 0.0015% by weight.
2. The fire pump shall be limited to 500 hr/yr of operation based on a calendar year total. Compliance shall be demonstrated by a written log of all generator operating hours.
3. 06-096 CMR 106 regulates fuel sulfur content, however in this case a BPT analysis for SO₂ determined a more stringent limit of 0.0015% was appropriate and shall be used.
4. The PM and PM₁₀ limits for units larger than 3 MMBtu/hr are derived from 06-096 CMR 103 (as amended). The PM and PM₁₀ limits for smaller units are based upon BACT analysis from a previous license.

5. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
6. Visible emissions from the fire pump shall not exceed 20% 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.

E. Annual Emissions

Cascades shall be restricted to the following annual emissions, based on a calendar year total:

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

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Boiler 1 Natural Gas	0.05	0.05	0.01	0.41	0.42	0.03
Boiler 1 Propane	1.58	1.58	0.16	9.79	2.57	0.87
Heater 1 Natural Gas	0.66	0.66	0.01	1.28	1.07	0.03
Heater 1 Propane	0.66	0.66	0.01	2.03	0.28	0.07
Heater 2 Natural Gas	0.66	0.66	0.01	1.28	1.07	0.03
Heater 2 Propane	0.66	0.66	0.01	2.03	0.28	0.07
Heater 3 Natural Gas	0.66	0.66	0.01	1.28	1.07	0.03
Heater 3 Propane	0.66	0.66	0.01	2.03	0.28	0.07
Heater 4 Natural Gas	0.66	0.66	0.01	1.28	1.07	0.03
Heater 4 Propane	0.66	0.66	0.01	2.03	0.28	0.07
Fire Pump	0.02	0.02	0.01	0.88	0.19	0.07
Total TPY	6.91	6.91	0.26	27.1	9.31	1.37

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 and monitoring are not required for a renewal if the total emissions of any pollutant released do not exceed the following:

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

Based on the total facility licensed emissions, Cascades 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-600-71-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 (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) 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. [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 (6) 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 (60) calendar days of receipt of a notification to test from the Department or EPA, 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 (30) 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 (30) 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 EPA 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 (2) 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) Boiler 1

A. Boiler 1 shall fire only natural gas or propane. Cascades shall maintain records of fuel use demonstrated by fuel supplier receipts, on a monthly basis, in addition to a calendar year total. [06-096 CMR 115, BPT]

B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler 1	PM	0.01	Manufacturer's Data, BPT

C. Emissions shall not exceed the following [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 Natural Gas	0.4	0.4	0.02	2.9	2.9	0.2
Boiler 1 Propane	0.4	0.4	0.04	2.9	0.8	0.2

D. Visible emissions from Boiler 1 shall not exceed 10% 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. [06-096 CMR 101]

E. Cascades shall comply with all of the applicable reporting and recordkeeping requirements established in 40 CFR Subparts A and Dc.

F. Cascades shall perform annual boiler tune-ups on Boiler 1 that comply with 06-096 CMR 138 (as amended). Chapter 138 requires the following:

- a. A tune-up procedure file must be kept on-site and made available to the Department upon request,
- b. An oxygen/carbon monoxide curve or an oxygen smoke curve must be kept on file,

- c. Once the optimum excess oxygen setting has been determined, the owner or operator of a source must verify and record monthly that the settings have remained at that value, and
- d. If the minimum oxygen level found is substantially higher than the value provided by the unit manufacturer, the owner or operator must improve the fuel and air mixing, thereby allowing operation with less air.

(17) **Heaters 1, 2, 3 and 4**

- A. The heaters shall fire only natural gas or propane. [06-096 CMR 115, BPT]
- B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Heaters 1, 2, 3, 4 (each)	PM	0.05	06-096 CMR 103

- C. Emissions shall not exceed the following [MEDEP Chapter 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)
Heater 1 Natural Gas	0.15	0.15	0.01	0.29	0.24	0.19
Heater 1 Propane	0.15	0.15	0.01	0.46	0.06	0.02
Heater 2 Natural Gas	0.15	0.15	0.01	0.29	0.24	0.19
Heater 2 Propane	0.15	0.15	0.01	0.46	0.06	0.02
Heater 3 Natural Gas	0.15	0.15	0.01	0.29	0.24	0.19
Heater 3 Propane	0.15	0.15	0.01	0.46	0.06	0.02
Heater 4 Natural Gas	0.15	0.15	0.01	0.29	0.24	0.19
Heater 4 Propane	0.15	0.15	0.01	0.46	0.06	0.02

- D. Visible emissions from the heaters shall each not exceed 10% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

(18) **Fire Pump**

- A. Cascades shall limit the Fire Pump to 500 hr/yr of operation (based on a calendar year). A non-settable hour meter shall be maintained and operated on the Fire Pump in addition to a written log kept for compliance purposes. [06-096 CMR 115, BPT]

- B. The fire pump shall fire diesel fuel with a sulfur limit not to exceed 0.0015% by weight. Compliance shall be based on fuel records from the supplier showing the quantity of fuel delivered and the sulfur content of the fuel. [06-096 CMR 115, BPT]
- C. Emissions shall not exceed the following [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)
Fire Pump	0.10	0.10	0.04	3.53	0.76	0.28

- D. Visible emissions from the fire pump shall not exceed 20% 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.
- (19) **General Process Sources**
Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 101]
- (20) Cascades 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 29th DAY OF March, 2011.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Brachy
DARRYL N. BROWN, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 1/18/2011
Date of application acceptance: 1/19/2011

Date filed with the Board of Environmental Protection:

This Order prepared by Amanda L. Gray, Bureau of Air Quality.



