

**Katahdin Forest Products
Aroostook County
Oakfield, Maine
A-939-71-A-N**

**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., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Katahdin Forest Products (KFP) of Oakfield, Maine has applied for a new Air Emission License permitting the operation of emission sources associated with their cedar log home manufacturing facility.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)¹</u>	<u>Maximum Firing Rate (tons/hr)</u>	<u>Fuel Type</u>	<u>Post Comb. Control</u>	<u>Stack #</u>
Boiler #1	14.2	1.39 ²	Wood/ bark waste	Multicyclone	1

Process Equipment

<u>Equipment</u>	<u>Production Rate</u>	<u>Pollution Control Equipment</u>
Dry Kiln	10.0 MMBF/year ³	None
Paint Dip Tanks (2)	670 gallons/year Latex Primer & Stain	None
Single Surface Planer	0.005 MMBF/year	Cyclone
1 x 3 Planer	1.5 MMBF/year	Cyclone
Planer	3.4 MMBF/year	Cyclone

¹ MMBtu/hr = million British Thermal Units per hour

² Firing rate calculated based on wood at 43% moisture and with a higher heating value of 5,130 Btu/hr.

³ MMBF/year = million board feet per year

KFP also operates a Parts Washer.

KFP also operates several small wood stoves and heating units that are considered insignificant for the purposes of this license.

C. Application Classification

KFP has operated a log home manufacturing facility at the present site since 1973. The facility has not been subject to air emissions licensing requirements due to the lack of any single large emission source. The various operations are spread over a large site, and heat has been provided with small individual heating systems. KFP intends to improve its profitability by installing a central biomass boiler on the site to produce steam and hot water for distribution to various site operations for both space heating and kiln drying. A new source is considered a major source based on whether or not expected emissions exceed the “Significant Emission Levels” as defined in the Department’s regulations. Emissions for the new source are determined by the maximum future license allowed emissions, as follows:

<u>Pollutant</u>	<u>Max. Future License (TPY)</u>	<u>Sig. Level</u>
PM	15.55	100
PM ₁₀	15.55	100
SO ₂	1.55	100
NO _x	13.68	100
CO	37.32	100
VOC	3.66	50

The Department has determined the facility is a minor source and the application has been processed through Chapter 115 of the Department’s regulations

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 Chapter 100 of the Department regulations. 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 Chapter 100 of the Department’s regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Process Description

KFP's main business is the sawing and manufacture of pre-cut log homes for delivery to sites across the United States. Raw materials, including log length cedar, pine and spruce logs are trucked to sawmills by forklift, where they are debarked, sawed to length, ripped to the appropriate cross section, and stockpiled for drying and further milling and machining. The sawmill waste is hogged and stockpiled. Because many of the operations are conducted in separate buildings, the products are moved from building to building by forklift. The log cabin wall stock (typically cedar, but optionally pine) is milled for tongue and groove construction and appropriate end lap in the recently completed automated house line, a state-of-the-art computer controlled facility. Other components of the log home package, including cedar paneling, cedar decking and spruce roof purlins are manufactured on-site. Additional items such as windows, doors, insulation, and roofing materials are brought to the site for packaging with the complete home kit to be shipped to the builder.

Smaller sections of the cedar log which remain after sawing the cabin stock are processed into cedar fencing, and shipped to various dealers for resale. The smaller scraps of waste wood are utilized by Cedar Ideas, Inc., a separate company with common ownership and management located adjacent to the KFP site. Cedar Ideas uses the wood scraps to manufacture various specialty items like window boxes, planters, birdhouses, and assorted novelty products. Many of the Cedar Ideas products are painted or finished in a dipping process. All remaining wood by-products, such as sawdust, bark, and shavings will be fired in the biomass boiler to generate heat for kiln drying and other energy needs.

C. Boiler #1

Boiler #1 is a used wood fired low pressure steam boiler purchased by KFP from the now defunct Houlton International Corp. The boiler was installed by Houlton International Corp in 1991 and last licensed in 2002 (License A-227-71-F-R, Boiler 103). The unit is a Superior Boiler Model 3-SF-2001-515-M, Low Pressure Steam Boiler manufactured in 1991. It has a maximum capacity of 14.2 MMBtu/hr firing wood with a firing rate of 1.39 tons/hour, based on wood with a moisture content of 43%. KFP plans to custom build a mechanical system to feed fuel into the boiler. The boiler will exhaust through a Zurn/Clarage model MTSA-12-9CYT-A-N/RSTD multiclone. The same mechanical collector was used at the Houlton International installation. KFP will also use the same stack from the previous installation; it is 1.83 feet inside diameter and will terminate 76 feet above ground level.

Boiler #1 was manufactured in 1991, and is therefore subject to the New Source Performance Standards (NSPS) Subpart Dc for steam generating units greater than 10 MMBtu/hr manufactured after June 9, 1989.

Fuel for the boiler will consist of cedar waste from the 10-foot and 6-foot sawmills. The waste stream consists of a mixture of hogged slabs (with bark) and sawdust. The remaining waste stream from the various mill operations consists of a mixture of shavings, chips, sawdust and bark and is an estimated 50/50 mixture of air dried and kiln dried material. The facility tested its waste wood for moisture content between June 2004 and March 2005 and found an average fuel moisture content of 43%.

A summary of the BACT analysis for Boiler #1 (14.2 MMBtu/hr) is the following:

1. Chapter 103 regulates PM emission limits, however in this case the BACT limit of 0.25 lb/MMBtu is more stringent and shall be used. The PM₁₀ limit is derived from the PM limit.
2. The SO₂, NO_x, CO and VOC emission limits are based on AP-42 data dated 9/03.
3. Visible emissions from Boiler #1 shall not exceed 30% opacity on a 6-minute block average basis, except for no more than two 6-minute block averages in a 3-hour period.

D. Wood Drying Kiln

KFP operates a kiln to dry cedar and pine lumber. The facility is licensed to process 10.0 million board feet per year through the wood drying kiln. VOC emissions released from the kiln during the wood drying process have been estimated using data from studies conducted by the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI) and the University of Maine. The kiln dries cedar species nearly exclusively, therefore the cedar emission factor was used to estimate VOC emissions from the kiln. KFP shall maintain records of wood throughput in the kilns, on a 12-month rolling basis.

E. Paint Dip Tanks

KFP operates two Paint Dip Tanks, which are used to coat the novelty wood products produced by Cedar Ideas, Inc. Latex Primer and Acrylic Latex Stain are the coatings applied in the dip tanks. Both products contain small amounts of VOC and HAP. KFP shall not exceed 2.0 tons/year of VOC or 1.0 tons/year of HAP emissions from the Paint Dip Tanks, on a 12-month rolling total. KFP shall maintain records of the amount of Latex Primer and Acrylic Latex Stain used and shall calculate VOC and HAP emissions on a monthly and a 12-month rolling basis, assuming the VOC and HAP contents from the materials' Material Safety Data Sheets (MSDS) and that 100% of the VOC and HAP emitted volatilizes to the atmosphere.

F. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity except for no more than five minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual 15-second opacity observations which exceed 20% in any one hour.

G. Process Emissions

Visible emissions from any general process source shall not exceed 20% opacity on a 6-minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period.

H. Parts Washer

The Parts Washer shall meet the requirements of MEDEP Chapter 130.

I. Annual Emissions

KFP shall be restricted to the following annual emissions, based on a 12 month rolling total:

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

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boiler #1	15.55	15.55	1.55	13.68	37.32	1.06
Wood Kilns	--	--	--	--	--	0.6
Paint Dip Tanks	--	--	--	--	--	2.0
Total TPY	15.55	15.55	1.55	13.68	37.32	3.66

KFP shall not exceed 1.0 ton/year of total HAP from the Paint Dip Tanks.

III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Based on the above total facility emissions, KFP 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-939-71-A-N 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 MRSA §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. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 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.[MEDEP Chapter 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.

[MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 115]

SPECIFIC CONDITIONS

- (16) **Boiler #1**
 - A. Boiler #1 shall fire wood and bark waste. [MEDEP Chapter 115, BACT]
 - B. Emissions from Boiler #1 shall be exhausted through a multiclone. [MEDEP Chapter 115, BACT]
 - C. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1	PM	0.25	MEDEP Chapter 103, BACT

D. Emissions shall not exceed the following [MEDEP Chapter 115, BACT]:

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	3.55	3.55	0.36	3.12	8.52	0.24

E. Visible emissions from Boiler #1 shall not exceed 30% opacity on a 6-minute block average basis, except for no more than two 6-minute block averages in a 3-hour period. [MEDEP Chapter 101]

(17) New Source Performance Standards

Boiler #1 is subject to Federal New Source Performance Standards, Subpart Dc. KFP shall comply with all requirements of 40 CFR Part 60, Subpart Dc including, but not limited to, the following:

- A. KFP shall submit notification to EPA and the Department of the date of construction, anticipated start-up, and actual start-up. This notification shall include the design heat input capacity of the boiler and the type of fuel to be combusted.
- B. KFP shall record and maintain records of the amount of fuel combusted during each day. These records shall be maintained by KFP for a period of two years following the date of the record.

(18) Wood Drying Kiln

Yearly throughput is limited to 10 million board feet per year based on a 12-month rolling total. Compliance shall be demonstrated through kiln loading records. [MEDEP Chapter 115, BACT]

(19) Paint Dip Tanks

- A. KFP shall not exceed 2.0 tons/year of VOC or 1.0 tons/year of HAP emissions from the Paint Dip Tanks, on a 12-month rolling total. [MEDEP Chapter 115, BACT]
- B. KFP shall maintain records of the amount of VOC- and HAP-containing coating used in the Paint Dip Tanks. [MEDEP Chapter 115, BACT]
- C. KFP shall calculate VOC and HAP emissions from the Paint Dip Tanks on a monthly and 12-month rolling basis, assuming the VOC and HAP contents

from the coatings' Material Safety Data Sheets (MSDS) and that 100% of the VOC and HAP volatilizes to the atmosphere. [MEDEP Chapter 115, BACT]

(20) Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity, except for no more than five minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual 15-second opacity observations which exceed 20% in any one hour. [MEDEP Chapter 101]

(21) General Process Sources

Visible emissions from any general process source shall not exceed 20% opacity on a 6-minute block average basis, except for no more than one 6-minute block average in a 1-hour period. [MEDEP Chapter 101]

(22) Parts Washer

Parts washers at KFP are subject to MEDEP Chapter 130.

A. KFP shall keep records of the amount of solvent added to each parts washer. [MEDEP Chapter 115, BPT]

B. The following are exempt from the requirements of Chapter 130 [MEDEP Chapter 130]:

1. Solvent cleaners using less than two liters (68 oz) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
2. Wipe cleaning; and,
3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.

C. The following standards apply to remote reservoir cold cleaning machines that are applicable sources under Chapter 130.

1. KFP shall attach a permanent conspicuous label to each unit summarizing the following operational standards [MEDEP Chapter 130]:
 - (i) Waste solvent shall be collected and stored in closed containers.
 - (ii) Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.
 - (iii) Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.
 - (iv) The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
 - (v) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the degreaser.
 - (vi) When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against

- the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.
- (vii) Spills during solvent transfer shall be cleaned immediately. Sorbent material shall be immediately stored in covered containers.
 - (viii) Work area fans shall not blow across the opening of the degreaser unit.
 - (ix) The solvent level shall not exceed the fill line.
2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches. [MEDEP Chapter 130, BPT]
- (23) KFP 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 MRSA §605).

(24) **Annual Emission Statement**

In accordance with MEDEP Chapter 137, the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of:

- 1) A computer program and accompanying instructions supplied by the Department;
or
- 2) A written emission statement containing the information required in MEDEP Chapter 137.

Reports and questions should be directed to:

Attn: Criteria Emission Inventory Coordinator
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

Phone: (207) 287-2437

The emission statement must be submitted by July 1 or as otherwise specified in Chapter 137.

(25) **Air Toxics Emission Statement**

If KFP exceeds the thresholds for HAPs listed in Appendix A of MEDEP Chapter 137 in an inventory year, in accordance with MEDEP Chapter 137 the licensee shall report, no later than July 1 every three years (2005, 2008, 2011, etc.) or as otherwise stated in Chapter 137, the information necessary to accurately update

the State's toxic air pollutants emission inventory by means of a computer program supplied by the Department or a written emission statement containing the information required in MEDEP Chapter 137.

NOTE: Based on AP-42 emission factors for fuel burning equipment, KFP will most likely exceed the Chapter 137 thresholds of HAPs based on fuel burning alone should the facility exceed the firing of 250 tons of wood waste (50% moisture) in a calendar year.

Reports and questions should be directed to:

Attn: HAP Inventory Coordinator
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

Phone: (207) 287-2437 [MEDEP Chapter 137]

(26) Payment of Annual License Fee

KFP shall pay the annual air emission license fee within 30 days of May 31st of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, 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: February 22, 2006

Date of application acceptance: March 1, 2006

Date filed with the Board of Environmental Protection: _____

This Order prepared by Rachel E. Pilling, Bureau of Air Quality.