



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

**Columbia Forest Products, Inc.
Aroostook County
Presque Isle, Maine
A-353-71-J-M (SM)**

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

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 Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

Columbia Forest Products, Inc. (Columbia) was issued Air Emission License A-353-71-I-R/A on January 14, 2013, permitting the operation of emission sources associated with their wood processing facility. Columbia has requested a minor revision to their license to include specification waste oil generated on-site as a licensed fuel for Boilers #1, #2, and #3. Columbia has also requested their license be modified to include an alternate opacity standard for Boilers #1, #2, and #3 during startup and shutdown periods.

The equipment addressed in this license amendment is located at 395 Missile Street, Presque Isle, Maine.

B. Emission Equipment

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

Boilers

Equipment	Max. Capacity (MMBtu/hr)	Max. Firing Rate (tons/hr)	Fuel Type, % sulfur	Date of Manuf.	Stack #
Boiler #1	15	1.7	Wood, Specification waste oil*	1962	1
Boiler #2	15	1.7			2
Boiler #3	24	2.7		2003	B3

* new fuel, added in this license amendment

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

C. Application Classification

This amendment will increase emissions by less than 4 ton/year for each single pollutant not including greenhouse gases (GHG) and less than 8 ton/year for all pollutants combined not including GHG. Therefore, this modification 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 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment. 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.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in 06-096 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts.

B. Boilers #1, #2, and #3

Columbia operates Boilers #1, #2, and #3 for process steam and facility heating needs. The boilers are rated at 15 MMBtu/hour, 15 MMBtu/hour, and 24 MMBtu/hour, respectively, and fire wood. Boilers #1 and #2 were manufactured in 1962, and Boiler #3 was manufactured in 2003. Each boiler exhausts through its own stack.

1. Specification Waste Oil Use

Columbia generates waste oil on-site, primarily from bar and chain oil and hydraulic fluid used in equipment. These waste fluids will be mixed with the wood fuel fired in the three wood-fired boilers. Fuel analyses were conducted which document that both types of add-in fuel meet the definition of "specification waste oil", as defined in 06-096 CMR 860, *Waste Oil Management Rules*. The facility is expecting to add approximately 3,500 gallons per year of waste oil to the wood fuel. There is no addition of solvents or hazardous materials to the waste oil proposed for this use. No

modifications to the boilers are needed to accommodate the use of this waste oil and wood fuel mixture.

Based on EPA's AP-42, Section 1.11 emission factors for the combustion of waste oil, the potential emissions associated with the combustion of this quantity of specification waste oil in the boilers are negligible and do not change the licensed emission limits from the facility's Boilers #1, #2, and #3.

Columbia shall maintain records of the quantity of waste oil combusted in the three boilers both monthly and on a 12-month rolling total basis.

2. Alternate Opacity Standards for Startup and Shutdown Periods

As there are currently no provisions in Columbia's air emission license to address visible emissions limits during startup and shutdown periods, the facility has requested the inclusion of an alternate standard to address and accommodate the minimization of visible emissions during these periods. After outages, each boiler's startup procedure includes stages over several hours, allowing time for proper conditioning without thermal shocking of the boiler and refractory. Operators utilize work practices, including air flow and fuel feed adjustments, to minimize visible emissions during these times.

Per EPA's interpretation of the Clean Air Act (see EPA's May 2015 *Restatement and Update of EPA's SSM Policy Applicable to SIPs* document), emission limitations must be continuous and apply at all times. However, alternative emission limitations may be included for modes of operation during which an otherwise applicable emission limitation cannot be met, such as may be the case during startup or shutdown. Such alternative emission limitations 1) are not required to be numerical in format; 2) do not have to apply the same limitation (e.g., numerical level) at all times; and 3) may be composed of a combination of numerical limitations, specific technological control requirements, and/or work practice requirements, with each component of the emission limitation applicable during a defined mode of source operation.

Columbia's current license A-353-71-I-R/A (January 14, 2013) limits visible emissions from Boilers #1, #2, and #3 to no greater than 30% opacity on a six-minute block average basis, except for no more than two six-minute block averages in a three-hour period, under the authority of 06-096 CMR 101, *Visible Emissions Regulation*. The State statute basis for 06-096 CMR 101 includes 38 M.R.S.A. §590(5), which states the following:

In making license decisions and conditions, the department shall consider the extent to which operation of the licensed facility requires an allowance for excess emissions during cold start-ups and shutdowns of the facility as long as that facility is operated to minimize emissions and is otherwise subject to applicable standards. When the applicant demonstrates to the department that,

consistent with best practical treatment requirements and other applicable standards, infrequent emissions are unavoidable during these periods, the department shall establish appropriate license allowances and conditions. [1993, c. 232, §3 (AMD).]

Upon this statutory basis, the Department is establishing alternate opacity standards for startup and shutdown periods for visible emissions from Columbia's Boilers #1, #2, and #3. Based on the facility's startup procedures for these three boilers, Columbia has proposed the following alternative limitation specifically for startup and shutdown periods:

During normal startup and/or shutdown of the wood fuel burning equipment, visible emissions with opacity greater than the limits specified above may be allowed for a period not to exceed four hours during each boiler startup or shutdown period; however, at no time shall such emissions exceed 80% opacity on a six-minute block average basis. The facility shall utilize best management practices including operational controls of air flow and fuel feed rates to minimize visible emissions during periods of startup and shutdown. The boiler startup period begins upon initial ignition of boiler fuel and ends when the boiler reaches its normal operating temperature. As indicated by the facility's Cold Boiler Startup procedures, normal operating temperature for Boilers #1 and #2 is 400 °F after the breach in the boiler, just prior to entering the stack; and normal operating temperature for Boiler #3 is 1000 °F in the firebox. During each boiler startup, Columbia shall record the date and time of initial ignition of boiler fuel, and shall monitor and record the temperature and corresponding time which identifies the end of the startup period. The shutdown period for a boiler begins upon cessation of fuel feed to the boiler and ends when fuel is no longer combusting in the boiler.

The Department finds this startup/shutdown alternate opacity standard to satisfy both federal and state requirements.

3. NESHAP: 40 CFR Part 63, Subpart JJJJJ

Boilers #1, #2, and #3 are subject to the applicable requirements of 40 CFR Part 63, Subpart JJJJJ, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*. Because these units were manufactured prior to June 4, 2010, these units are considered existing biomass boilers and are rated greater than 10 MMBtu/hour.

A summary of the currently applicable federal 40 CFR Part 63, Subpart JJJJJ requirements is listed below. At this time, the Department has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule promulgated by EPA; however, Columbia is still subject to the requirements. Notification forms and additional rule information can be found on the following website: <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

a. Compliance Dates, Notifications, and Work Practice Requirements

(1) Initial Notification of Compliance

Columbia submitted an Initial Notification to EPA prior to the due date of January 20, 2014. [40 CFR §63.11225(a)(2)]

(2) Boiler Tune-Up Program

- (a) A boiler tune-up program shall be implemented. [40 CFR §63.11223]
- (b) Each tune-up shall be conducted at a frequency specified by the rule based on the size, age, and operations of the boiler. For Boilers #1, #2, and #3, a tune-up is required biennially. [40 CFR §63.11223(a) and Table 2]
- (c) The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
 - i. 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. [40 CFR §63.11223(b)(1)]
 - ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR §63.11223(b)(2)]
 - iii. 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. [40 CFR §63.11223(b)(3)]
 - iv. Optimize total emissions of CO consistent with manufacturer's specifications. [40 CFR §63.11223(b)(4)]
 - v. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv) and oxygen in volume percent, both 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 CFR §63.11223(b)(5)]
 - vi. 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 CFR §63.11223(b)(7)]

- (d) Tune-Up Report: A tune-up report for each boiler shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information:

- i. 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;
 - ii. A description of any corrective actions taken as part of the tune-up of the boiler; and
 - iii. 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 CFR §63.11223(b)(6)]
- (e) After conducting the initial boiler tune-up, a Notification of Compliance Status was submitted to EPA prior to July 19, 2014. [40 CFR §63.11225(a)(4) and 40 CFR §63.11214(b)]

(3) Compliance Report:

A compliance report shall be prepared by March 1st biennially which covers the previous two calendar years. The report shall be maintained by the source and submitted to the Department and to the EPA upon request. The report must include the items contained in §63.11225(b)(1) and (2), including the following: [40 CFR §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:
 - i. "This facility complies with the requirements in 40 CFR §63.11223 to conduct tune-ups of each boiler in accordance with the frequency specified in this Subpart."
 - ii. "No secondary materials that are solid waste were combusted in any affected unit."
 - iii. "This facility complies with the requirement in 40 CFR §§63.11214(d) to conduct a tune-up of each applicable boiler according to 40 CFR §63.11223(b)."

(4) Energy Assessment

Boilers #1, 2, and #3 are subject to the energy assessment requirement as follows:

- (a) A one-time energy assessment was performed by a qualified energy assessor on the applicable boilers prior to March 21, 2014, in accordance with 40 CFR §63.11196(a)(3).
- (b) A Notification of Compliance Status was submitted to EPA prior to July 19, 2014, in accordance with 40 CFR §63.11225(a)(4) and 40 CFR §63.11214(c).

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63, Subpart JJJJJ including the following [40 CFR §63.11225(c)]:

- (1) Copies of notifications and reports with supporting compliance documentation;
- (2) 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;
- (3) Records of the occurrence and duration of each malfunction of each applicable boiler; and
- (4) 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.

C. Annual Emissions

The facility's annual emissions are not being revised with this amendment and shall remain as currently licensed.

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-353-71-J-M subject to the conditions found in Air Emission License A-353-71-I-R/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

Specific Condition (16) C of Air Emission License A-353-71-I-R/A (January 14, 2013) shall be replaced with the following part C.

(16) Boilers #1 and #2

- C. Visible emissions from each of Stack #1 and Stack #2 shall not exceed 30% opacity on a six-minute block average basis, except for no more than two six-minute block averages in a three-hour period. [06-096 CMR 101]

During startup and/or shutdown operations of Boiler #1 or Boiler #2, visible emissions with opacity greater than the limit specified above may be allowed for a period not to exceed four hours during each boiler startup or shutdown period; however, at no time shall such emissions exceed 80% opacity on a six-minute block average basis. The facility shall utilize best management practices including operational controls of air flow and fuel feed rates to minimize visible emissions during periods of startup and shutdown. The boiler startup period begins upon initial ignition of boiler fuel and ends when the boiler reaches its normal operating temperature. Normal operating temperature for Boilers #1 and #2 is 400 °F after the breach in the boiler, just prior to entering the stack. [06-096 CMR 115, BPT]

During each boiler startup, Columbia shall record the date and time of initial ignition of boiler fuel, and shall monitor and record the temperature and corresponding time which identifies the end of the startup period. [06-096 CMR 115, BPT]

The shutdown period for a boiler begins upon cessation of fuel feed to the boiler and ends when no more fuel is combusting in the boiler. [06-096 CMR 115, BPT]

Specific Condition (17) C of Air Emission License A-353-71-I-R/A (January 14, 2013) shall be replaced with the following part C.

(17) Boiler #3

- C. Visible emissions from Stack #B3 shall not exceed 30% opacity on a six-minute block average basis, except for no more than two six-minute block averages in a three-hour period. However, at no time shall such emissions exceed 80% opacity on a six-minute block average basis. [06-096 CMR 101]

During startup and/or shutdown operations of Boiler #3, visible emissions with opacity greater than the limit specified above may be allowed for a period not to exceed four hours during each boiler startup or shutdown period; however, at no time shall such emissions exceed 80% opacity on a six-minute block average basis. The facility shall utilize best management practices including operational controls of air flow and fuel feed rates to minimize visible emissions during periods of startup and shutdown. The boiler startup period begins upon initial ignition of boiler fuel and ends when the boiler reaches its normal operating temperature. Normal operating temperature is for Boiler #3 is 1000 °F in the firebox. [38 M.R.S.A. §590(5) and 06-096 CMR 115, BPT]

During each boiler startup, Columbia shall record the date and time of initial ignition of boiler fuel, and shall monitor and record the temperature and corresponding time which identifies the end of the startup period. [06-096 CMR 115, BPT]

The shutdown period for the boiler begins upon cessation of fuel feed to the boiler and ends when no more fuel is combusting in the boiler. [06-096 CMR 115, BPT]

These conditions shall be in addition to the Specific Conditions found in Air Emission License A-353-71-I-R/A (January 14, 2013).

(27) Specification Waste Oil Combustion in Boilers #1, #2, and #3

- A. Columbia is licensed to burn specification waste oil generated on-site and added to the wood waste fuel fired in Boilers #1, #2, and #3, not to exceed 3,500 gallons per year, on a 12-month rolling total basis. Documentation of compliance with this limit shall be updated monthly and maintained on-site, readily available for review by a representative of the Department. [06-096 CMR 115, BACT/BPT]
- B. The waste oil fired with the wood fuel in Boilers #1, #2, and #3 shall meet the definition of “specification waste oil” as defined in 06-096 CMR 860, *Waste Oil Management Rules*. Documentation of compliance with this requirement shall be maintained on-site. [06-096 CMR 115, BACT/BPT]

(28) 40 CFR Part 63, Subpart JJJJJJ (Boiler MACT) Requirements for Boilers #1, #2, and #3 [incorporated under 06-096 CMR 115, BPT]

- A. The facility shall implement a boiler tune-up program. [40 CFR Part 63.11223]
 - 1. Each tune-up for Boilers #1, #2, and #3 shall be conducted biennially. [40 CFR §63.11223(a) and Table 2]

2. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
 - a. 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. [40 CFR §63.11223(b)(1)]
 - b. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR §63.11223(b)(2)]
 - c. 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. [40 CFR §63.11223(b)(3)]
 - d. Optimize total emissions of CO consistent with manufacturer's specifications. [40 CFR §63.11223(b)(4)]
 - e. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv) and oxygen in volume percent, both 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 CFR §63.11223(b)(5)]
 - f. 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 CFR §63.11223(b)(7)]
3. Tune-Up Report: A tune-up report for each boiler shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information:
 - a. 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;
 - b. A description of any corrective actions taken as part of the tune-up of the boiler; and
 - c. 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 CFR §63.11223(b)(6)]

B. Compliance Report

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

1. Company name and address;
2. A statement of whether the source has complied with all the relevant requirements of this Subpart;
3. 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;
4. The following certifications, as applicable:
 - a. "This facility complies with the requirements in 40 CFR §63.11223 to conduct tune-ups of each boiler in accordance with the frequency specified in this Subpart."
 - b. "No secondary materials that are solid waste were combusted in any affected unit."
 - c. "This facility complies with the requirement in 40 CFR §§63.11214(d) to conduct a tune-up of each applicable boiler according to 40 CFR §63.11223(b)."

C. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63, Subpart JJJJJ including the following [40 CFR Part 63.11225(c)]:

1. Copies of notifications and reports with supporting compliance documentation;
2. 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;
3. Records of the occurrence and duration of each malfunction of each applicable boiler; and
4. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler.

Columbia Forest Products, Inc.
Aroostook County
Presque Isle, Maine
A-353-71-J-M (SM)

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Departmental
Findings of Fact and Order
Air Emission License
Amendment #2

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

DONE AND DATED IN AUGUSTA, MAINE THIS 24 DAY OF February, 2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Max Allen Robert Corne for
PAUL MERCER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-353-71-I-R/A.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: June 2, 2015

Date of application acceptance: June 9, 2015

Date filed with the Board of Environmental Protection:

This Order prepared by Jane E. Gilbert, Bureau of Air Quality.

