



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

**PRL Sanford, LLC
York County
Sanford, Maine
A-24-71-Q-A (SM)**

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #1**

FINDINGS OF FACT

After review of the air emissions 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

PRL Sanford, LLC (PRL) was issued Air Emission License A-24-71-P-R/T on January 29, 2014, permitting the operation of emission sources associated with their wood products facility. PRL has requested an amendment to their license to include three additional lumber drying kilns.

The equipment addressed in this license is located at 563 New Dam Road, Sanford, Maine.

B. Emission Equipment

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

Process Equipment

Equipment	Production Rate	Date of Manufacture and Installation
Kiln #9	2856 thousand BF/year	2014
Kiln #10	2856 thousand BF/year	
Kiln #11	2856 thousand BF/year	

C. Application Classification

A modification at a minor source, including the addition of new units, is considered either a major or a minor modification based on whether or not expected emission increases exceed the “Significant Emissions” levels as defined in the Department’s regulations, 06-096 CMR 100 (as amended). The emission increases are determined by subtracting

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106 HOGAN ROAD, SUITE 6
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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
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the current licensed emissions preceding the modification from the future licensed allowed emissions, as follows:

Pollutant	Current License (TPY)	Future License (TPY)	Net Change (TPY)	Significant Emission Levels
PM	43.4	43.4	0	100
PM ₁₀	43.4	43.4	0	100
SO ₂	20.2	20.2	0	100
NO _x	48.3	48.3	0	100
CO	81.0	81.0	0	100
VOC	27.9	37.6	9.7	50
CO _{2e}	< 100,000	< 100,000	0	100,000

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

B. Kilns

PRL will add three wood drying kilns, Kiln #9, Kiln #10, and Kiln #11, to the seven already in service to dry lumber produced at the facility. The three new kilns have a finished material process rate of 2,856,000 board feet (BF) per year each.

The facility will use the new kilns to dry both hardwood and softwood species. The collection of pollutants known as volatile organic compounds (VOC) is the regulated air pollutant resulting from this wood drying process. Because VOC emissions from the drying of softwoods are greater than those from the drying of hardwoods, the worst case scenario was used as the basis for calculating VOC emissions from Kiln #9, Kiln #10, and Kiln #11. Using the emission factor of 2.26 pounds of VOC per 1000 board feet for white pine [from NCASI *Emissions From Lumber Drying*, Technical Bulletin 718 (07/1996)] and the combined annual drying production from Kiln #9, Kiln #10, and

Kiln #11 of 8.568 million BF per year, the new kilns are expected to emit no more than 9.7 tons of VOC per year.

To demonstrate compliance with VOC emission limits, PRL shall maintain records of the quantity of wood dried in all kilns, by species; drying dates; and calculated VOC emissions, determined monthly using the equation given below. In the equation, VOC emissions (in lb/month) from kiln-drying shall be calculated for both hardwood species and softwood species using the following emission factors:

Species	Emission Factor	Source of Emission Factor
Eastern White Pine/Softwoods	2.26 lb VOC per thousand board feet	NCASI <i>Emissions From Lumber Drying</i> , Technical Bulletin 718 (07/1996)
Hardwoods	1.43 lb VOC per thousand board feet	<i>Forest Products Journal</i> article "Estimated VOC Losses During the Drying of Six Eastern Hardwood Species" dated October 2006

To Determine Monthly VOC Emissions from Kiln-Drying

$$\text{VOC (lb/month)} = \text{Emission Factor (lb VOC per thousand-board-feet)} \times \# \text{ (throughput, in thousand-board-feet per month)}$$

The record of calculated VOC emissions from the Wood Drying Kilns shall be maintained on both a monthly basis and a 12-month rolling total basis.

C. Annual Emissions

PRL shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on the following:

- Boiler #1: annual fuel use limit of 29,000 tons/year of wood at a moisture content of 50.0%, or the equivalent (heating value of 4,500 Btu/lb)
- Boiler #2: annual fuel use limit of 450,000 gal/year of fuel oil
- Generator #1: annual fuel use limit of 25,000 gallons/year diesel fuel

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 (wood-fired)	39.2	39.2	3.3	28.7	78.3	2.2
Boiler #2 (oil-fired)	4.0	4.0	16.8	12.1	1.1	0.1
Generator #1(diesel)	0.2	0.2	0.1	7.5	1.6	0.6
Wood Drying Kilns	--	--	--	--	--	34.7
Total TPY	43.4	43.4	20.2	48.3	81.0	37.6

Total emissions from the facility of any single HAP shall be less than 10 TPY; and total emissions from the facility of all HAP combined shall be less than 25 TPY.

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 CMR 115, an ambient air quality impact analysis is not required for a minor source if the total emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM ₁₀	25
SO ₂	50
NO _x	50
CO	250

The total facility licensed emissions are above at least one of the emission levels contained in the table above; however, after taking into consideration the following factors:

- similarity with other licensed sources based on size, emissions, and local topography;
- location, including proximity to other sources, complex terrain, and Class I areas; and
- background air quality data available in or representative of the local area;

The Department has determined that an ambient air quality impact analysis is not required for the facility and that Ambient Air Quality Standards (AAQS) will not be exceeded.

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 A-24-71-Q-A subject to the conditions found in Air Emission License A-24-71-P-R/T and the following conditions.

Severability. The invalidity or unenforceability of any provision of this License or part thereof 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.

The following shall replace Specific Condition (20) in Air Emission License A-24-71-P-R/T.

(20) **Wood Drying Kilns** [06-096 CMR 115, BACT/BPT]

- A. Emissions of VOC from PRL's Wood Drying Kilns shall not exceed 34.7 tons/year, based on a 12-month rolling total.
- B. To demonstrate compliance with VOC emission limits, PRL shall maintain records of the quantity of wood dried in all kilns, by species; drying dates; and calculated VOC emissions, determined monthly using the equation given below. In the equation, VOC emissions (in lb/month) from kiln-drying shall be calculated for both hardwood species and softwood species using the following emission factors:

Species	Emission Factor
Eastern White Pine/Softwoods	2.26 lb VOC per thousand board feet
Hardwoods	1.43 lb VOC per thousand board feet

To Determine Monthly VOC Emissions from Kiln-Drying

$$\text{VOC (lb/month)} = \text{Emission Factor (lb VOC per thousand-board-feet)} \\ \times \# \text{ (throughput, in thousand-board-feet per month)}$$

The record of calculated VOC emissions from the Wood Drying Kilns shall be maintained on both a monthly basis and a 12-month rolling total basis.

DONE AND DATED IN AUGUSTA, MAINE THIS 21 DAY OF November, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:

Patricia W. Aho
PATRICIA W. AHO, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-24-71-P-R/T.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: October 17, 2014

Date of application acceptance: October 31, 2014

Date filed with the Board of Environmental Protection:

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

