



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

**Louisiana-Pacific Corporation
Aroostook County
New Limerick, Maine
A-327-77-3-A**

**Departmental
Findings of Fact and Order
New Source Review
Amendment #3**

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 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Louisiana-Pacific Corporation (LP)
PART 70 LICENSE NUMBER	A-327-70-A-I
LICENSE TYPE	Minor Modification
NAICS CODES	321219
NATURE OF BUSINESS	Oriented Strand Board Manufacturer
FACILITY LOCATION	240 Station Road, New Limerick, Maine
PART 70 LICENSE ISSUANCE DATE	September 28, 2006
NSR AMENDMENT ISSUANCE DATE	May 19, 2010
PART 70 LICENSE EXPIRATION DATE	September 28, 2011

B. Amendment Description

Louisiana-Pacific Corporation (LP) owns and operates an Oriented Strand Board (OSB) and Laminated Strand Lumber (LSL)¹ production facility located in New Limerick, Maine. In 2006, LP submitted an application to allow for the construction and operation of the LSL production line and other equipment associated with the project. The LSL production line and associated equipment was initially licensed as a major modification in Air Emission License #A-327-77-1-N issued on September 28, 2006 pursuant to the new source review rules contained in *Minor and Major Source Air Emission License Regulations* 06-096 CMR 115 (last amended December 24, 2005). In 2008, the LSL production process and associated equipment became operational.

¹ Laminated Strand Lumber (LSL) is the terminology that is currently used for the process. Former terminology used to describe the same process, include Oriented Strand Lumber (OSL) and SolidStart Strand Lumber (SSSL).

The New Limerick facility was LP's first mill to produce the LSL product. At the time of initial licensing of the LSL production line and associated equipment little was known regarding the quantity of volatile organic compounds (VOCs) that would be emitted from these new air emission sources. Therefore, LP proposed VOC emission limits based on conservative engineering estimates using VOC emission factors associated with OSB production activities. As a result, LP's 2006 application characterized the LSL project as a major modification for VOCs and proposed VOC emission limits and reduction strategies to meet Lowest Achievable Emission Rate (LAER) and offset requirements.

LP's proposed LAER control and emission limits for VOC emissions from the LSL Press were based on operation of the facility's existing OSB Press and associated regenerative thermal oxidizer/regenerative catalytic oxidizer (RTO/RCO) to control and limit VOC emissions. Since the time the LSL Press and associated equipment was installed, LP has undertaken several rounds of air emissions testing demonstrating that VOC emissions from the LSL Press and associated equipment are significantly lower than estimated for purposes of the initial licensing process in 2006.

After discussing the situation with the Department, LP submitted an application demonstrating that net emissions increase levels for VOCs from the modified source are less than significant emissions increase levels and have proposed additional license restrictions to ensure that net emissions increase levels from the modified source will continue to be less than significant emissions increase levels, making the modification a minor modification for VOC emissions as opposed to a major modification as originally licensed. Included in the application was a Best Available Control Technology (BACT) analysis addressing VOC emissions from the LSL Press and proposing that use of the RTO/RCO for control of VOC emissions from the LSL Press be optional. This BACT analysis is meant to replace the original LAER demonstration for the LSL Press in which LP proposed to operate the RTO/RCO to control and reduce VOC emissions generated by the LSL Press.

LP proposes that the following additional license restrictions be incorporated into this license amendment to ensure net emission increase levels from the modified source do not exceed significant emission increase levels for VOCs:

- Increase the VOC emission limit for the LSL Press from 1.75 lb/hr (controlled, as carbon) to 4.95 lb/hr (uncontrolled, as carbon);
- Eliminate the requirement to operate the RTO/RCO to reduce VOC emissions from the LSL Press;

- Restrict annual operating hours of the LSL Press to 8,550 hours per year;
- Restrict the wood waste firing rate of the Central Heating Unit (CHU) to 538 tons/day on a 12-month rolling average basis and to 768 tons/day on a monthly average basis (assuming a higher heating value for the wood waste of 4,350 Btu/lb);
- Reduce the VOC emission limit for the CHU – Dryer Vent Stack (RTO Stack) from 5.6 lb/hr to 2.25 lb/hr (as carbon); and
- Reduce the VOC emission limit for the Central Heating Unit – Thermal Oil System Stack (CHU – TOS Stack) from 5.3 lb/hr to 1.84 lb/hr (as carbon).
- Reduce total licensed annual VOC emissions for the facility from 100.8 tons/year to 83.6 tons/year (a reduction of 17.2 tons/year).

C. Emission Equipment

The following equipment is addressed in this air emissions license:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type, % sulfur</u>
Central Heating Unit (CHU)	278	*32 tons/hr	Wood waste, neg.

* based on firing wood waste with a higher heating value (HHV) of 4,350 Btu/lb

Process Equipment

<u>Equipment</u>	<u>Production Rate</u>	<u>Unit Type</u>	<u>Pollution Control Equipment</u>
LSL Press	600 TPD of Finished Product	Press	RTO/RCO (None Proposed)

D. Application Classification

The application for LP does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing or record keeping. This application seeks to modify a previous New Source Review licensing action and to substitute a previously conducted Lowest Achievable Emission Rate (LAER) analysis for VOC emissions with a Best Available Control Technology (BACT) analysis.

The modification of a major source is considered a major modification based on whether or not expected emissions increases exceed the "Significant Emission Increase Levels" as given in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005).

The emission increases are determined by subtracting the average actual emissions of the 24 months preceding the modification (or representative 24 months) from the maximum future license allowed emissions. The results of this test are as follows:

Emissions Unit	Average Past Actual VOC Emissions 2004/2005 (tons/year)	Future Permit VOC Emissions (tons/year)	Net Change (tons/year)	Significance Level for VOC Emissions (tons/year)
Direct-fired Dryers	25.1	0	-25.1	--
Thermal Oil Heaters	1.3	0	-1.3	--
CHU – TOS Stack	0	9	9	--
CHU – Dryer Vent Stack (RTO stack)	0	24	24	--
LSL Press	0	28	28	--
Pneumatic Systems	14	18	4	--
Edge Seal Process	0	1.1	1.1	--
MDI Tanks	0	Neg.	Neg.	--
Diesel Pump Engine	0	Neg.	Neg.	--
Totals	43.9	83.6	39.7	40

Therefore, this amendment is determined to be a minor modification under *Minor and Major Source Air Emission License Regulations* 06-096 CMR 115 (last amended December 24, 2005) since the changes being made are not addressed or prohibited in the Part 70 air emission license. This amendment will be incorporated into the Part 70 air emission license no later than 12 months from commencement of the requested operation.

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 (last amended December 24, 2005). 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 06-096 CMR 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

A BACT determination was made for each pollutant in the original NSR license in 2006, except that a LAER determination was made for VOC emissions from each new and modified source. The original BACT determined emission limits remain unchanged and therefore will not be addressed in this license. Similarly, the VOC emission limits for the CHU – Dryer Vent Stack (RTO Stack) and the CHU – TOS Stack will be reduced and the VOC emission limits for the Pneumatic Systems and the Edge Seal Process will remain unchanged and therefore will not be addressed in this BPT section. The only proposed increase to a VOC emission limit is for VOC emissions from the LSL Press and so this is the only source being addressed in this BPT section.

B. LSL Press

The LSL Press is a steam injection, single-opening type with a nominal design thickness of 3½ inches. The acceptable mats are transferred to press platens and taken into the press, where steam is injected into the furnish, both curing the board and heating the press. The press activates the applied resin and bonds the product into a single solid entity. After the pressing cycle is complete, the pressed boards (i.e., billets) are sent to the finishing area. The LSL Press exhaust is currently routed to the existing OSB Press RTO/RCO for VOC reduction before exhausting to the atmosphere. This VOC emission control method was determined to be LAER in the original NSR license.

LP submitted a BACT analysis and supplemental information evaluating VOC control technologies for reducing VOC emissions from the LSL Press. Information sources consulted by LP to develop the BACT analysis included EPA's RACT/BACT/LAER Clearinghouse (RBLC), EPA's Technology Transfer Network (TTN), National Council for Air and Stream Improvement (NCASI) published bulletins, and EPA's New and Emerging Environmental Technologies (NEET) database. LP also used its own knowledge and experience in compiling and presenting the information contained in the BACT analysis. The table below summarizes the evaluation of potential VOC control technologies presented by LP in the BACT analysis.

<u>Control Technology</u>	<u>Range of VOC Control Efficiency</u>	<u>Assumed VOC Control Efficiency</u>	<u>Cost Effectiveness (\$ per ton of VOC removed)</u>
RTO/RCO (currently used by LP)	90% to 97%	96.7%	\$55,000/ton
Biofilter	50% to 75%	75%	\$47,000/ton
Good Design/Operation	None (Base Case)	None (Base Case)	N/A

Based on the relatively high cost of VOC reductions from the LSL Press, LP proposes that neither of the VOC control technologies evaluated in the BACT analysis represent BACT. The LSL Press is considered part of the "affected source" for purposes of the Plywood and Composite Wood Products (PCWP) MACT standard at 40 CFR Part 63, Subpart DDDD. However, the LSL press is not subject to control requirements or emissions limits under the PCWP MACT standard. LP proposes that the current practice of operating the RTO/RCO for reduction of VOC emissions from the LSL Press does not represent BACT for economic reasons due to the high cost per ton of VOC emissions reduced. Therefore, LP proposes to eliminate the requirement to operate the RTO/RCO to reduce VOC emissions from the LSL Press. LP would continue to operate the RTO/RCO during operation of the OSB Press to reduce VOC emissions when this process is in operation. LP is also proposing to restrict hours of operation of the LSL Press to 8,550 hours per year.

C. Incorporation into the Part 70 Air Emission License

The requirements in this 06-096 CMR 115 New Source Review amendment shall apply to the facility upon amendment issuance. Per *Part 70 Air Emission License Regulations*, 06-096 CMR 140 (last amended December 24, 2005), Section 2(J)(2)(d), for a modification that has undergone NSR requirements or been processed through 06-096 CMR 115, the source must then apply for an amendment to the Part 70 license within one year of commencing the proposed operations as provided in 40 CFR Part 70.5.

D. Annual Emissions

The proposed air license will decrease overall permitted emissions of VOC from the facility by 17.2 tons/year and will not affect licensed NO_x, PM, CO or SO₂ annual emissions. LP shall be restricted to the following annual emissions, based on a 12 month rolling 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 ¹	Lead
CHU – TOS Stack	20.1	20.1	16.7	154.0	154.0	9	4.96E-03
CHU – Dryer Vent Stack (RTO Stack)	68.3	68.3	1.9	144.1	477.4	24	5.47E-04
LSL Press	53.9	53.9	6.6	89.8	42.0	28	-
Pneumatic Systems	30.0	30.0	-	-	-	18	-
Edge Seal Process	-	-	-	-	-	1.1	-
MDI Tanks	-	-	-	-	-	Neg.	-
Spray Booths	-	-	-	-	-	3.5	-
Diesel Pump Engine	0.1	0.1	0.1	1.3	1.3	Neg.	-
Total TPY	172.4	172.4	25.3	389.2	674.7	83.6	5.5E-03

1. VOC as propane plus formaldehyde.

III. AMBIENT AIR QUALITY ANALYSIS

LP previously submitted an ambient air quality analysis demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards. An additional ambient air quality analysis is not required for this 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,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-327-77-3-A pursuant to the preconstruction licensing requirements of 06-096 CMR 115 and subject to the standard and special conditions below.

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.

SPECIFIC CONDITIONS

New Conditions

(1) LSL Press

- A. VOC emissions from the LSL Press shall not exceed 4.95 lb/hr (as carbon). LP shall demonstrate compliance with this VOC emission limit through stack testing in accordance with EPA Method 25. At LP's request, testing may be performed in accordance with another Department approved method. Compliance testing shall be completed once within the first 12 months, and again within the second twelve months from the date of issuance of this license, and at the request of the Department thereafter. [06-096 CMR 115, BACT]
- B. Operation of the RTO/RCO to control emissions from the LSL Press shall be at LP's discretion unless necessary to maintain compliance with the VOC

emission limit of 4.95 lb/hr (as carbon) or with some other applicable requirement. [06-096 CMR 115, BACT]

- C. LP shall keep records documenting operating hours for the RTO/RCO. These records shall be maintained by LP for a minimum of six (6) years. [06-096 CMR 115, BACT]
- D. LP shall not operate the LSL Press more than 8,550 hours per year. Compliance with this operating limit shall be demonstrated on a 12-month rolling total basis. Records documenting compliance with this operating limit shall be maintained by LP for a minimum of six (6) years. The records shall be submitted to the Department upon request. [06-096 CMR 115, BACT]

(2) Annual VOC Emissions

LP shall maintain records demonstrating that annual VOC emissions from the facility do not exceed 83.6 TPY (as propane plus formaldehyde) on a 12-month rolling total basis. These records shall be maintained by LP for a minimum of six (6) years. [06-096 CMR 115, BACT]

The following shall replace Specific Condition (1)(C) of New Source Review License #A-327-77-1-N

(3) Central Heating Unit (CHU)

Total fuel use in the CHU shall neither exceed 538 tons of wood waste per day on a 12-month rolling average basis nor 768 tons of wood waste per day on a monthly average basis, based on a higher heating value for the wood waste of 4,350 Btu/lb. Compliance with these fuel firing rate limits shall be demonstrated by monitoring and recording the fuel feed rates to the unit. Records documenting compliance with these fuel firing rate limits shall be maintained by LP for a minimum of six (6) years. The records shall be submitted to the Department upon request. [06-096 CMR 115, BACT]

The following shall replace the VOC line in the table in Specific Condition (2)(B) and Specific Condition (2)(G)(7) of New Source Review License #A-327-77-1-N

(4) Central Heating Unit – Thermal Oil System Stack (CHU – TOS Stack)

VOC emissions from the CHU – TOS Stack shall not exceed 1.84 lb/hr (as carbon). LP shall demonstrate compliance with this VOC emission limit through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 25 or 25A. Compliance testing shall be completed one time in the first 12 months following issuance of this license and upon request by the Department thereafter. [06-096 CMR 115, BACT]

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The following shall replace the VOC line in the table in Specific Condition (3) of New Source Review License # A-327-77-1-N.

- (5) **Central Heating Unit – Dryer Vent Stack (CHU – Dryer Vent Stack)**
VOC emissions from the CHU – Dryer Vent Stack shall not exceed 2.25 lb/hr (as carbon). LP shall demonstrate compliance with this VOC emission limit through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 25 or 25A. Compliance testing shall be completed one time in the first 12 months following issuance of this license and upon request by the Department thereafter. [06-096 CMR 115, BACT]

DONE AND DATED IN AUGUSTA, MAINE THIS *14th* DAY OF *May*, 2010.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *James P. Brooks for*

DAVID P. LITTELL, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: November 5, 2009

Date of application acceptance: November 16, 2009

Date filed with the Board of Environmental Protection:

This Order prepared by Eric Kennedy, Bureau of Air Quality.

