

Lane Regional Air Protection Agency

**STANDARD
 AIR CONTAMINANT DISCHARGE PERMIT
 REVIEW REPORT**

Diversified Wood Resources, LLC
 dba American Laminators
 12796 Highway 36
 Swisshome, Oregon 97480
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Unassigned emissions	X
Emission credits	
Source test	
COMS	
CEMS	
Compliance schedule	
Special conditions	
Annual report	X
Semi-annual report	
Quarterly report	

Monthly report	
Excess emissions report	X
NSPS	
NESHAP	
NSR	
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PERMITTING

PERMITTING ACTION

1. The permit is a renewal for an existing Air Contaminant Discharge Permit (ACDP) which was issued on January 1, 1994 and was originally scheduled to expire on December 31, 1998. The Synthetic Minor ACDP is being converted to a Standard ACDP in accordance with the rules adopted October 2008. The renewal was based on information provided in an application received January 31, 2001. Application information was confirmed in discussions with permittee held in May of 2009

OTHER PERMITS

2. No other permits have been issued or are required by the Lane Regional Air Protection Agency (LRAPA) for this facility.

ATTAINMENT STATUS

3. The facility is located in an attainment area for particulate matter (PM₁₀), ozone (O₃), nitrogen oxides (NO_x), sulfur dioxide (SO₂), lead (Pb), and carbon monoxide (CO).
4. The facility is not located within 10 kilometers of any Class I Air Quality Protection Areas.

SOURCE DESCRIPTION

OVERVIEW

5. The facility is a beam laminating plant and was built in 1978.
6. No changes have been made to the facility since the last permit renewal.

PROCESS AND CONTROL DEVICES

7. Existing air contaminant sources at the facility consist of the following:
 - a. Two (2) wood-fired boilers with a multiclone and wet scrubber installed as emission controls. Boiler 1, installed in 1978, is rated at 6.7 MMBTU/hr. Boiler 2, installed in 1980, is rated at 5.0 MMBTU/hr.
 - b. Two (2) cyclones which exhaust directly to the atmosphere. One cyclone (EQ-3) handles dust emissions from wood machining equipment including

finger jointer, band mill saw, beam planer, cut-off saw, chipper, and 2 trim saws. The other cyclone (EQ-1) collects shavings from the planning mill (1 hardwood and 1 softwood planer). Material collected by cyclone EQ-1 is conveyed to cyclone EQ-3. The cyclones were installed in 1979

- c. Fugitive Volatile Organic Compound (VOC)/Hazardous Air Pollutant (HAP) emission resulting from the use of wood adhesives and coating products.
- d. Fugitive VOC/HAP emissions from five (5) dry kilns.

COMPLIANCE

8. Since the last permit renewal, the facility was inspected and found to be in compliance with permit conditions on the following dates:

05/07/2009	05/13/2003	06/20/2001	07/12/2000
03/31/1999	06/03/1998	09/01/1997	07/22/1997

9. During the prior permit period there were no, complaints recorded for this facility.
10. The following enforcement actions have been taken against this facility since the last permit renewal.

Notice of Non-Compliance (NON) No. 1037: On May 9, 1994 NON No. 1037 was issued for failure to inspect and record inspections on the scrubber used to control emissions from the boilers. No further action has been necessary on this issue.

EMISSIONS

11. Proposed PSEL information:

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limits (PSEL)		
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)
PM	7.2	NA	7.2	21.6	31	9.6
PM ₁₀	7.2	NA	7.2	19.8	21	1.4
SO ₂	57.5	NA	58	57.5	39	-18.5
NO _x	20.1	NA	20	20.1	59	39.0
CO	1.8	NA	1.8	34.9	99	64.1
VOC	2.0	NA	2.0	59.2	41	-17.7
Individual HAP	NA	--	--	--	9	--
Combined HAPs	NA	--	--	--	24	--

- a. The proposed PSELs are derived by adding the generic PSEL to the netting basis. (see Attachment A) In the case of CO in order to avoid Title V thresholds the PSEL was set at the Generic PSEL level in accordance with Title 42 and Title 12 of LRAPA's Rules and Regulations.
- b. The PSEL is a federally enforceable limit on the potential to emit.

12. In addition to the PSEL, the permit includes the following:

Pollutant	Unassigned Emissions (tons/yr)	Emission Reduction Credits (tons/yr)
SO ₂	18.5	N/A

- a. The source was originally permitted to burn fuel oil which had a potential to emit 57.5 tons per year of SO₂. The boilers have been modified to run on hogged fuel and planner shavings. The new SO₂ PSEL will be set to one ton less than the SER and the remaining baseline emission will be established as unassigned emissions.

$$\begin{aligned} \text{Unassigned Emissions} &= \text{Baseline} - \text{SER} \\ \text{Unassigned Emissions} &= 57.5 \text{ tpy SO}_2 - 39.0 \text{ tpy SO}_2 = 18.5 \text{ tpy SO}_2 \end{aligned}$$

- b. In accordance with LRAPA Section 42-005, the Unassigned Emissions shall expire and are reduced to no more than the SER on July 1, 2010.

SIGNIFICANT EMISSION RATE (SER) ANALYSIS

- 13. For each pollutant, the proposed PSEL is less than the Netting Basis plus the SER, thus no further air quality analysis is required.

MAJOR SOURCE APPLICABILITY

CRITERIA POLLUTANTS

- 14. A major source is a facility that has the potential to emit more than 100 tons per year of any criteria pollutant. This facility is not a major source of criteria pollutant emissions.

HAZARDOUS AIR POLLUTANTS

- 15. A major source is a facility that has the potential to emit more than 10 tons/year

of any single HAP or 25 tons/year of combined HAPs. This source is a major source of hazardous air pollutants. Actual emissions are below the thresholds for a major source.

Hazardous Air Pollutant	*Potential to Emit (tons/year)	Current Emission Rate (tons/year)
Formaldehyde	1.5	0.2
Methanol	3.4	0.4
Methyl Isobutyl Ketone	0.8	0.1
Phenol	82.7	8.8
Vinyl Acetate	0.1	0.0
Total	88	9

*The permittee has agreed to take a federally enforceable limit on HAP emission to remain under the major source thresholds.

16. Although the source has the potential to emit above the Title V major source threshold levels, the permittee has elected not to obtain an LRAPA Title V Operating Permit by requesting a PSEL below the major source threshold levels. The PSEL is a federally enforceable limit on PTE.

ADDITIONAL REQUIREMENTS

NSPS APPLICABILITY

17. 40 CFR Part 60, Subpart Dc is not applicable to the facility because the boilers were built before 1989. Boiler 1 was constructed in 1978 and boiler 2 was constructed in 1980.

NESHAPs/MACT Applicability

18. There are no sources at this facility for which NESHAPs/MACT standards have been promulgated.

TACT APPLICABILITY

19. The facility is meeting the states TACT/Highest and Best Rules by conducting the following activities:..
 - a. Good combustion practices are determined to be TACT for the boilers for CO and NO_x.
 - b. The dry kilns and laminating operations emit greater than 10 tons per year of VOC; however LRAPA has determined that these emission units typically are not required to have the add on controls.

SOURCE TESTING

PRIOR TESTING RESULTS

20. There have been no source tests required, nor performed at this facility.

PUBLIC NOTICE

21. Pursuant to 37-0066(4)(a)(A), issuance of Standard Air Contaminant Discharge Permits require public notice in accordance with 31-0030(3)(c), which requires that LRAPA provide notice of the proposed permit action and a minimum of 35 days for interested persons to submit written comments. In addition, a hearing will be scheduled to allow interested persons to submit oral or written comments if LRAPA receives written request for a hearing from ten persons, or from an organization representing at least ten persons, within 35 days of the mailing of the public notice. If a hearing is scheduled, LRAPA will provide a minimum of 30 days notice for the hearing. **The public notice was published in the Register Guard on August 5, 2009 to September 8, 2009; no comments were received and no hearing was scheduled.**

MTL/cmw
9/15/2009

Emission Calculations

BASELINE EMISSIONS CALCULATIONS

According to a permit application dated October 21, 1977, the following equipment was operating during the baseline years:

- 1 residual oil-fired boiler using 61,000 gallons of oil per month
- 2 cyclones processing 500 units of alder chips per year
- 3 kilns drying about 5,350,000 board feet per year (80% alder and 20% Douglas Fir).

Emissions from the laminating plant are not included in the Baseline Emission Rate because it was not added to the permit until 1980.

Boiler emissions were calculated using AP-42 emission factors and an annual residual oil throughput of 732,000 gallons. Particulate matter (PM) emissions are considered to be 100% PM10.

Fuel Oil Boiler Emission Calculations

$$\begin{aligned}
 PM/PM_{10}: & \frac{19.3 \text{ lbs } PM_{10}}{1,000 \text{ gallons \#6 oil}} \times 732,000 \text{ gallons oil} = 7.1 \text{ tons } PM/PM_{10} \\
 SO_2: & \frac{157 \text{ lbs } SO_2}{1,000 \text{ gallons \#6 oil}} \times 732,000 \text{ gallons oil} = 57.5 \text{ tons } SO_2 \\
 CO: & \frac{5 \text{ lbs } CO}{1,000 \text{ gallons \#6 oil}} \times 732,000 \text{ gallons oil} = 1.8 \text{ tons } CO \\
 NO_x: & \frac{55 \text{ lbs } NO_x}{1,000 \text{ gallons \#6 oil}} \times 732,000 \text{ gallons oil} = 20.1 \text{ tons } NO_x \\
 VOC: & \frac{0.76 \text{ lbs } VOC}{1,000 \text{ gallons \#6 oil}} \times 732,000 \text{ gallons oil} = 0.3 \text{ tons } VOC
 \end{aligned}$$

PM emissions from the cyclones were based upon DEQ emission factors, dated November 18, 1991. A unit of dry alder chips is estimated to equal 1.0 BDT. PM emissions are considered to be 100% PM10.

$$PM/PM_{10}: \frac{0.5 \text{ lbs } PM_{10}}{BDT} \times 500 \text{ BDT} = 0.1 \text{ tons } PM/PM_{10}$$

VOC emissions from the kilns were based solely upon the amount of fir dried, as volatile emissions off hardwoods are assumed to be negligible. An emission factor of 3.1 pounds VOC/MBF was derived from a NCASI report, *Technical Bulletin #405*.

$$VOC: \frac{3.1 \text{ lbs } VOC}{MBF \text{ fir}} \times 1,070,000 \text{ BF fir} = 1.7 \text{ tons } VOC$$

Total Baseline Emissions (tons per year)

PM	PM10	SOX	CO	NOX	VOC
7.2	7.2	57.5	1.8	20.1	2.0

Permitted Activities

1. Until this permit expires or is revoked, the permittee is herewith allowed to discharge exhaust gases containing contaminants only in accordance with the permit application and the requirements, limitations, and conditions contained in this permit. This specific listing of requirements, limitations, and conditions does not relieve the permittee from complying with all other rules of Lane Regional Air Pollution Authority (LRAPA).

Synthetic Minor Limitations

2. Oregon Administrative Rules (OAR) 340-28-1740, "Synthetic Minor Sources," and Section 34-120 of LRAPA's Rules and Regulations (LRAPA's rules), "Synthetic Minor Sources," require that enforceable conditions limiting a source's potential to emit be included in the ACDP for a source with Synthetic Minor status. In accordance with these rules, the permittee shall restrict laminating plant operation as follows to ensure that annual Hazardous Air Pollutant (HAP) emissions remain below the 10 tons per pollutant and 25 tons for combined HAPs standard for Synthetic Minor status.

Enforceable Operating Conditions

- A. Operating hours at the laminating plant shall not exceed 2,080 hours per calendar year (based on an average of 8 hours per day, 5 days per week, 52 weeks per year).
- B. Maximum beam production at the laminating plant shall not exceed 30,000 square feet per day.
- C. Glue usage at the laminating plant shall not exceed:
 - 1) 2,100 pounds per day and 369,000 pounds per year of beam laminating glue,
 - 2) 135 pounds per day and 35,100 pounds per year of fingerjointing glue.
- D. The VOC content of any glue used shall not exceed 11.06% by weight.
- E. The HAP content of any glue used shall not exceed:
 - 1) 5.39% phenol, by weight,
 - 2) 0.44% formaldehyde, by weight.

Performance Standards and Emission Limits

- 3. The maximum allowable emissions of particulate matter (PM) from any new combustion source (sources installed, constructed or modified after June 1, 1970) shall not exceed 0.1 grain per cubic foot of exhaust gas, adjusted to 50% excess air or calculated to 12% carbon dioxide.
- 4. Visible emissions from the boilers shall not equal or exceed a maximum opacity of 20% for a period or periods aggregating more than three minutes in any one hour. When the presence of uncombined water is the only reason for the failure of an emission source to meet this rule, the rule shall not apply.
- 5. Particulate emissions and opacity from the cyclones shall not exceed:
 - a. 0.1 grains per dry standard cubic foot, and
 - b. an opacity equal to or greater than 20% for a period or periods aggregating more than 3 minutes in any 1 hour.
- 6. The permittee shall operate all air contaminant generating processes so that fugitive-type dust associated with the operation will be adequately controlled at all times, in accordance with Title 48 of LRAPA's rules.
- 7. All air pollution control equipment shall be operated and maintained to meet or exceed manufacturer's specifications in order to ensure that emissions are controlled to the greatest extent possible for the type of control equipment used.

Plant Site Emission Limits (PSEL)

8. The PSEL for the facility is based on the production limitations listed below and in the permit. These conditions are enforceable limitations. The permittee must apply for a permit modification to change fuel type, increase production levels, or change composition of glue used.

- a. Steam production at the wood-fired boilers shall not exceed 290,000 pounds per day and 1.06×10^8 pounds per calendar year.
- b. The 2 cyclones combined shall not process more than 900 tons of material per month and 10,575 tons of material per calendar year.
- c. The 5 kilns shall not dry more than 19.35 MMBF of lumber per calendar year.

Total emissions from all sources located on the plant site shall not exceed the limits listed below. Base production rates and process emissions factors used in the PSEL calculations are included in the permit and review report.

Annual PSEL (tons per calendar year)

Source	PM	PM ₁₀	SO _x	NO _x	CO	VOC
BER	7.2	7.2	57.5	20.1	1.8	2.0
Generic PSEL	24	14	39	39	99	39
Changes			-57.5 ^a			59.2 ^c
Totals	31	21	39	59	99^b	41^c

^aSulfur Dioxide (SO_x) emissions were a result of fuel oil use in the boilers. The boilers now operate solely on wood byproducts. The

^b Carbon Monoxide (CO) is limited to 99 tons/year to avoid NSR requirements.

^c VOC emissions increased in 1980 over the baseline as a result of the installation of the laminating equipment. As a part of the permit renewal the VOC was reduced to the BER plus the Generic PSEL for VOC. Because the HAP limitations restrict production to below the VOC PSEL, the reduction in VOC limits will not affect the production at the facility.