

Lane Regional Air Protection Agency  
Standard Air Contaminant Discharge Permit

**REVIEW REPORT**

**Eagle Veneer, Inc. – Junction City**

**Permit No. 200517**

1. General Background Information

Eagle Veneer, Inc. – Junction City (Eagle) operates a veneer-drying facility in Junction City, Oregon, that processes approximately 140 million square feet per year on a 3/8" basis. The operation consists of two (2) gas-fired and steam-heated veneer dryers with emissions controlled by two (2) Burley Scrubbers. The facility also uses one (1) natural gas-fired boiler to provide steam for the veneer dryer and one (1) natural gas-fired boiler as a backup. Veneer is dried with 50% heat from the boiler and 50% heat from the direct-fired burners in the veneer dryers. The facility also uses two (2) cyclones and one (1) baghouse to control particulate matter (PM) emissions. The two (2) cyclones are capped and vented to the baghouse. The operating schedule for the facility is 8,760 hours/year (24 hours per day, 7 days per week, and 52 weeks per year).

2. Reasons for Permit Action

The facility operates a process listed in Table 1, Part B and C, of LRAPA Title 37, and is, therefore, required to obtain a permit. The facility's permit expired March 31, 2010. The primary reason for the permit issuance is to renew the existing permit.

3. Enforcement History

The facility received Notice of Non-Compliance No. 1182 (NON 1182) on January 24, 1996, for exceeding the hours of operation for the cyclones as allowed by the facility's permit. The facility also received NON 93-37 for exceeding the opacity limit as allowed by the facility's permit and for failing to install an emissions control system capable of complying with the opacity requirements.

4. Performance Test Results

The facility tested both veneer dryers on November 9, 2000. The results of the source test showed that the veneer dryers emit at lower levels than had been estimated. An Addendum was made to the permit on November 13, 2001, to change the emission estimates for the veneer dryers by using the average emission rate of 0.21 pound VOC per 1000 square feet of wood dried.

5. Plant Site Emission Limits

In accordance with LRAPA Title 42, the PSELs in the permit will be set at the Generic PSEL level. Emission values less than the de minimis level are not included in the PSELs in accordance with LRAPA 42-0020-3. The following annual PSELs will be in the permit (all values are in tons per year).

Source	PM/PM <sub>10</sub>	NO <sub>x</sub>	CO	VOC
<b>Totals</b>	<b>53</b>	<b>39</b>	<b>99</b>	<b>39</b>

The attachment to this report contains calculations of the PSELs.

### Baseline Emission Rate

Based on information in the facility's permit file, the production rate in 1978 was 120,000,000 square feet (3/8" basis) per year for the veneer dryers. The baseline emission rates for the boiler are based on a throughput of 18,000 tons per year of hog fuel. The table below shows the baseline emission rates. The baseline emissions calculations are found in the detail sheets attached to this report.

Pollutant	Baseline Emissions (tons/year)	Proposed PSEL (tons/year)	Increase from baseline (tons/year)	SER (tons/year)	Unassigned Emissions* (tons/yr)
PM	95	53	0	25	42
PM <sub>10</sub>	89	53	0	15	36
CO	59	99	40	100	NA
NO <sub>x</sub>	3	39	36	40	NA
VOC	10	39	29	40	NA
SO <sub>2</sub>	1	NA	0	40	NA

\*Unassigned emissions are established with this renewal and shall expire July 1, 2010 in accordance with LRAPA 42-0045. Upon expiration the unassigned emissions are reduced to no more than the SER for each pollutant in LRAPA Title 12, Table 2.

### 6. Other Emission Limitations

LRAPA's process weight rule specifies limits on the emissions of particulate matter for specific processes as a function of the amount of material processed [LRAPA 32-045(A)]. The process weight rule does not apply to industrial process equipment for which specific standards for particulate have been adopted. Since the rules from LRAPA 33-060(3)(B) apply to the facility, the process weight rule does not apply to the facility.

In addition to LRAPA's general process weight rule, LRAPA 33-060(3)(B) limits particulate matter emissions from veneer and plywood production to one (1) pound per 1000 square feet of veneer or plywood (excluding veneer dryers, fuel-burning equipment, and refuse-burning equipment).

Based on a yearly allowable veneer dryer throughput of 185 MM sq ft/yr, the allowable emissions are 185,000 pounds per year or 92.5 tons per year of PM. Since the PM PSEL is 53 tons per year, compliance with PSEL will ensure compliance with the board rule.

The permit includes general visible emissions limitations for the facility in addition to specific visible emission limitations for veneer dryers. The permit includes general grain-loading limitations for the facility.

7. Hazardous Air Pollutants (HAP)

The maximum potential HAP emissions from the facility are 21.5 tons/year for total HAPs and 6.6 tons/year for any maximum individual HAP (acetaldehyde). The facility therefore does not have the potential to emit above the major source thresholds of 25 tons/year and 10 tons/year for total and maximum individual HAPs, respectively.

As an area source, the facility will be subject to the area source Boiler NESHAP that is scheduled (by court order) to be finalized by EPA by December 2010.

8. Typically Achievable Control Technology (TACT)

LRAPA Title 32-008 requires an existing emission unit at a facility to meet TACT if the emissions unit has emissions of criteria pollutants greater than ten (10) tons per year of any gaseous pollutant or five (5) tons per year of particulate, the emissions unit is not subject to the emissions standards under LRAPA Title 32, Title 33, Title 39, or Title 46 for the pollutants emitted, and the facility is required to have a permit. The emission units at the facility are subject to LRAPA 33-060(3)(B) and Title 32 and are, therefore, not required to meet TACT.

9. New Source Review and Prevention of Significant Deterioration (NSR and PSD)

Because the proposed PSELs for all regulated pollutants are below the Significant Emission Rates (SERs) in LRAPA Title 38, the facility is not subject to LRAPA's New Source Review (NSR) requirements for PM<sub>10</sub> nor the Prevention of Significant Deterioration (PSD) requirements for SO<sub>x</sub>, NO<sub>x</sub>, CO, and VOC.

10. New Source Performance Standards (NSPS)

Because each of the two (2) boilers has a rated capacity between 10 MM BTU/hr and 100 MM BTU/hr, and because both were constructed after June 9, 1989, the boilers are subject to the New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 60, Subparts A and Dc), including but not limited to record keeping of fuel usage and annual reporting.

As stated in the permit, the facility is prohibited from burning any residual oil. The facility is required to maintain daily records of natural gas combusted in each of the boilers

11. Production Limits

In order to ensure that the PSELs are not exceeded, the facility's total veneer dryer production will be limited to 185,000,000 ft<sup>2</sup> per year (3/8" basis).

12. Performance Testing

Testing on the veneer dryers was performed on November 9, 2000. At this time no further testing is required.

13. Continuous Compliance

To ensure compliance with the PSELS, the facility is required to keep a record of the following information for a period of two (2) years.

Parameter	Minimum Recording Frequency
Total Veneer Production by Species (sq ft, 3/8" basis)	Monthly
Each Truck Bin Cyclone Throughput (lbs or Bone Dry Tons - BDTs)	Monthly
Inspect dryer and scrubber (including maintenance of scrubber)	As performed
Visual inspection of cyclones	Weekly
Visual inspections of baghouse	Weekly
Pressure drop readings on baghouse gauges	Weekly
Total amount of natural gas combusted by each boiler (MM Btu)	Monthly

14. Reporting Requirements

By March 15<sup>th</sup> each year the facility is required to submit an annual summary containing the information as required per Conditions 14 and General Condition G13. The facility is also required to report total greenhouse gas (GHG) emissions if required by OAR 340 Division 215.

15. Open Burning

Open burning is prohibited in accordance to the requirements of LRAPA 47-020.

16. Public Notice

The draft permit was on public notice from May 26, 2010 to June 30, 2010. No written comments were submitted during the 35-day comment period

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<b>Emissions Estimates</b>				
		Sheet "Boiler"		
	<b>Babcock Wilcox 19.9 MM BTU/hr boiler</b>			
<b>Boiler -Natural Gas</b>	Max	Emission	Conversion	Annual
	Design capacity	factor	Factor	Emissions
<b>Pollutant</b>	(cubic ft/hr)	(lbs/10 <sup>6</sup> ft <sup>3</sup> )	(tons/lb)	(tons)
PM/PM10	19,900	2.5	0.0005	0.22
SO2	19,900	1.7	0.0005	0.15
NOx	19,900	100	0.0005	8.72
CO	19,900	84	0.0005	7.32
VOC	19,900	5.5	0.0005	0.48
Boiler operates 8760 hours per year.				
Boiler operates at a maximum rate of 19.9 MM BTU per hour.				
Boiler operates at a maximum rate of 19,900 cubic feet per hour (1 cubic foot of natural gas = 1000 BTU).				
Gaseous emission factors are obtained from the Sawmill General Permit.				
Annual Emissions (tons) = maximum gas usage x emission factor x 1 ton/2000 pounds x 8760 hours per year x 1/10 <sup>6</sup> .				
Backup Fuel is propane. All emission factors for propane are less than for natural gas.				
Compliance with the PSEs is assured since the higher factors for natural gas are used.				
<b>Baseline (1978) Wood-Fired Boiler</b>				
	Annual Throughput	Emission Factor	Emissions	
<b>Pollutant</b>	(tons/year)	(lbs/ton)	(tons)	
PM	18,000	7.2	64.80	
PM10	18,000	6.5	58.50	
SO2	18,000	0.075	0.68	
NOx	18,000	0.38	3.42	
CO	18,000	6.6	59.40	
VOC	18,000	0.18	1.62	
Annual Throughput as per the facilities emission inventory file at LRAPA.				
Gaseous emission factors are obtained from AP-42 table 1.6-1,2,3 (8/98).				
Annual Emissions (tons) = annual throughput x emission factor x 1 ton/2000 pounds				

<b>Emissions Estimates</b>		<b>"Dryer"</b>		
<b>Veneer Dryer Emissions</b>				
	Total			
	Yearly			
	Allowable	Emission	Yearly	
	Throughput	factor	Emissions	
Pollutant	(square ft, 3/8" basis)	(lbs/1000 sq ft)	(tons)	
PM/PM10	185,000,000	0.56	51.8	
SO2	185,000,000	NA	--	
NOx	185,000,000	0.12	11.1	
CO	185,000,000	0.02	1.9	
VOC heated/cooling zones	185,000,000	0.21	19.4	test result
VOC fugitives	185,000,000	0.06	5.6	
HAP total	185,000,000	0.2323	21.5	
Single HAP (acetaldehyde)	185,000,000	0.071	6.6	
Yearly Allowable Throughput as requested by source and as specified in permit.				
Emission factors from the Sawmill General Permit for the highest of either steam or gas heat.				
Except for PM/PM10 which uses the factor for steam heat and for VOC which uses facility-specific source test data (November 2000)				
Burley scrubbers assumed to be 45% efficient				
For veneer dryers PM = 100% PM10 as per DEQ guidance.				
Yearly Emissions = yearly allowable throughput x emission factor.				
Emissions are from two veneer dryers combined.				
50% of the heat to the dryers is provided by the boiler and 50% is provided by the direct-fired burners in the veneer dryers				
HAP emission factors are from the Sawmill General Permit and use the highest of either steam or gas heat and have been combined to create a total emission factor				
<b>Veneer Dryer Emissions-Baseline</b>				
	Hours/year operation =		8,760	
	1978			
	Permitted	Emission	Yearly	
	Throughput	factor	Emissions	
Pollutant	(sq ft/hour, 3/8" basis)	(lbs/1000 sq ft)	(tons)	
PM/PM10	12,500	0.56	30.7	
SO2	12,500	NA	--	
NOx	12,500	0	0.0	
CO	12,500	0	0.0	
VOC	12,500	0.15	8.2	
1978 permitted throughput as per the source's emission inventory file at LRAPA (assume 8760 hours/year operation).				
Emission factors from DEQ Permitting and Inspection Manual for steam heated veneer dryer, >20% moisture.				
Assume 45% control from Burley scrubbers.				
File indicates dryers not in compliance in 1979 and burley scrubbers were installed to meet limits.				
For veneer dryers PM = 100% PM10 as per DEQ guidance.				
Yearly Emissions = yearly throughput x emission factor/1000 x 1 ton/2000 lbs.				
Emissions are from two veneer dryers combined.				

<b>Emissions Estimates</b>		<b>Sheet: "Cyclones and Baghouse"</b>			
<b>Cyclones</b>					
	Annual	Max Hourly	Emissions Factor	PM/PM10 Yearly	PM/PM10 Hourly
Source	Throughput (Bone Dry Tons)	throughput (pounds)	(lb/ton)	Emissions (Tons)	Emissions (Pounds)
Truck Bin Cyclone #2 w/ baghouse (Veneer Scarfer)	1,000	400	0.001	0.0005	0.0002
Truck Bin Cyclone #1w/ baghouse	3,000	700	0.001	0.0015	0.0004
<b>Total</b>				<b>0.0020</b>	<b>0.0006</b>
Max Hourly and Annual Throughput values are from the source's application for ACDP					
Process is in operation a maximum of 8,760 hours/year (24 hrs/day, 7 days/week, 52 weeks/yr).					
Emission factors assume a baghouse efficiency of 99%					
Yearly emissions = annual throughput x emissions factor x 1ton/2000 pounds					
Hourly emissions = max hourly throughput x emissions factor x 1 ton/2000 pounds					
<b>Baseline</b>		Annual	Emission		
	Throughput	Factor	Emissions		
Source	(Bone Dry Tons)	(pounds/ton)	(tons)		
Cylone on Fuel House	1453	0.5	0.4		
Air Transfer Cyclones	1910	0.5	0.5		
Throughput as per the facilities emission inventory file at LRAPA					
Emission factor from the DEQ Permitting and Inspection Manual for medium efficiency cyclones					
Emissions = annual throughput x emission factor x 1 ton/ 2000 pounds.					

Emissions Estimates		"Sum"				
Current	Annual					
	PM	PM10	SO2	NOx	CO	VOC
Boilers	1.7	1.7	0.3	23.4	19.6	2.8
Dryers	51.8	51.8	NA	11.1	1.9	25.0
Cyclones	0.0	0.0	--	--	--	--
<b>TOTAL</b>	<b>53.5</b>	<b>53.5</b>	<b>0.3</b>	<b>34.5</b>	<b>21.5</b>	<b>27.8</b>
Baseline						
	PM	PM10	SO2	NOx	CO	VOC
Boiler	64.8	58.5	0.7	3.4	59.4	1.6
Dryers	30.7	30.7	--	0.0	0.0	8.2
Cyclones	0.0	0.0	--	--	--	--
<b>TOTAL</b>	<b>95.5</b>	<b>89.2</b>	<b>0.7</b>	<b>3.4</b>	<b>59.4</b>	<b>9.8</b>
	Baseline	PTE	PSEL	Increase over Baseline	SER	
	(tons/year)	(tons/year)	(tons/yr)	(tons/year)	(tons/year)	
PM	95	53	53	-42	25	
PM10	89	53	53	-36	15	
SO2	1	0	NA	NA	40	
NOx	3	34	39	36	40	
CO	59	21	99	40	100	
VOC	10	28	39	29	40	

		"New Boiler"			
<b>New Boiler 4/26/04</b>					
<b>Cleaver-Brooks 33.5 mmBTU/hr</b>					
<b>Boiler -Natural Gas AP-42</b>					
	Max	Emission	Conversion	Annual	Hourly
	Design capacity	factor	Factor	Emissions	Emissions
<b>Pollutant</b>	<b>(cubic ft/hr)</b>	<b>(lbs/10<sup>6</sup> ft<sup>3</sup>)</b>	<b>(tons/lb)</b>	<b>(tons)</b>	<b>(pounds)</b>
PM/PM10	33,475	7.6	0.0005	1.11	0.25
SO2	33,475	0.6	0.0005	0.09	0.02
NOx	33,475	100	0.0005	14.66	3.35
CO	33,475	84	0.0005	12.32	2.81
VOC	33,475	5.5	0.0005	0.81	0.18
Boiler operates 8760 hours per year.					
Boiler operates at a maximum rate of 33.5 MM BTU per hour.					
Boiler operates at a maximum rate of 33,475 cubic feet per hour (1 cubic foot of natural gas = 1000 BTU).					
Gaseous emission factors are obtained from AP-42 table 1.4-2 (3/98).					
Annual Emissions (tons) = maximum gas usage x emission factor x 1 ton/2000 pounds x 8760 hours per year.					
Hourly Emissions (pounds) = Max gas usage x emission factor					
For comparison purposes only. The manufacturers data below was used in the PSEL estimations.					
<b>Boiler -Natural Gas Manufacturer Data</b>					
	Max	Emission	Conversion	Annual	Hourly
	Design capacity	factor	Factor	Emissions	Emissions
<b>Pollutant</b>	<b>(mmbtu/hr)</b>	<b>(lbs/mmBTU)</b>	<b>(tons/lb)</b>	<b>(tons)</b>	<b>(pounds)</b>
PM/PM10	33.5	0.01	0.0005	1.47	0.34
SO2	33.5	0.001	0.0005	0.15	0.03
NOx	33.5	0.035	0.0005	5.14	1.17
CO	33.5	0.037	0.0005	5.43	1.24
VOC	33.5	0.016	0.0005	2.35	0.54
Boiler operates 8760 hours per year.					
Boiler operates at a maximum rate of 33.5 MM BTU per hour.					
Boiler operates at a maximum rate of 33,475 cubic feet per hour (1 cubic foot of natural gas = 1000 BTU).					
Gaseous emission factors are obtained from Cole Industrial's Estimated Emission Performance data for the unit					
Annual Emissions (tons) = maximum gas usage x emission factor x 1 ton/2000 pounds x 8760 hours per year.					
Hourly Emissions (pounds) = Max gas usage x emission factor					
<b>Annual Total For Both Boilers</b>					
<b>Pollutant</b>	<b>Old Boiler</b>	<b>New Boiler</b>	<b>TOTAL</b>		
PM/PM10	0.2	1.5	1.7		
SO2	0.1	0.1	0.3		
NOx	8.7	14.7	23.4		
CO	7.3	12.3	19.6		
VOC	0.5	2.3	2.8		