LANE REGIONAL AIR POLLUTION AUTHORITY
Synthetic Minor Air Contaminant Discharge Permit

Review Report

Weyerhaeuser Company
Western Lumber Business, Cottage Grove **Permit No. 208853**

Reason for Permit Action

1. This permit action modifies the Synthetic Minor Air Contaminant Discharge Permit (ACDP) that was issued on January 1, 2003. Application materials for modification of this permit were received by Lane Regional Air Pollution Authority (LRAPA) on May 4, 2004, and May 10, 2004. The reason for the modification of the permit is to include a log yard expansion and associated unpaved road project which increases PM and PM_{10} Plant Site Emission Limits (PSELs). Also included in this permit action is a revision of the Baseline Emission Rates (BERs) based upon better estimations and information.

Source Background and Description

2. Weyerhaeuser Company's Western Lumber Business in Cottage Grove operates a small log sawmill and planing mill on Highway 99 in south Cottage Grove.

   The sawmill/planing facility is a Douglas Fir small sawlog mill which consists of:

   a. 2 trim saws, 1 gang saw, 1 edger, 1 canter twin, 1 log merchandiser, 4 chippers, 1 planer and 2 sorters, and 1 package saw;
   b. 4 cyclones which exhaust directly to the atmosphere;
   c. 1 sap stain treatment spray booth and enclosure; and
   d. Unpaved log yard road.

   The sawmill produces approximately 350 MMBF a year.

3. This facility is located in an attainment area for the criteria pollutants.

4. This facility is located within 100 kilometers of four (4) Class I air quality protection areas.

5. The Land Use Compatibility Statement (LUCS) from Lane County was issued June 23, 1998.

Historical Background

6. The original facility permit ("Regular" ACDP No. 208853, issued January 1, 1983) consisted of three (3) plants organized under three (3) Emission Inventory (EI) ID numbers assigned as follows:

   EI #208853 - Plywood Mfg and Fuel Burning Equipment (Powerhouse)

   EI #208865 - Sawmill and Planing Mill

EI #208878 - Laminating Plant

All three (3) EI numbers were permitted under the Plywood EI #208853. Due to the closure of the Plywood Plant in August 1985, the Laminating Plant in September 1992 and, the permanent shutdown of the Powerhouse hogged fuel boilers in February 1994 (boilers had been in extended lay up since June 1992), all that remains of the original facility is the Sawmill and Planing Mill (original EI #208865). The facility was issued a modified permit, ACDP No. 208853, on September 13, 1994, for the Sawmill/Planing Mill.

7. The permit issued on September 13, 1994, addressed the following:

   a. Closure of the Laminating Plant, shutdown of the Powerhouse, and additions/changes to the facility (addition of spray booth since the last modification in May 1992);
   b. Corrected cyclone particulate PSELs based on wet throughput in the May 1992 permit to dry (BDT) basis;
   c. Modified the permit to reflect changes in production and operating hours at the Sawmill facility;
   d. Corrected Powerhouse boiler PM PSEL, established PSELs for the gaseous pollutants (SO_2, NO_X, VOCs (Volatile Organic Compounds), and CO) for the Powerhouse boilers; and
   e. Added a PSEL for the Spray Booth Line (VOCs).

8. The permit was modified by two (2) administrative changes on January 8, 1999:

   a. The Synthetic Minor limit is changed from an annual limit to a 12-month rolling limit.
   b. The permit issued August 27, 1998, omitted cyclone C-26. This modification added that cyclone to the permit. Emissions from the cyclone were previously accounted for and construction was previously approved by LRAPA. A approval of construction was issued on August 25, 1995, and the PSEL was increased by 1.5 tons per year.

Source Test Information

9.

Source	Test Date	Production Rate	Results
Powerhouse HF Boilers (2)	4/22/75	121,620 lbs steam/hour	124.75 lbs PM/hour 0.22 gr/dscf @ 12% CO_2
Powerhouse HF Boilers (2)	9/21/77	134,300 lbs steam/hour	68.9 lbs PM/hour 0.10 gr/dscf @ 12% CO_2

Plant Site Emission Limit (PSEL) Information

10. **Baseline Emission Rates (BERs)**:

Baseline year 1978 operating schedule (per December 1982 application):

a. *Plywood and Veneer Mfg*:
16 hrs/day x 5 days/wk x 50 wks/yr = 4000 hrs/yr

a. *Sawmill/Planing*:
16 hrs/day x 5 days/wk x 52 wks/yr = 4160 hrs/yr

c. *Laminating Plant*:

16 hrs/day x 5 days/wk x 52 wks/yr = 4160 hrs/yr

d. *Powerhouse Boilers (2)*:

24 hrs/day x 7 days/wk x 50 wks/yr = 8400 hrs/yr

11. Permitted production for 1978 baseline year (see 1982 permit application and 2004 modification and construction applications):

A. *Plywood and Veneer*:

1) Plywood on a finished 3/8" basis = 75,025 MBF/1978;

2) Maximum hourly production on a finished 3/8" basis = 70,000 ft^2/hr;

3) Normal hourly production on a finished 3/8" basis = 18,000 ft^2/hr natural;

4) 80,000 CCF Douglas Fir processed per year.

B. *Sawmill/Planing Mill*:

1) Finished lumber = 163,169 MBF/1978 = 39.2 MBF/hour;

2) Maximum hourly production rate = 44,000 MBF;

3) Normal hourly production rate = 44,000 MBF;

4) 203.4 M CCF Douglas Fir & Hemlock processed per year.

C. *Laminating Plant*:

1) Finished lumber = 32,825 MBF/1978;

2) Maximum hourly production rate = 18,000 MBF;

3) Normal hourly production rate = 13,000 MBF;

4) 139 M MBF Douglas Fir, Hemlock, Alder and Pine processed per year.

D. *Powerhouse Hogged Fuel Boilers (2)*:

1) 127,700 BDT Hogged fuel/yr;
2) Maximum hourly steam production rate = 180,000 lbs/hr
(Boilers rated capacity = 90,000 lbs/hr each); and
3) Normal hourly steam production rate = 110,000 lbs/hr.

E. *Roads, Unpaved and Paved*:

See attachment to this report for road emission estimations.

<u>Summary of Baseline Emission Rates (1978)</u>

12. The table below shows the total actual estimated emissions from the facility in 1978. LRAPA has previously concluded that the emissions from the boilers could not be carried as BER credit because the shutdown of the Powerhouse Hogged Fuel Boilers classified as a “permanent source shutdown” according to LRAPA 38-040(2)(D). The boilers’ first two-digit Source Industrial Classification (SIC) code differed from all other sources which continued to operate at the facility. And because the boiler emissions were not banked within two (2) years for contemporaneous offsets, the emissions are not allowed to be carried as unassigned PSEL for the facility.

Device/Process	PM (tons/year)	PM_{10} (tons/year)	VOC (tons/yr)

Device/Process	PM (tons/year)	PM_{10} (tons/year)	VOC (tons/yr)
Sawmill	35.2	35.2	64.6
Kilns	2.9	2.9	3.8
Lam Plant	1.2	0.6	4.6
Veneer Dryer	23.6	23.6	67.5
Plywood Plant	10.8	8.0	39.4
Roads-Unpaved	14.3	3.1	--
Roads-Paved	8.5	1.7	--
TOTALS	**96.4**	**75.1**	**179.9**

Baseline Emission Rates (BERs) and Significant Emission Rate (SER) Comparison

13. The table below shows the comparison of the BERs and the SERs, and also shows that the facility does not exceed any of the SERs.

Pollutant	Baseline (tons/year)	Annual Emission Limit (tons/year)	Increase Over Baseline (tons/year)	Significant Emission Rate (tons/year)
PM	96.4	44.3	-52.1	25
PM_{10}	75.1	33.6	-41.5	15
CO	--	--	--	100
NO_X	--	--	--	40
SO_2	--	--	--	40
VOC	179.9	50.0	-129.9	40

The attachment to this report contains the calculations of the BERs.

History of Changes to PSELs

14. The original PSELs for particulate matter (PM) were established in the permit issued January 1, 1983. The following changes have been made to the PSELs:

15. In April 1992, a modification was initiated to remove the Plywood facility from ACDP No. 208853 and update the Sawmill and Laminating Plant PSELs. PM PSELs were reduced from 457.4 tons/year (124.7 pounds/hour) to 436.8 tons/year (121.7 pounds/hour) as a result of the shutdown of Plywood cyclones and dryers.

16. Weyerhaeuser applied for an increase in operating hours for the Sawmill from 4160 hours/year (permit issued January 1, 1983) to 6300 hours/year (see February 8, 1994 renewal application) and a production increase of 63 MMBF. The annual production for the 1983 permit was 183 MMBF/hour (based on 44 MBF/hour x 4160 hours/year). The facility requested an increase in the annual production to 246 MMBF (39 MBF/hour x 6,300 hours/year). The increase in hours of operation and production did not increase the PSEL (with decreases in emissions from the installation of a high efficiency planer). No further air quality analysis was required.

17. In the permit renewal issued January 1, 1993, the Powerhouse PM PSEL was corrected from 373.0 tons/year (85.4 pounds/hour), based on an April 1975 source test, to 289.4 tons/year (68.9 pounds/hour), based on the results of the September 1977 source test performed after the modification to the boilers. The original powerhouse PM PSEL was incorrectly set using 1975 source data (1975 result: PM was out of compliance with grain- loading limit per LRAPA rules). Subsequently, the boilers underwent modification (summer of 1977) to bring them into compliance and were re-tested in September 1977. The September 1977 test showing compliance was the basis for establishing the Powerhouse PM PSEL.

18. The cyclone PSELs have been adjusted from 63.8 tons/year in the May 1, 1992 permit modification to 37.4 tons/year to correct for cyclone throughput basis, plant shutdowns (Lam Plant, Powerhouse, three (3) Plywood cyclones, etc.) and banking errors.

19. On May 10, 1994, Weyerhaeuser applied for an increase in operating hours from 6,300 hours/year (permit renewal issued January 1, 1993) to 7,280 hours/year. Weyerhaeuser also requested an increase in production for both the Sawmill and Planing Mill. The installation of a high efficiency planer in December 1993 created a higher capacity for the Sawmill than the Planing Mill. Weyerhaeuser wanted separate production limits for the two mills. The Planing Mill handles all of the Sawmill stock plus additional stock from Weyerhaeuser's Coos Bay facility.

20. The May 10, 1994 request for permit modification increased production for the Sawmill and Planing Mill from 246 MMBF/year to 874 MMBF (Sawmill) and 920 MMBF/year (Planing Mill).

21. The increase in production increased the demand on the sap stain throughput to the spray booth. The throughput of sap stain increased from 2,000 gallons/year to 8,000 gallons/year. This increase in hours of operation and production did not result in a significant net increase in emissions. The facility achieved internal netting due to the shut down of the hogged fuel boilers for both PM and VOCs.

22. A notice of Approval to Construct was issued to Weyerhaeuser on August 25, 1995, for the C-26 cyclone. The Annual PSEL increase was 1.5 tons/yr PM/PM_{10}.

23. On August 28, 1997, LRAPA received a construction review request for an increase of sap stain throughput. The facility requested an increase from the permitted allowable of 8,000 gallons/year to an increased throughput of approximately 58,500 gallons/year.

24. On December 31, 1997, the ACDP expired. The application received August 28, 1997, acted as both a modification and renewal application. This action served as a renewal.

25. On December 30, 1997, LRAPA issued Addendum No. 1 to the ACDP to address the request to increase the hours of operation from 7280 to 8736 hours/year allowing the facility to operate 24 hours/day. The language “Coos Bay” stock was stricken and was generalized as “off site” stock for Permit Condition No. 2.

26. On May 22, 1998, LRAPA issued Addendum No. 2 for the C-27 Cyclone for the Package Saw. The Annual PSEL increase was 0.1 tons/year.

27. On August 27, 1998, LRAPA issued a Synthetic Minor Air Contaminant Discharge Permit (SM-ACDP). The contents of the August 1997 renewal and request to modify application and subsequent correspondence with the facility (dated May 13, 1998) were the basis for the calculations contained within the Review Report. The entire permit action addressed the request to increase the throughput of the sap stain for the spray booth. Because the potential emissions from the sap stain process could trigger Title V Federal Operating Permit requirements, the facility agreed to an enforceable condition to limit the potential to emit Hazardous Air Pollutants (HAPs) to below major source thresholds.

28. During the public comment period for the permit issued August 27, 1998, Weyerhaeuser noted that cyclone C-26 did not appear in the emission unit identification list and notified LRAPA that it was still in operation at the plant. The unit was granted an Approval to Construct by LRAPA August 25, 1995, and was inadvertently omitted from subsequent permit actions by LRAPA. The modification of the permit addressed the unit’s contribution to the PSEL which resulted in an adjustment to the PSEL of 1.5 tons/yr PM.

29. The PSEL totals for the previous permit modification were based on the September 13, 1994, permit historical PSEL assessment:

Description	PM	SO_2	NO_X	VOC	CO
1/84: PSELs in the Permit	+457.4				
5/92: Removal of Plywood Plant Modification (NO BANKING)	-20.6				
3/94: Removal of cyclones from Plywood Plant Units C-14, C-15, C-17 (NO BANKING)	-18.0				
Gaseous PSELS set for Hog Fuel Boiler & Lamination Plant		+8.8	+195.3	+81.9 & +9.5	1890.0
Correction of Boiler Emission Factor	-83.6				
9/92: Lamination Plant SHUTDOWN	-4.6			-9.5	
Correction of Cyclone throughput from Wet to Dry Basis, Units C-11, C-13, C-16, C-18, & C-20	-10.2				

Description	PM	SO_2	NO_X	VOC	CO
9/93: Addition of Spray Booth				+1.7	
9/93: New Planer & Cyclones C-21 & C-25	+9.4				
1/94: Sawmill Cyclones C-10, C-12, & C-19	-3.2				
3/94: Permanent SHUTDOWN Powerhouse	-289.4	-8.8	-195.3	-81.9	-1890.0
3/94: SHUTDOWN of Cyclones C-11, C-13, C-16, & C-20 (permit modified 5/94)	-27.8				
7/94: Increase of Cyclones C-21 & C-25 and Sap Stain Application	+19.0			+4.8	
5/95: Increase of Cyclone C-26	+1.5				
5/98: Increase in PSEL Package Cyclone C-27	0.1				
5/98: Request to Increase Sap Stain Throughput				45.2	
PSEL Totals	**30.0**	**0.0**	**0.0**	**50.0**	**0.0**

30. The PSEL was modified in May of 2004 to add emissions of unpaved road surfaces related to the Log Yard Expansion project. The facility added 14.3 tons/year of PM and 3.6 tons/year of PM_{10}.

Synthetic Minor Limitations

31. Synthetic Minor status limits the facility to 9.5 tons/year of any single HAP or 24.5 tons/year of any combination of HAPs. This usage limit is required to limit the potential to emit HAP(s) to less than the Title V thresholds of 10 tons/year of a single HAP and 25 tons/year of an aggregate of HAPs.

    a. Limits have been placed on material usage. The emission factor used for the HAPs assumes that 100% of the HAP component is volatile (as calculated by % by weight HAP which is the basis for the emission rate as measured in pounds of HAP/gallon of coating). The limit restricts the HAP potential emissions for each coating, diluent, glue, putty, clean up solvent, etc., that is delivered to the applicator, therefore restricting the potential emissions released to the atmosphere.

    b. These limits, which prevent the facility from needing a Title V Federal Operating Permit, were established with two criteria: monthly and annual limits to allow for seasonal flexibility. The flexibility in the limits appears in the monthly single HAP and aggregate HAPs limits. The maximum design rate of the sap stain booth was used to establish the monthly limits. The annual limit is more stringent than the monthly limits aggregated over a twelve-month period. The ACDP program allows facilities to limit potential to emit, whereby the facility becomes a

Synthetic Minor source. Because the total yearly limits for both singular and aggregate HAPs are more stringent than the aggregate of the monthly limits extrapolated for a twelve-month period, the facility will have to manage material usage such that the yearly limit is not exceeded.

1) The facility has agreed to monitor its coatings, diluent, glue, putty, cleanup solvent usages, etc., such that the emissions from the use of these materials does not exceed the synthetic minor limits.

2) Substitutions of coatings may be employed provided that both consumption and composition records are maintained in accordance with the permit reporting requirements.

c. To confirm the composition for each coating, diluent, glue, putty, cleanup materials, and other HAP materials, information shall be taken from the Material Safety Data Sheets (MSDS) or from laboratory analysis for each material used at the facility.

d. Special conditions in the ACDP require the facility to apply for a Title V Federal Operating Permit, exclusive of excess emission incidents, prior to emissions increases above the Title V permit trigger levels for criteria or hazardous air pollutants.

PSEL Information

32. The August 28, 1997, renewal application and subsequent correspondence (dated May 13, 1998) data was used to confirm and estimate the VOC and PM/PM_{10} emissions from the various surface coating and woodworking operations to establish the PSELs for VOC and PM/PM_{10} emissions.

a. The PSELs for the facility restrict the potential emissions to 12.0 tons/month and 50 tons/year of VOCs. This establishes the annual limit to below the SER trigger regarding the PSD applicability analysis.

b. The facility will be limited to 0.4 pounds/hour for Cyclone C-21, 16.6 pounds/hour for Cyclone C-25, and 0.5 pounds/hour for Cyclone C-26. The aggregate emissions are 30.0 tons/year of PM/PM_{10}.

c. The facility has agreed to monitor its coating, diluent, glue, putty cleanup solvent usages, and mill production such that the emissions from the use of these materials does not exceed the PSELs.

d. Substitutions of coatings may be employed provided that both consumption and composition records are maintained in accordance with the permit reporting requirements.

e. To confirm the composition for each coating, diluent, glue, putty, cleanup materials, and other HAP material information shall be taken from the MSDS or from laboratory analysis for each material used at the facility.

33. The ACDP renewal application provided new/better information on how material is partitioned between cyclones. The short- and long-term PSELs have been modified to reflect this new information.

34. The ACDP modification application of May 2004 used the latest emission estimation formulas for paved and unpaved roads (AP-42 from 12/03) and also used these formulas for the road calculations from the baseline year. The attachment to this report contains the calculations of the emission estimations.

Public Notice

35. This draft permit was on public notice from May 23, 2004, to June 22, 2004. No written comments were received during the 30-day comment period.

RK/bp
6/22/04