

LANE REGIONAL AIR PROTECTION AGENCY

1010 Main Street
Springfield, OR 97477

**TITLE V OPERATING PERMIT
REVIEW REPORT**

For Addendum No. 3 – Significant Modification

Swanson Group Mfg. LLC – Springfield Plywood/Veneer
1651 South F Street
Springfield, Oregon 97477

General Background

1. Swanson Group Mfg. LLC – Springfield Plywood/Veneer processes logs for the manufacture of veneer and plywood/panel products. In general, activities conducted at the facility include the decking of logs, processing logs prior to peeling, peeling logs into veneer, sorting and drying veneer and manufacturing plywood/panel products. The facility has two hog fuel boilers that produce steam used by two veneer dryers, five plywood presses, block conditioning vaults and for heat in the mill.
2. The proposed permitting action of increasing the PM_{2.5} PSEL and updating the PM₁₀ and PM_{2.5} emission factors for the Boilers (EU-1) is a significant modification (Addendum No. 3) to the existing LRAPA Title V Operating Permit No. 207510, which was issued on February 26, 2016 and is scheduled to expire on February 26, 2021.

Reason for Permit Action

3. The proposed permit action will increase the PM_{2.5} PSEL from the current value of 54 tons/year to 74 tons/year based on the identification of a calculation error in the development of the PM_{2.5} netting basis, which established an artificially low PM_{2.5} PSEL for the facility.
4. The original PSEL calculations set the PM_{2.5} emission factor for the Veneer Dryers (EU-3) at 82.9 lb/MMft², stating that the PM_{2.5} factor was assumed to be equal to the PM₁₀ factor. The PM₁₀ emission factor used for EU-3 in the PSEL calculations was 1010 lb/MMft², ergo the PM_{2.5} emission factor was listed at less than 10% of the PM₁₀ factor and set the potential to emit for PM_{2.5} at an unintentionally low value. Consequentially, the PM_{2.5}/PM₁₀ fraction used to establish the PM_{2.5} netting basis was lower than intended, so the PM_{2.5} PSEL was calculated below what is representative for the facility's operations.
5. The emission factors for PM₁₀ and PM_{2.5} will be updated for the Boilers (EU-1) to reflect corrected PM/PM₁₀ and PM₁₀/PM_{2.5} fractions, where PM₁₀ was originally set as 100% of total PM and PM_{2.5} was set as 54% of total PM. Guidance in DEQ AQ-EF03 states that the PM₁₀ fraction of total PM is 95% for a boiler with a high pressure multiclone and the guidance in DEQ AQ-EF08 states that the PM_{2.5} fraction of PM₁₀ is 60% for a boiler with a multiclone.

Public Notice

6. This modification is undertaken in accordance with OAR 340-218-0180(2) and OAR 340-218-0210, which requires public notice using the procedures in OAR 340 division 209 for Category III permit actions.

Sections 18 and 20 of the Review Report read as follows with the revisions in **bold**:

PLANT SITE EMISSION LIMITS

18. Provided below is a summary of the baseline emissions rate, netting basis, plant site emission limits, and emissions capacity.

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limit (PSEL)			Capacity (tons/yr)
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)	
PM	152	281	152	147	176	29	230
PM ₁₀	110	258	110	116	124	8	220
PM _{2.5}	NA	45	65	54	74	20	130
CO	62	81	62	121	161	40	125
NO _x	81	126	81	89	89	0	89
SO ₂	3	6	3	39	39	0	5
VOC	104	58	104	143	80	-63	80
GHG	51,406	NA	51,406	NA	74,000	74,000	985,687

SIGNIFICANT EMISSION RATE

20. The Plant Site Emission Limit (PSEL) increase over the netting basis is less than the Significant Emission Rate (SER) for PM, PM₁₀, PM_{2.5}, CO, NO_x, SO₂, VOC, and GHG as shown below. No further air quality analysis is required for these pollutants.

Pollutant	Netting Basis (tons/yr)	Proposed PSEL (tons/yr)	Increase over Netting Basis (tons/yr)	SER (tons/yr)
Particulate, PM	152	176	24	25
Particulate, PM ₁₀	110	124	14	15
Particulate, PM _{2.5}	65	74	9	10
CO	62	161	99	100
NO _x	81	89	8	40
SO _x	3	39	36	40
VOC	104	80	-24	40
GHG	56,665	74,000	17,335	75,000

PM_{2.5} Netting Basis and PSEL Calculations

Pollutant: PM-10 Potential to Emit

Emissions Unit ID	Device/process ID	Annual Production/Process Rates		Emissions Factor			Emissions (tons/yr)
		Rate	Units	Rate	Units	Reference	
EU-1 (w/multiclone)	Boiler #1	385,000	Mlb Steam	0.545	lb/Mlb	06/11 & 06/14 ST, DEQ AQ-EF03 (b)	104.9
	Boiler #2	385,000	Mlb Steam	0.441	lb/Mlb	06/11 & 06/14 ST, DEQ AQ-EF03 (b)	84.9
						EU-1 Total	189.8
EU-2	Plywood Presses	225	MMft ² -3/8 " plywood	196	lb/MMft ²	DEQ AQ-EF03	22.1
EU-3	Veneer Dryers with RTO	248	MMft ² -3/8 " veneer	15	lb/MMft ²	11/16 ST (c)	1.9
	Veneer Dryers Fugitives	248	MMft ² -3/8 " veneer	7.5	lb/MMft ²	DEQ AQ-EF03	0.9
		0				EU-3 Total	2.8
EU-4	Mill Equipment:						
	Veneer Core Saw, Strip Saw, Raute P-2 robot plugger line, Veneer Scarf & Edge Gluer, Panel Saw, Dry Hog , Composer Hog (Baghouse #1)	8,613	BDT	0.001	lb/BDT	DEQ AQ-EF03	0.0
	Panel Sanding Line (Bag #2)	225	MMft ² -3/8 " plywood	1.04	lb/MMft ²	DEQ AQ-EF03	0.12
	Sander Dust Fuel Silo Bin Vent (Bag #3)	225	MMft ² -3/8 " plywood	1.04	lb/MMft ²	DEQ AQ-EF03	0.12
	Ply Trim bin vent (Bag-4)	225	MMft ² -3/8 " plywood	0.034	lb/MMft ²	DEQ AQ-EF03	0.00
	Fines Target Box - Clark's Fuel Bin	8,613	BDT	0.05	lb/BDT	DEQ AQ-EF02	0.22
	Ply Trim Target Box	12,097	BDT	0.05	lb/BDT	DEQ AQGP-010	0.30
	Green Fines Target Box	5,905	BDT	0.05	lb/BDT	DEQ AQGP-010	0.15
	Cyclone #8 (Hog Fuel Bin)	225	MMft ² -3/8 " plywood	17	lb/MMft ²	DEQ AQ-EF03	1.91
						EU-4 Total	2.8
EU-5	Material Handling Fugitives		1 year	1.62	tons/year	Engineering Estimate (a)	1.6
AI	Aggregate Insignificant Activities			1	ton	See Agg. Insignificant Worksheet	1.0
						TOTAL PM-10	220

(a) Material Handling PM₁₀ Fugitive Emissions estimated to be 50% of PM emissions.

(b) PM₁₀ EF updated to include PM₁₀/PM fraction listed in DEQ AQ-EF03 as 95% of total PM.

(c) Previously listed as 1010 lb/MMft², updated to the EF value of 15 lb/MMft² from the source test conducted November 9, 2016. The updated PM₁₀ EF for EU-3 was incorporated into the permit in Addendum No. 2 on January 4, 2018.

Pollutant: PM-2.5 Potential to Emit

Emissions Unit ID	Device/process ID	Annual Production/Process Rates		PM10 Emissions Factor			PM2.5 Emission Factor			Emissions (tons/yr)
		Rate	Units	Rate	Units	Reference	PM2.5 fraction of PM10	Reference	Rate (same units)	
EU-1 (w/multiclone)	Boiler #1	385,000	Mlb Steam	0.545	lb/Mlb	06/11 and 06/14 ST	0.6 (a)	DEQ AQ-EF08	0.327	62.9
	Boiler #2	385,000	Mlb Steam	0.441	lb/Mlb	06/11 and 06/14 ST	0.6 (a)	DEQ AQ-EF08	0.265	51.0
									EU-1 Total	113.9
EU-2	Plywood Presses	225	MMft ² -3/8 " plywood	196	lb/MMft ²	DEQ AQ-EF03	0.5	DEQ AQ-EF08	98	11.0
EU-3	Veneer Dryers with RTO	248	MMft ² -3/8 " veneer	15	lb/MMft ²	11/16 ST	1.0 (c)	DEQ AQ-EF08	15	1.9
	Veneer Dryers Fugitives	248	MMft ² -3/8 " veneer	7.5	lb/MMft ²	DEQ AQ-EF03	0.5	DEQ AQ-EF08	3.75	0.5
									EU-3 Total	2.3
EU-4	Mill Equipment:									
	Veneer Core Saw, Strip Saw, Raute P-2 robot plugger line, Veneer Scarf & Edge Gluer, Panel Saw, Dry Hog , Composer Hog (Baghouse #1)	8,613	BDT	0.001	lb/BDT	DEQ AQ-EF03	1.0	DEQ AQ-EF08	0.001	0.0
	Panel Sanding Line (Bag #2)	225	MMft ² -3/8 " plywood	1.04	lb/MMft ²	DEQ AQ-EF03	1.0	DEQ AQ-EF08	1.04	0.12
	Sander Dust Fuel Silo Bin Vent (Bag #3)	225	MMft ² -3/8 " plywood	1.04	lb/MMft ²	DEQ AQ-EF03	1.0	DEQ AQ-EF08	1.04	0.12
	Ply Trim bin vent (Bag-4)	225	MMft ² -3/8 " plywood	0.034	lb/MMft ²	DEQ AQ-EF03	1.0	DEQ AQ-EF08	0.034	0.00
	Ply Trim Target Box	12,097	BDT	0.05	lb/BDT	DEQ AQGP-010	1.0	(b)	0.05	0.30
	Green Fines Target Box	5,905	BDT	0.05	lb/BDT	DEQ AQGP-010	1.0	(b)	0.05	0.15
	Cyclone #8 (Hog Fuel Bin)	225	MMft ² -3/8 " plywood	17	lb/MMft ²	DEQ AQ-EF03	0.5	DEQ AQ-EF08	8.5	0.96
									EU-4 Total	1.6
EU-5	Material Handling Fugitives	1	year	1.62	tons/year	Engineering Estimate	0.15	DEQ AQ-EF08	0.24	0.2
AI	Aggregate Insignificant Activities			1	ton	Agg. Insignificant Worksheet	0.5	DEQ AQ-EF08	0.5	0.5
									TOTAL PM-2.5	130

(a) EF updated to reflect DEQ AQ-EF08 PM_{2.5}/PM₁₀ fraction for boilers with multiclones as 60% of PM₁₀.

(b) Lacking any other information, PM_{2.5} emissions were assumed to be equal to PM₁₀ emissions.

(c) Previously listed as 82.9 lb/MMft², updated to the EF value of 15 lb/MMft² from the source test conducted November 9, 2016 and the DEQ AQ-EF08 PM_{2.5}/PM₁₀ fraction as 100% PM₁₀ from an RTO. The updated PM_{2.5} EF for EU-3 was incorporated into the permit in Addendum No. 2 on January 4, 2018.

PLANT SITE EMISSION SUMMARY
 (TONS/YEAR)

	PM	PM ₁₀	PM _{2.5}	CO	NO _x	SO ₂	VOC	GHG
Baseline and/or Netting Basis	152	110	64.8	62	81	3	104	56,665
Potential to Emit (PTE)	230	220	130	125	89	5	80	985,687
PSEL	176	124	74	161	89	39	80	74,000
Unassigned Emission	0	0	0	0	0	0	24	--
PSEL increase over Netting Basis	24	14	9	99	8	36	-24	17,335
SER for triggering PSD/NSR	25	15	10	100	40	40	40	75,000

PM _{2.5} fraction (a)	0.6	(PM _{2.5} PSEL)/(PM ₁₀ PSEL)
PM ₁₀ netting basis (nb)	110	
PM _{2.5} nb calculated	64.8	(PM ₁₀ nb) x (PM _{2.5} fraction)
PM ₁₀ unassigned	0	
PM _{2.5} unassigned calculated	0	

Maximum Projected Production

225	Msf-3/8" Plywood Production
248	Msf-3/8" Veneer Production
770,000	Mlb Steam Production

- (a) With the correction to the Veneer Dryer (EU-3) EF for PM_{2.5}, the PM_{2.5} fraction has increased from 0.4 to 0.6, which increases the PM_{2.5} PSEL from the previously calculated value of 54 tons/year to 74 tons/year.