LANE REGIONAL AIR PROTECTION AGENCY
TITLE V OPERATING PERMIT
REVIEW REPORT
1010 Main Street
Springfield, OR 97477

Source Information:

SIC	2439, 2421
NAICS	321213, 321113

Source Categories (LRAPA Title 37, Table 1)	B – 45: Millwork Manufacturing, Structural Wood Members

Compliance and Emissions Monitoring Requirements:

Unassigned emissions	X
Emission credits	NA
Compliance schedule	NA
Source test [date(s)]	See permit

COMS	NA
CEMS	NA
Ambient monitoring	NA

Reporting Requirements

Annual report (due date)	February 15
Emission fee report (due date)	February 15
SACC (due date)	July 30
Quarterly report (due dates)	NA

Monthly report (due dates)	NA
Excess emissions report	Immediately
Other reports	GHG

Air Programs

NSPS (list subparts)	NA
NESHAP (list subparts)	A, DDDD, CCCCCC, JJJJJJ
CAM	NA
Greenhouse Gases (GHG)	Yes
Regional Haze (RH)	NA
Synthetic Minor (SM)	Yes (HAPs)
Part 68 Risk Management	NA

Title V	Yes
ACDP (SIP)	Yes
Major HAP source	NA
Federal major source	NA
New Source Review (NSR)	NA
Prevention of Significant Deterioration (PSD)	NA
Acid Rain	NA
Clean Air Mercury Rule (CAMR)	NA

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LIST OF ABBREVIATIONS USED IN THIS REVIEW REPORT

ACDP	Air Contaminant Discharge Permit
AQMA	Air Quality Management Area
Act	Federal Clean Air Act
ASTM	American Society of Testing and Materials
BDT	Bone Dry Ton
Btu	British thermal unit
CAM	Compliance Assurance Monitoring
CAO	Cleaner Air Oregon Program
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CI	Compression Ignition
CMS	Continuous Monitoring System
CO	Carbon Monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
COMS	Continuous Opacity Monitoring System
CPDS	Certified Product Data Sheet
CPMS	Continuous parameter monitoring system
DEQ	Department of Environmental Quality
dscf	Dry standard cubic feet
EF	Emission Factor
EPA	US Environmental Protection Agency
ESP	Electrostatic Precipitator
EU	Emissions Unit
FCAA	Federal Clean Air Act
ft^2	Square foot
FSA	Fuel sampling and analysis
GHG	Greenhouse Gas
gr/dscf	Grain per dry standard cubic feet (1 pound = 7000 grains)
HAP	Hazardous Air Pollutant as defined by LRAPA Title 12
HCFC	Halogenated Chloro-Fluoro-Carbons
ID	Identification number or label
I&M	Inspection and Maintenance
LRAPA	Lane Regional Air Protection Agency
M	1000
M3/8	Thousand square feet on 3/8" basis
MACT	Maximum Achievable Control Technology
MB	Material Balance
MBF	1000 Board Feet
Mlb	1000 pounds
MM	Million
MMBtu	Million British thermal units
MMcf	Million cubic feet
MSDS	Material Safety Data Sheet
MSF	1000 Square Feet
NA	Not applicable
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen oxides
NSPS	New Source Performance Standards
NSR	New Source Review
O_2	Oxygen
OAR	Oregon Administrative Rules
ODEQ	Oregon Department of Environmental Quality
ORS	Oregon Revised Statutes
O&M	Operation and Maintenance
Pb	Lead
PCD	Pollution Control Device
PCWP	Plywood & Composite Wood Products
PM	Particulate matter
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
PM_{10}	Particulate matter less than 10 microns in size
ppm	Parts per million
PSEL	Plant Site Emission Limit
psia	pounds per square inch, actual
PTE	Potential to Emit
RMP	Risk Management Plan
RICE	Reciprocating Internal Combustion Engine
SACC	Semi-Annual Compliance Certification
SCEMP	Surrogate Compliance Emissions Monitoring Parameter
Scf	Standard cubic foot
SD	Sanderdust
SER	Significant Emission Rate
SERP	Source Emissions Reduction Plan
SI	Spark Ignition
SIC	Standard Industrial Code
SIP	State Implementation Plan
SO_2	Sulfur dioxide
ST	Source test
TACT	Typically Achievable Control Technology
VE	Visible emissions
VMT	Vehicle miles traveled
VHAP	Volatile hazardous air pollutant
VOC	Volatile organic compounds
Year	A period consisting of any 12 consecutive calendar months

INTRODUCTION

1. The proposed permit is a renewal of Lane Regional Air Protection Agency (LRAPA) Title V Operating Permit No. 207050 which was issued to Rosboro Company, LLC on April 2, 2013 and was scheduled to expire on April 2, 2018. The current permit, as amended, will remain in effect until this renewal is issued.

   1.a. Information relied upon: The permit renewal is based upon the renewal application (#62750) received April 18, 2017 and supplemental information received on November 8, 2018 (#64497) and December 11, 2019 (#65721).

2. In accordance with OAR 340-218-0120(1)(f), this review report is intended to provide the legal and factual basis for the draft permit conditions. In most cases, the legal basis for a permit condition is included in the permit by citing the applicable regulations. In addition, the factual basis for the requirement may be the same as the legal basis. However, when the regulation is not specific and only provides general requirements, this review report is used to provide a more thorough explanation of the factual basis for the draft permit conditions. **NOTE: For a more complete understanding of all the facility changes and permit changes that have occurred since the original TV permit issuance on December 18, 2000, the reader should examine the review reports associated with all prior permit renewals and modifications in addition to the permit modifications listed in the tables below (Item 3 & 4).**

3. The current permit was issued on April 2, 2013. The following changes to the permit were made during the last permit term and are incorporated into the permit renewal. The review report has been updated to reflect these changes as well as changes requested in the permit renewal applications #64497 and #65721.

Date	Permit Revision or Notification	Brief Explanation
11/05/13	Addendum No. 1 - Administrative Amendment (MD904)	Correct errors in PSEL Table 3 for PM, correct EU-01 boiler NESHAP tune-up from every 5 years to biennially (source does not have 'oxygen trim system' for each boiler) along with revision of corresponding permit Conditions 10 & 18.
06/19/14	Addendum No. 2 - Administrative Amendment (MD904)	Change source testing deadline for EU-01 boilers due to plywood & veneer operations shutdown for economic conditions.
12/30/16	Addendum No. 3 - Administrative Amendment (MD904)	Change the name of the permittee and title of responsible official.
04/24/17	Addendum No. 4 – Minor Modification (MD905)	Approval to add two dry kilns ((F & G) to emissions unit EU-08 and revised Condition 3, Table 1.
05/18/18	Addendum No. 5 – Minor Modification (MD905)	Approval to add two dry kilns (H & I) to emissions unit EU-08 and revised Condition 3, Table 1.

4. The following changes have been made at the facility since the last permit renewal on April 2, 2013:

Application Date	**Application Number**	**Action/Description**	**Project Completion Date**
11/19/12	57960, NC-207050-A12 (MD901 & MD902 Off-Permit Mod.)	Boiler Stack Height Reduction Project, EU-01 Boiler #1, #2 & #3 stacks reduced due to stack corrosion.	12/27/12

Application Date	Application Number	Action/Description	Project Completion Date
11/21/13	64350 Demolition Notification	Mill A Building & Maintenance Shop Demolition	12/13/13
05/15/14	59455 (MD904 Administrative Amendment)	Due to 35% Steam Reduction from Shutdown of Veneer and Plywood Operations, Boiler Source Testing Requirements were amended. See Permit Addendum No. 2	06/19/14
01/20/15	60138 (MD902 Off-Permit Mod.)	Lam Plant Blow Pipe rerouting	01/26/15
07/23/15	60612 Demolition Notification	28th Street Guardhouse Demolition	07/27/15
09/24/15	60735 Demolition Notification	21th Street Guardhouse Demolition	09/28/15
03/03/16	61334 Demolition Notification	Repair of Planing Mill Roof & Demolition and Reconstruction of #1 Planer walls due to 03/02/16 Planing Mill fire	Unknown
06/06/16	61617 Demolition Notification	Demolition of Forklift Shop Tire Shed	06/06/16
08/31/16	61830 (MD902 Off-Permit Mod.)	Temporary re-route of Lam Plant residuals from Sawmill truck bin to Plywood Plant truck bin for electrical maintenance.	09/06/16
12/14/16 & 12/27/16	62183 & 62203 (MD904 Administrative Amendment)	Name change of Permittee and title of Responsible Official. See Permit Addendum No. 3	12/30/16
11/27/17	63375 (MD902 Off-Permit Mod.)	Temporary re-route of Lam Plant residuals from Sawmill truck bin to Plywood Plant truck bin due to blow pipe blockage.	11/30/17
03/14/17	62592, NC-207050-A17 (MD901, MD905, & DV203, Minor Permit Mod.)	Construction and addition of 2 dry kilns (F & G) to EU-08 Dry Kilns. Addition of the 2 kilns brings the total number of kilns in EU-08 to 7 kilns. See Permit Addendum No.4	08/17/17
07/30/18	64157, NC-207050-A18 (MD901, MD905, & DV203, Minor Permit Mod.)	Construction and addition of 2 dry kilns (H & I) to EU-08 Dry Kilns. Addition of the 2 kilns brings the total number of kilns in EU-08 to 9 kilns. See Permit Addendum No. 5	2/1/2019
07/31/18	64163, NC-207050-B18 (MD901, MD902, DV202 Off-Permit Mod.)	Modification of combustion air piping for Boiler No. 1 (EU-01, Boilers) to match existing combustion air for Boilers No. 2 & No. 3.	10/15/18
07/11/2019	65268 Demolition Notification	Removal of ~60 ft. of uninsulated steel exhaust stack due to heavy corrosion and structural safety concerns	7/13/18
10/23/2019	65526, NC-207050-A19 (Off-Permit Mod.)	Replacement of Boiler #1 stack	12/4/19

5. The following is a list of condition-by-condition changes between the previous permit issued April 2, 2013 and the proposed permit:

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
Most	Most	Updated and corrected rule references. Replaced "shall" with "must" in most permit conditions, EUs monitoring and recordkeeping moved to separate condition #s for clarity	LRAPA rule changes, typos, etc. and update standard permit language & format to be consistent with TV template
Cover page	Cover page	Updated "Information Relied Upon"	Rosboro Springfield Request per revised renewal applications #64497 & #65721
Cover page	Cover page	Changed "Nature of Business" to include only Laminated Beam Mfg. Added Primary SIC 2439 for Structural Wood Members	As part of renewal, the facility eliminated Plywood and Veneer Drying operations.
Cover page	Cover page	Changed name of permittee from "Rosboro, LCC – Springfield Facility" to "Rosboro Company, LLC-Springfield Facility"	Rosboro Springfield request per 12/14/2016 Amendment Application #62183, Permit Addendum No.3, 12/30/16
Cover page	Cover page	Changed Responsible Official Title from "Senior VP of Operations" to "VP of Operations"	Rosboro Springfield request per 12/27/2016 Amendment Application #62203, Permit Addendum No.3, 12/30/16
Page 2 TOC	Page 2 TOC	Page 2 TOC updated to remove Emission Units EU- 06 Veneer Dryers & EU-07 Log Vats Emission Limits & Stds.	Rosboro Springfield request per revised renewal applications #64497 & #65721
Page 3 TOT	Page 3 TOT	Page 3 TOT updated to remove Table 10 Veneer Dryers EU-06, remove Tables 14 & 15 (monitoring req. moved to individ. EU tables). Added Non-Applic. Req Table 11 to TOT and reordered Tables 1-11	Rosboro Springfield request per revised renewal applications #64497 & #65721; Tables 14 & 15 removed and VE Monitoring moved to individ. EU tables for clarity.
Page 4	Page 4	Updated List of Abbreviations	Updated List of Abbreviations added for Title V sources since last renewal
Page 5	Page 5	Veneer Dryer Opacity Definitions d.2 and d.3 deleted with removal of veneer dryer operations.	Rosboro Springfield request per 11/8/2018 Renewal Application #64497
1	1	No change	NA
2	2	Updated Condition #'s of LRAPA, EPA and DEQ enforceable conditions	Permit condition numbers have changed with current renewal
3, Table 1	3, Table 1	Modified Emission Unit/Pollution Control Device Table 1 to reflect equipment changes due to shutdown and removal of plywood and veneer drying operations, EU06 & 07 and PCD#8, deletions, consolidated EU03 (cyclones & target boxes) & EU04 (baghouses) for current configurations and addition of dry kilns	Rosboro Springfield Request per revised renewal applications #64497 & #65721, Baghouse #21 & #22 remain in Table 1 as stand-by PCDs but not operational, 4 additional dry kilns were added with Permit Addenda No. 4 & 5
4, Table 2, +4.a-4.g	4, Table 2	Updated rule citations in Table 2 and Condition 4, added list of precautionary measures (4.a – 4.g)	Rule citation and language has changed, added full text of applicable rule

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
5, 5.a, 5.b, +5.c, 5.d	4.a, 4a.i, 4a.ii, 4.b.	Monitoring & recordkeeping requirements moved and renumbered to separate condition 5 & 5.a-5d, added time requirement to survey, cited VE Methods to be used, added fugitive plan option (5.c)	Clarify requirements of VE surveys,
6	5	Renumbered, no change to requirement	Condition # has changed
7	5.a	Updated nuisance complaint-log documentation requirements and response times, monitoring moved and renumbered to Condition #7	Clarify sources complaint requirements and for consistency w/TV sources
8	6	Amended language to match revised rule language, condition renumbered	LRAPA rule language has changed, condition # changed
9	6.a	Renumbered, no change to requirement	Condition # has changed
10, +10.a and 10.b	7	Added masking language to be consistent with revised rule language, renumbered and conditions 10.a (conceals) and 10.b (masks) added	LRAPA rule citation# and language has changed, condition #s changed
11	7.a	Renumbered, no change to requirement	Condition # has changed
12	8	Language added to identify SERP acronym as in rule and Table 2	Clarify rule and SERP acronym in Table 2
13	8.a	Moved monitoring req to separate condition #13 and updated rule citation	Condition # and LRAPA rule citation# have changed
14	9	Renumbered, no change to requirement	Condition # has changed
48, Table 8 48.a., 48.b., +48.c	10, Table 3, 10.a, 10.b,	Updated rule references, revised annual PSELs & unassigned emissions, added ERCs to Table and Condition 48.c for use of ERCs, updated and renumbered PSEL Condition from #10 to #48 and Table 3 to Table 8, incorporated Permit Addendum No. 1, (Unassigned particulate emissions corrections), added language clarifying use and expiration of unassigned emissions, GHG PSEL established & former GHG Condition 10.b. removed	PSEL condition & Table moved and updated to be consistent with TV template, updated changes to netting basis, unassigned PSEL and ERCs with permit renewal (Permit Addendum No. 1 incorporated), established GHG PSEL based on both biogenic and anthropogenic GHG emissions consistent with current GHG reporting rules and the EPA vacated deferral of biogenic GHG emissions

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
49, 49.a, Table 9, 49.b, 49.c, Table 10, 49.d, +49.e	11, 11.a, Table 4, 11.b, 11.c, Table 5, 11.d	Revised PSEL monitoring requirements; removed process parameter monitoring requirements for plywood and veneer production from former Table 4 (now 9) and associated emission factors from former Table 5 (now 10), updated and corrected emission factors for the boilers, Lam press adhesives and dry kilns hemlock VOC factor, removed Permit Addendum No. 2 changes (Condition 11.c & Table 5 allowing for a modified boiler testing schedule) with completion of Sept 2017 boiler source test, added Condition 49.e std template language on verified EFs .	Plywood and veneer operations have been shut down and removed from the facility and PSELs have been revised, the boiler and lam press emission factors have been corrected/updated based on better data, Addendum No. 2 testing changes were completed Sept 2017 (#63258)
Table 3	Table 6	Renumbered Table #6 to #3 for EU-01 and updated rule citations and pm limits	PM and VE rules and citations have changed
15, +15.a, 15.b & 15.c	12	Updated rule citation and more stringent opacity standards and requirements	VE rule citation, requirements and opacity stds. have changed
16, 16.a-16.e	NA	Added requirements for approved grate-cleaning plan consistent with the current VE rule language for wood-fired boilers installed prior to June 1, 1970	VE rule and requirements have changed for pre-1970 wood-fired boilers, condition added for allowance of >20% with approved grate-cleaning plan
17	NA	Added monitoring & recordkeeping requirements for complying with Condition 16 grate-cleaning plan	VE rule revisions incorporated, monitoring condition required for TV sources for each applicable requirement
18, 18.a-18.f	12.a, 41, 41.a-41i	Monitoring moved to separate condition #19, VE requirements from previous condition 41 moved to condition 18, added std current rule language	Consolidated all EU-01 boiler applicable requirements and associated monitoring in EU-01 requirements section consistent with TV permit template
19, 19.a-19.c	13	Updated rule citation and current, more-stringent grain loading limits for pre-1970 wood-fired boilers	Rule citation and language have changed
20, 20.a	13.a, 13.c	Moved EU-01 PM monitoring requirements to separate condition 20, no change to requirements	Condition #s have changed with TV permit template
21, 21.b, 21.c	13.b, 44	Moved EU-01 PM testing requirements to separate condition 21, consolidated all boiler source test requirements in new condition 21 from previous General Testing Condition 44	Consolidated all EU-01 testing requirements under the EU-01 section for clarity and for consistency with TV permit template
22, 22.a-22.g	14, 14.a-14.g	Updated rule citation, corrected reference in 14.b of individual steam meters on each boiler to common meter for all 3 boilers in EU-01 in 22.b, updated O_2 EALs in 22.d for better data, added CMS data availability clarification for excluding data from CMS breakdowns	Rule citation has changed, previous permit incorrectly indicated each boiler had individual steam meters rather one common meter for all 3 boilers, the EALs for residual oxygen amended to reflect recent data, CMS data availability language consistent with DEQ-CMM

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
23	15	Added pollution control device IDs to units requiring inspection and maintenance	Clarify devices requiring annual inspection and maintenance
24, 24.a, 24.b, 24.c	16, 16.a, 16.b	Renumbered EU-01 recordkeeping requirements, separated requirements in previous 16.b into separate requirements 24.b & 24.c	Delineate and clarify each EU-01 recordkeeping requirement
25, 25.a, 25.b, 25.c	17, 17.a, 17.b, 17.c	No change except renumbering	Condition #s have changed
26, 26.a-26.g	18, 18.a-18.g	Incorporated Administrative Amendment #1 (Nov. 5, 2013) amending boiler tune-up frequency from every 5 years (19.d.) to biennially in 26.d and updated language to reflect completion of initial tune-up requirements, corrected 18.a inspection frequency from 72 mos.to 36 mos. (26.a)	Rosboro completed the initial Boiler NESHAP 6J tune-up requirements by the March 21, 2014 compliance deadline. (Initial tune-up completed March 1, 2014) Condition language modified to reflect subsequent/on-going NESHAP 6J biennial tune-up requirements, updated condition #s
27, 27.d	19. 19.d	Corrected reference to tune-up frequency from 5 years (19.d) to biennially (27.d) in agreement with Condition 18 changes	Consistent with NESHAP 6J recordkeeping and requirements, updated condition #s
28	20	Condition 20 renumbered & reserved, NESHAP 6J requirement met July 19, 2014 'Notification of Compliance Status' with initial tune-up deadline sunset	Rosboro met notification requirements on April 14, 2014 (#59399)
29	21	Condition 21 renumbered & reserved, requirement met March 21, 2014 NESHAP 6J boiler one-time energy assessment deadline sunset	Rosboro conducted Boiler NESHAP one-time energy assessment requirements by the March 21, 2014 compliance deadline. (Energy assessment completed Feb. 5, 2014)
30	22	Condition 22 renumbered & reserved, NESHAP 6J requirement met July 19, 2014 'Notification of Compliance Status' one-time energy assessment deadline sunset	Rosboro met notification requirements on April 14, 2014 (#59399)
31, 31.a-31.d +31.e	23, 23.a-23.d	Renumbered and added updated Boiler NESHAP 6J biennial compliance certification reporting requirements (Conditions 31.a.ii.A and 31.a.ii.B) consistent with 40 CFR 63.11225(b), changed "5-year" report (23.a) to "biennial" (31.a), added NESHAP 6J General Compliance reference (31.e)	Clarify required language of Boiler NESHAP 6J biennial notification of compliance with tune-up requirements, changed reporting requirement from 5-year to biennial, referenced NESHAP 6J General Compliance Requirement
Table 4	Table 7 & Table 8	Renumbered & consolidated Table #s for EU-03 & EU04, updated rule citations and PM limits, consolidated EU-03 and EU-04 requirements with more-stringent grain-loading std.	PM and VE rules and citations have changed, Rosboro requested EU consolidation for clarity and compliance demonstration based on more-restrictive PM limits for all cyclones and baghouses

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
32, 32.a	24, 27	Renumbered and updated VE rule citations and language in Condition 32, consolidated EU-03 and EU-04 requirements, added std language (32.a) for conducting VE observations	VE rules, citations, condition #s have changed, language added to clarify VE observation requirements consistent with TV permit template, consolidated EU-03 & EU-04 VE applicable requirements per Rosboro's request.
33	24.a, 27.a & 41	Monitoring moved to separate condition and VE monitoring requirements moved from previous condition 41 to condition 33	Consolidated EU-03 & EU-04 applicable requirements and associated VE monitoring per Rosboro's request. Requirements section consistent with TV permit template, conditions #s changed
34	25 & 28	Renumbered and updated PM rule citations and grain loading limits, consolidated EU-03 and EU-04 requirements with more-stringent grain-loading std.	Rule citation and language have changed, grain-loading limits have changed, consolidated EU03 & EU-04 unit requirements per Rosboro request
35.a	25.a, 28.a	PM monitoring (former 25.a & 28.a) consolidated and moved to separate condition	PM monitoring in EU-03 & EU-04 moved to separate condition consistent with TV permit template, conditions #s changed, Baghouse #8 has been removed, Baghouses #21 and #22 have been disconnected and put on stand-by with removal of plywood operations
35.b	25.b & 28.b	Baghouse units EU-04A and EU-04B consolidated to EU-04, deleted reference to EU-4A Baghouses #8, #21 and #22 which were removed with shutdown of plywood and veneer operations, added baghouse #26 (lam plant) w/pressure drop monitoring requirements, slight revision to baghouse pressure drop ranges based on better data	PM monitoring in EU-03 & EU-04 moved to separate condition consistent with TV permit template, conditions #s changed and monitoring requirements consolidated, Baghouse #8 has been removed & #26 added, Baghouses #21 and #22 have been disconnected and put on stand-by with removal of plywood operations, Pressure drop high-end EAL changed from 3.0" to 3.8" based on better data
35.c	25.c & 28.c	Renumbered and combined baghouse monitoring data availability requirements, added language clarifying data to be included per DEQ CMM, added reference to DEQ manuel	Conditions have been consolidated per Rosboro's request, language added to clarify data monitoring requirements per DEQ Continuous Monitor. Manual (CMM)
35.d	25.d & 28.d	PM monthly BDT throughput recordkeeping requirements for cyclones consolidated into one condition, no change other than renumbering	Conditions consolidated per Rosboro's request, EU IDs changed from EU-03A & EU-03B to EU-03
35.e	25.e & 28.e	PM monthly hours of operation recordkeeping requirements for baghouses consolidated into one condition, no change other than renumbering	Conditions consolidated per Rosboro's request, EU IDs changed from EU-04A & EU-04B to EU-04

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
36	26	Renumbered, changed emission unit reference to consolidated EU-03 from previous EU-03A & EU-03B, move monitor req. to Condition 37	Condition number changed, emission unit IDs changed and consolidated per Rosboro's request
37	26.a	Moved process weight monitoring requirements to separate condition 37, no change to requirements	Condition #s have changed with TV permit template and EU-03 consolidation
Table 4	Table 8	Renumbered Table # for EU-03 & EU04, updated rule citations and PM limits, consolidated EU-03 and EU-04 requirements with more-stringent grain-loading std.	PM and VE rules and citations have changed, Rosboro requested EU consolidation for clarity and compliance demonstration based on more-restrictive PM limits for all cyclones and baghouses
Table 5	Table 9	Renumbered Table # and applicable condition #s	Table # and applicable condition #s have changed with permit renewal
38	29	Renumbered, no change to requirement	Condition # has changed
39	29.a	Monitoring and Recordkeeping requirements moved to separate condition, updated language and records to be maintained	PCWP MACT monitoring moved to separate condition consistent with TV permit template,
NA	Table 10 & 30-33	Table 10 (EU-06 Veneer Dryer Limits & Stds) deleted, Conditions 30-33 (PCWP-MACT) deleted with the shutdown and removal of plywood and veneer drying operations	Rosboro Springfield request per 11/8/2018 Renewal Application #64497
NA	Table 11 & 34, 34.a	Table 11 (EU-07 Log Vats) deleted, conditions 34 and 34.a deleted with shutdown of plywood and veneer drying operations	Rosboro Springfield request per revised renewal applications #64497 & #65721
Table 6	Table 12	Table 12 renumbered to Table 6 (EU-08 Dry Kilns), updated rule citations in Table 6 and applicable condition #s	Rule citation changed, table renumbered due to deletion of Table 10 (Veneer Dryers) & Table 11 (Log Vats) and consolidation of EU-03 & EU-04 Tables 7 & 8
40, 40.a	35	Renumbered condition and updated rule citation and language, added std language (40.a) for conducting VE observations	VE rules, citations, condition #s have changed, language added to clarify VE observation requirements consistent with TV permit template
41	35.a	Monitoring requirement move to separate condition, renumbered VE monitoring condition #, VE monitoring requirement unchanged	Separate monitoring condition added consistent with TV permit template, condition # has changed
42, 42.a-c	36, 36.a-c	Renumbered condition #s	Condition #s have changed
43	36.d	Monitoring and Recordkeeping requirements moved to separate condition	Separate monitoring condition added consistent with TV template, condition# has changed

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
Table 7	Table 13	Table 13 renumbered to Table 7 (EU-AI Aggregate Insig. Activities), updated rule citations, rules and limits in Table 7 and applicable condition #s	Table # has changed, applicable rules to EU-AI units have been added to be consistent with TV permit template and applicable condition #s have changed with permit renewal
44, 44.a-h	37, 37.a-c	Condition updated to identify all LRAPA rules applicable to IEUs (EU-AI) and rule citation changes	Condition # and rule citations have changed, all applicable rules to IEUs added consistent with TV permit template
45	38	Condition renumbered, no change to requirement	Condition # has changed
46, 46.a-f, +46.g	39, 39.a-f	Added Gasoline Dispensing Facility (GDF) Condition 46.g (cargo tank unloading) work practices requirements.	Condition #s have changed, condition 46.g added consistent with LRAPA 44-230 GDF Work Practices requirements
47	40	Condition renumbered, no change to requirement, added GDF tank capacity	Condition # has changed, specified GDF tank capacity to clarify applicability
18 & 20, Table 3 (EU-01), 33 & 35, Table 4 (EU-03&04)	41, Tables 14 & 15, 41	Condition 41and Tables 14 &15 deleted, VE monitoring conditions & requirements moved to individual EUs Requirements sections, (EU-01 Boilers & Table 3, EU-03 & EU-04 baghouses and cyclones & Table 4)	VE monitoring requirements moved to individual EUs consistent with TV permit template, veneer dryer VE requirements deleted with elimination of veneer dryer operations
48, Table 8, 48.a., 48.b., 48.c	10, Table 3, 10.a, 10.b	Updated rule references, revised annual PSELs & unassigned emissions, added ERCs to Table and Condition 48.c for use of ERCs, updated and renumbered PSEL Condition # and Table, incorporated Permit Addendum No. 1, (Unassigned particulate emissions corrections), added language clarifying use and expiration of unassigned emissions, GHG PSEL established & former GHG Condition 10.b. removed	PSEL condition & Table moved and updated to be consistent with TV template, updated changes to netting basis, unassigned emissions and ERCs with permit renewal (Permit Addendum No. 1 incorporated), established GHG PSEL based on both biogenic and anthropogenic GHG emissions consistent with current GHG reporting rules
49, 49.a, Table 9	11, 11.a, Table 4	Revised PSEL monitoring requirements, removed process parameter monitoring requirements for plywood & veneer production and log vats from former Table 4	Required process parameter monitoring has changed with removal of plywood & veneer operations and log vats green veneer production monitoring
49.b	11.b	Condition # changed, no changes to PSEL monitoring formula/equation	Condition # has changed

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
49.c, Table 11, 49.d +49.e	11.c, Table 5, 11.d	Removed plywood and veneer emission factors from former Table 5, updated and corrected emission factors for the boilers, Lam press adhesives and dry kilns hemlock VOC factor, removed Permit Addendum No. 2 changes (Condition 11.c & Table 5 allowing for a modified boiler testing schedule) with completion of Sept 2017 boiler source test, added Condition 49.e std template language on verified EFs .	Plywood and veneer operations have been shut down and removed from the facility and PSELs have been revised, the boiler and lam press emission factors have been corrected/updated based on better data, Addendum No. 2 testing changes were completed Sept 2017 (#63258)
50	NA	Added Emission Fee Condition 50 to clarify PSEL fee basis	Emission Fee condition added to be consistent with TV permit template
51, 51.c.iii (& 21)	42, 42.c.iii	General Testing Requirements condition moved to Condition 51 after PSEL condition #s 48-50, Permit Addendum No.2 modifying boiler operating steaming rate for testing (Condition 42.c.iii) completed with Sept. 2017 boiler test, condition 51.c.iii revised (amended 42.c.iii) to reflect current DEQ source test plan requirements, boiler-specific testing requirements moved to EU-01 Boiler section condition 21	Condition # has changed, General Testing section moved to follow PSEL sections consistent with TV permit template. Addendum No. 2 changes were completed with Sept. 2017 boiler source test, condition 42.c.iii (57.c.iii) amended to reflect general source test plan requirements in accordance with the DEQ Source Sampling Manuel (SSM), specific EU-01 boiler testing requirements moved to Condition 21 in the Boiler section consistent with TV permit template
21.b, 21.c	43, 44	EU-01 boiler EF verification testing requirements moved from General Testing requirements section to EU-01 boiler section Conditions 21.b for PM and 21.c for VOC, CO, NO_x EF verification tests added	Unit-specific testing requirements moved to individual EU section consistent with TV permit template, EF verification testing added consistent with DEQ SSM.
52, 53, 54	NA	General Monitoring Requirement section and Conditions 52-54 added	General Monitoring Requirements section, and conditions added to clarify TV general monitoring requirements in OAR 340-218-0050(3)(a)(E-G) consistent with TV permit template
55, 55.a-55.g	45, 45.a-45g	Renumbered, no changes to general recordkeeping conditions	Condition #s changed
56	49	Condition renumbered and moved from the General Reporting req. to General Recordkeeping req., change to language of max data loss allowable, provides for alternate documentation for missing records	Condition # and record-completeness language have changed, condition moved to Recordkeeping Req. consistent with TV permit template
57	NA	Condition added to clarify date of commencement of recordkeeping req.	Condition added for clarity and consistency with TV permit template

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
58	46	Renumbered and updated rule citation, slight change to language for record retention requirements	Condition # and LRAPA rule citation have changed and language amended to be consistent with TV permit template
59, 59.a-f	47, 47.a-f	Renumbered, updated Excess Emissions (EE) notification (59.a (immediately)) and reporting (59.b (within 15 days of EE event)) requirements, added conditions 59.b.i – b.viii which delineate EE report requirements, no change to 59.c & d, 59.e modified slightly to clarify req. reporting with approved startup/shutdown & maintenance plan, 59.f modified req. for submittal of EE log to brief summary of EE events with annual & semiannual reports	Incorporate LRAPA Excess Emission rule changes adopted in Nov. 2017. Condition numbers and requirements have changed, Wording, EE notification, documentation & reporting consistent with Title V permit template
60	48	Renumbered and updated rule citation, Reference to excess emissions reporting condition 59 added	Condition # changed, slight language and rule reference changes consistent with Title V permit template
56	49	See new permit condition #56 above	Condition # and language have changed
61	50	Renumbered, no change to condition	Condition # changed
62	51	Renumbered, no change to condition	Condition # changed
63	52	Renumbered, changed reference from DEQ to LRAPA	Consistent with GHG reporting and permit template
64	53	Renumbered, EPA address updated, EPA phone number removed	Condition # changed, EPA address consistent with current TV permit template
65, 65.a, 65.b	54 & 55	Report submittal language changed, clarified each 6-month reporting period, conditions renumbered and consolidated, semiannual (65.a (old #54) and annual reporting periods (65.b (old #55)) combined under condition #65	Condition #s have changed, reporting language changed for clarity and consistency with TV permit template
65.b, 65.b.i - 65.b.iv	56, 56.a-56.f	Renumbered, slight revisions to annual report reqs., removed req. submittal of annual facility production records (old #56.a), GHG report (old #56.e) and NESHAP compliance report (old #56.f) consolidated under 65.b.iv 'Other annual reports', changed from 5-year report to biennial NESHAP report (65.b.iv.B)	Condition #s have changed and been consolidated, reporting language changed for clarity in report due date and content, changes consistent with TV permit template
51.e	57, 57.a, 57.b	Moved and renumbered condition 57 for reporting of source test and EF verification tests from Semi-Annual & Annual Reports section to source test/EF tests reporting specified in General Testing req (51.e)	Condition inconsistent with Semi-Annual & Annual Reports section, test reporting covered in General Testing Req. section, changes consistent with TV permit template

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
66, 66.a-66.e	58, 58.a-g	Renumbered, "compliance during the period was continuous or intermittent" language moved from 58.b to 66.c, condition 58.e moved to stand alone condition # 67, condition 58.g for PCWP MACT compliance reporting for EU-06 (veneer dryers) removed with shutdown and removal of veneer dryers	Condition #s changed and/or removed, updates consistent with TV permit template
67	58.e	Condition moved to stand-alone condition 73	Condition # changed consistent with TV permit template
68 Table 11	59	Table # added for Non-Applicable Req. section, non-applicable reason for Subpart 5D boiler revised slightly, added 11223(g) citation to Subpart 6J non-applicable requirements	Condition # changed, reason revised, table # and non-applicable citation added, changes consistent with TV permit template
General Conditions G1. - G 29.	General Conditions G1. - G28.	General Condition G3 (Applicable Requirements) added, Conditions G3-G28 renumbered to G4-G29, conditions G2, G5, G6, G7, G8, G9, G14.a.vi, G20, G21 revised based upon permit template and rule changes	Consistent with rules and permit template

PERMITTEE IDENTIFICATION

6. Rosboro Lumber Company, LLC, Springfield Facility (Rosboro or "the facility") is a forest products company in Springfield, Oregon (http://rosboro.com/). The facility has operated at the same location since 1940.

FACILITY DESCRIPTION

7. The facility processes whole logs into manufactured wood products including dimensional lumber, laminated beams, and, until the closure of the plywood/veneer operations in 2014, dried veneer and manufactured plywood. Steam for operating the facility equipment, such as the dry lumber kilns, is produced onsite by three identical hog fuel-fired boilers. Facility processes also result in the following by-products: chips, sawdust, sanderdust, shavings, and hog fuel. The first Title V permit was issued to the facility on December 18, 2000 and was renewed in 2008 and 2013. The current permit expired in April 2018 and this renewal updates changes to the facility since the 2013 permit renewal.

EMISSIONS UNIT AND POLLUTION CONTROL DEVICE IDENTIFICATION

8. The emissions units at this facility are the following:

EU ID	Emission Unit Description	Construction /Installation Date	Pollution Control Device Description	PCD ID	Construction /Installation Date
EU-01	Boilers – Three (3) identical Babcock & Wilcox Dutch oven wood-fired boilers, each rated at ~50 MMBtu/hr max input, design max capacity of ~100 Mlb steam/hr for the 3 boilers **combined**	1939 Boiler #1	Clarage Multiclone Pressure Drop:1-3" H_2O	CD-01.1	Apr. 2000
		1939 Boiler #2	Clarage Multiclone Pressure Drop:1-3" H_2O	CD-01.2	Nov. 2002
		1939 Boiler #3	Clarage Multiclone Pressure Drop:1-3" H_2O	CD-01.3	Nov. 2002
EU-02	Plantsite Fugitives	NA	None	NA	NA
EU-03 Cyclones	Cyclone #1 (CD.03.4B) controls Planer Shavings, Mfg: B&R Sheetmetal, 21,982 acfm, rated 99.97% eff.	Oct. 2005	Baghouse #5	CD-04B.1	May 2000
	Cyclone #4 (CD.03.1), controls Mill B Planer shavings/sawdust, Mfg:Unknown, 27,800 acfm, rated 99.97% eff.	Pre-1978	Baghouse #5	CD-04B.1	May 2000
	Cyclone #20 (CD-03.3) controls Slabber chips, Mfg:Unknown, 6,000 acfm, rated 99.97% eff.	Pre-1978	None	NA	NA
	Cyclone #16 (CD.03.4) controls Lam Plant Sizer shavings, Mfg:Unknown, 25,485 acfm, rated 99.97% eff.	Pre-1978	Baghouse #26	CD-04B.2	
	Cyclone #17 (CD.3.5) controls Lam Plant sawdust/shavings, Mfg:Unknown, 15,521 acfm, rated 99.97% eff.	Pre-1978	None	NA	NA
EU-03 Target Boxes	Target Box (CD-03B.1) handles green wood chips from the Mill B Overs Chipper, Mfg: B&R Sheetmetal, 4,000 acfm,	Aug 2007	None	NA	NA
	Target Box (CD-03B.2) Ply Bin Stand-by	Pre-1978	None	NA	NA
EU-04 Baghouses	Baghouse #5 controls planer shaving from Cyclone #1 &	May 2000	Western Pneumatics 630 Rated eff. = 99+% Design Flow: 53,000 cfm Pressure drop 1-3" H_2O	CD-04B.1	May 2000

EU ID	Emission Unit Description	Construction /Installation Date	Pollution Control Device Description	PCD ID	Construction /Installation Date
	shavings/sawdust from Mill B Cyclone #4				
	Baghouse #18 controls Glue-Lam plant Sander system sanderdust, sawdust and shavings (Baghouses #21 & 22 on stand-by)	1985	Carter-Day/144RJ96 Rated eff. = 99+% Design Flow: 29,300 cfm Pressure drop 1-3" H_2O	CD-04A.3	1985
	Baghouse #26 controls dry planer shavings & residuals from Cyclone #16 Lam Plant Sizer System	1994	Western Pneumatics 630 Rated eff. = 99.7% Design Flow: 48,000 cfm Pressure drop 1-3" H_2O	CD-04B.2	1994
EU-05	VOC (not listed elsewhere) Paints, inks, sealers & putties	EU-05 SDSs updated 2019	None	NA	NA
(EU-06)	(Former Veneer Dryers (2) emission unit - removed from permit with 2019 renewal)	(Shutdown Mar. 2014)	(Veneer dryer emissions formerly controlled by combusting dryer exhaust in EU-01 boilers)	(EU-01)	(Veneer dryers ceased operation in Mar. 2014)
(EU-07)	(Former Log Vats emission unit - removed from permit with 2019 renewal)	(Shutdown Mar. 2014)	None	NA	NA
EU-08 Nine (9) Dry Kilns (A-I)	Dry Kilns (A & B) Coe Mfg. Indirect steam-heated double track kilns, cycle range 21-63 hrs, 170 max BF/cycle	1992, Renovated Oct. 2008	None	NA	NA
	Dry Kilns (C, D & E) Coe Mfg., Indirect steam-heated double track kilns, cycle range 21-63 hrs, 170 max BF/cycle	Oct. 2008	None	NA	NA
	Dry Kilns (F & G) USNR Mfg., Indirect steam-heated double track kilns, cycle 31 hrs, 170 max BF/cycle	Aug 2017	None	NA	NA
	Dry Kilns (H & I) Wellons Mfg., Indirect steam-heated double track kilns, cycle 31 hrs, 194 max BF/cycle	Feb. 2019	None	NA	NA
EU-AI	Aggregate Insignificant Activities- Unpaved Roads	NA	None	NA	NA

8.a. Boilers EU-01 consists of three (3) wood fuel-fired boilers with multiclones for particulate control and one common steam gauge to monitor steam flow rate. The boilers operated as the control device for the veneer dryers exhaust gases as part of the PCWP MACT compliance requirements

from April 2008 until the shutdown of veneer drying operation in March 2014. The three (3) boilers in EU-01 are all identical Babcock & Wilcox Dutch-oven style units installed together in 1939. The total rated design capacity of the three (3) boilers is 100,000 lbs steam/hr or approximately 150 MMBtu/hr heat input (i.e. ~50 MMBtu/hr each) or ~33,000 lbs steam max/hr per boiler. Controls and instrumentation include FD fan and automatic FD control, oxygen analyzer and one common steam flow meter. The Breslove fly ash or 'cinder' collectors on boilers 2 and 3 were replaced in 2002 with Clarage multiclones identical to the multiclone that was installed on boiler 1 in the year 2000. The fly ash collected by the multiclones is not re-injected in the boilers. The boilers' maximum steam operating pressure is 250 psi.

8.b. Plantsite fugitives EU-02 consists of fugitive emissions from material handling equipment throughout the facility.

8.c. Cyclones and target boxes (EU-03) consist of material handling cyclones for transporting wood residuals and hog fuel throughout the facility. In the original Title V application EU-03A consisted of units installed prior to the 1978 baseline year while EU-03B devices were installed after the baseline year. With the current renewal and changes to cyclones and target boxes configurations since the shutdown of plywood and veneer operations, the cyclones and target boxes have been combined into a single emission unit (EU-03) and the facility has elected to permit EU-03 based on the more restrictive PM/grain loading standard of 0.14 gr/dscf which applies to emission units installed after June 1, 1970.

8.d. Baghouses EU-04 consist of baghouses control emissions from material handling. In the original Title V application EU-04A consisted of units installed prior to the 1978 baseline year while EU-04B devices were installed after the baseline year. Due to the modification and rerouting of the baghouses with the current renewal and changes to baghouse configurations since the shutdown of plywood and veneer operations, baghouses have been consolidated to a single emission unit, EU-04, and the facility has elected to permit all 3 baghouses in EU-04 based on the more restrictive PM/grain loading standard of 0.14 gr/dscf which applies to emission units installed after June 1, 1970. The facility has retained 2 baghouses (#21 & #22) from the former plywood facility as stand-by/back-up baghouses in the event of malfunction of baghouses #5, #18 or #26.

8.e. VOC (not listed elsewhere) EU-05 consists of emissions from glues, resins, paints and inks which are not addressed under any other emissions unit. As specified by the PCWP MACT, the facility is required to use only non-HAP coatings for all group-1 miscellaneous coating operations as defined in 63.2292. The facility is also required to keep records showing that only non-HAP coatings are used.

8.f. The **former** Veneer Dryers (EU-06) which consisted of two (2) veneer dryers that exhausted to EU-01 boilers have been removed from the permit with the 2014 permanent shutdown of plywood and veneer operations.

8.g. The **former** Log Vats (EU-07) which consisted of six (6) individual log vats have been removed from the permit with the 2014 permanent shutdown of plywood and veneer operations.

8.h. Dry Kilns EU-08 consist of nine (9) steam-heated kilns (A-I) for drying lumber. Cut lumber in stacks is loaded into the kilns with moisture sensors attached and dried to a target moisture content depending on wood species. The kilns are heated to 200ºF using steam from the hogged-fuel boilers (EU-01). The dry kiln temperature limit, however, is specified at 10 degrees higher than the 200 degrees ºF limit due to the inexact nature of the dry kiln operating temperatures. The facility contact receives a notification for all drying temperatures greater than 205 degrees ºF. The drying process is monitored by tracking moisture content, temperature and humidity. Prior to 2008 the facility utilized 12 kilns. As part of the Addendum 3 - Significant Modification Addendum in 2008, the facility remodeled/renovated two (2) existing kilns (A & B), removed the remaining ten (10) kilns and installed three (3) new kilns (C, D, E). (NC-207050-A08) The emissions of VOC and HAP(s) from EU-08 Dry Kilns is based upon the testing performed at Oregon State University (OSU) for Rosboro and does not include the testing done at OSU for other facilities. In December

2012, EPA developed dry kiln emission factors using all test data and statistical analysis but, again, the site-specific, pilot-scale test data performed at OSU for the facility was used. Two additional kilns (F & G) were constructed in 2017 (NC-207050-A17), followed by two more kilns (H & I) that were completed in Feb. 2019 (NC-207050-A18).

8.i. AI is the emission unit for aggregate insignificant activities. For this facility, these include fugitive emissions from unpaved roads.

9. Categorically insignificant activities include the following:

- Constituents of a chemical mixture present at less than 1% by weight of any chemical or compound regulated under OAR Chapter 340, Divisions 20 through 32, or less than 0.1% by weight of any carcinogen listed in the U.S. Department of Health and Human Service's *Annual Report on Carcinogens* when usage of the chemical mixture is less than 100,000 pounds/year
- Evaporative and tail pipe emissions from on-site motor vehicle operation
- Distillate oil, kerosene, and gasoline fuel burning equipment rated at less than or equal to 0.4 million Btu/hr
- Natural gas and propane burning equipment rated at less than or equal to 2.0 million Btu/hr
- Office activities
- Janitorial activities
- Personal care activities
- Grounds-keeping activities including, but not limited to building painting and road and parking lot maintenance
- Instrument calibration
- Maintenance and repair shop
- Automotive repair shops or storage garages
- Air cooling or ventilating equipment not designed to remove air contaminants generated by or released from associated equipment
- Refrigeration systems with less than 50 pounds of charge of ozone depleting substances regulated under Title VI, including pressure tanks used in refrigeration systems but excluding any combustion equipment associated with such systems
- Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including associated vacuum producing devices but excluding research and development facilities
- Temporary construction activities
- Warehouse activities
- Accidental fires
- Air vents from air compressors
- Demineralized water tanks
- Electrical charging stations
- Fire brigade training
- Instrument air dryers and distribution
- Office activities
- Process raw water filtration systems
- Blueprint making
- Routine maintenance, repair, and replacement such as anticipated activities most often associated with and performed during regularly scheduled equipment outages to maintain a plant and its equipment in good operating condition, including but not limited to steam cleaning, abrasive use, and woodworking
- Electric motors
- Storage tanks, reservoirs, transfer and lubricating equipment used for ASTM grade distillate or residual fuels, lubricants, and hydraulic fluids

- On-site storage tanks not subject to any New Source Performance Standards (NSPS), including underground storage tanks (UST), storing gasoline or diesel used exclusively for fueling of the facility's fleet of vehicles
- Natural gas, propane, and liquefied petroleum gas (LPG) storage tanks and transfer equipment
- Vacuum sheet stacker vents
- Pressurized tanks containing gaseous compounds
- Emissions from wastewater discharges to publicly owned treatment works (POTW) provided the source is authorized to discharge to the POTW, not including on-site wastewater treatment and/or holding facilities
- Log ponds
- Storm water settling basins
- Fire suppression and training
- Paved roads and paved parking lots within an urban growth boundary
- Hazardous air pollutant emissions of fugitive dust from paved and unpaved roads except for those sources that have processes or activities that contribute to the deposition and entrainment of hazardous air pollutants from surface soils
- Health, safety, and emergency response activities
- Emergency generators and pumps used only during loss of primary equipment or utility service
- Non-contact steam vents and leaks and safety and relief valves for boiler steam distribution systems
- Non-contact steam condensate flash tanks
- Non-contact steam vents on condensate receivers, deaerators and similar equipment
- Boiler blowdown tanks
- Ash piles maintained in a wetted condition and associated handling systems and activities
- Oil/water separators in effluent treatment systems
- On-site storage tanks not subject to any NSPS, including underground storage tanks (UST), storing gasoline or diesel used exclusively for fueling of the facility’s fleet of vehicles
- Combustion source flame safety purging on startup

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING, AND RECORDKEEPING

10. The following sections describe each applicable requirement and monitoring requirement in the permit, with the intent of the condition and a brief discussion of any unique features of the requirement.

    10.a. Conditions 1 and 2 are general statements required in and common to all Title V permits issued by LRAPA.

    10.b. Condition 3 provides a list of equipment and identification of pollution control devices for the facility.

    10.c. Condition 4 is a facility-wide fugitive dust control requirement that allows the permittee to deal with potential fugitive dust problems before they become standard violations. The reasonable precautions can be required without the need to show a violation of 20% opacity for sources where reading opacity is a problem (e.g., dust from traffic on roads).

    10.d. Condition 5 is a visible emissions monitoring requirement for demonstrating compliance with the facility-wide fugitives Condition 4 and includes recordkeeping of VE surveys in Condition 5.d

    10.e. Condition 6 is a facility-wide condition that prohibits the facility from causing a nuisance and establishes timely response to any complaints that the facility operation may generate.

    10.f. Condition 7 is a monitoring requirement for maintaining a log to document complaints received and the facility’s responses to complainants to ensure compliance with Condition 6.

    10.g. Condition 8 implements the long-standing particulate matter fallout provision in LRAPA rules.

    10.h. Condition 9 is a monitoring and recordkeeping requirement that monitors compliance with Condition 8 by performing periodic visible emission surveys required in Condition 5.

10.i. Condition 10 implements the long-standing LRAPA prohibition of concealment or masking of emissions to avoid otherwise applicable requirements.

10.j. Condition 11 is a monitoring requirement for demonstrating compliance with Condition 10 by semi-annual and annual compliance certifications.

10.k. Condition 12 implements emergency actions required of the facility in the event that air quality becomes so unhealthy that facility curtailments are necessary.

10.l. Condition 13 is a monitoring requirement for maintaining a log of air pollution episodes and emission reduction actions taken by the facility's responses to ensure compliance with Condition 12.

10.m. Condition 14 is a standard requirement for Title V facilities stating the permittee's responsibility for compliance with 40 CFR 68 accidental release provisions should the facility trigger these requirements.

10.n. Condition 15 is the opacity limit (20%) for the three boilers EU-01 at the facility. NSPS does not apply to these boilers because all three (3) were installed prior to June 9, 1989 (the trigger date in 40 CFR 60.40c)

10.o. Condition 16 delineates the grate cleaning plan requirements for wood-fired boilers installed prior to June 1, 1970 to allow exceedance of the opacity limit in Condition 15 (20% opacity) during grate cleaning.

10.p. Condition 17 is a monitoring and recordkeeping requirement for maintaining a log of grate-cleaning time and duration to demonstrate compliance with Condition 16.

10.q. Condition 18 is a visible emissions monitoring requirement to demonstrate compliance with the opacity limit in Condition 15.

10.r. Condition 19 is the particulate matter grain loading limit for the boilers. The 0.10 gr/dscf limit applies because the boilers were installed prior to June 1, 1970 and compliance tests (within 10 years prior to April 16, 2015) indicated emissions no greater than 0.080 gr/dscf.

10.s. Condition 20 contains the monitoring and recordkeeping requirements using visible emission monitoring and parameter action levels (% O_2) to demonstrate compliance with the grain-loading limit in Condition 19.

10.t. Condition 21 is the testing requirements for the boilers to demonstrate compliance with the grain-loading standard in Condition 19 and the emission factors in Condition 49.c.

10.u. Condition 22 is the residual oxygen monitoring requirement including action level ranges. This requirement is to satisfy the TACT good combustion for these units.

10.v. Condition 23 is the Inspection and Maintenance requirement for the EU-01 boiler multiclones.

10.w. Condition 24 contains the specific recordkeeping requirements for EU-01.

10.x. Condition 25 contains the requirement for the boiler to burn only biomass in the boilers in EU-01 as required by 40 CFR Part 241.

10.y. Conditions 26-31 are the Area Source Boiler NESHAP requirements from 40 CFR Part 63 Subpart JJJJJJ that apply to the facility's three (3) wood-fired boilers in EU-01.

10.z. Condition 32 is the opacity requirement for the cyclones and target boxes and baghouse control devices in EU-03 and EU-04.

10.aa. Condition 33 contains the monitoring and recordkeeping requirements for periodic VE observations to demonstrate compliance with the opacity limit in Condition 32.

10.bb. Condition 34 contains the particulate matter grain loading limit of 0.14 gr/dscf for the cyclones and baghouse control devices in EU-03 and EU-04 (installed/modified after to June 1, 1970).

10.cc. Condition 35 contains the monitoring and recordkeeping requirements for periodic VE observations and baghouse pressure drop action levels monitoring to demonstrate compliance with the grain-loading limit in Condition 34.

10.dd. Condition 36 contains the particulate matter process weight limit that applies to process equipment such as any cyclones and target boxes in EU-03 used in materials handling.

10.ee. Condition 37 contains the monitoring and recordkeeping requirements for periodic VE observations to demonstrate compliance with the process weight rule in Condition 36.

10.ff. Condition 38 is the PCWP MACT miscellaneous coating operations requirement. The requirement is included with the aggregate insignificant activities requirements because the "miscellaneous chemical usage" is an activity for which the requirements apply.

10.gg. Condition 39 contains the monitoring and recordkeeping requirements for demonstrating compliance with Condition 38 by maintaining current safety data sheets for all coatings used at the facility.

10.hh. Condition 40 contains the general opacity requirement for the dry kilns in EU-08.

10.ii. Condition 41 contains the visible emissions monitoring requirement to demonstrate compliance with opacity standard in Condition 40.

10.jj. Condition 42 specifies the maximum dry kiln operating temperature to ensure the emission factors used to estimate compliance with the synthetic minor HAP limitations are appropriate. Emission factors for drying temperatures greater than 200 degrees ºF have been shown to have significantly higher emission rates. The facility requested the dry kiln temperature limit be specified at 10 degrees higher than the 200 degrees ºF limit due to the inexact nature of the dry kiln operating temperatures. The facility contact receives a notification for all drying temperatures greater than 205 degrees ºF.

10.kk. Condition 43 contains the monitoring and recordkeeping requirements to demonstrate compliance with Condition 42. Condition 42 includes a high-temperature notification system and recordkeeping of corrective actions and MBF dried in kilns.

10.ll. Condition 44 contains the particulate matter grain loading and opacity limitations that apply to Insignificant Emission Units (IEUs).

10.mm. Condition 45 specifies that no testing is required for IEUs but, if tested, requires testing be completed in accordance with standard testing requirements.

10.nn. Conditions 46 and 47 contain the Gasoline Dispensing Facility (GDF) work practice and submerged fill requirements from LRAPA 44-230 that apply to the facility's underground gasoline storage tank(s).

10.oo. Condition 48 lists the annual (12 consecutive calendar month period) Plant Site Emission Limits (PSELs), Unassigned Emissions and Emission Reduction Credits (ERCs) for the facility.

10.pp. Condition 49 contains the monitoring requirements needed to demonstrate compliance with the PSELs in Condition 48.

10.qq. Condition 49.a contains the monitoring and recordkeeping requirements for all facility process parameters needed to demonstrate compliance with the PSELs in Condition 48.

10.rr. Condition 49.b is the equation used to estimate emissions for PSELs using the production data monitored in Condition 49.a and the emission factors in Condition 49.c.

10.ss. Condition 49.c is a table of emission factors for use in calculating facility emissions. The factors are to be used in determining PSELs for all operating scenarios. Requirements for emission factor verification testing are also identified.

10.tt. Condition 50 specifies that emission fees will be based in the PSELs unless the permittee elects to report on actual emissions for permitted processes/pollutants.

10.uu. Condition 51 contains the general testing requirements for source tests at the facility.

10.vv. Conditions 52 through 54 contain the general monitoring requirements for the facility.

10.ww. Conditions 55 through 58 contain the general recordkeeping requirements for the facility.

10.xx. Conditions 59 through 64 contain the general reporting requirements for the facility.

10.yy. Conditions 65 and 67 contain the specific annual and semi-annual reporting requirements for the facility.

10.zz. Condition 68 specifies the non-applicable requirements that could reasonably be considered to apply to the facility.

10.aaa. The conditions following Condition 68 are general requirements (General Conditions G1-G29) applicable to Title V sources.

EMISSION LIMITS FOR INSIGNIFICANT ACTIVITIES

11. As identified earlier in this Review Report (Items # 8.i and 9), this facility has insignificant emissions units (IEUs) that include categorically insignificant activities and aggregate insignificant emissions, as defined in LRAPA Title 12 and/or OAR 340-200-0020. For the most part, the standards that apply to IEUs are for opacity (20% limit) and particulate matter (0.10 gr/dscf limit). LRAPA does not consider it likely that IEUs could exceed an applicable emissions limit or standard because IEUs are generally equipment or activities that do not have any emission controls (e.g., small natural gas-fired space heaters) and do not typically have visible emissions. Since there are no controls, no visible emissions, and the emissions are less than one (1) ton per year, LRAPA does not believe that monitoring, recordkeeping, or reporting is necessary for assuring compliance with the standards.

PLANT SITE EMISSION LIMITS

12. A summary of the baseline emissions rate, netting basis, and plant site emission limits is provided below:

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limit (PSEL)		
		Previous (tons/yr)	Proposed (tons/yr)	Previous $PSEL_{2013}$ (tons/yr)	Proposed $PSEL_{2019}$ (tons/yr)	PSEL Increase Over Netting Basis (tons/yr)
PM	243	244	244	268	178	-66
PM_{10}	243	244	244	249	171	-73
$PM_{2.5}$	NA	142	142	146	123	-19
CO	1,042	400	400	300	274	-126
NO_x	183	183	183	201	181	-2
SO_2	5.9	5.9	5.9	39	39	33
VOC	197	197	197	227	230	33
HAP_{Single}	NA	NA	NA	9	9	NA
$HAP_{Combined}$	NA	NA	NA	24	24	NA
GHG_{2010}	81,740	26.9	81,740	NA	81,740	NA

12.a. The baseline emission rates (BERs) for PM, PM_{10}, CO, NO_X, SO_2, VOC and Pb were determined in previous permitting actions and there are no changes. The 1978 baseline period was used to establish the BERs for PM, PM_{10}, CO, NO_X, SO_2, and VOC. A baseline emission rate is not required for $PM_{2.5}$ in accordance with the definition of "baseline emission rate" in LRAPA Title 12.

12.b. The baseline emission rate for greenhouse gases (GHGs) is based on both biogenic and anthropogenic CO2e emissions during the consecutive 12-month period from December 2009 to November 2010. The previous GHG baseline and netting basis did not include GHG emissions from the combustion of biomass because the EPA deferred regulation of CO_2 from biomass until July 2014 when the federal deferral was vacated. Current permitting guidance on GHG PSELs require two GHG PSELs to be established - one for anthropogenic GHG emissions alone based on OAR/LRAPA rules and a 2nd GHG PSEL which includes both anthropogenic **AND** biogenic GHG emissions based on federal NSR & PSD rules which includes biogenic GHGs for establishing a GHG netting baseline to track GHG emissions increases that may trigger NSR/PSD. Because anthropogenic GHG emissions alone were below the de minimis levels (<2,756 tons/yr) defined in LRAPA Title 12, no PSEL was established in the 2013 permit renewal (based on 26.9 tons/2010 BER) or in the current renewal (based on corrected anthropogenic GHG of 1077 tons/2010 BER). The GHG BER, Netting Basis and PSEL established with this renewal includes both biogenic and anthropogenic GHG emissions which exceed the "de minimis" threshold for GHGs. The baseline emission rate calculations for both biogenic and anthropogenic GHGs have been revised based on DEQ GHG steam calculator with a B Ratio (determined using an EPA May 2014 memo for

determining biomass fuel B-Factor based on facility source test data). Biogenic and anthropogenic GHG emission calculations are included in the detail sheets attached to this review report.

12.c. The netting basis for CO was reduced in the previous permit by the amount the unassigned emissions were reduced in accordance with Section 42-0045(3)(C). CO PSELs in the current permit renewal were reduced as well due to permanent shutdown of plywood & veneer operation and resulting reduction in steam demand from the hogged-fuel boilers (and corresponding CO emissions).

12.d. The PSEL for SO_2 was established at the Generic PSEL level in the previous permit in accordance with Section 42-0040(1). There have been no changes to the SO_2 PSEL in the current renewal.

12.e. The PSEL for VOC increased 3.1 tons per year over the previous VOC PSEL due to increased lumber kiln production. VOC PTE emissions from EU-05 were updated based on current SDS information and VOC emission factors for laminated beam production were converted from lbs VOC/MBF to lbs VOC/lbs adhesive used based on source caul plate tests. These updates resulted in a ~2.0 TPY decrease in PTE VOCs from EU-05. The facility's proposed VOC PSEL is 33 tons/yr over baseline emissions. Future modifications resulting in increases in the VOC PSEL greater than ~7 TPY may cause the facility to exceed the 40 ton VOC/year SER triggering New Source Review requirements.

12.f. The PSEL for $PM_{2.5}$ was established in the previous permit using the procedure specified in the definition of "netting basis" in LRAPA Title 12 (see emission detail sheets).

12.g. The PM, PM_{10} and $PM_{2.5}$ emission factors for the boilers (EU-01) were updated based on a reevaluation of historical source test data which resulted in corrected individual boiler steaming rates and corresponding decreases in PM, PM_{10} and $PM_{2.5}$ emission rates (lbs PM/Mlbs steam) for the 1993, 2002 and 2003 source tests. Boiler steaming rates were corrected based on two boilers operating during testing rather than all three boilers operating as indicated in the previous review report. See Item #32 of this review report for a summary of all facility source tests including 2017 boiler source tests and corrections made to PM emission rates for 1993, 2002 and 2003.

UNASSIGNED EMISSIONS AND EMISSION REDUCTION CREDITS

13. The facility has Unassigned Emissions as shown below which have resulted from emission reductions from the removal of plywood and veneer drying operations. Unassigned CO emissions were reduced in the previous permit to no more than a significant emission rate (SER) in accordance with LRAPA 42-0055(5). The proposed Unassigned Emissions for PM, PM_{10}, $PM_{2.5}$, and CO will be reduced to no more than the SER at the next permit renewal unless they are used for internal netting actions. The facility has zero (0) emission reduction credits.

Pollutant	Assigned PSEL (tons/yr)	Unassigned Emissions (tons/yr)	SER	Emission Reduction Credits (ERCs) (tons/yr)
PM	178	66	25	0
PM_{10}	171	73	15	0
$PM_{2.5}$	123	19	10	0
CO	274	126	100	0
NO_x	181	2	40	0
SO_2	39	0	40	0
VOC	230	0	40	0

ADDITIONAL REQUIREMENTS

FEDERAL REQUIREMENTS

Accidental Release Prevention (40 CFR 68)

14. The facility is not currently subject to the Accidental Release Prevention rules because it does not use any of the regulated toxic substances above the threshold quantities. Should the facility's use and/or storage of any regulated toxic substances exceed the thresholds defined in 40 CFR 68, the facility must comply with all the applicable risk management requirements, including the development of a risk management plan.

Stratospheric Ozone-Depleting Substances (40 CFR 82)

15. The facility does not manufacture, sell or distribute any stratospheric ozone-depleting substances and does not use stratospheric ozone-depleting substances in production processes. Therefore, Sections 601-608 of the 1990 Clean Air Act, as amended, do not apply to the facility.

PCWP MACT (40 CFR Part 63 Subpart DDDD – 4D)

16. **Overall:** Rosboro is subject to the federal NESHAP regulation for Plywood and Composite Wood Products manufacturing in 40 CFR 63 Subpart DDDD (Plywood MACT). In 2008 Rosboro requested the regulatory requirements and its designation for achieving the MACT level of emission control be added to its Title V permit. Specifically, Rosboro designated how it elected to achieve the required control of the HAP emissions from its softwood veneer dryers. Additionally, they were required to perform their finishing operations with non-HAP coatings; use required work practices; develop and follow a startup, shutdown and malfunction plan; perform monitoring; and submit periodic compliance reports. With the shutdown and removal of the plywood and veneer operations in 2014, the only remaining PCWP MACT requirements are the monitoring of the use (quantity in pounds or gallons) and HAP contents of coating materials used and maintenance of records of the current Safety Data Sheets for each coating (both HAP and nonHAP) used at the facility. For more information regarding the latter requirements, please see the conditions specific to VOC EU-05 in the permit.

    Prior to the shutdown and removal of plywood and veneer drying operations, the facility complied with the PCWP MACT by routing exhaust gases from its 2 veneer dryers (formerly EU-06 Veneer Dryers) to the wood-fired boilers (EU-01) for destruction of PM, VOCs and HAPs. After requesting and receiving a compliance extension (to April 5, 2008) to allow for installation of a damper control system, the facility met the requirements for control and reduction (90%) of veneer dryer HAP and VOC emissions using the boilers (EU-01) as an emission control system at the requisite operating temperature, retention time and boiler steaming rates. Rosboro satisfied the requirements for submitting a timely SSM plan and a timely Initial Notification of Compliance Status.

BOILER NESHAP (40 CFR Part 63 Subpart JJJJJJ – 6J)

17. **Area Source Boiler NESHAP Applicability and Synthetic Minor HAP Limit Timing:** A facility that has obtained federally-enforceable permit limits to restrict HAP emissions below the major source thresholds prior to a major NESHAP compliance date can be classified as an area source. The major source Boiler NESHAP (40 CFR 63 Subpart DDDD) was issued as final on January 31, 2013 after EPA reconsidered the rule and the compliance date was January 31, 2016 ; therefore the facility was considered an area source of HAPs for purposes of the Boiler NESHAP with the issuance of the 2013 permit and became subject to the Subpart 6J provisions as applicable. The facility submitted an Initial Notification for the purposes of Subpart 6J on August 23, 2011.

Tune-up and Energy Assessment Requirements: There are no emission standards in the area source Boiler NESHAP 6J that apply to existing biomass-fired boilers. The key requirements are for the facility to conduct a performance tune-up biennially (every two (2) years) and a one-time (1-time) energy assessment of the boiler and its energy use systems. The facility completed the initial tune-up requirement on March 1, 2014 and the one-time energy assessment on February 5, 2014 and submitted the required Notification of Compliance Status for both the tune-up and energy assessment on April 14, 2014. The facility was initially permitted (with the 2013 renewal) for boiler tune-ups to be conducted every five (5) years because the boilers were thought to have an 'oxygen trim system' (defined in the NESHAP). When it was determined that the boilers did not have an oxygen trim system (defined as a system of monitors that is used to maintain excess air at the desired level in a combustion device. A typical system consists of a flue gas oxygen and/or carbon monoxide monitor that automatically provides a feedback signal to the combustion air controller), an Administrative Amendment permit addendum was made (Permit Addendum No. 1 (Nov. 5, 2013)) seven months after the 2013 permit renewal. The requirement for the facility to submit biennial compliance reports rather than compliance reports every five (5) years has been corrected in the proposed permit.

Emission factor verification: EU-01 Boilers were tested in July of 2009 as part of an EPA Section 114 Information Collection Request to set the floor for the Boiler MACT. The boilers were tested again in September 2017 for PM, CO and NOx as part of the compliance and emission factor verification requirements. The facility is also required to test the boilers for PM to demonstrate compliance with particulate emission limits and for NOx, CO, VOC and Hogged-fuel F-Factor (Combustion) to verify emission factors within 18 months of permit issuance.

OTHER NESHAPs

18. The coating operations are <u>not</u> subject to 40 CFR 63 Subpart QQQQ regulations - National Emission Standards for Hazardous Air Pollutants for Surface Coating of Wood Building Products because the lumber produced by the facility does not meet any of the descriptions of wood building products found in 40 CFR §63.4681(a)(1) through (5).

19. The facility's underground gasoline storage tank(s) are subject to the Gasoline Dispensing Facility (GDF) submerged fill and work practice requirements. LRAPA essentially adopted the 40 CFR 63 Subpart CCCCCC regulations into LRAPA Title 44 and the facility registered their tank (4,000 gallon capacity) in accordance with those regulations and paid a onetime registration fee of $35 in accordance with LRAPA Title 37 Table 2.

NEW SOURCE PERFORMANCE STANDARDS (NSPS)

20. 40 CFR Part 60, Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units does not apply to the facility because the boilers (EU-01) were installed prior to the June 9, 1989 applicability date.

COMPLIANCE ASSURANCE MONITORING (CAM) (40 CFR 64)

21. None of the emission units at this facility are subject to Compliance Assurance Monitoring provisions of 40 CFR Part 64 for the following reasons:
    - 21.a. CAM is not applicable to the boilers in EU-01 because the individual boilers do not have potential pre-controlled (pre-multiclones) PM emissions that would make them a major source (i.e. greater than 100 tons per year for criteria pollutants; greater than 10 tons per year for individual Federal HAPs). The multiclones (for PM) are the only add-on control devices for the boilers;
    - 21.b. CAM is not applicable to the plant-site fugitives emissions unit EU-02 because add-on control devices are not used to achieve compliance with the standards;

21.c. CAM is not applicable to the cyclone emissions unit (EU-03) or the baghouses (EU-04) because pre-controlled emissions for the units are less than 100 tons per year of particulate; and

21.d. CAM is not applicable to the lumber kilns in EU-08 because add-on control devices are not used to achieve compliance with the standards.

NEW SOURCE REVIEW

22. There have been no physical modifications at the facility that would have required New Source Review or that have met the LRAPA definition of a major modification since the baseline period.

23. The proposed PSELs increases over the netting basis are less than the Significant Emission Rate (SER) as defined in LRAPA Title 12 for all pollutants, therefore, no further analysis is required. See item #12 above for changes to the facility's PSELs.

HAZARDOUS AIR POLLUTANTS/TOXIC AIR CONTAMINANTS

24. The following is the potential to emit (tons per year) of the facility for hazardous air pollutants listed in Section 112(b) of the 1990 Clean Air Act Amendments (CAAA). The potential to emit hazardous air pollutants is greater than the major source thresholds of ten (10) tons per year for any single HAP (Methanol) and 25 tons per year for total HAPs. The emission totals below reflect the most current information available including the reductions in formaldehyde and methanol from the implementation of the PCWP MACT. On September 8, 2011 the facility applied for and was permitted for synthetic minor HAP limitations of nine (9) tons per year for any single HAP and 24 tons per year for total HAPs. With the shutdown and removal of plywood and veneer operations, the facility's current Potential to Emit and 2018 Actual HAP emissions is as follows:

Pollutant	Potential To Emit (tons/year)	2018 Reported HAPs
Methanol (Highest Single HAP)	14.9	6.1
Formaldehyde	1.2	0.5
Acetaldehyde	11.9	5.0
Acrolein	2.2	0.9
Phenol	1.7	0.7
Propionaldehyde	0.14	0.06
Benzene	0.1	0.036
Toluene	0.7	0.30
Ethylbenzene	0.022	0.009
Hexane	0.32	0.21
Naphthalene	0.050	0.020
Styrene	0.48	0.19
HCl	5.4	2.12
HF	0.079	0.031
Dioxin & Furan	0.000	0.000

Pollutant	Potential To Emit (tons/year)	2018 Reported HAPs
Antimony	0.002	0.001
Arsenic	0.01	0.003
Beryllium	0.000	0.000
Cadmium	0.003	0.001
Chromium	0.009	0.003
Cobalt	0.000	0.000
Lead	0.033	0.012
Manganese	0.221	0.078
Nickel	0.002	0.001
Phosphorus	0.703	0.248
Selenium	0.015	0.005
Mercury	0.001	0.000
Total HAPs	**40.1 PTE**	**16.7 tons/2018**

TOXICS RELEASE INVENTORY

25. The Toxics Release Inventory (TRI) is a resource for learning about toxic chemical releases and pollution prevention activities reported by certain industrial facilities. Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) created the TRI Program. In general, the chemicals covered by the TRI Program are those that cause:

- Cancer or other chronic human health effects;
- Significant adverse acute human health effects; or
- Significant adverse environmental effects.

There are currently over 650 chemicals covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual TRI reports each year. NOTE: The TRI Program is a federal program over which LRAPA has no regulatory authority. The above information has been copied by LRAPA from EPA's TRI website; LRAPA does not guarantee the accuracy of this information.

The Rosboro facility reported the release of the following TRI-related chemicals for the 2017 calendar year:

Rosboro Company Springfield Facility 2017 TRI Report				
Chemical/CAS	On-Site Releases	Off-Site Recycling	Health Effects	
	Lbs/2017	Lbs/2017	Cancer	Other
Phenol / 000108952	27	50		√

CLEANER AIR OREGON (CAO) PROGRAM

26. Under the Cleaner Air Oregon (CAO) program, only existing sources that have been notified by LRAPA and new sources are required to perform risk assessments. This source has not been notified by LRAPA and is therefore, not required to perform a risk assessment or report annual emissions of toxic air contaminants.

    LRAPA required reporting of approximately 600 toxic air contaminants in 2016 and regulates approximately 260 toxic air contaminants that have Risk Based Concentrations established in rule. All 187 hazardous air pollutants are on the list of approximately 600 toxic air contaminants. The hazardous air pollutants and toxic air contaminants listed below were reported by the source in 2018 and verified by LRAPA. After the source is notified by LRAPA, they must update their inventory and perform a risk assessment to see if they must reduce risk from their toxics air contaminant emissions. Until then, sources will be required to report toxic air contaminant emissions triennially

GENERAL BACKGROUND INFORMATION

27. This facility is located in an attainment area for PM, $PM_{2.5}$, SO_2, NO_x, VOC and Lead (Pb) and in the Eugene-Springfield Air Quality Maintenance Area for PM_{10} and CO. The area within the Eugene-Springfield Urban Growth Boundary (UGB) is classified as the maintenance area for PM_{10} and CO.

28. This facility is located within 100 kilometers of two (2) Class-I air quality protection areas: Diamond Peak Wilderness, and Three Sisters Wilderness.

COMPLIANCE HISTORY

29. Since 2012, the facility was inspected on the dates listed below. The inspections dated **02/15/12, 09/15/14**, **05/12/16** and **08/02/18** were comprehensive Full Compliance Evaluations (FCE).

Inspection Date	Result
02/15/12	**In Compliance**
09/15/14	**In Compliance**
02/12/15	In Compliance
12/17/15	In Compliance
02/05/16	In Compliance
05/12/16	**In Compliance**
08/26/16	In Compliance
03/01/17	In Compliance
03/10/17	Permit Deviation – Semi-Annual Compliance Report (Form R1003)
08/04/17	In Compliance
08/17/17	In Compliance
09/12/17	In Compliance
01/09/18	In Compliance
03/05/18	In Compliance
05/21/18	In Compliance
07/13/18	In Violation*
07/31/18	In Compliance
08/02/18	**In Compliance**

*See NON 3717 below.

30. The facility was issued a Notice of Non-Compliance (NON 3717) on August 8, 2018 and Notice of Civil Penalty (NCP) No. 18-3717 on August 16, 2018 for violations of Title V permit Conditions #12 for exceeding 40% opacity from EU-01 for more than 3 minutes in one hour and Condition #47 failure to notify LRAPA of excess emission event within one hour of onset. A civil penalty in the amount of $9,000 was assessed. The facility paid the fine on August 31, 2018 and the file was closed.

31. The facility failed to submit a timely Title V Federal Operating permit renewal application by April 2, 2017 (per OAR340-218-0130(2), a renewal application must be submitted no later than 12 months prior to the Title V Operating Permit No. 207050 expiration date of April 2, 2018). Upon notification by LRAPA on April 18, 2017 of the missed deadline, the facility submitted the Title V renewal application on April 18, 2017. No further action was taken.

SOURCE TEST RESULTS

32. Source test results for criteria pollutants are summarized below:

Emission Unit	Source Test Date	Production Rate	Pollutant	Emission Rate	
EU-01 **Boiler #1**	9-13-2017	20,260 lbs steam/hr	PM	0.028	gr/dscf @12% CO_2
			PM	2.58	lbs/hr
			PM	0.126	lbs/1000 lbs steam
			Opacity	5	%
			CO	3.84	lbs/hr
			CO	0.185	lbs/1000 lbs steam
			NOx	4.88	lbs/hr
			NOx	0.242	lbs/1000 lbs steam
	7-21 & 22, 2009 EPA ICR	12,570 lbs steam/hr	PM	0.031	gr/dscf @12% CO_2
			PM	3.3	lbs/hr
			PM	0.263	lbs/1000 lbs steam
			Opacity	5	%
	7-23 & 24, 2009 EPA ICR	9,200 lbs steam/hr	CO	7.5	lbs/hr
			CO	0.815	lbs/1000 lbs steam
			NO_x	5.0	lbs/hr
			NO_x	0.543	lbs/1000 lbs steam
			SO_2	0.053	lbs/hr
			SO_2	0.0058	lbs/1000 lbs steam
			$VOC_{propane}$	0.146	lbs/hr
			$VOC_{propane}$	0.016	lbs/1000 lbs steam
	7-18-2002 w/veneer dryer exhaust gases	27,200 lbs steam/hr (corrected from 18,130 lbs steam/hr)	PM	0.020	gr/dscf @12% CO_2
			PM	2.0	lbs/hr
			PM	0.074	lbs/1000 lbs steam
			Opacity	1	%
			CO	6.1	lbs/hr
			CO	0.224	lbs/1000 lbs steam
			NO_x	8.1	lbs/hr
			NO_x	0.298	lbs/1000 lbs steam
			$VOC_{propane}$	4.39	lbs/hr
			$VOC_{propane}$	0.161	lbs/1000 lbs steam
	6-22-1989	11,000 lbs steam/hr	PM	0.070	gr/dscf @12% CO_2

Emission Unit	Source Test Date	Production Rate	Pollutant	Emission Rate	
EU-01 **Boiler #1**			PM	4.03	lbs/hr
			PM	0.366	lbs/1000 lbs steam
			Opacity	Not Reported	%
	2-21-1985 LRAPA	29,333 lbs steam/hr	PM	0.089	gr/dscf @12% CO_2
			PM	8.313	lbs/hr
			PM	0.283	lbs/1000 lbs steam
			Opacity	Not conducted	%
EU-01 **Boiler #2**	9-12-2017	16,865 lbs steam/hr	PM	0.033	gr/dscf @12% CO_2
			PM	2.70	lbs/hr
			PM	0.162	lbs/1000 lbs steam
			Opacity	5	%
			CO	0.98	lbs/hr
			CO	0.059	lbs/1000 lbs steam
			NO_x	6.07	lbs/hr
			NO_x	0.367	lbs/1000 lbs steam
	2-5-2003 w/veneer dryer exhaust gases	25,400 lbs steam/hr (corrected from 16,930 lbs steam/hr)	PM	0.061	gr/dscf @12% CO_2
			PM	7.3	lbs/hr
			PM	0.287	lbs/1000 lbs steam
			Opacity	2	%
			$VOC_{propane}$	0.171	lbs/hr
			$VOC_{propane}$	0.0067	lbs/1000 lbs steam
	7-16-2002 w/veneer dryer exhaust gases	26,150 lbs steam/hr (corrected from 17,430 lbs steam/hr)	CO	2.2	lbs/hr
			CO	0.084	lbs/1000 lbs steam
			NO_x	8.9	lbs/hr
			NO_x	0.340	lbs/1000 lbs steam
			$VOC_{propane}$	5.69	lbs/hr
			$VOC_{propane}$	0.218	lbs/1000 lbs steam
	8-6-1993	23,000 lbs steam/hr (corrected from 15,330 lbs steam/hr)	$VOC_{propane}$	5.2	lbs/hr
			$VOC_{propane}$	0.226	lbs/1000 lbs steam
	3-9-1993	30,000 lbs steam/hr (corrected from 20,000 lbs steam/hr)	PM	0.144	gr/dscf @12% CO_2
			PM	21.1	lbs/hr
			PM	0.703	lbs/1000 lbs steam
			Opacity	10	%
			CO	15.9	lbs/hr
			CO	0.53	lbs/1000 lbs steam
			NO_x	12.85	lbs/hr
			NO_x	0.428	lbs/1000 lbs steam
	6-22-1989	11,000 lbs steam/hr	PM	0.059	gr/dscf @12% CO_2
			PM	3.8	lbs/hr
			PM	0.353	lbs/1000 lbs steam
			Opacity	Not Reported	%
EU-01 **Boiler #3**	9-13-2017	19,200 lbs steam/hr	PM	0.036	gr/dscf @12% CO_2
			PM	2.42	lbs/hr
			PM	0.126	lbs/1000 lbs steam
			Opacity	5	%
			CO	0.57	lbs/hr

Emission Unit	Source Test Date	Production Rate	Pollutant	Emission Rate	
EU-01 **Boiler #3**			CO	0.030	lbs/1000 lbs steam
			NO_x	6.22	lbs/hr
			NO_x	0.324	lbs/1000 lbs steam
	2-5-2003 w/veneer dryer exhaust gases	25,350 lbs steam/hr (corrected from 16,900 lbs steam/hr)	PM	0.042	gr/dscf @12% CO_2
			PM	4.7	lbs/hr
			PM	0.185	lbs/1000 lbs steam
			Opacity	3	%
			$VOC_{propane}$	0.0	lbs/hr
			$VOC_{propane}$	0.0	lbs/1000 lbs steam
	7-17-2002 w/veneer dryer exhaust gases	27,000 lbs steam/hr (corrected from 18,000 lbs steam/hr)	CO	0.75	lbs/hr
			CO	0.028	lbs/1000 lbs steam
			NO_x	8.8	lbs/hr
			NO_x	0.326	lbs/1000 lbs steam
			$VOC_{propane}$	3.54	lbs/hr
			$VOC_{propane}$	0.131	lbs/1000 lbs steam
	8-5-1993	26,660 lbs steam/hr (corrected from 17,770 lbs steam/hr)	PM	0.041	gr/dscf @12% CO_2
			PM	5.9	lbs/hr
			PM	0.221	lbs/1000 lbs steam
			Opacity	Not conducted	%
			CO	0.57	lbs/hr
			CO	0.030	lbs/1000 lbs steam
			NO_x	6.22	lbs/hr
			NO_x	0.324	lbs/1000 lbs steam
	3-10-1993	33,000 lbs steam/hr (corrected from 22,000 lbs steam/hr)	PM	0.274	gr/dscf @12% CO_2
			PM	36.0	lbs/hr
			PM	1.09	lbs/1000 lbs steam
			Opacity	22	%
			CO	53.7	lbs/hr
			CO	0.53	lbs/1000 lbs steam
			NO_x	11.1	lbs/hr
			NO_x	0.428	lbs/1000 lbs steam
	6-23-1989	14,670 lbs steam/hr	PM	0.029	gr/dscf @12% CO_2
			PM	1.4	lbs/hr
			PM	0.095	lbs/1000 lbs steam
			Opacity	Not Reported	%

33. Source test results for HAPs are summarized below:

Emission Unit	Source Test Date	Production Rate	Pollutant	Emission Rate	
EU-01 **Boiler #1**	7-21 & 7-22, 2009 EPA ICR Hg & Metals	12,570 lbs steam/hr	Mercury	BDL [<1.6x10^{-6}]	lbs/MMBtu
			Antimony	3.8x10^{-6}	lbs/MMBtu
			Arsenic	2.8x10^{-5}	lbs/MMBtu
			Beryllium	BDL [<2.4x10^{-8}]	lbs/MMBtu
			Cadmium	4.8x10^{-6}	lbs/MMBtu
			Chromium	1.3x10^{-5}	lbs/MMBtu
			Cobalt	6.9x10^{-7}	lbs/MMBtu
			Lead	3.6x10^{-5}	lbs/MMBtu
			Manganese	4.5x10^{-4}	lbs/MMBtu
			Nickel	3.0x10^{-6}	lbs/MMBtu
			Phosphorus	BDL [<1.6x10^{-3}]	lbs/MMBtu
			Selenium	BDL [<1.8x10^{-5}]	lbs/MMBtu
	7-21, 2009 EPA ICR HCl & HF	13,880 lbs steam/hr	HCl	0.19	lbs/hr
			HCl	5.6x10^{-3}	lbs/MMBtu
			HF	0.0033	lbs/hr
			HF	9.5x10^{-5}	lbs/MMBtu
	7-23 & 24, 2009 EPA ICR Dioxins & Furans	9,3000 lbs steam/hr & 11,700 dscf/min	Dioxins	0.0838	ng/dscm@7%O_2
			Dioxins	5.62x10^{-14}	lbs/dscf@7%O_2
			Dioxins	3.95x10^{-8}	lbs/hr
			Furans	0.1161	ng/dscm@7%O_2
			Furans	7.79x10^{-14}	lbs/dscf@7%O_2
			Furans	5.47x10^{-8}	lbs/hr
	7-21 to 7-24, 2009 EPA ICR	9,200 lbs steam/hr	Formaldehyde	0.038	lbs/hr
			Formaldehyde	0.0041	lbs/1000 lbs steam
	7-18-2002 w/veneer dryer exhaust gases	27,200 lbs steam/hr (corrected from 18,130 lbs steam/hr)	Formaldehyde	<0.017	lbs/hr
			Formaldehyde	<6.3x10^{-4}	lbs/1000 lbs steam
			Methanol	0.18	lbs/hr
			Methanol	6.6x10^{-3}	lbs/1000 lbs steam
EU-01 **Boiler #2**	12-12-2006 PCWP MACT Compliance	18,100 lbs steam/hr 10.9 MSF 3/8” *Worst-case grate-raking prod. rates (12,000 lbs steam/hr & 11.2 MSF 3/8”)	Acetaldehyde*	0.18	lbs/hr*
			Acetaldehyde*	0.016	lbs/MSF3/8”*
			Acetaldehyde*	0.015	lbs/1000 lbs steam*
			Acrolein	Below MRL	lbs/hr
			Acrolein	Below MRL	lbs/MSF3/8”
			Acrolein	Below MRL	lbs/1000 lbs steam
			Formaldehyde	0.10	lbs/hr
			Formaldehyde	0.0092	lbs/MSF3/8”
			Formaldehyde	0.0055	lbs/1000 lbs steam
			Phenol	Below MRL	lbs/hr
			Phenol	Below MRL	lbs/MSF3/8”
			Phenol	Below MRL	lbs/1000 lbs steam
			Benzene*	0.026	lbs/hr*
			Benzene*	0.0023	lbs/MSF3/8”*
			Benzene*	0.0022	lbs/1000 lbs steam*

Emission Unit	Source Test Date	Production Rate	Pollutant	Emission Rate	
EU-01 **Boiler #2**	7-31 & 8-1, 2006 Boiler MACT Subpart 5D	18,950 lbs steam/hr	Arsenic	$4.1x10^{-4}$	lbs/hr
			Arsenic	$2.2x10^{-5}$	lbs/1000 lbs steam
			Beryllium	Below MRL,$<2.6x10^{-6}$	lbs/hr
			Beryllium	Below MRL	lbs/1000 lbs steam
			Cadmium	$9.7x10^{-5}$	lbs/hr
			Cadmium	$5.1x10^{-6}$	lbs/1000 lbs steam
			Chromium	$6.2x10^{-4}$	lbs/hr
			Chromium	$3.3x10^{-5}$	lbs/1000 lbs steam
			Lead	$2.0x10^{-3}$	lbs/hr
			Lead	$1.1x10^{-4}$	lbs/1000 lbs steam
			Manganese	$6.4x10^{-3}$	lbs/hr
			Manganese	$3.4x10^{-4}$	lbs/1000 lbs steam
			Nickel	$1.2x10^{-4}$	lbs/hr
			Nickel	$6.3x10^{-6}$	lbs/1000 lbs steam
			Selenium	Below MRL,$<1.3x10^{-4}$	lbs/hr
			Selenium	Below MRL	lbs/1000 lbs steam
	2-5-2003 w/veneer dryer exhaust gases	25,400 lbs steam/hr (corrected from 16,930 lbs steam/hr)	Formaldehyde	<0.024	lbs/hr
			Formaldehyde	$<9.4x10^{-4}$	lbs/1000 lbs steam
			Methanol	<0.051	lbs/hr
			Methanol	<0.002	lbs/1000 lbs steam
	7-18-2002 w/veneer dryer exhaust gases	26,150 lbs steam/hr (corrected from 17,430 lbs steam/hr)	Formaldehyde	<0.003	lbs/hr
			Formaldehyde	$<1.1x10^{-4}$	lbs/1000 lbs steam
			Methanol	<0.008	lbs/hr
			Methanol	$<3.1x10^{-4}$	lbs/1000 lbs steam
EU-01 **Boiler #3**	2-4-2003 w/veneer dryer exhaust gases	25,350 lbs steam/hr (corrected from 16,900 lbs steam/hr)	Formaldehyde	<0.026	lbs/hr
			Formaldehyde	$<1.0x10^{-3}$	lbs/1000 lbs steam
			Methanol	<0.063	lbs/hr
			Methanol	<0.0025	lbs/1000 lbs steam
	7-18-2002 w/veneer dryer exhaust gases	27,000 lbs steam/hr (corrected from 18,000 lbs steam/hr)	Formaldehyde	<0.053	lbs/hr
			Formaldehyde	$<2.0x10^{-3}$	lbs/1000 lbs steam
			Methanol	0.32	lbs/hr
			Methanol	0.012	lbs/1000 lbs steam

PUBLIC NOTICE

34. Pursuant to LRAPA 34-0180 and OAR 340-218-0210, this draft Title V Permit was on public notice from January 31, 2020 to March 6, 2020. No written comments were submitted during the 35-day comment period. No public hearing was requested by 10 or more individuals or one person representing a group of 10 or more individuals. After the comment period, this proposed permit was sent to EPA for a 45-day review period on March 10, 2020. LRAPA requested and EPA agreed to an expedited review of 5 days as there were no substantive or adverse comments during the comment period.

If the EPA does not object in writing, any person may petition the EPA within 60 days after the expiration of EPA's 45-day review period to make such objection. Any such petition must be based only on

objections to the permit that were raised with reasonable specificity during the public comment period provided for in OAR-340-218-0210, unless the petitioner demonstrates that it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period.

EPA REVIEW

35. The proposed permit was sent to EPA for a 45-day review period on March 10, 2020. LRAPA requested an expedited review of five days as there were no substantive or adverse comments during the public notice comment period, and EPA agreed. In any event, the public will have 105 days (45-day EPA review period plus 60 days) from the date the proposed permit was sent to EPA to appeal the permit with EPA.

KEC/cmw
3/11/2020

REGULATED POLLUTANT EMISSION FACTORS DETAIL SHEET:

Emission Factors (EF)				
Emission Unit: EU ID	**Pollutant**	**Emission Factor**	**EF Units**	**EF Source/Reference**
EU-01: 3 Wood-fired Boilers (#1, #2, & #3 w/Multiclones)	PM	0.316	lb/Mlb Steam	Avg. of all Rosboro Representative PM Source Tests (1989-2017)
	PM_{10}	0.300	lb/Mlb Steam	Avg PM EF from Rosb Source Tests*(0.95):DEQ AQ-EF03 8/11 PM_{10} Fraction
	$PM_{2.5}$	0.253	lb/Mlb Steam	Avg PM EF from Rosb Source Tests*(0.80):DEQ AQ-EF03 8/11 $PM_{2.5}$ Fraction
	NOx	0.528	lb/Mlb Steam	2013 Title V Permit
	SO_2	0.014	lb/Mlb Steam	DEQ AQGP-010, Section 13.1.a: Dutch Oven Emission Factors (10/2017)
	CO	0.8	lb/Mlb Steam	2013 Title V Permit
	VOC (as propane)	0.190	lb/Mlb Steam	2013 Title V Permit
	Single HAP-MeOH	0.00226	lb/Mlb Steam	July 2002 Rosboro Source Test
	Total HAP	0.0353	lb/Mlb Steam	Updated Aggreagate of EF of EU-01 Boiler HAP Efs
EU-02: Plantside Fugitives	PM	0.2500	Lb/BDT	LRAPA est. - Title V permit review report.
	PM10	0.2500	Lb/BDT	LRAPA est. - Title V permit review report.
	PM2.5	0.1250	Lb/BDT	LRAPA est. - Title V permit review report.
EU-03: Cyclones	PM	0.500	lb/BDT	DEQ AQ-EF02, Emission Factors (08/2011)
	PM10	0.425	lb/BDT	DEQ AQ-EF03, Emission Factors (08/2011):PM*85%
	PM2.5	0.250	lb/BDT	DEQ AQ-EF03, Emission Factors (08/2011):PM*50%
EU-03: Target Boxes	PM	0.1	lb/BDT	DEQ AQ-EF02, Emission Factors (08/2011)
	PM10	0.085	lb/BDT	DEQ AQ-EF03, Emission Factors (08/2011):PM*85%
	PM2.5	0.050	lb/BDT	DEQ AQ-EF03, Emission Factors (08/2011):PM*50%
EU-04: Baghouse #18	PM	0.04	lb/BDT Sanderdust	DEQ AQ-EF02, Emission Factors (08/2011)
	PM10	0.04	lb/BDT Sanderdust	DEQ AQ-EF03, Emission Factors (08/2011):PM*99.5%
	PM2.5	0.04	lb/BDT Sanderdust	DEQ AQ-EF03, Emission Factors (08/2011):PM*99%
EU-04: Baghouses #5 & 26	PM	0.001	lb/BDT	DEQ AQ-EF02, Emission Factors (08/2011)
	PM10	0.001	lb/BDT	DEQ AQ-EF03, Emission Factors (08/2011):PM*99.5%
	PM2.5	0.001	lb/BDT	DEQ AQ-EF03, Emission Factors (08/2011):PM*99%
EU-05: Lam Press Face Adhesive	VOC (by weight)	0.00106	lb/lb adhesive	2011 Caul Plate Test
	Single HAP-MeOH	0.00014	lb/lb Adhesive	2011 Caul Plate Test
	Total HAP	0.00017	lb/lb Adhesive	2011 Caul Plate Test
EU-05: Lam Finger Joint Adhesive	VOC (by weight)	0.01320	lb/lb adhesive	2002 Caul Plate Test
	Single HAP-MeOH	0.01312	lb/lb Adhesive	2002 Caul Plate Test
	Total HAP	0.01320	lb/lb Adhesive	2002 Caul Plate Test
EU-08: Dry Kilns (9) (A - I)	$PM/PM_{10}/PM_{2.5}$	0.02	lb/MBF Doug Fir	DEQ AQGP-010, Section 13.3: Steam-Heat Kilns (10/2017)
	$PM/PM_{10}/PM_{2.5}$	0.05	lb/MBF Hemlock	DEQ AQGP-010, Section 13.3: Steam-Heat Kilns (10/2017)
	VOC (as propane)	0.97	lb/MBF Doug Fir	Dec 2006 Rosboro OSU Small Scale Test
	VOC (as propane)	0.28	lb/MBF Hemlock	Dec 2006 Rosboro OSU Small Scale Test
	Single HAP-MeOH	0.069	lb/MBF Doug Fir	Dec 2006 Rosboro OSU Small Scale Test
	Total HAP	0.146	lb/MBF Doug Fir	Aggregate EF of EU-08 Dry Kiln Doug Fir HAPS EFs
	Single HAP-MeOH	0.0605	lb/MBF Hemlock	Dec 2006 Rosboro OSU Small Scale Test
	Total HAP	0.195	lb/MBF Hemlock	Aggregate EF of EU-08 Dry Kiln Hemlock HAPS EFs

HAP EMISSION FACTORS DETAIL SHEET:

HAP Emission Factors (EF)				
Emission Unit: EU ID	**Pollutant**	**Emission Factor**	**EF Units**	**EF Source/Reference**
EU-01: 3 Wood-fired Boilers (#1, #2, & #3 w/Multiclones)	Methanol	0.00226	lb/Mlb Steam	July 2002 Rosboro Source Test
	Formaldehyde	0.00265	lb/Mlb Steam	July 2002 Rosboro Source Test
	Acetaldehyde	0.00236	lb/Mlb Steam	Dec. 2006 Rosboro PCWP DDDD Compliance Source Test
	Propionaldehyde	0.00011	lb/Mlb Steam	AP-42 Table 1.6-3, converted to MLb Steam.
	Benzene	0.00027	lb/Mlb Steam	Dec. 2006 Rosboro PCWP DDDD Compliance Source Test
	Toluene	0.00170	lb/Mlb Steam	DEQ AQGP-010, 13.1 b
	Ethylbenzene	0.00006	lb/Mlb Steam	AP-42, 09/03 - converted to lb/MLb Steam
	HCl	0.01580	lb/Mlb Steam	July 2009 EPA CAA Info Request Source Test
	HF	0.00023	lb/Mlb Steam	July 2009 EPA CAA Info Request Source Test
	Dioxin & Furan	0.00000	lb/Mlb Steam	July 2009 EPA CAA Info Request Source Test
	Antimony	0.00001	lb/Mlb Steam	July 2009 EPA CAA Info Request Source Test
	Arsenic	0.00003	lb/Mlb Steam	July/Aug 2006 Rosboro Boiler MACT DDDDD Compliance Test
	Beryllium	0.00000	lb/Mlb Steam	July/Aug 2006 Rosboro Boiler MACT DDDDD Compliance Test
	Cadmium	0.00001	lb/Mlb Steam	July/Aug 2006 Rosboro Boiler MACT DDDDD Compliance Test
	Chromium	0.00002	lb/Mlb Steam	July/Aug 2006 Rosboro Boiler MACT DDDDD Compliance Test
	Cobalt	0.00000	lb/Mlb Steam	July 2009 EPA CAA Info Request Source Test
	Lead	0.00009	lb/Mlb Steam	July/Aug 2006 Rosboro Boiler MACT DDDDD Compliance Test
	Manganese	0.00058	lb/Mlb Steam	July/Aug 2006 Rosboro Boiler MACT DDDDD Compliance Test
	Nickel	0.00001	lb/Mlb Steam	July/Aug 2006 Rosboro Boiler MACT DDDDD Compliance Test
	Phosphorus	0.00185	lb/Mlb Steam	July 2009 EPA CAA Info Request Source Test
	Selenium	0.00004	lb/Mlb Steam	July/Aug 2006 Rosboro Boiler MACT DDDDD Compliance Test
	Mercury	0.00000	lb/Mlb Steam	July 2009 EPA CAA Info Request Source Test
	Total HAP	0.03530	lb/Mlb Steam	Aggregate EF of EU-01 Boiler HAPS EFs
EU-05: Spray Paint	Ethylbenzene	0.1	%	MSDS 2019
	Toluene	13	%	MSDS 2019
EU-05: Log Spray Paint: Tree Marking Paint	Hexane	10.0	%	MSDS 2019
	Toluene	12	%	MSDS 2019
EU-05: Lam Press Face Adhesive	Formaldehyde	0.00001	lb/lb Adhesive	2011 Caul Plate Test
	Methanol	0.00014	lb/lb Adhesive	2011 Caul Plate Test
	Phenol	0.00002	lb/lb Adhesive	2011 Caul Plate Test
EU-05: Lam Finger Joint Adhesive	Formaldehyde	0.00008	lb/lb Adhesive	2002 Caul Plate Test
	Methanol	0.01312	lb/lb Adhesive	2002 Caul Plate Test
EU-08: Dry Kilns (9) (A - I)	Acetaldehyde	0.057	lb/MBF Doug Fir	Dec 2006 Rosboro OSU Small Scale Test
		0.131	lb/MBF Hemlock	Dec 2006 Rosboro OSU Small Scale Test
	Formaldehyde	0.019	lb/MBF Doug Fir	Dec 2006 Rosboro OSU Small Scale Test
		0.0011	lb/MBF Hemlock	Dec 2006 Rosboro OSU Small Scale Test
	Methanol	0.069	lb/MBF Doug Fir	Dec 2006 Rosboro OSU Small Scale Test
		0.0605	lb/MBF Hemlock	Dec 2006 Rosboro OSU Small Scale Test
	Propionaldehyde	0.0006	lb/MBF Doug Fir	Dec 2006 Rosboro OSU Small Scale Test
		0.0009	lb/MBF Hemlock	Dec 2006 Rosboro OSU Small Scale Test
	Acrolein	0.0007	lb/MBF Doug Fir	Dec 2006 Rosboro OSU Small Scale Test
		0.0018	lb/MBF Hemlock	Dec 2006 Rosboro OSU Small Scale Test
	Total Kiln HAP	0.146	lb/MBF Doug Fir	Aggregate EF of EU-08 Dry Kiln Doug Fir HAPS EFs
		0.195	lb/MBF Hemlock	Aggregate EF of EU-08 Dry Kiln Hemlock HAPS EFs

C

PSEL/PTE EMISSION DETAIL SHEET:

Rosboro Company LLC, Springfield Facility - Plant Site Emission Limits (PSELs) / Potential to Emit (PTE) Regulated Pollutants Emissions Detail Sheet

Emission Unit/ Device	Maximum Throughput	Units	PM EF	Units	PM (TPY)	PM_{10} EF	Units	PM_{10} (TPY)	$PM_{2.5}$ EF	Units	$PM_{2.5}$ (TPY)
EU-01: Wood-fired Boilers (3 w/Multiclones)	685,000	MlbSteam/yr	0.316	lbs/Mlb Steam	**108.3**	0.300	lbs/Mlb Steam	**102.9**	0.253	lbs/Mlb Steam	**86.6**
EU-02: Plantsite Fugitives: Material Handling	464,707	BDT/year	0.250	lb/BDT	**58.1**	0.250	lb/BDT	**58.1**	0.125	lb/BDT	**29.0**
EU-03: Cyclones	22,322	BDT/year	0.500	lb/BDT	**5.6**	0.425	lb/BDT	**4.7**	0.250	lb/BDT	**2.8**
EU-03: Cyclone w/Target Box	15,558	BDT/year	0.100	lb/BDT	**0.8**	0.085	lb/BDT	**0.7**	0.050	lb/BDT	**0.4**
EU-04: Baghouse #18	3,995	BDT/year	0.040	lb/BDT Sanderdust	**0.1**	0.040	lb/BDT	**0.1**	0.040	lb/BDT	**0.1**
EU-04: Baghouses #5	25	BDT/year	0.001	lb/BDT	**0.0**	0.001	lb/BDT	**0.0**	0.001	lb/BDT	**0.0**
EU-04: Baghouses #26	2,000	BDT/year	0.001	lb/BDT Sanderdust	**0.0**	0.001	lb/BDT	**0.0**	0.001	lb/BDT	**0.0**
EU-08: Dry Kilns (9):A, B, C, D, E, F, G, H & I	287,000	MBF/year	0.020	lb/MBF Doug Fir	**2.9**	0.020	lb/MBF Doug Fir	**2.9**	0.020	lb/MBF Doug Fir	**2.9**
	45,000	MBF/year	0.050	lb/MBF Hemlock	**1.1**	0.050	lb/MBF Hemlock	**1.1**	0.050	lb/MBF Hemlock	**1.1**
EU-AI: Aggregate Insig					**1.0**			**0.3**			**0.3**
Total					**177.8**			**170.7**			**123.2**

Source	Maximum Throughput	Units	NOx EF	Units	NOx (TPY)	SO_2 EF	Units	SO_2 (TPY)	CO EF	Units	CO (TPY)	VOC EF	Units	VOC (TPY)
EU-01: 3 Wood-fired Boilers (#1, #2, & #3 w/Multiclones)	685,000	MlbSteam/yr	0.528	lbs/Mlb Steam	**180.8**	0.014	lbs/Mlb Steam	**4.8**	0.800	lbs/Mlb Steam	**274.0**	0.190	lb/Mlb	**65.1**
EU-05: Plantsite VOC	Material Balance	lb/lb solution or material	NA	NA	NA	NA	NA	NA	NA	NA	NA	Material Balance	lb/lb solution or material	**15.0**
EU-05: Lam Press Face Adhesive	3,000,000	Lb Adhesive/year	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	lb/lb adhesive	**1.59**
EU-05: Lam Finger Joint Adhesive	420,000	Lb Adhesive/year	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.013	lb/lb adhesive	**2.77**
EU-08: Dry Kilns (9):A, B, C, D, E, F, G, H & I	287,000	MBF/year D. Fir	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.97	lb/MBF DougFir	**139.2**
	45,000	MBF/year Hem.	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.28	lb/MBF Hem.	**6.3**
Total					**180.8**			**4.8**			**274.0**			**229.9**

Note: For all Emission Factor references see Emission Factor Detail Sheets

Pollutant	Baseline	Netting Basis	PSEL	Increase Over Netting Basis	Unassigned Emissions	SER
PM	243	244	178	-66	66	25
PM_{10}	243	244	171	-73	73	15
$PM_{2.5}$	NA	142	123	-19	19	10
CO	1,042	400	274	-126	126	100
NO_X	183	183	181	-2	2	40
SO_2	6	6	39	33	0	40
VOC	197	197	230	33	0	40
GHG	81,740	81,740	81740	0	NA	NA

BASELINE EMISSION RATES EMISSION DETAIL SHEET:

Rosboro Baseline Emission Rates (BERs)

Baseline Emission Rate (BER): 1978 Baseline Year*			Pollutant						
Emission Unit	Production/ Throughput	Units	PM	PM_{10}	$PM_{2.5}$	SO_2	NOx	CO	VOC
			tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr
Hogged Fuel Boilers (3)	694260	Mlbs Steam/1978	138.9	138.9	NA	4.9	183.3	1041.4	66.0
Cyclones	81571	BDT/1978	20.4	20.4	NA	NA	NA	NA	NA
Veneer Dryers (2) Steam-Htd	83,000	MSF 3/8"/1978	41.9	41.9	NA	0.0	0.0	0.0	12.5
Dry Kilns	37245	MBF/1978	NA	NA	NA	NA	NA	NA	18.0
Log Vats	82924	MSF 3/8"/1978	NA	NA	NA	NA	NA	NA	3.1
Plywood Press Vents	82157	MSF 3/8"/1978	NA	NA	NA	NA	NA	NA	3.2
Laminating Press	21934	MBF/1978	NA	NA	NA	NA	NA	NA	1.4
Ply Skinner Saws	82157	MSF 3/8"/1978	NA	NA	NA	NA	NA	NA	3.0
Ply Hog	82157	MSF 3/8"/1978	NA	NA	NA	NA	NA	NA	2.3
Plantwide VOC	Material Balance		NA	NA	NA	NA	NA	NA	87.8
Ag Insig (Baghouses&Unpaved Rds)			0.6	0.3	NA	NA	NA	NA	NA
Process Fugitives	330758	BDT/1978	41.3	41.3	NA	NA	NA	NA	NA
			243.1	242.8	NA	4.9	183.3	1041.4	197.3

*BER based on April 2000 TV Appl & April 2013 Permit Renewal Revisions (for NOx and VOC only)

Greenhouse Gas Baseline Emission Rate (BER): December 2009-November 2010 Baseline

Emission Unit	Production Data	Units	GHG	Emission Factor[1] (kg/MMBtu)	Conversion Factor (metric ton/kg)	Emissions (metric tons)	Emissions[2] (short tons)	Global Warming Potential	Emissions (CO_2e)
EU-01 Hogged Fuel Boilers (3)	780125	MMBtu/base yr	CO_2	93.8	0.001	73175.73	80662.3	1	80662.33
			CH_4	0.0072		5.62	6.2	25	154.79
			N_2O	0.0036		2.81	3.1	298	922.54
Total CO_2e (tons/yr)									**81740**

(1) Emissions factors are from 40 CFR 98, Tables C-1 and C-2

(2) Conversion to short tons (1.10231 short ton/metric ton)

Production Data Calculations:

				GHG Pollutant					
Hogged-Fuel Boilers	410,592,000	lbs steam/year	Dec. 2009 to Nov. 2010	GHG-Anthro		GHG-Anthro/Bio		Total Combustion GHGs	
	1900	Btu/lb steam							
	780125	MMBtu/base yr		1077	tons/yr	80662	tons/yr	81740	tons/yr

**Based on DEQ GHG Steam Calculator and Source Test derived B Ratio

SOURCE TESTS DETAIL SHEET:

BOILER SOURCE TEST SUMMARY

													Emission Factors - lb/MLb Steam				
Test Date	*Boiler Number*	*Sample Run #*	*Steam Rate Total Mlb/hr**	*# Boilers Operating*	*PM grains/scf*	*PM10 lb/hr*	*Total PM lb/hr*	*O2 %*	*CO lb/hr*	*NO x lb/hr*	*VOC lb/hr*	*Test By*	*PM lb/MLb Stm*	*PM10 lb/MLb Stm*	*CO lb/MLb Stm*	*NO x lb/MLb Stm*	*VOC lb/MLb Stm*
06/22/89	1	1	33	3	0.083	---	4.73	10.0	---	---	---	Am Test	0.437	---	---	---	---
06/22/89	1	2	33	3	0.064	---	3.59	10.1	---	---	---	Am Test	0.331	---	---	---	---
06/22/89	1	3	33	3	0.064	---	3.76	9.8	---	---	---	Am Test	0.347	---	---	---	---
06/22/89	2	1	33	3	0.065	---	4.32	11.5	---	---	---	Am Test	0.399	---	---	---	---
06/22/89	2	2	33	3	0.058	---	3.41	12.1	---	---	---	Am Test	0.315	---	---	---	---
06/22/89	2	3	33	3	0.055	---	3.74	11.1	---	---	---	Am Test	0.345	---	---	---	---
06/23/89	3	1	44	3	0.032	---	1.29	11.9	---	---	---	Am Test	0.088	---	---	---	---
06/23/89	3	3	44	3	0.027	---	1.50	9.3	---	---	---	Am Test	0.103	---	---	---	---
06/23/89	3	4	44	3	0.027	---	1.44	9.8	---	---	---	Am Test	0.098	---	---	---	---
03/09/93	2	1	60	2	0.204	20.0	28.2	12.5	13.1	---	---	BWR	0.940	0.667	0.437	---	---
03/09/93	2	2	60	2	0.124	13.0	20.8	10.3	21.5	13.7	---	BWR	0.693	0.433	0.717	0.457	---
03/09/93	2	3	60	2	0.104	9.1	14.3	11.0	13.1	12.0	---	BWR	0.477	0.303	0.437	0.400	---
03/10/93	3	1	66	2	0.341	33.7	45.3	10.3	89.2	11.2	---	BWR	1.373	1.021	2.703	0.339	---
03/10/93	3	2	66	2	0.190	13.6	26.1	9.7	52.7	10.9	---	BWR	0.791	0.412	1.597	0.330	---
03/10/93	3	3	66	2	0.290	24.2	36.50	10.4	19.3	11.2	---	BWR	1.106	0.733	0.585	0.339	---
08/05/93	3	1	53	2	0.065	---	5.80	13.3	4.1	10.0	3.6	BWR	0.218	---	0.154	0.375	0.135
08/05/93	3	2	53	2	0.069	---	6.70	12.8	25.5	9.3	3.8	BWR	0.251	---	0.956	0.349	0.143
08/05/93	3	3	53	2	0.057	---	5.10	12.4	16.5	8.9	3.6	BWR	0.191	---	0.619	0.334	0.135
08/06/93	2	1	46	2	---	---	---	12.2	---	---	3.1	BWR	---	---	---	---	0.135
08/06/93	2	2	46	2	---	---	---	13.0	---	---	5.7	BWR	---	---	---	---	0.248
08/06/93	2	3	46	2	---	---	---	13.3	---	---	6.7	BWR	---	---	---	---	0.291
07/18/02	1	1	54	2	---	---	---	9.9	---	---	Skewed	Horizon	---	---	---	---	---
07/18/02	1	2	53	2	0.021	---	2.00	9.6	5.9	7.8	Skewed	Horizon	0.076	---	0.224	0.296	---
07/18/02	1	3	54	2	0.018	---	1.80	9.5	1.1	8.4	Skewed	Horizon	0.067	---	0.041	0.311	---
07/18/02	1	4	58	2	0.022	---	2.20	8.8	11.3	8.1	Skewed	Horizon	0.076	---	0.392	0.281	---
07/16/02	2	1	51	2	---	---	---	10.3	0.9	9.5	Skewed	Horizon	---	---	0.037	0.376	---
07/16/02	2	2	51	2	---	---	---	10.1	2.0	8.7	Skewed	Horizon	---	---	0.078	0.340	---
07/16/02	2	3	55	2	---	---	---	9.7	3.7	8.4	Skewed	Horizon	---	---	0.134	0.304	---
07/17/02	3	1	52	2	---	---	---	8.7	0.5	8.6	Skewed	Horizon	---	---	0.019	0.330	---
07/17/02	3	2	54	2	---	---	---	---	---	---	Skewed	Horizon	---	---	---	---	---
07/17/02	3	3	51	2	---	---	---	9.5	0.1	8.3	Skewed	Horizon	---	---	0.002	0.323	---
07/17/02	3	5	59	2	---	---	---	7.8	1.7	9.6	Skewed	Horizon	---	---	0.058	0.328	---
02/05/03	2	1	51	2	0.058	---	7.10	10.0	---	---	0.0	Horizon	0.277	---	---	---	0.000
02/05/03	2	2	52	2	0.065	---	7.40	10.1	---	---	0.3	Horizon	0.285	---	---	---	0.010
02/05/03	2	3	49	2	0.059	---	7.40	10.1	---	---	0.2	Horizon	0.301	---	---	---	0.007
02/04/03	3	1	50	2	0.049	---	5.70	10.4	---	---	0.0	Horizon	0.226	---	---	---	0.000
02/04/03	3	2	49	2	0.039	---	4.20	10.2	---	---	0.0	Horizon	0.172	---	---	---	0.000
02/04/03	3	3	53	2	0.037	---	4.10	10.2	---	---	0.0	Horizon	0.155	---	---	---	0.000
03/10/06	1	1	---	3	---	---	---	11.8	---	---	6.4	Horizon	---	---	---	---	---
03/10/06	2	2	---	3	---	---	---	11.7	---	---	6.2	Horizon	---	---	---	---	---
03/10/06	3	3	---	3	---	---	---	12.1	---	---	7.4	Horizon	---	---	---	---	---
09/13/17	1	1	---	2	0.018	---	1.75	10.9	2.3	4.1	---	Montrose	0.109	---	0.142	0.258	---
09/13/17	1	2	---	2	0.030	---	2.88	10.6	4.5	4.3	---	Montrose	0.128	---	0.199	0.191	---
09/13/17	1	3	---	2	0.036	---	3.12	11.0	4.8	6.2	---	Montrose	0.140	---	0.215	0.278	---
09/12/17	2	1	---	2	0.025	---	2.12	13.4	0.3	5.6	---	Montrose	0.154	---	0.020	0.409	---
09/12/17	2	2	---	2	0.044	---	3.62	12.2	2.5	6.6	---	Montrose	0.215	---	0.147	0.393	---
09/12/17	2	3	---	2	0.031	---	2.36	13.2	0.2	5.9	---	Montrose	0.118	---	0.009	0.298	---
09/13/17	3	1	---	2	0.038	---	2.42	12.9	0.5	4.5	---	Montrose	0.132	---	0.026	0.242	---
09/13/17	3	2	---	2	0.036	---	2.02	12.9	0.7	6.7	---	Montrose	0.101	---	0.034	0.335	---
09/13/17	3	3	---	2	0.036	---	2.81	11.4	0.6	7.5	---	Montrose	0.146	---	0.029	0.391	---
					Corrected to 12% O_2					***Ave, 2017 Only:***			***0.138***		***0.091***	***0.311***	
									Total Ave, all representative source tests:				***0.316***		***0.371***	***0.331***	***0.181***

HAP PSEL/PTE EMISSIONS DETAIL SHEET (Page 1 of 2):

Facility:	Rosboro LLC, Springfield Facility						Page 1 of 2
Hazardous Air Pollutants: Potential to Emit		Using weighted average for boiler emission factors.					
	Emissions Unit ID	Annual Production/Process Rates		Emissions Factor			Emissions
Pollutant	or Activity	Rate	Units	Rate	Units	Reference	(tons/yr)
Methanol	EU-01, Boilers	685,000	M Lb steam/yr	0.00226	Lb/MLb Steam	Rosboro source test, Feb. 2003	0.774
	EU-05, Lam Press - Face Adhesive	3,000,000	Lb Adhesive/yr	0.00014	lb/lb adhesive	Rosboro 2011 caul plate tests	0.213
	EU-05, Lam Press - Finger Joint Adhesive	420,000	Lb Adhesive/yr	0.01312	lb/lb adhesive	Vaughn facility 2002 caul plate tests	2.755
	EU-08, Lumber Kilns - Doug. Fir	287,000	MBF/yr	0.06850	Lb/MBF D.F.	OSU small scale test, Rosboro 12/06 (ave D-F).	9.830
	EU-08, Lumber Kilns Hemlock	45,000	MBF/yr	0.06050	Lb/MBF	OSU small scale test, Rosboro 12/06 (ave hem).	1.361
Total Methanol							**14.9**
Formaldehyde	EU-01, Boilers	685,000	M Lb steam/yr	0.00265	Lb/MLb Steam	Rosboro srce test ave-'03, '06 & '09 EPA ICR	0.908
	EU-05, Lam Press - Face Adhesive	3,000,000	Lb Adhesive/yr	0.00001	lb/lb	Rosboro 2011 caul plate tests	0.014
	EU-05, Lam Press - Finger Joint Adhesive	420,000	Lb Adhesive/yr	0.00008	lb/lb	Rosboro Vaughn, 2002 caul plate tests	0.017
	EU-08, Lumber Kilns - D-F	287,000	MBF/yr	0.00185	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.265
	EU-08, Lumber Kilns Hem	45,000	MBF/yr	0.00110	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.025
Total Formaldehyde							**1.2**
Acetaldehyde	EU-01, Boilers	685,000	M Lb steam/yr	0.00236	Lb/MLb Steam	Rosboro source test, Dec '06 avg.	0.808
	EU-08, Lumber Kilns - D-F	287,000	MBF/yr	0.05700	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	8.180
	EU-08, Lumber Kilns Hem	45,000	MBF/yr	0.13050	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	2.936
Total Acetaldehyde							**11.9**
Acrolein	EU-01, Boilers	685,000	M Lb steam/yr	0.0060	Lb/MLb Steam	DEQ AQGP-010, 13.1 b	2.055
	EU-08, Lumber Kilns - D-F	287,000	MBF/yr	0.00065	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.093
	EU-08, Lumber Kilns Hem	45,000	MBF/yr	0.00175	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.039
Total Acrolein							**2.2**
Phenol*	EU-05, Lam Press - Face Adhesive	3,000,000	lbs/yr	0.00002	lb/lb	Rosboro 2011 caul plate tests	0.024
	EU-08, Lumber Kilns - D-F	287,000	MBF/yr	0.01000	Lb/MBF	Table 2A, App B to Subpart DDDD 40 CFR 63.	1.435
	EU-08, Lumber Kilns Hem	45,000	MBF/yr	0.01000	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.225
Total Phenol							**1.7**
Propionaldehyde	EU-01, Boilers	685,000	M Lb steam/yr	0.00011	Lb/MLb Steam	AP-42 Table 1.6-3, converted to MLb Steam.	0.038
	EU-08, Lumber Kilns - D-F	287,000	MBF/yr	0.00055	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.079
	EU-08, Lumber Kilns Hem	45,000	MBF/yr	0.00090	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.020
Total Proprionaldehyde							**0.14**
***Dec.2006 Boiler Phenol test was BDL - per 9/22/17 EPA PCWP ICR Memo (p. 5, §1) not included in PTE calcs.**							

HAP PSEL/PTE EMISSIONS DETAIL SHEET (Page 2 of 2):

Facility:	Rosboro LLC, Springfield Facility						Page 2 of 2
Hazardous Air Pollutants: Potential to Emit		Using weighted average for boiler emission factors.					
	Emissions Unit ID	Annual Production/Process Rates		Emissions Factor			Emissions
Pollutant	or Activity	Rate	Units	Rate	Units	Reference	(tons/yr)
Benzene	EU-01, Boilers	685,000	M Lb steam/yr	0.00027	Lb/MLb Steam	Rosboro source test 12/06, ave	0.092
Total Benzene							**0.1**
Toluene	EU-01, Boilers	685,000	M Lb steam/yr	0.00138	Lb/MLb Steam	DEQ AQGP-010, 13.1 b	0.473
	EU-05, Spray Paint	2	ton/yr	10	%	SDS - Krylon NOW, est maximum, varies by color.	0.192
	EU-05, Log Spray Paint	2	ton/yr	0	%	SDS - Tree Marking Paint	0.000
Total Toluene							**0.7**
Ethylbenzene	EU-01, Boilers	685,000	M Lb steam/yr	0.00006	Lb/MLb Steam	AP-42, 09/03 - converted to lb/MLb Steam	0.021
	EU-05, Spray Paint	2	ton/yr	0.1	%	SDS - Krylon NOW, not listed	0.002
Total Ethylbenzene							**0.022**
Hexane	EU-05, Log Spray Paint	2	ton/yr	13	%	SDS - Tree Marking Paint	0.323
Xylene	EU-05, Log Spray Paint	2	ton/yr	0	%	SDS - Tree Marking Paint	0.000
Naphthalene	EU-01, Boilers	685,000	M Lb steam/yr	1.46E-04	Lb/MLb Steam	DEQ AQGP-010, 13.1 b	0.050
Styrene	EU-01, Boilers	685,000	M Lb steam/yr	1.40E-03	Lb/MLb Steam	DEQ AQGP-010, 13.1 b	0.480
HCl	EU-01, Boilers	685,000	M Lb steam/yr	1.58E-02	Lb/MLb Steam	Rosboro source test - 07/09 EPA ICR	5.412
HF	EU-01, Boilers	685,000	M Lb steam/yr	2.32E-04	Lb/MLb Steam	Rosboro source test - 07/09 EPA ICR	0.079
Dioxin & Furan	EU-01, Boilers	685,000	M Lb steam/yr	9.63E-09	Lb/MLb Steam	07/09 EPA ICR weighted ave	0.000
Antimony	EU-01, Boilers	685,000	M Lb steam/yr	6.31E-06	Lb/MLb Steam	07/09 EPA ICR weighted ave	0.002
Arsenic	EU-01, Boilers	685,000	M Lb steam/yr	2.52E-05	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.009
Beryllium	EU-01, Boilers	685,000	M Lb steam/yr	8.86E-08	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.000
Cadmium	EU-01, Boilers	685,000	M Lb steam/yr	6.80E-06	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.002
Chromium	EU-01, Boilers	685,000	M Lb steam/yr	2.26E-05	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.008
Cobalt	EU-01, Boilers	685,000	M Lb steam/yr	7.76E-07	Lb/MLb Steam	07/09 EPA ICR weighted ave	0.000
Lead	EU-01, Boilers	685,000	M Lb steam/yr	8.61E-05	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.029
Manganese	EU-01, Boilers	685,000	M Lb steam/yr	5.81E-04	Lb/MLb Steam	07/09 EPA ICR weighted ave	0.199
Nickel	EU-01, Boilers	685,000	M Lb steam/yr	5.21E-06	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.002
Phosphorus	EU-01, Boilers	685,000	M Lb steam/yr	1.85E-03	Lb/MLb Steam	07/09 EPA ICR weighted ave	0.633
Selenium	EU-01, Boilers	685,000	M Lb steam/yr	3.94E-05	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.014
Mercury	EU-01, Boilers	685,000	M Lb steam/yr	3.44E-06	Lb/MLb Steam	07/09 EPA ICR weighted ave	0.001
						Grand Total	**40.1**

2018 ACTUAL HAP EMISSIONS DETAIL SHEET (Page 1 of 2):

Facility:	Rosboro LLC, Springfield Facility						Page 1 of 2
Hazardous Air Pollutants: 2018 Actual HAP Emissions		Using weighted average for boiler emission factors.					
	Emissions Unit ID	Annual Production/Process Rates		Emissions Factor			Emissions
Pollutant	or Activity	Rate	Units	Rate	Units	Reference	(tons/yr)
Methanol	EU-01, Boilers	268,362	M Lb steam/yr	0.00226	Lb/MLb Steam	Rosboro source test, Feb. 2003	0.303
	EU-05B, Lam Press - Face Adhesive	1,445,906	Lb Adhesive/yr	0.00014	lb/lb adhesive	Rosboro 2011 caul plate tests	0.103
	EU-05B, Lam Press - Finger Joint Adhesive	151,074	Lb Adhesive/yr	0.01290	lb/lb adhesive	Vaughn facility 2002 caul plate tests	0.974
	EU-08, Lumber Kilns - Doug. Fir	123,367	MBF/yr	0.06850	Lb/MBF D.F.	OSU small scale test, Rosboro 12/06 (ave D-F).	4.225
	EU-08, Lumber Kilns Hemlock	17,338	MBF/yr	0.06050	Lb/MBF	OSU small scale test, Rosboro 12/06 (ave hem).	0.524
Total Methanol							**6.1**
Formaldehyde	EU-01, Boilers	268,362	M Lb steam/yr	0.00265	Lb/MLb Steam	Rosboro srce test ave-'03, '06 & '09 EPA ICR	0.356
	EU-05B, Lam Press - Face Resin	1,445,906	Lb Adhesive/yr	0.00001	lb/lb	Rosboro 2011 caul plate tests	0.007
	EU-05B, Lam Press - Finger Joint Resin	151,074	Lb Adhesive/yr	0.00008	lb/lb	Rosboro Vaughn, 2002 caul plate tests	0.006
	EU-08, Lumber Kilns - D-F	123,367	MBF/yr	0.00185	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.114
	EU-08, Lumber Kilns Hem	17,338	MBF/yr	0.00110	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.010
Total Formaldehyde							**0.5**
Acetaldehyde	EU-01, Boilers	268,362	M Lb steam/yr	0.00236	Lb/MLb Steam	Rosboro source test, Dec '06 avg.	0.317
	EU-08, Lumber Kilns - D-F	123,367	MBF/yr	0.05700	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	3.516
	EU-08, Lumber Kilns Hem	17,338	MBF/yr	0.13050	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	1.131
Total Acetaldehyde							**5.0**
Acrolein	EU-01, Boilers	268,362	M Lb steam/yr	0.0060	Lb/MLb Steam	DEQ AQGP-010, 13.1 b	0.805
	EU-08, Lumber Kilns - D-F	123,367	MBF/yr	0.00065	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.040
	EU-08, Lumber Kilns Hem	17,338	MBF/yr	0.00175	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.015
Total Acrolein							**0.86**
Phenol	EU-05B, Lam Press - Face Resin	1,445,906	lbs/yr	0.00002	lb/lb	Rosboro 2011 caul plate tests	0.011
	EU-08, Lumber Kilns - D-F	123,367	MBF/yr	0.01000	Lb/MBF	Table 2A, App B to Subpart DDDD 40 CFR 63.	0.617
	EU-08, Lumber Kilns Hem	17,338	MBF/yr	0.01000	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.087
Total Phenol							**0.71**
Propionaldehyde	EU-01, Boilers	268,362	M Lb steam/yr	0.00011	Lb/MLb Steam	AP-42 Table 1.6-3, converted to MLb Steam.	0.015
	EU-08, Lumber Kilns - D-F	123,367	MBF/yr	0.00055	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.034
	EU-08, Lumber Kilns Hem	17,338	MBF/yr	0.00090	Lb/MBF	Rosboro - OSU small scale test, 12/06, average	0.008
Total Proprionaldehyde							**0.06**

2018 ACTUAL HAP EMISSIONS DETAIL SHEET (Page 2 of 2):

Facility:	Rosboro LLC, Springfield Facility						Page 2 of 2
Hazardous Air Pollutants: 2018 Actual HAP Emissions		Using weighted average for boiler emission factors.					
	Emissions Unit ID	Annual Production/Process Rates		Emissions Factor			Emissions
Pollutant	or Activity	Rate	Units	Rate	Units	Reference	(tons/yr)
Benzene	EU-01, Boilers	268,362	M Lb steam/yr	0.00027	Lb/MLb Steam	Rosboro source test 12/06, ave	0.036
Total Benzene							**0.0**
Toluene	EU-01, Boilers	268,362	M Lb steam/yr	0.00138	Lb/MLb Steam	DEQ AQGP-010, 13.1 b	0.185
	EU-05A, Spray Paint	1.16	ton/yr	10	%	SDS - Krylon NOW, est maximum, varies by color.	0.116
	EU-05A, Log Spray Paint	1.59	ton/yr	0	%	SDS - Tree Marking Paint	0.000
Total Toluene							**0.30**
Ethylbenzene	EU-01, Boilers	268,362	M Lb steam/yr	0.00006	Lb/MLb Steam	AP-42, 09/03 - converted to lb/MLb Steam	0.008
	EU-05A, Spray Paint	1.16	ton/yr	0.1	%	SDS - Krylon NOW, not listed	0.001
Total Ethylbenzene							**0.009**
Hexane	EU-05A, Log Spray Paint	1.59	ton/yr	13	%	SDS - Tree Marking Paint	0.207
Xylene	EU-05A, Log Spray Paint	1.59	ton/yr	12	%	SDS - Tree Marking Paint	0.191
Naphthalene	EU-01, Boilers	268,362	M Lb steam/yr	1.46E-04	Lb/MLb Steam	DEQ AQGP-010, 13.1 b	0.020
Styrene	EU-01, Boilers	268,362	M Lb steam/yr	1.40E-03	Lb/MLb Steam	DEQ AQGP-010, 13.1 b	0.188
HCl	EU-01, Boilers	268,362	M Lb steam/yr	1.58E-02	Lb/MLb Steam	Rosboro source test - 07/09 EPA ICR	2.120
HF	EU-01, Boilers	268,362	M Lb steam/yr	2.32E-04	Lb/MLb Steam	Rosboro source test - 07/09 EPA ICR	0.031
Dioxin & Furan	EU-01, Boilers	268,362	M Lb steam/yr	9.63E-09	Lb/MLb Steam	07/09 EPA ICR weighted ave	0.000
Antimony	EU-01, Boilers	268,362	M Lb steam/yr	6.31E-06	Lb/MLb Steam	07/09 EPA ICR weighted ave	0.001
Arsenic	EU-01, Boilers	268,362	M Lb steam/yr	2.52E-05	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.003
Beryllium	EU-01, Boilers	268,362	M Lb steam/yr	8.86E-08	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.000
Cadmium	EU-01, Boilers	268,362	M Lb steam/yr	6.80E-06	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.001
Chromium	EU-01, Boilers	268,362	M Lb steam/yr	2.26E-05	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.003
Cobalt	EU-01, Boilers	268,362	M Lb steam/yr	7.76E-07	Lb/MLb Steam	07/09 EPA ICR weighted ave	0.000
Lead	EU-01, Boilers	268,362	M Lb steam/yr	8.61E-05	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.012
Manganese	EU-01, Boilers	268,362	M Lb steam/yr	5.81E-04	Lb/MLb Steam	07/09 EPA ICR weighted ave	0.078
Nickel	EU-01, Boilers	268,362	M Lb steam/yr	5.21E-06	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.001
Phosphorus	EU-01, Boilers	268,362	M Lb steam/yr	1.85E-03	Lb/MLb Steam	07/09 EPA ICR weighted ave	0.248
Selenium	EU-01, Boilers	268,362	M Lb steam/yr	3.94E-05	Lb/MLb Steam	07/09 ICR & 07/06 source test, weighted ave	0.005
Mercury	EU-01, Boilers	268,362	M Lb steam/yr	3.44E-06	Lb/MLb Steam	07/09 EPA ICR weighted ave	0.000
						Grand Total	**16.7**