LANE REGIONAL AIR PROTECTION AGENCY (LRAPA)
TITLE V OPERATING PERMIT REVIEW REPORT

Jasper Wood Products, LLC **Source No. 206117**
37385 Jasper-Lowell Road
Jasper, Oregon 97438
Website: http://www.jasper-wood-products.com/

Source Information:

SIC	2436
NAICS	321212

Source Category (Title 37, Table 1: Part and code)	B.57: Plywood manufacturing and/or veneer drying
Public Notice Category	III

Compliance and Emissions Monitoring Requirements:

Unassigned emissions	NA
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)	March 15
Emission fee report (due date)	March 15
SACC (due date)	July 30
Quarterly report (due dates)	NA

Monthly report (due dates)	NA
Excess emissions report	Immediately
Other reports	Semi-annual
GHG	March 31

Air Programs

NSPS (list subparts)	Dc
NESHAP (list subparts)	A, DDDD, EEEE, FFFF, JJJJJJ
CAM	NA
Regional Haze (RH)	NA
Synthetic Minor (SM)	NA
Part 68 Risk Management	NA
Title V	Yes

ACDP (SIP)	Yes
Major HAP source	No- currently
Federal major source	NA
New Source Review (NSR)	NA
Prevention of Significant Deterioration (PSD)	NA
Acid Rain	NA
Clean Air Mercury Rule (CAMR)	NA

LANE REGIONAL AIR PROTECTION AGENCY
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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
Btu	British thermal unit
CAM	Compliance Assurance Monitoring
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
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
Hr	Hour
ID	Identification number or label
I&M	Inspection and maintenance
Lb	Pound
LRAPA	Lane Regional Air Protection Agency
MACT	Maximum Achievable Control Technology
MM	Million
MMBtu	Million British thermal units
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
OPR	Operation
ORS	Oregon Revised Statutes
O&M	Operation and maintenance
Pb	Lead
PCD	Pollution Control Device
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
RCDME	Routine Control Device Maintenance Exemption
RICE	Reciprocating Internal Combustion Engine
SACC	Semi-Annual Compliance Certification
SCEMP	Surrogate Compliance Emissions Monitoring Parameter
Scf	Standard cubic foot
SDS	Safety Data Sheet
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
TPY	Tons per year
VE	Visible emissions
VMT	Vehicle miles traveled
VOC	Volatile organic compounds
VHAP	Volatile hazardous air pollutant
Year	A period consisting of any 12-consecutive calendar month

INTRODUCTION

1. This is an existing facility applying for renewal of the existing Title V federal operating permit.

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 regulation. 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.

PERMITTEE IDENTIFICATION

3. Jasper Wood Products, LLC operates a facility performing wood-treating, drying, plywood production and other wood-working activities. The facility was previously operated by Cascade Pacific Industries, Inc. – Wood Treating Division and Progressive Panel. An addendum to change the name/ownership to the current name and owners was issued on December 13, 2001. The facility operates approximately 8,400 hours per year (24 hours per day, 7 days per week, and 50 weeks per year).

4. **Area/Major Source Status:** The facility exceeded the 10 ton/year of any single Hazardous Air Pollutant (HAP) major source threshold based upon actual emissions of methanol for one or more 12-month rolling periods in early 2009, which was after the September 30, 2007 compliance date for the Plywood and Composite Wood Products (PCWP) National Emission Standards for Hazardous Air Pollutants (NESHAPs) – Subpart DDDD. Therefore, the facility became a major source and became subject to the PCWP NESHAP and Title V permitting by way of the "once-in-always-in" EPA policy. The facility then obtained synthetic minor limits and/or became a true minor prior to the applicability date for the area source Boiler NESHAP – Subpart JJJJJJ, and the permit contains the area source Boiler regulations that apply.

FACILITY DESCRIPTION

5. Jasper Wood Products, LLC manufactures plywood and treats wood with "Exterior Fire-X" and "Pyro-Guard" (interior) fire retardant. The facility does not use any CCA (chromated copper arsenate). The 2014 modification removed the kiln dried wood production and operation of a planer, finger jointer, and associated operations in the millwork building.

6. The facility consists of a maintenance shop, fire suppression system, administrative offices, plywood mill, veneer drying, wood treating areas, and buildings housing the boilers.

7. During the permit term, the facility removed the Modul-pak wood-fired boiler that provided backup steam for facility processes. The facility also removed three (3) Cleaver-Brooks and an Aztec natural gas boiler(s) that can utilize fuel oil during the permit term. Primary steam is now provided by two (2) York-Shipley natural gas-fired boilers that can use fuel oil as a backup fuel.

8. The plywood presses at the facility can produce 150,000,000 square feet of 3/8" plywood per year. The plywood is produced from dried veneer purchased or manufactured onsite. Veneer drying was added with the 2014 addendum. The facility installed a green end in 2021 consisting of log processing and green veneer production. Plywood is putty patched and touch sanded as necessary for market.

9. Some plywood and green/dry sawn lumber is treated on site with "Exterior Fire-X" and "Pyro-Guard" (interior) to act as a fire retardant. The process involves pressure injecting the chemicals using two autoclaves for pressure injection. After treatment, residual water and chemical is recycled into tanks for use in the next batch of treating. Some treated wood is placed in the kilns to dry and then packaged or stored outside for transport.

EMISSIONS UNIT AND POLLUTION CONTROL DEVICE IDENTIFICATION

10. The emissions units and control devices at this facility are the following:

EU ID	Emission Unit Description	Pollution Control Device Description
EU-1	Two (2) Dry Kilns	None
EU-2	Two (2) Veneer Dryers	Regenerative Catalytic Oxidizer (RCO)
EU-3	Truck bin cyclone, Sanders and skinner saws, scarfer, and tongue and groove machine	One (1) Baghouse: Torit & Day (TD-1) Baghouse
EU-5	Natural gas-fired boilers: • Two Natural Gas-fired Boilers with No 2 Oil Backup, 12.6 MMBtu/hr, each, York-Shipley	None
EU-6	Wood Treating in 2 Autoclaves	None
EU-7	Three (3) Plywood Presses (1 Baldwin, 1 Columbia, and 1 Superior)	None
EU-8	Paved Road	None
EU-10	Putty Patching Operations	None
EU-AIA	Aggregate Insignificant Activities: • Lathes (Two) – 10 ft Zq Manufacturing lathes • Rotary Clippers (Two) • Debarker (One) – 35-inch Nicholson debarker • Cut-off saw (One) – 84-inch circular block cutoff saw Chippers (Two) – Arasmith drum chipper, and 78-inch Sumner disc chipper	None

11. Categorically insignificant activities at this facility 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 218 and 220, and LRAPA Titles 12 through 51 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, gasoline, natural gas or propane burning equipment, provided the aggregate expected actual emissions of the equipment identified as categorically insignificant do not exceed the de minimis level for any regulated pollutant, based on the expected maximum annual operation of the equipment. If a source's expected emissions from all such equipment exceed the de minimis levels, then the source may identify a subgroup of such equipment as categorically insignificant with the remainder not categorically insignificant. The following equipment may never be included as categorically insignificant:
    - Any individual distillate oil, kerosene or gasoline burning equipment with a rating greater than 0.4 million Btu/hour;
    - Any individual natural gas or propane burning equipment with a rating greater than 2.0 million Btu/hour.

- Office activities
- Janitorial activities
- Personal care activities
- Groundskeeping 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
- Temporary construction activities
- Warehouse activities
- Accidental fires
- Air vents from air compressors
- Electrical charging stations
- Fire brigade training
- Instrument air dryers and distribution
- Fire suppression
- 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
- Natural gas, propane, and liquefied petroleum gas (LPG) storage tanks and transfer equipment
- Pressurized tanks containing gaseous compounds
- Vacuum sheet stacker vents
- Fire suppression and training
- 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 due to circumstances beyond the reasonable control of the owner or operator, or to address a power emergency, provided that the aggregate horsepower rating of all stationary emergency generator and pump engines is not more than 3,000 horsepower. If the aggregate horsepower rating of all stationary emergency generator and pump engines is more than 3,000 horsepower, then no emergency generators and pumps at the source may be considered categorically insignificant;
- 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;
- Combustion source flame safety purging on startup;

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING, AND RECORDKEEPING

12. ACDP Conditions: There are no changes to any conditions that existed in the ACDP for which the ACDP is relied upon to provide the authority for the requirement.

13. Facility-wide Requirements:

13.a. Condition 5 of the permit establishes 'reasonable precautions' for the minimization of fugitive, visible particulate matter for this facility. Monitoring and recordkeeping for this requirement includes periodic visible emission surveys and corrective action if a source of visible emissions is identified.

13.b. Conditions 7, 8 and 9 of the permit states two (2) of LRAPA's limits for emissions that can create nuisance problems: odors and large-size fallout particulate matter. Monitoring for this condition is the maintenance of a complaint log and timely resolution.

13.c. Condition 11 is the air pollution emergency requirement from LRAPA's title 51.

13.d. Condition 14 is the Board Products Rule from LRAPA's title 33 that applies to veneer and plywood mill sources. Monitoring for this condition is summing emissions from affected sources as determined by the emission factor calculations for a twenty four hour period divided by 24.

14. Federal Requirements:

14.a. Accidental Release Prevention (Part 68): Condition 13 of the permit is a standard Title V permit condition related to the Federal Risk Management Planning program (40 CFR Part 68). The condition requires that Title V sources comply with 40 CFR Part 68 if changes at the facility make it subject.

14.b. The facility does not manufacture, sell, distribute, or use in the manufacturing of a product any stratospheric ozone-depleting substances and the EPA 1990 Clean Air Act as amended, Sections 601-618, do not apply to the facility except that air conditioning units and fire extinguishers containing Class I or Class II substances must be serviced by certified repairmen to ensure that the substances are recycled or destroyed appropriately.

14.c. Plywood National Emission Standard for Hazardous Air Pollutants (NESHAP): The veneer dryers with RCO, plywood press, and wood putty emission units are subject to the requirements of the Plywood and Composite Wood Products (PCWP NESHAP or Subpart DDDD). Because the facility had actual single HAP emissions greater than the 10 ton/year major source threshold and did not have federally enforceable permit HAP limits in place at the time of the compliance date for existing sources under the PCWP NESHAP, the facility is subject to Subpart DDDD as well as several other major source NESHAPs.

14.d. Boiler Area Source NESHAP: The source is considered an area source since it no longer has the potential to emit (PTE) above major source HAP thresholds. The natural gas fired boiler with oil backup is subject to the Subpart JJJJJJ (6J) NESHAP, but since the facility is limited to no more than 48 hours of operation of the boiler on oil for testing and maintenance purposes, the are no requirements that apply other than to keep records that has not combusted any oil during the reporting period.

14.e. More information about NESHAPs applicable to this facility is contained in later items in this review report.

14.f. Boiler New Source Performance Standard (NSPS – Dc): The gas-fired boilers may combust fuel oil during periods of gas curtailment along with testing, maintenance, and training purposes. The facility must certify that the fuel oil contains no more than 0.5 % sulfur and that the amount of oil was the only oil combusted during the reporting period.

14.g. Compliance Assurance Monitoring (CAM) – 40 CFR Part 64: There are no control devices to which CAM applies. All pre-control emissions are less than 100 tons/year. More information is included in the CAM section later in this review report.

Emission Unit (EU)	Control Device	Pre-control emissions
EU-4- Wood-fired Boiler	Baghouse	36.3 tons/year PM
EU-2 Veneer Dryers	RCO	11.0 tons/year VOC
EU-3 Sanders, Saws, etc.	Baghouse	27.0 tons/year PM

15. LRAPA and State Requirements:

15.a. 0.14 gr/dscf and 20% Opacity Requirements: Particulate and visible emissions requirements applicable to all sources are included in the permit.

15.b. The LRAPA title 33 regulations for veneer manufacturing operations is applicable to the facility's veneer drying activities added in 2014. The regulations require the facility to limit visible emissions to an average of 10% opacity and to minimize fugitive emissions from the veneer dryer heating zones.

16. Aggregate Insignificant Activities (EU-AIA):

16.a. The facility has a green end operation with the following devices that are part of EU-AI:

16.a.i. Lathes (Two) – 10 ft Zq Manufacturing lathes

16.a.ii. Rotary Clippers (Two)

16.a.iii. Debarker (One) – 35-inch Nicholson debarker

16.a.iv. Cut-off saw (One) – 84-inch circular block cutoff saw

16.a.v. Chippers (Two) – Arasmith drum chipper, and 78-inch Sumner disc chipper

16.b. EU-AIA Monitoring: As identified earlier in this Review Report, this facility has insignificant emissions units (IEUs) that include categorically insignificant activities, 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 and particulate matter. 40 CFR 70.6(a)(3) of the federal Title V permit rules, requires all monitoring and analysis procedures or test methods required under applicable requirements be contained in Title V permits. In addition, where the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the facility's compliance with the permit. However, the requirements to include in a permit testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor with respect to all emissions units and applicable requirement situations. It does not require extensive testing or monitoring to assure compliance with the applicable requirements for emissions units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions. Where compliance with the underlying applicable requirement for an insignificant emission unit is not threatened by a lack of a regular program of monitoring and where periodic testing or monitoring is not otherwise required by the applicable requirement, then in this instance the status quo (i.e., no monitoring) will meet Section 70.6(a)(3). For this reason, this permit includes limited requirements for categorically insignificant activities.

PLANT SITE EMISSION LIMITS, BASELINE EMISSION RATE AND SIGNIFICANT EMISSION RATE

17. **Baseline Emission Rate:** Baseline emission rates were established in a previous permit issuance and were based upon the emissions from a wood-fired boiler operating at 140 million pounds of steam per year, three (3) cyclones processing 21,412 BDT of wood waste per year, and four (4) dry kilns drying 30 million board feet per year. The baseline emission rates were adjusted with the ACDP renewal to reflect most-current emission factors to estimate actual emissions. The baseline emission rate for greenhouse gases (GHGs) is

included with the permit renewal action and is based upon actual fuel combustion for the 2007 calendar year. The detail sheets contain more information on the basis of the calculations.

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

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis (tons/yr)	Plant Site Emission Limit (PSEL)			Significant Emission Rate (tons/yr)
			Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	Increase over baseline	
PM	7.1	7.1	31	24	17	25
PM_{10}	6.4	6.4	20	16	10	15
$PM_{2.5}$	NA	3.4	12	10	7	10
SO_2	1.0	1.0	De minimis	De minimis	-1.0	40
NOx	21.7	22	61	61	39	40
CO	70.0	70	99	99	29	100
VOC	18.1	18	57	39	21	40
GHG	17,998	17,998	NA	74,000	56,002	75,000

18.a. The CO, and GHG PSELs are being set at the generic PSEL level in accordance with LRAPA title 42; PM, PM_{10}, $PM_{2.5}$, NOx and VOC PSELs are being set at a source specific level accounting for baseline/netting basis. The SO_2 PSEL was removed because potential emissions are less than the de minimis level. The capacity is listed in the emission detail sheets as the "Potential to Emit".

19. **Netting Basis:** The "netting basis", as defined in LRAPA title 12, is equivalent to the Baseline Emission Rate for all pollutants except $PM_{2.5}$. According to applicable rules, there is no baseline emission rate for $PM_{2.5}$ and the netting is based upon the fraction of PM_{10} that is $PM_{2.5}$.

20. **Unassigned Emissions:** This facility has no (zero tons per year) unassigned emissions as defined in LRAPA title 12 and specified in LRAPA title 42.

21. **Emission Reduction Credits:** This facility has no Emission Reduction Credits as allowed by LRAPA title 41.

HAZARDOUS AIR POLLUTANTS

22. Under the Cleaner Air Oregon 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 yet required to perform a risk assessment or report annual emissions of toxic air contaminants. DEQ 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 federal hazardous air pollutants are on the list of approximately 600 toxic air contaminants. 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 toxic air contaminant emissions. Until then, sources will be required to report toxic air contaminant emissions triennially

23. The potential Hazardous Air Pollutant (HAP) and Toxic Air Contaminant (TAC) emissions from the facility are shown in the table below. These emissions are calculated on the basis of proposed operation parameters and must be recalculated by the facility if production increases.

HAPs/TACs	Potential Emissions (tons/yr)
Acetaldehyde	1.6
Formaldehyde	1.3
Methanol	8.9
Phenol	1.6
Propionaldehyde	0.3
Miscellaneous “Boiler HAPs”	0.01
Total HAPs	**11.0 tons/yr**

Toxics Release Inventory (TRI)

24. The Toxics Release Inventory (TRI) is federal program that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment, over which LRAPA has no regulatory authority. It 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, 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 on each chemical. NOTE: The TRI Program is a federal program over which LRAPA has no regulatory authority. LRAPA does not guarantee the accuracy of any information copied from EPA’s TRI website.

    In order to report emissions to the TRI program, a facility must operate under a reportable NAICS code, meet a minimum employee threshold, and manufacture, process, or otherwise use chemicals in excess of the applicable reporting threshold for the chemical.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS) REQUIREMENTS

25. **Major Source of HAPs:** The facility was a major source for HAPs because for the calendar year 2007, the potential to emit of a single HAP (methanol) was greater than 10 tons/year and the facility did not have federally enforceable permit limits to limit HAP emissions below the 10 tons of a single HAP at the compliance date for the Plywood and Composite Wood Products (PCWP) National Emission Standard for HAPs (NESHAP). The compliance date for existing PCWP sources was September 30, 2007. The facility is no longer a major source of HAPs but the PCWP NESHAP still applies.

26. **Subpart DDDD – Plywood and Composite Wood Products (PCWP) NESHAP:** The facility operates an affected source under the PCWP NESHAP including, but not limited to, the veneer dryers with RCO, presses and putty patching operations. Under the PCWP NESHAP there are no control requirements or work practice standards for the dry kilns used to set the fire retardant. Likewise, there are no control requirements or work practice standards for the plywood presses (there are control requirements for "reconstituted wood product presses" but not plywood presses). The primary applicable requirement under the PCWP NESHAP is for the facility's veneer drying operations controlled by the RCO including a performance test upon initial startup of the veneer dryers and ongoing, annual catalyst activity checks. The facility is required to use only non-HAP coatings defined as having HAP contents below 0.1 percent by mass for Occupational Safety and Health Administration-defined carcinogens as specified in 29 CFR 1910.1200(d)(4), and below 1.0 percent by mass for other HAP compounds.

27. The 40 CFR 63 subpart DDDD requirements that are applicable to EU-2 are identified in the following table:

40 CFR 63 subpart DDDD Citation	Description	Applicable to Source (Yes/No)	Comments	Permit Condition
63.2230	Purpose	Yes	None.	NA
63.2231	Applicability	Yes	None.	NA
63.2232	Affected sources	Yes	None.	NA
63.2233	Compliance dates	Yes	None.	NA
63.2240	Compliance options and operating requirements	Yes	Facility is using an RCO as a compliance option for add-on control systems (compliance option) and is required to maintain the 3-hour block average catalytic oxidizer temperature above the minimum temperature established during the most recent performance test. The March 10, 2015 source test established a minimum 3-hour block average catalytic oxidizer temperature of 799 degrees Fahrenheit.	20, 21
63.2241	Work practice requirements	Yes	Softwood veneer dryers are subject to the requirement to minimize emissions from the	15, 22, 23, 24

40 CFR 63 subpart DDDD Citation	Description	Applicable to Source (Yes/No)	Comments	Permit Condition
			dryer doors through proper maintenance procedures and green end of the dryers and redrying though proper balancing of heated zone exhausts. Veneer redrying is subject to the requirement that process veneer that has been previously dried, such that the 24-hour block average inlet moisture content of the veneer is less than or equal to 25 percent (by weight, dry basis). The facility is required to use non-HAP coatings including but not limited to the EU-10 Putty Patch Operations. Direct-fired softwood veneer dryers undergoing startup or shutdown of gas-fired burners must cease feeding green veneer into the softwood veneer dryer and minimize the amount of time direct gas-fired softwood veneer dryers are vented to the atmosphere due to the conditions described in 40 CFR 63.2250(d).	
63.2250	General requirements	Yes	Shutdowns and malfunctions are defined for direct-fired burners. Facility must be in compliance during specified times and activities. Facility must also minimize emissions always operate and maintain the affected source, including air pollution control and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions	25, 26, 27
63.2251	Requirements for the routine control device maintenance exemption	Yes	Facility has requested a routine maintenance exemption and it is attached to	28

40 CFR 63 subpart DDDD Citation	Description	Applicable to Source (Yes/No)	Comments	Permit Condition
			the Title V permit as the rule requires.	
63.2252	Requirements for process units that have no control or work practice requirements	No	Veneer dryers are subject to compliance options and work practice requirements.	NA
63.2260	Initial compliance with the compliance options, operating requirements, and work practice requirements	Yes	Facility conducted an initial performance test on March 10, 2015, and established a site-specific operating temperature.	NA
63.2261	Performance tests or other initial compliance demonstrations	Yes	Facility conducted an initial performance test on March 10, 2015	NA
63.2262	Conducting performance tests and establishing operating requirements	Yes	Facility conducted an initial performance test on March 10, 2015, and established a site-specific operating temperature.	21
63.2263	Initial compliance for a dry rotary dryer	No	None.	NA
63.2264	Initial compliance for a hardwood veneer dryer	No	None.	NA
63.2265	Initial compliance for a softwood veneer dryer	Yes	Facility must develop a plan for review and approval for minimizing fugitive emissions from the veneer dryer heated zones. The facility also must submit the plan with the Notification of Compliance Status. This was completed.	NA
63.2266	Initial compliance for a veneer redryer	Yes	Facility must record the inlet moisture content of the veneer processed in the redryer for a minimum of 30 calendar days. Facility must designate and clearly identify each veneer redryer and submit the highest recorded 24-hour average inlet veneer moisture content with the Notification of Compliance Status.	NA
63.2267	Initial compliance for a reconstituted wood product press or board cooler	No	None.	NA
63.2268	Initial compliance for a wet control device	No	None.	NA
63.2269	Monitoring installation, operation, and maintenance requirements	Yes	Facility is subject to the temperature monitoring requirements.	23, 29

40 CFR 63 subpart DDDD Citation	Description	Applicable to Source (Yes/No)	Comments	Permit Condition
63.2270	Continuous compliance monitoring and data collection	Yes	Facility is subject to the temperature monitoring requirements.	26
63.2271	Continuous compliance with the compliance options, operating requirements, and work practice requirements	Yes	Facility is subject to the temperature monitoring requirements to demonstrate continuous compliance	30, 31, 32
63.2280	Notifications	Yes	Facility is subject to the ongoing notification requirement to notify LRAPA 30 days prior to modifying or replacing the RCO and if the facility changes the temperature parameter.	34
63.2281	Reports	Yes	Semi-annual compliance reports are required to be submitted to LRAPA.	36
63.2282	Records	Yes	The facility is required to keep records of notifications, SSM actions taken before August 13, 2021, records related to startup and shutdown and failures to meet the standards on or after August 13, 2021, temperature monitoring, and RCO annual catalyst activity checks.	21, 37
63.2283	Form and retention of records	Yes	Facility must keep records in a suitable form and readily available, keep the records for at least five (5) years with at least two (2) years of records kept onsite, along with any records submitted via CEDRI.	37
63.2290	General Provision applicability	No	None.	NA
63.2291	Implementation and enforcement	No	None.	NA
63.2292	Definitions	Yes	None.	NA

28. **Subpart EEEE – Organic Liquid Distribution (OLD) NESHAP:** When the facility changed wood treatment chemicals in 2007, the treatment chemical methanol content was increased to 5% methanol by weight (and increased the potential to emit for a single HAP above major source thresholds) and the facility became subject to the Organic Liquid Distribution MACT of 40 CFR 63 Subpart EEEE. The facility made one of their treatment chemicals onsite and sent it internally and externally out in containers and hence had a loading facility. As per 40 CFR 63.2342(c), an area source that does not commence construction but increases its emissions or its potential to emit such that it becomes a major source of HAPs must comply with the rule by three (3) years after the area source becomes a major source. Because the facility has switched to a wood treatment chemical with a HAP content of less than 5%, the facility is not distributing an organic liquid as defined in the rule. The permit requires that the facility comply with the OLD

NESHAP and notify LRAPA prior to use of a compound with a content of HAP that is greater than or equal to 5% by weight.

29. **Subpart FFFF – Miscellaneous Organic Chemical Manufacturing NESHAP (MON):** When the facility changed wood treatment chemicals in 2007, the facility also became subject to the MON because they made one of their treatment chemicals onsite. The facility no longer operates a MON process and, even had they continued to make the affected HAP-containing treatment chemical, there were no equipment affected by the standard; the sole requirement for the facility to comply was to have submitted an Initial Notification. Should the facility change operation such that they operate a source subject to the MON, any new applicable requirements will be included in the permit.

30. **Subpart JJJJJJ ('6J') – Boiler NESHAP:** The two new, 12.6 MMBtu/hr natural gas-fired boilers are considered gaseous under the definitions in the rule and are therefore not subject to the tune-up requirements, etc. in the Boiler NESHAP.

31. **Area Source Boiler 6J NESHAP Applicability and Synthetic Minor HAP Limit Timing:** A facility that has potential 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 is January 31, 2016; therefore, Jasper Wood Products can be considered an area source of HAPs for purposes of the Boiler NESHAP subject to the Subpart 6J provisions as applicable. The facility submitted an Initial Notification for the purposes of Subpart 6J on September 16, 2011.

32. **Area Source Boiler 6J NESHAP Work Practice Requirements:** There are no emission standards in the area source Boiler NESHAP that apply to boilers that meet the definition of gas-fired boilers. In accordance with the definition of a gas-fired boiler in the NESHAP, the permit includes a liquid fuel limit of 48 hours for which the facility may operate the boilers on fuel oil to conduct periodic testing, maintenance, or operator training. There are also no work practice requirements for gas-fired boilers.

33. **Accidental Release:** The source has certified that the facility is not subject to 40 CFR Part 68, which requires a risk management plan for toxic and flammable substances releases.

COMPLIANCE ASSURANCE MONITORING

34. Title 40, Part 64 of the Code of Federal Regulations (CFR) contains Compliance Assurance Monitoring (CAM) requirements. These regulations are also codified in LRAPA 35-0200 through 35-0280. CAM requirements apply to any Pollutant Specific Emissions Unit (PSEU) at a Part 70 source that meets the following criteria:

    34.a. The unit is subject to an emission limitation or standard for a regulated air pollutant;
    34.b. The unit uses a control device to achieve compliance with that emission limitation or standard; and
    34.c. The unit, by itself, has potential pre-control emissions of the regulated air pollutant that would make it a major source (i.e. greater than 100 tons per year for criteria pollutants; greater than 10 tons per year for individual Federal HAPs).

35. The exemptions in 40 CFR 64.2(b) and LRAPA 35-0200(2) include:
    35.a.i. Emission limitations or standards proposed by US EPA after November 15, 1990 under section 111 (NSPS) or section 112 (NESHAPs);
    35.a.ii. Stratospheric ozone protection requirements under Title VI;
    35.a.iii. Acid Rain Program requirements;
    35.a.iv. Emission limitations or standards or other applicable requirements that apply solely under an emissions trading program approved or promulgated by US EPA;
    35.a.v. An emissions cap that meets the requirements in 40 CFR 70.4(b)(12);

35.a.vi. Emission limitations or standards for which a Part 70 permit specifies a continuous compliance demonstration method, as defined in 40 CFR 64.1 and LRAPA title 12; and

35.a.vii. Municipally-owned backup utility emission units meeting the requirements under 40 CFR 64.2(b)(2).

36. The following table evaluates CAM applicability for all emission units that use a control device to achieve compliance at the facility:

Emission Unit	Regulated Pollutant	Uses a Control Device for a Regulated Pollutant	Uncontrolled Potential Emissions Exceed Major Source Threshold	Is there an Emission Limitation or Standard for this Pollutant	Subject to CAM for the Pollutant	Monitoring Frequency
EU-2	PM	No	No	Yes	No	--
EU-2	PM_{10}	No	No	Yes	No	--
EU-2	$PM_{2.5}$	No	No	Yes	No	--
EU-2	NO_x	No	No	Yes	No	--
EU-2	CO	No	No	Yes	No	--
EU-2	SO_2	No	No	Yes	No	--
EU-2	VOC	Yes	No	No	No	--
EU-2	FHAPs	Yes	Yes	Yes	No (MACT)	--
EU-3	PM	Yes	No	Yes	No	--
EU-3	PM_{10}	Yes	No	No	No	--
EU-3	$PM_{2.5}$	Yes	No	No	No	--

37. The facility is not subject to CAM for FHAPs because the facility is subject to emission limitations or standards proposed by US EPA after November 15, 1990 under section 112 - 40 CFR 63 subpart DDDD (4D) – National Emission Standards for Hazardous Air Pollutants for Major Sources: Plywood and Composite Wood Products (PCWP).

38. The facility is not subject to CAM for particulate matter because the pre-control emissions in for the baghouses in EU-3 are less than 100 tons/year.

Emission Unit (EU)	Control Device	Pre-control emissions
EU-2 Veneer Dryers	RCO	11.0 tons/year VOC
EU-3 Sanders, Saws, etc.	Baghouse	27.0 tons/year PM

GENERAL BACKGROUND INFORMATION

39. **Located in an Attainment Area:** The facility is located outside the Eugene Springfield Air Quality Management Area and in an area that is undesignated for PM_{10}, $PM_{2.5}$, ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead.

40. **New Source Performance Standards (NSPSs):** The two new, 12.6 MMBtu/hr natural gas-fired boilers are subject to the Subpart Dc regulations, and the facility must certify the gallons of oil combusted during each reporting period along with a certification that the fuel contains no more than 0.5 percent sulfur by weight.

41. **Permitting History:** The following is a summary of the permitting history for the facility.

- The facility was permitted as All American Stud under ACDP source number 200007 prior to 1983, but that permit was automatically terminated within 60 days after the exchange or sale of the facility to Olympic Cascade Company.

- The facility was permitted as Olympic Cascade Company (206117) on May 18, 1984. Equipment included gas-fired boiler, wood-fired boiler, material handling cyclones, and treatment vat.
- The facility changed to Jasper Drying and Milling Inc on April 9, 1985.
- The facility was issued a renewed ACDP on May 1, 1988 as Cascade Pacific Industries – Jasper Wood Treating Division with an expiration date of April 30, 1998. The permit was modified numerous times prior to the April 1998 expiration.
- On April 7, 1999, the facility was issued a renewed ACDP with an April 30, 2003 expiration date. The issuance date appears to have been retroactively stated as May 1, 1998.
- On December 13, 2001, an addendum was issued to change the name to "Jasper Wood Products LLC".
- A renewal was signed for issuance on November 30, 2004 with an issuance date of May 1, 2003 and an expiration date of April 30, 2008.
- The permit was modified on August 16, 2006, to change the permit from a "Regular" ACDP to a "Synthetic Minor ACDP".
- The facility applied for a Title V operating permit on May 28, 2010 because of changes in the method of operation during 2009 that made them a major source of HAPs (greater than 10 tons/year of actual emissions of methanol) and subject to the major source Plywood and Composite Wood Products NESHAP.
- The ACDP was renewed on November 12, 2010 as a "Standard ACDP", with a November 12, 2015 expiration date. The permit included changes in equipment and PSELs.
- The initial Title V operating permit was issued June 15, 2011.
- The permit was modified in 2014 to add veneer drying
- The Title V operating permit was renewed on July 7, 2017. That permit remains valid until LRAPA issues this renewal.

42. **Construction Approvals:** The following is a summary of the construction approvals for the facility.

- NC-206117-B22: Installation of two (2) new 12.6 MMBtu/hr natural gas-fired boilers with distillate oil backup, and installation of a green end consisting of lathes (2), rotary clippers (2), debarker (1), circular cutoff saw (1), drum chipper (1), and a disc chipper (1)
- NC-206117-A19: Installation of a new Torit & Day baghouse on the existing wood waste truck bin (EU-3)
- NC-206117-B17: Installation of 8.4 MMBtu/hr natural gas-fired boiler
- NC-206117-A17: Installation of Superior plywood press
- NC-206117-A14: Multiple physical and operational changes including:
    - Installation of two (2) new softwood veneer dryers with a Regerative Catalytic Oxidizer (RCO)
    - Skinner saw
    - Installation of 8.4 MMBtu/hr natural gas-fired boiler
    - Removal of four (4) dry kilns, two (2) remaining for low temp drying of fire treatment
    - Removal of some baghouses
    - Reduction in the wood-fired boiler (EU-4) operation
    - Removal of Stetson-Ross planer
    - Removal of Aztec natural gas-fired boiler w/ oil backup
    - Removal of millworks (finger jointer, chop saw, moulder)

- NC-206117-A11: Installation of 6.3 MMBtu/hr natural gas-fired boiler
- NC-206117-A10: Installation of Williams-White plywood press, 30 opening
- NC-206117-A08: Change in wood treatment chemicals from Pyroguard to Thermex
- NC-206117-A06: Installation of Baldwin plywood press, 30 opening and 100 Hp oil-fired boiler
- NC-206117-A05: Installation of Pneumafil baghouse and removal of scrubber at planer cyclone
- NC-206117-A04: Installation of Planer transfer system scrubber (water digester)
- NC-206117-B02: Installation of Modul-Pak wood-fired boiler and baghouse
- NC-206117-A02: Installation of Baker Re-saw Line
- NC-206117-A96: Installation of millwork plant including Donaldson baghouse
- NC-206117-A94: Installation of large chest with water mist (on planer discharge)
- NC-206117-B93: Installation of milling and laminating operation with Day baghouse

- NC-206117-A93: Withdrawn for "B93" - proposed installation of a cyclone
- NC-206117-A83: Installation of a pressure treatment facility to treat shakes and shingles with fire retardant

COMPLIANCE HISTORY

43. This facility is regularly inspected by LRAPA and occasionally by other regulatory agencies. The following table indicates the inspection history of this facility since the facility for the last 10 years:

Type of Inspection	Date	Results
LRAPA - Full Compliance Evaluation	07/12/2012	Not In Compliance: Monitoring and Reporting
LRAPA - Full Compliance Evaluation	09/17/2014	On Schedule
LRAPA - Full Compliance Evaluation	08/23/2016	In Compliance
LRAPA - Full Compliance Evaluation	10/29/2018	In Compliance
LRAPA - Full Compliance Evaluation	09/30/2021	Not In Compliance: Procedural Requirements

44. Following is a summary of the enforcement activity related to the facility chronologically since 1993.

- On April 6, 1993, Notice of Violation and Intent to Assess Civil Penalty (NCP) No. 93-06 was issued to the facility (then Cascade Pacific Industries). The NCP was issued for violations relative to the construction and operation of a new medium-density fiberboard milling and lamination operation without first obtaining construction approval or permit modification. Violation resolved by the submittal of appropriate permit.

- On March 18, 1994, the facility (Cascade Pacific Industries) was issued NCP 94-16 for a main bin materials-handling cyclone opacity violation and for failure to minimize emissions from material handling. Violation resolved via use of opacity meter.

- On July 28, 1995, the facility (Cascade Pacific Industries) was issued a Notice of Non-Compliance (NON) No. 1103 for operating the baghouse with leaking bags. Violation corrected by the facility through the installation of proper bags.

- On August 10, 1995, the facility (Cascade Pacific Industries) was issued NON-1094 for failure to maintain records as described in permit. Violation corrected by the facility maintaining records as described in permit.

- On February 27, 1996, the facility (Cascade Pacific Industries) was issued NON-1203 for commencement of construction of an air contaminant source (millwork plant) without first obtaining approval from LRAPA. Facility resolved the violation through the submittal of proper forms, paying associated fees and requesting LRAPA review and approval of the construction.

- On June 12, 2003, the facility (Jasper Wood Products) was issued NON-2564 for removal of an air contaminant control device (scrubber) without notifying LRAPA or modifying the permit. Violations were resolved in SFO-03-2564, issued on February 13, 2004, and closed January 14, 2005. Remaining violation was later resolved through the installation of a new scrubber system. Scrubber system was replaced with a baghouse by March 31, 2006.

- On June 5, 2005, the facility (Jasper Wood Products) was issued NCP 05-2727 for failure to operate air pollution control equipment while operating process equipment. Violation resolved in SFO 05-2727 and closed on April 21, 2006. Facility was required to maintain water flow to scrubber during operation of sources required by the permit to be controlled by the scrubber. Scrubber was replaced with a baghouse by March 31, 2006.

- On December 12, 2008 the facility was issued NON-3018 for modifying a source without first submitting appropriate construction and modification notice – modification resulted in potential/actual emissions of HAP methanol to trigger PCWP NESHAP and Title V permitting requirements. The modification was a result of a change in wood treatment chemical from one with 0.03% methanol content to one with 3% methanol content. NCP-09-3018 was issued to the facility for the violation on January 29, 2009 and SFO 09-3018 was issued to the facility March 11, 2009 requiring the facility to pay a $7,940 civil penalty and apply for a Title V permit. The facility paid the civil penalty in-full on March 23, 2009.

- On May 11, 2010, the facility was issued NON-3198 for failure to submit a Title V application within 12 months of being subject to Title V permit program. The facility submitted the Title V application on June 11, 2010. On July 27, 2010 the facility was issued Notice of Violation and Notice of Civil Penalty Assessment (NCP 3198). A civil penalty was assessed in the amount of $4,200. On August 16, 2010 the facility submitted a memo seeking reduction in the civil penalty amount. On August 19th, the facility was issued a Stipulated Final Order (SFO No. 10-3198) including a reduced civil penalty amount of $3,000. On September 3, 2010 the facility paid $3,000 to Lane County and the file was closed.

- On October 19, 2011 the facility was issued NON-3326 for the following: failure to submit emission calculations in the annual report; for failure to notify LRAPA of date/time of stack test; failure to demonstrate monthly calculations of emissions; and, failure to submit deviation reports. On January 2, 2012 the facility was issued Notice of Violation and Notice of Civil Penalty Assessment (NCP 11-3326). A civil penalty was assessed in the amount of $7,200. On April 24, 2012 the facility submitted a memo seeking reduction in the civil penalty amount. On May 1, 2012, the facility was issued a Stipulated and Final Order (SFO No. 11-3326) including a reduced civil penalty amount of $3,600. On June 14, 2012 the facility paid $3,600 to LRAPA and the file was closed.

- On October 22, 2012 the facility was issued NON-3422 for the following: failure to maintain records of visible emission surveys; failure to conduct monitoring of wood-fired boiler visible emissions (conducted evaluation when boiler not in operation); failure to submit deviation reports in a timely manner; failure to submit semi-annual report in a timely manner; failure to submit an inspection and maintenance plan/schedule; and, no Form R1003 included in semi-annual report. On December 19, 2012 the facility was issued Notice of Violation and Notice of Civil Penalty Assessment (NCP 12-3422). A civil penalty was assessed in the amount of $9,600. The facility (respondent) failed to respond in a timely manner and LRAPA proceeded with Final Default Order and Judgment. The facility subsequently requested resolution in lieu of Final Default Order. On March 26, 2013, the facility was issued a Stipulated and Final Order (SFO No. 12-3422) including a reduced civil penalty amount of $7,200 with $1,440 paid to Lane County in care of LRAPA and $5,760 applied to the "Oakridge Warm Homes Clean Air Project". On April 18, 2013 the facility paid the required amount(s) and the file was closed.

- On September 11, 2014 the facility was issued NON-3540 for the following: failure to remedy spillage and accumulation of wood waste dust from around transfer points, hoppers, machine centers and general plant site. On May 8, 2015, the facility was issued Notice of Violation and Notice of Civil Penalty Assessment (NCP 14-3540). A civil penalty was assessed in the amount of $5,400. On June 29, 2015, the facility was issued a Stipulated and Final Order (SFO No. 14-3540) including a reduced civil penalty amount of $4,000. On July 9, 2015 the facility paid the required amount and the file was closed.

- On October 29, 2018 the facility was issued NON-3731 for the to conduct an asbestos survey and notification, and notify LRAPA of a renovation or demolition project involving the wood-fired boiler. On February 1, 2019, the facility was issued Notice of Violation and Notice of Civil Penalty Assessment (NCP 14-3731). A civil penalty was assessed in the amount of $6,600. On February 11, 2019, the facility paid the required amount and the file was closed.

- On November 17, 2021 the facility was issued NON-3844 for failure to submit notice and obtain approval from LRAPA prior to the construction/installation of a portable gas-fired boiler and failure to submit notice an obtain approval from LRAPA prior to the construction/installation of equipment associated with green

manufacturing (green end). On February 9, 2022, LRAPA issued the facility Notice of Violation and Notice of Civil Penalty Assessment (NCP 21-3844). A civil penalty was assessed in the amount of $12,000. The case is still open as of the drafting of this review report.

SOURCE TEST RESULTS

45. The RCO controlling the veneer dryers (EU-2) was tested on March 10, 2015 for compliance with the PCWP MACT. Methanol results were 0.01 lb/hour and 94.2% destruction efficiency. The minimum 3-hour block average catalytic oxidizer temperature was established as 799 degrees Fahrenheit.

46. The PCWP MACT regulations require the RCO be tested by August 13, 2023 and thereafter every 60 months from the previous performance test.

TITLE V PERMIT CHANGE LOG

47. The following is a list of condition-by-condition changes between the previous permit and the draft permit:

New Permit Condition Number	Old Permit Condition Number	Description of change	Reason for change
Most	Most	Updated and corrected rule references; change "shall" to "must"; added, updated, and corrected rule citations of authority.	LRAPA rule changes, typos, etc.; consistency.
Cover page	Cover page	Updated information relied upon section and Director	Change in information
Abbreviations	---	Updated to boiler plate/template set	Template and consistency
Definitions	---	Added "Modified EPA Method 9"	LRAPA adopted opacity standards during the permit term that are based on a 3-minute aggregate
1	1	No change	NA
2	---	Added language citing LRAPA's authority to implement division 218 and 220	Clarification
3	2	Updated condition numbers that are LRAPA only and/or DEQ only enforceable	Rules and conditions have changed
4	3	Updated EUs and PCDs	Construction and permit changes
5	4	Cite LRAPA's title 48 in lieu of division 208 and make language consistent with rule language	LRAPA rule change and consistency
6	5	Standard visible emissions monitoring associated with changes to Condition 4	Standard permit template language
7	6	No change	NA
8	---	Added applicable requirement from LRAPA title 32 for 'injury or damage'	Applicable requirement
9	7	Update to match rule language	Consistency
10	8	Update monitoring and recordkeeping for nuisance conditions.	Standard permit template language
11	---	Inserted air pollution emergency condition associated with Attachment A that is included in all Title V permits	Standard permit template language

New Permit Condition Number	Old Permit Condition Number	Description of change	Reason for change
12	---	Inserted monitoring requirement associated with the air pollution emergency requirement condition.	Standard permit template language
13	9	No change	NA
14	10	Update Board Products Rule condition to match rule language	Consistency
15	11	Remove initial Notice of Compliance Status requirement to submit a notification that the facility is using non-HAP coatings and add sub condition requiring the facility report deviations from PCWP MACT Group-1 coatings work practices or include a statement that there were not deviations from the applicable work practices.	Initial Notice of Compliance Status has been submitted so that sub-condition was removed. Added ongoing compliance demonstration requirement to notify LRAPA if there are deviations.
16	12	Add recordkeeping and specify that the dry kiln temperature monitoring should be reduced to the average temperature	Clarification
17	13	No change	NA
18	14	Update to match rule language	Consistency
19	15	Change monitoring of veneer dryers	In lieu of LRAPA dryer SSM and fugitives minimization, dryer fugitives are required to be minimized under the PCWP MACT. The LRAPA RCO temperature monitoring requirements are covered by the PCWP MACT temperature monitoring requirements
33	16	Removed 16.a and 16.b that required the facility submit an Initial Notification and a Notice of Compliance Status for the Plywood and Composite Wood Products NESHAP (PCWP MACT)	Facility complied. Submissions on file.
20	17	No change	NA
21	18, 21	Add new language that allows the facility to forego catalyst activity check during calendar years for which there is a performance test completed	PCWP NESHAP revised during permit term.
22	19	No change	NA
23	---	Insert veneer redrying work practice from PCWP MACT	PCWP NESHAP revised during permit term and/or previously omitted from permit.
24	---	Insert new work practice from PCWP MACT	PCWP NESHAP revised during permit term
25	---	Insert new compliance requirement from PCWP MACT	PCWP NESHAP revised during permit term
26	---	Insert new compliance requirement from PCWP MACT	PCWP NESHAP revised during permit term
27	---	Insert new compliance requirement from PCWP MACT	PCWP NESHAP revised during permit term

New Permit Condition Number	Old Permit Condition Number	Description of change	Reason for change
28	---	Insert new RCDME from PCWP MACT	PCWP NESHAP revised during permit term
29	20	Insert temperature monitoring requirements from PCWP MACT	PCWP NESHAP revised during permit term and/or clarity
30	---	Insert RCO temperature monitoring	PCWP NESHAP revised during permit term
31	---	Insert new monitoring requirement for data recorded during monitoring malfunctions, etc.	PCWP NESHAP revised during permit term
32	20	No change to second paragraph in former Condition 20, first paragraph is now in Condition 26	NA
--	22	Deleted SSM plan requirement from PCWP MACT	Rule changed. No longer applies after August of 2021
33	23	Insert new SSM language from PCWP MACT	PCWP NESHAP revised during permit term
34	16.b	No change	NA
35	---	Insert new testing requirement from PCWP MACT	PCWP NESHAP revised during permit term
36	---	Insert reporting requirement from PCWP MACT	PCWP NESHAP revised during permit term
37	---	Insert new recordkeeping requirement from PCWP MACT	PCWP NESHAP revised during permit term and/or clarity
38	24	Revised opacity standard to a 3-minute aggregate from a 6-minute block average basis. Also included revised visible emissions monitoring requirements.	LRAPA rule change during permit term
39	25	No change	NA
40	26	Removed grain loading adjustment for wood boilers	NA
41	27	Add ability for facility to combust distillate fuel oil and sulfur content limitation	Facility request
42	28	Removed Area Source Boiler NESHAP requirements for the wood-fired boiler and added them for the gas-fired boilers with liquid oil backup	Wood-fired boiler removed during the permit term and new boilers installed.
43	---	Inserted NSPS Subpart Dc applicable requirement	Facility request to be able to combust fuel oil
44	---	Inserted NSPS Subpart Dc recordkeeping requirement	Facility request to be able to combust fuel oil
45	---	Inserted NSPS Subpart Dc recordkeeping and reporting requirement	Facility request to be able to combust fuel oil
---	29-33	Removed Area Source Boiler NESHAP requirements for the wood-fired boiler	Wood-fired boiler removed during the permit term.
46	34	No change	NA
47	35	Add all applicable requirements for Insignificant Activities	Rule changes and consistency with template

New Permit Condition Number	Old Permit Condition Number	Description of change	Reason for change
48	35	Create a condition for the existing monitoring for Insignificant Activities	Clarity and template consistency
49	36	Reset some PSELs to generic level if PTE was below SER (PM and VOC) and reset some PSELs to PTE level if over SER (PM10 and PM2.5)	LRAPA 42-0041(1) and (2)
50	37	Revised PSEL monitoring condition	Clarity and consistency
51	38	Deleted parameters related to removed and added equipment	Facility change and request
52	39	Deleted emission factors related to removed and added equipment	Facility change and request
---	40	Deleted testing condition for wood-fired boiler that was removed	Facility change and request
53	41	Update General Testing requirement to include a 30-day due date for the test plans and operating rate specifications	Clarity and consistency
54-61	42-49	No change	NA
62	50	Change notification requirement pertaining to startups/shutdowns and maintenance so that it matches rule by requiring notifications if there are excess emissions after LRAPA has approved the procedures	Clarity and consistency
63-65	51-53	No change	NA
66	54	Revised GHG reporting requirement to more closely match the rule language	Clarification
67	55	EPA mailing address updated	EPA updated their mailing address
68	56	Add boiler NESHAP and NSPS Dc reporting to the SACC and removed GHG report from March 15 annual report since it may be submitted by March 31	Clarity and accuracy
69	---	Move annual reporting into a separate, standalone condition	Clarification
70	--	Add condition for other reporting requirements	Consistency with template
71	57	Remove italicized note about certifying compliance with conditions that are incorporated by reference	Clarification. The facility is required to certify compliance with applicable requirements that are incorporated by reference.
72	58	No change	NA
73	59	No change	NA
General Conditions G1. - G 29.	General Conditions G1. - G29.	Updated GCs	Standard permit template language

GENERAL RECORDKEEPING REQUIREMENTS

48. The permit includes requirements for maintaining records of all testing, monitoring, and production information necessary for assuring compliance with the standards and calculating plant site emissions. The records of all monitoring specified in the Title V permit must be kept at the plant site for at least five (5) years.

GENERAL REPORTING REQUIREMENTS

49. The permit includes a requirement for submitting semi-annual and annual monitoring reports that include semi-annual compliance certifications. Excess emissions are required to be reported to LRAPA immediately as well as in a logbook attached to the annual report. Emissions fees reports are required annually.

PUBLIC NOTICE

50. This draft permit was on public notice from August 5, 2022 to September 8, 2022. No comments were submitted in writing during the comment period. However, two typos/errors were noticed during the comment period and corrected:

- Table in Condition 4, EU-3: The draft permit indicated that there were three (3) baghouses in EU-3. However, there is only one baghouse (TD-1) so the other two baghouses (TD-2 and Pneumafil baghosues) were removed from the table.
- Table in Condition 4, EU-7: The draft permit had a typo that stated "Two (3) Plywood Presses". The table was corrected to read "Three (3) Plywood Presses".

After the comment period, LRAPA will review any comments and modify the permit as may be appropriate. A proposed permit will then be sent to EPA for a 45-day review period. LRAPA may request and EPA may agree to an expedited review if 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

51. This proposed permit was sent to EPA on September 9, 2022, for a 45-day review period. Because no advance comments were received and there were no substantiative changes to the permit after the public comment period, LRAPA requested, and EPA agree to expedited review. 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.

MKH/cmw
09/23/2022

Emission Details

SUMMARY				PSEL		
		Potential to Emit	Annual	Increase over		
Pollutant	Baseline and PM2.5 Netting Basis	(tons/year)	PSEL	Baseline/NB		SER
PM	7.1	18	24	17		25
PM10	6.4	16	16	10		15
PM2.5	3.4	9.6	10	7		10
SO2	1.0	0.3	NA	NA		40
NOx	22	23	61	39		40
CO	70	14	99	29		100
VOC	18	32	39	21		40
GHG	17,998	12925	74000	56002		75,000
Acetaldehyde	NA	1.6	NA	NA		NA
Formaldehyde	NA	1.2	NA	NA		NA
Methanol	NA	8.9	NA	NA		NA
Phenol	NA	1.6	NA	NA		NA
Propionaldehyde	NA	0.3	NA	NA		NA
Total HAPs	NA	13.6	NA	NA		NA
EU-08 Paved Road Emissions were estimated in the 2010 Title V application to be:						
	0.07 tons/yr PM/PM10 and 0.01 tons/year PM2.5 (see Paved Roads sheet)					
PM2.5 Netting Basis was established in the 2017 renewal using a ratio (R) of 0.53 based on:						
	The then 9.0 tpy PM2.5 emission rate (ER) and 17 tpy PM10 ER. Mulitplied by the PM10 Netting Basis of 6.4 tpy at the time					
	PM2.5 netting basis corrected from 3.5 tpy to 3.4 tpy with the 2022 renewal (assume typo or rounding error)					
PM PSEL and VOC PSEL are reset to the Generic PSEL level since the PTE for each is below the SER in accordance with LRAPA 42-0041(1)						
PM10 and PM2.5 PSELs are reset at the PTE in accordance with LRAPA 42-0041(2)						

EU-5 Two (2) Natural Gas-fired Boilers						
Gas				8760		hours per year
	Max	Emission	Conversion	Annual		
	Design capacity	Factor	Factor	Emissions		
Pollutant	(cubic ft/hr)	(lbs/10^6 ft^3)	(tons/lb)	(tons)		
PM/PM10/PM2.5	25,200	2.5	0.0005	0.3		
SO2	25,200	1.7	0.0005	0.2		
NOx	25,200	100	0.0005	11.0		
CO	25,200	84	0.0005	9.3		
VOC	25,200	5.5	0.0005	0.6		
GHG	25,200	117	0.0005	12,925		
The EU-5 includes two identical York-Shipley natural gas-fired boilers each with maximum design rate of 12.6 million BTU/hr						
Emission factors are from DEQ AQ-EF05 for small, uncontrolled boilers						
The facility has no individual gas meter for the boiler. All gas combusted at the facility is assumed to have been combusted by the boiler.						
The NOx emissions from the combustion of natural gas by the boilers and veneer dryers is therefore overestimated (conservative).						
EU-5 Oil				48		hours per year
		Emission	Conversion	Annual		
	Allowed	Factor	Factor	Emissions		
Pollutant	(gallons/hr)	(lbs/1000 gallons)	(tons/lb)	(tons)		
PM	90	3.3	0.0005	0.01		
PM10	90	2.3	0.0005	0.00		
PM2.5	90	1.6	0.0005	0.00		
SO2	90	71	0.0005	0.15		
NOx	90	20	0.0005	0.04		
CO	90	5	0.0005	0.01		
VOC	90	0.2	0.0005	0.00		
The York-Shipley boilers are also capable of burning No. 2 Diesel and limited to firing on oil only for periods of gas curtailment and to no more than 4						
	and limited to firing on oil only for periods of gas curtailment and to no more than 48 hours/year for maintenance & testing etc					
#2 Oil factors are from DEQ AQ-EF04 Emission Factors for Oil-fired Boilers						

EU-7 Three Plywood Presses

1 Baldwin press existing since 2006, one Williams-White 30-opening Hot Plywood Press in June 2010, one Superior Press in 2017

	Max Design Capacity	Emission Factor	Annual Emissions			
Pollutant	(MSF/hour)	(lb/MSF)	(tons)	8760		hours/year
VOC	26.4	0.07	8.1			
PM	26.4	0.12	13.9			
PM10	26.4	0.102	11.8	PM10 = 85% of PM per DEQ AQ-EF03		
PM2.5	26.4	0.051	5.9	PM2.5 = 50% of PM per DEQ AQ-EF08		
Acetaldehyde	26.4	0.007	0.8			
Formaldehyde	26.4	0.003	0.3			
Methanol	26.4	0.04	4.6			
Phenol	26.4	0.006	0.7			
Propionaldehyde	26.4	0.003	0.3			

Everette Blilie of Jasper Wood Products estimates both presses maximum throughput is 143,270 MSF/year or 16.4 MSF/hour

Emission Factors are from ODEQ general permit for sawmills and plywood/veneer sources except PM (AP-42, Table 10.5-4).

EU-1 Dry Kilns (2)

The two dry kilns are now being used to "flash dry" treated wood and not to drive off wood moisture.

EU-2 Two (2) Veneer Dryers

RCO

	Max Annual Throughput	Emission Factor	Annual Emissions	CAM Maximum Pre-control		
Pollutant	(MSF 3/8")	(lbs/MSF 3/8")	(tons/year)	(tons)		
PM/PM10/PM2.5	200,000	0.022	2.2			
NOx	200,000	0.120	12.0			
CO	200,000	0.044	4.4			
VOC (normal)	200,000	0.006	0.6	11.0		(95% control assumption)
VOC (RCDME)	10,000	0.055	0.3			
Methanol	200,000	0.018	1.8	CAM not applicable because source is subject to the PCWP MACT		
Formaldehyde	200,000	0.001	0.1			

Emission factors for PM/PM10, CO and Formaldehyde are the average from representatvie source tests on identical & similar GeoEnergy RCO's

NOx emission factor is from AQGP-010 for "veneer dryer gas heat"

Methanol emission factor is from the testing performed at the facility on 03/10/15

VOC emission factor is from the facility's test on 03/10/15

VOCs are estimated for both normal operation and for routine control device maintenance exmeptions (RCDME), e.g., for RCO bakeouts

PM10 = 100% PM2.5 as per AQ-EF08

Cooling and Fugitive Sections

	Max Annual Throughput	Emission Factor	Annual Emissions
Pollutant	(MSF 3/8")	(lbs/MSF 3/8")	(tons/year)
VOC	200,000	0.14	14.0
Methanol	200,000	0.015	1.5
Formaldehyde	200,000	0.003	0.3
Phenol	200,000	0.009	0.9
Propionaldehyde	200,000	0.002	0.2
Acetaldehyde	200,000	0.007	0.7

Emission factors are from AQGP-010 for cooling and fugitive section factors (combined)

Veneer Dryer 1 is an AKI Dryer Manufacturers longitudinal, natural gas fired dryer, max 15 MSF/hr 3/8" basis.

Veneer Dryer 2 is a COE M62 jet, natural gas fired dryer, max 10 MSF/hr 3/8" basis

RCO is a GeoEnergy regenerative catalytic oxidizer purchased from the Roseburg FP Junction City mill (old Trus Joist mill)

RCO control estimate for VOC is 95%, design temp is 750-850F, <1 sec residence time, 37,000 acfm.

EU-3 Torit and Day Baghouses (TD-1 & TD-2 on Sanders and Skinner Saws) and Pneumafil Baghouse

		Max Annual Throughput	Max Monthly Throughput	Emission	Emission	Annual Emissions	CAM Maximum Pre-control
Device	Pollutant	(BDT/year)	(MSF/year)	Factor	Factor Units	(tons/year)	(tons)
Total	PM/PM10/PM2.5	13,500	NA	0.04	lb/BDT	0.3	27.0
Sander	VOC	NA	40,000	0.18	lb/MSF	3.6	
Sander	Methanol	NA	40,000	0.012	lb/MSF	0.2	
Sander	Formaldehyde	NA	40,000	0.002	lb/MSF	0.0	
Sander	Acetaldehyde	NA	40,000	0.003	lb/MSF	0.1	
Saw	VOC	NA	78,000	0.086	lb/MSF	3.4	
Saw	Methanol	NA	78,000	0.012	lb/MSF	0.5	
Saw	Formaldehyde	NA	78,000	0.003	lb/MSF	0.1	
Saw	Acetaldehyde	NA	78,000	0.0009	lb/MSF	0.0	
Total	VOC	NA	NA	NA		7.0	
Total	Methanol	NA	NA	NA		0.7	
Total	Formaldehyde	NA	NA	NA		0.2	
Total	Acetaldehyde	NA	NA	NA		0.1	

Emission factors from DEQ AQGP-010 for sanders and saws with baghouse control

Throughputs provided by facility

EU-6 Wood Treating: 2 Autoclaves for Fire Retardant Application				
	Max Annual Throughput	Max Monthly Throughput	Emission Factor	Annual Emissions
Pollutant	(pounds/year)	(pounds/month)	(lbsVOC/lb solution)	(tons/year)
VOC	120,000	10230	0	0.0
Thermex-FR fire retardant (Chemco Acquisistion Inc. MSDS) contains 0% VOC by weight				
EU-10 Putty Patching Operations				
	Throughput	Emission Factor	Annual Emissions	
Pollutant	(gallons/yr)	(lb/gallon)	(ton/yr)	
VOC	10,000	0.18	0.9	
Formaldehyde	10,000	0.058	0.3	
Emission factors are from SDS provided by manufacturer				
EU-AIA Aggregate Insignificant Activity Emissions				
Pollutant	Amount	Unit		
PM	1	tons/year		
PM10/PM2.5	1	tons/year		
VOC	1	tons/year		
See Aggregate Insignficant sheet for actual emission estimates and details				

Emission Factors

Emission Unit	Pollutant	Emission Factor	Emission Factor Units	Reference
EU5 Boiler (gas)	PM	2.5	lbs/MMSCF	DEQ AQ-EF05
EU5 Boiler (gas)	PM10	2.5	lbs/MMSCF	DEQ AQ-EF05
EU5 Boiler (gas)	PM2.5	2.5	lbs/MMSCF	DEQ AQ-EF05
EU5 Boiler (gas)	SO2	1.7	lbs/MMSCF	DEQ AQ-EF05
EU5 Boiler (gas)	NOx	100	lbs/MMSCF	DEQ AQ-EF05
EU5 Boiler (gas)	CO	84	lbs/MMSCF	DEQ AQ-EF05
EU5 Boiler (gas)	VOC	5.5	lbs/MMSCF	DEQ AQ-EF05
EU5 Boiler (oil)	PM	3.3	lb/1000 gallons	DEQ AQ-EF04
EU5 Boiler (oil)	PM10	2.3	lb/1000 gallons	DEQ AQ-EF04
EU5 Boiler (oil)	PM2.5	1.6	lb/1000 gallons	DEQ AQ-EF04
EU5 Boiler (oil)	SO2	71	lb/1000 gallons	DEQ AQ-EF04
EU5 Boiler (oil)	NOx	20	lb/1000 gallons	DEQ AQ-EF04
EU5 Boiler (oil)	CO	5	lb/1000 gallons	DEQ AQ-EF04
EU5 Boiler (oil)	VOC	0.2	lb/1000 gallons	DEQ AQ-EF04
EU7 Plywood Press	PM	0.12	lb/MSF	AP-42, Table 10.5-4
EU7 Plywood Press	PM10	0.102	lb/MSF	AP-42, Table 10.5-4
EU7 Plywood Press	PM2.5	0.051	lb/MSF	AP-42, Table 10.5-4
EU7 Plywood Press	VOC	0.07	lb/MSF	DEQ AQGP-010
EU2 -Veneer Dryer (RCO)	PM	0.022	(lbs/MSF 3/8")	ST on similar equipment
EU2 -Veneer Dryer (RCO)	PM10	0.022	(lbs/MSF 3/8")	ST on similar equipment
EU2 -Veneer Dryer (RCO)	PM2.5	0.022	(lbs/MSF 3/8")	DEQ AQ-EF08
EU2 -Veneer Dryer (RCO)	NOx	0.12	(lbs/MSF 3/8")	DEQ AQGP-010
EU2 -Veneer Dryer (RCO)	CO	0.0435	(lbs/MSF 3/8")	ST on similar equipment
EU2 -Veneer Dryer (RCO)	VOC (normal)	0.005513113	(lbs/MSF 3/8")	ST 03/10/15
EU2 -Veneer Dryer (RCO)	VOC (RCDME)	0.055131133	(lbs/MSF 3/8")	ST 03/10/15 x 10
EU2 -Cooling and Fug.	VOC	0.14	(lbs/MSF 3/8")	DEQ AQGP-010
EU-3 sander and saw	PM	0.04	lb/BDT	DEQ AQGP-010
EU-3 sander and saw	PM10	0.04	lb/BDT	DEQ AQGP-010
EU-3 sander and saw	PM2.5	0.04	lb/BDT	DEQ AQGP-010
EU-3 sander	VOC	0.18	lb/MSF	DEQ AQGP-010
EU-3 saw	VOC	0.086	lb/MSF	DEQ AQGP-010
EU-10 Putty Patch	VOC	0.18	lb/gal	Mfg SDS
EU-8 Paved Roads	PM/PM10/PM2.5	0.02	lb/hr of operation	AP-42 13.2.1, Facility 2010 Title V App.

RCO Test Data

RCO	Test Date	Species	VOC	PM	CO	NOx	Methanol	Formaldehyde
RCO-R	5/9/2012	Fir/W fir	0.003	0.011	0.031	0.003	0.0005	0.0003
RCO-R	5/9/2012	Pine	0.003	0.017	0.056	0.004	0.001	0.0007
RCO-S	6/17/2008	Fir	0.017	0.02				
RCO-S	6/10/2014		0.132	0.038			0.003	
RCO-J	9/12/2007	Fir	0.017	0.022			0.0013	0.0008
RCO JWP	3/10/2015	Fir	0.005513				0.018115	
	Average (excl JWP)		0.034	0.022	0.044	0.004	0.001	0.001
All values in lb/MSF 3/8" basis								
RCO-R is the Rogue River facility								
RCO-S is the Sutherlin facility								
RCO-J is the Junction City facility (the actual RCO used at Jasper).								
The applicant included the Rogue and Sutherlin facility tests as representative of Jasper emissions								

Natural Gas-Boiler Criteria Pollutants and HAPs

Boiler Specifications						
Max Heat Input	25.2	MMBtu/hr	12.6 MMBtu/hr each			
Heat Value - Natural Gas	1026	MMBtu/MMCF				
Max Hrs Operation	8760	hr/yr				

Criteria Pollutants

Pollutant	NG Emission Factor (lb/MMCF)	NG Emission Factor Units	Potential Hourly Emissions (lbs/hr)	Potential Annual Emissions (TPY)
$PM/PM_{10}/PM_{2.5}$	2.5	lbs/MMCF	0.06	0.27
Carbon Monoxide	84	lbs/MMCF	2116.80	9.04
Nitrogen Oxides	100	lbs/MMCF	2520.00	10.76
Sulfur Dioxide	1.7	lbs/MMCF	0.04	0.18
VOCs	5.5	lbs/MMCF	0.14	0.59
GHGs (CO_2 equiv.)	117	lbs/MMBtu	2,951	12,925

HAP Emissions

Pollutant	NG Emission Factor (lb/MMCF)	Potential Hourly Emissions (lbs/hr)	Potential Annual Emissions (TPY)	Federal HAP	CAO Air Toxic
Organics					
Acetaldehyde	0.0031	7.6E-05	3.3E-04	Yes	Yes
Acrolein	0.0027	6.6E-05	2.9E-04	Yes	Yes
Benzene	0.0058	1.4E-04	6.2E-04	Yes	Yes
Ethyl Benzene	0.0069	1.7E-04	7.4E-04	Yes	Yes
Formaldehyde	0.0123	3.0E-04	1.3E-03	Yes	Yes
Hexane	0.0046	1.1E-04	4.9E-04	Yes	Yes
Naphthalene	0.0003	7.4E-06	3.2E-05	Yes	Yes
POM (inc. PAHs)	0.0004	9.8E-06	4.3E-05	Yes	Yes
Propylene	0.5300	1.3E-02	5.7E-02	No	Yes
Toluene	0.0265	6.5E-04	2.9E-03	Yes	Yes
Xylenes	0.0197	4.8E-04	2.1E-03	Yes	Yes
Inorganic Gases					
Ammonia	3.2000	7.9E-02	3.4E-01	No	Yes
Metals					
Arsenic	2.0E-04	4.9E-06	2.2E-05	Yes	Yes
Beryllium	1.2E-05	2.9E-07	1.3E-06	Yes	Yes
Cadmium	1.1E-03	2.7E-05	1.2E-04	Yes	Yes
Chromium, Hexavalent	1.4E-03	3.4E-05	1.5E-04	Yes	Yes
Manganese	3.8E-04	9.3E-06	4.1E-05	Yes	Yes
Mercury	2.6E-04	6.4E-06	2.8E-05	Yes	Yes
Nickel	2.1E-03	5.2E-05	2.3E-04	Yes	Yes
Selenium	2.4E-05	5.9E-07	2.6E-06	Yes	Yes
Total =	3.82		0.41	0.01	0.41

GHG-Related Emission Factors

Pollutant	Natural Gas (kg/MMBtu)	GWP
Carbon Dioxide (CO_2)	53.06	1
Methane (CH_4)	1.0E-03	25
Nitrous Oxide (N_2O)	1.0E-04	298

Notes:

$PM/PM_{10}/PM_{2.5}$, SO_2, NOx, CO, and VOC emissions factors are based on DEQ Emission Factors Gas Fired Boilers, AQ-EF05 (08/01/2011)

GHG emission factors are from 40 CFR 98, Tables C-1 and C-2

Toxics emission factors, except for metals and ammonia, are based on Ventura County APCD "AB 2588 Combustion Emission Factors"

Toxics emission factors for metals are based on US EPA AP-42 Section 1.4 - Natural Gas Combustion (07/1998)

Ammonia emission factor is based on US EPA WebFire SCC 1-002-006-02 for an uncontrolled boiler

Chromium assumed to be hexavalent

Baseline Emission Rates					
Wood-fired Boiler (Suspension Fuel Cell)					
	Max	Emission	Annual		
	Design capacity	Factor	Emissions		
Pollutant	(lbs steam/year)	(lbs/1000 lbs steam	(tons)		
PM	140,000,000	0.4	1.4		
PM10	140,000,000	0.2	0.7		
SO2	140,000,000	0.014	1.0		
NOx	140,000,000	0.31	21.7		
CO	140,000,000	1	70.0		
VOC	140,000,000	0.13	9.1		
Emission Factors are from General ACDP for Fuel Cell					
PM/PM10 emissions assume baghouse provides similar control as to that of ESP (95%)					
Boiler was uncontrolled in baseline year but rate is reduced assuming control is needed to meet rules					
Three (3) Cyclones					
	Max Annual	Emission	Annual		
	Throughput	Factor	Emissions		
Pollutant	(BDT/year)	(lbs/BDT)	(tons/year)		
PM/PM10	21,412	0.5	5.4		
Emission factor from General ACDP for medium-efficiency cyclone					
Throughput is estimate of actual planer shavings and sawdust					
Four (4) Dry Kilns					
	Max	Emission	Conversion	Annual	
	throughput	Factor	Factor	Emissions	
Pollutant	(bd feet/year)	(lb/1000 bd feet)	(ton/lb)	(tons)	
VOC	30,000,000	0.6	0.0005	9.0	
PM/PM10	30,000,000	0.02	0.0005	0.3	
Estimate of throughput is from 1984 permit application					
VOC and PM/PM10 factors are from General ACDP for predominant species dried (doug fir)					
GHG	**Actual Emissions from 2007 Calendar Year**				
Boiler Fuel	Amount	Units	CO2e Emissions		
Natural Gas	500,000	Hundred Cubic Ft	2725		
Wood	7,000	Ton	11728		
Distillate No. 2	186,845	Gallon	1909		
See copy of Excel calculator for details		TOTAL	16362	metric ton	
			17998.2	US ton	
SUMMARY					
Pollutant	Baseline				
PM	7.1				
PM10	6.4				
SO2	1.0				
NOx	21.7				
CO	70.0				
VOC	18.1				
GHG	17998				