

**Lane Regional Air Protection Agency
 Standard Air Contaminant Discharge Permit**

Review Report

J.H. Baxter & Co. – Eugene Plant
 Permit No. 200502
 3494 Roosevelt Blvd.
 Eugene, OR 97402

Source Information:

SIC	2491, 4961
NAICS	321114, 221330

Source Categories (LRAPA Title 37, Table 1)	B – 73 C – 3 Electing to Maintain Baseline
Public Notice Category	III

Compliance and Emissions Monitoring Requirements:

Unassigned emissions	
Emission credits	
Special Conditions	X
Compliance schedule	

Source test [date(s)]	See permit
COMS	
CEMS	
Ambient monitoring	

Reporting Requirements

Annual report (due date)	Feb 15, July 20 (TRI)
NSPS Report (due date)	Jan 30, July 30

Monthly report (due dates)	
Excess emissions report	X
Other reports	GHG 3/31

Air Programs

NSPS (list subparts)	Dc
NESHAP (list subparts)	A, QQQQQQ
CAM	
Regional Haze (RH)	
Synthetic Minor (SM)	
Part 68 Risk Management	
Title V	
ACDP (SIP)	
New Source Review (NSR)	
Prevention of Significant Deterioration (PSD)	
Acid Rain	
Clean Air Mercury Rule (CAMR)	
TACT	X

REVIEW REPORT

J.H. Baxter & Co. - Eugene Plant
<http://www.jhbaxter.com/>

Permit No. 200502

1. Permittee Identification

J.H. Baxter & Co – Eugene Plant (“the facility”) operates a wood preserving facility located at 3494 Roosevelt Boulevard in Eugene.

2. General Background Information

The facility treats various wood products such as railroad ties, electrical service poles, and crossarms with water and oil-based chemicals. The wood products are treated under pressure in a closed cylindrical vessel or retort by forcing water-borne or oil-borne preservatives deep into the cells of the wood. The maximum operating schedule for the facility is 8,760 hours per year (24 hours per day, 7 days per week, and 52 weeks per year).

3. Reasons for Permit Action

The facility operates a process listed in Table 1, Part B, of LRAPA Title 37 and is, therefore, required to obtain a permit. The facility’s ACDP was originally scheduled to expire on November 09, 2015. The existing permit remains valid until the proposed permit is issued because the facility submitted a timely and complete application for renewal. The primary reason for the permit issuance is to renew the expired permit and to update permit conditions.

4. Emission Unit Description

The emission units regulated by the permit are the following:

Emission Unit	Emission Unit Description	Control Equipment
EU-1	Waterborne and Oil-based Wood Preserving including: <ul style="list-style-type: none">• 5 Retorts (#81, #82, #83, #84, and #85),• Storage and Work Tanks,• Railcar agitation/recirculation and unloading, and• Treated Storage	Vacuum Pumps and Condensers with one (1) Carbon Ventilation System (VPC-6) One ammonia scrubber (S1)
EU-2	3 Dry Kilns – natural gas, direct-fired	NA
EU-3	2 Gas-Fired Boilers with No. 2 Oil Backup: <ul style="list-style-type: none">• Johnstone – 16.8 MMBtu/hr, tangential, fire tube (1986)• Kewanee – 25.2 MMBtu/hr, tangential, fire tube (2004)	NA

Emission Unit	Emission Unit Description	Control Equipment
EU-4	Wood working: <ul style="list-style-type: none"> • Deep Incisor • Lumber Incisor • Framing machine and Framing Skids • Timber Incisor/guardrail framing 	NA
EU-5	Process Water System and Water Treatment: <ul style="list-style-type: none"> • Cooling Tower (CT) • Evaporator (T40-S, T45-S, and T46-S) • Hot Water Well 	NA

The facility reported during the renewal drafting that they no longer have any operating cyclones; formerly there were three cyclones (C-1, C-2, and C-3) onsite that were used to control particulate emissions from woodworking.

5. Process Description

The basic process at the facility is as follows. The facility has cut, virgin (green) wood, as well as wood kiln-dried by others, transported to the site. Wood received green is either dried to an optimum moisture content onsite in a lumber drying kiln, or treated green. Certain treatment processes require kiln-dried wood to enhance the penetration of the treatment chemical. Prior to treatment, the wood is taken to an incisor. The incisor mechanically cuts slits into the wood. There are three industrial incisors at the facility. Poles and pilings are incised up to 2.5 inches deep, timber is incised up to 0.75 inches deep, and lumber is incised up to 0.5 inches deep.

The incised wood is put on trams which ride on rails into the retort chambers. Each chamber is dedicated to one of the preservatives, except Retort #82, which can be switched between penta and ammonia-based chemical treatment, with a cleaning step in between.

The oil based preservatives used at the facility are:

- pentachlorophenol (penta);
- creosote; and
- a creosote 50:50 heavy oil blend (#6 or “bunker C”).

The water based preservatives used at the facility are:

- ammonia copper quat, type B, (ACQ-C); and
- ammoniacal copper zinc arsenate (ACZA or the trade name “Chemonite”).

The wood is then pushed into the retort. The retort is filled with the preservative and the vessel is then pressurized. Once the wood has been treated, the pressure is relieved and the liquid is pumped out of the retort into a holding tank. The retort is then opened and the “charge” is pulled out to dry on the drip pad. The charges are required to stay on the drip pads until the treatment engineer certifies that dripping has ceased. Once the charge is determined to stop dripping, it is moved off of the pad and put into the storage yard until shipped.

Current treatment types by retort number:

- Retort #81: Creosote, 50/50, Pentachlorophenol
- Retort #82: ACZA, Pentachlorophenol
- Retort #83: Creosote, 50/50
- Retort #84: ACZA, ACQ
- Retort #85: Pentachlorophenol

6. Enforcement History

The following is a chronological list and description of all the enforcement related actions for the facility:

- The facility was issued Notice of Permit Violation 94-62 on October 7, 1994 for failure to submit certain operational records required by the permit. LRAPA reviewed correspondence sent by the facility in March and April of 1993 in which the facility requested modification of those reporting requirements for which LRAPA found the facility to be in violation. The notice was rescinded by LRAPA on October 13, 1994 and the file was closed.
- LRAPA issued Notice of Non-Compliance (NON) 2733 on November 11, 2004, alleging that the facility utilized for combustion purposes more No. 6 fuel oil than allowed by permit (283,894 gallons) in calendar years 2001 (290,123 gallons), and 2002 (412,616 gallons). On April 25, 2005, the facility submitted in a timely manner permit modification fees in the amount of \$2,184 which fully satisfies the requirements of SFO 04-2733. The alleged violation was resolved in Stipulated Final Order 04-2733 and the file closed on April 25, 2005. Aspects of the resolution included readjustment of the facility baseline emission rates for criteria pollutants based on the usage of 534,547 gallons of No. 6 fuel oil.
- NON 2808 was issued to the facility on September 17, 2007 for failure to take reasonable precautions to prevent particulate matter from becoming airborne from demolition, demolition materials transport and facility yard activities. Notice of Civil Penalty (NCP) No. 07-2808 was issued to the facility on November 9, 2007. SFO 07-2808 required that the facility pay an \$800 civil penalty. The penalty was paid by the facility on February 4th, 2008 and the file was closed.
- NON 3297 was issued to the facility on May 27, 2011 for failure to perform emission testing within 180 days of permit issuance; failure to submit in a timely manner for LRAPA approval an amended Operation and Maintenance Plan subsequent to LRAPA-approved January 24, 2011 extension and March 2, 2011 meeting. NCP 11-3297 was issued to the facility on March 16, 2012 with a penalty imposed in the amount of \$6,126. SFO 11-3297 was signed on May 16, 2012 by LRAPA and on May 23, 2012 by the facility; the SFO required that the facility pay a civil penalty in the amount of \$3,276. The facility paid the required amount on May 25, 2012 and the file was closed.
- NON 3361 was issued to the facility on January 26, 2012 for failure to demonstrate carbon adsorption unit emission reduction efficiency of 75%; failure to immediately notify LRAPA of an excess emission event; and, failure to identify and take corrective action to demonstrate a continuous carbon adsorption unit emission reduction efficiency of at least 75%. NCP 12-3361 was issued on June 7, 2012 with a penalty imposed in the amount of \$6,900. SFO 12-3361 was signed on September 5, 2012 by LRAPA and on September 10, 2012 by the facility; the SFO required that the facility pay a civil penalty in the amount of \$2,850. The facility paid the required amount on September 17, 2012 and the file was closed.
- NON 3363 was issued to the facility on February 3, 2012 for failure to account for emissions from “unit T40-S” (i.e., the evaporator tank in EU-5, Process Water System and Water Treatment) in permit application; failure to account or T40-S operations in Operation and Maintenance Plan; T40-S emissions causing injury, detriment, public nuisance or annoyance;

T40-S water vapor emissions causing detriment to the health, safety or welfare; concealment of emissions from T40-S; masking of emissions from T40-S; and, failure to identify T40-S as odor source and evaluate practices or controls to abate odors. Subsequently, by way of numerous meetings and correspondence, the facility and LRAPA agreed to close the file after the evaporator was included.

7. Odor Complaints

The following table lists complaints by year for the previous 15 years, since 2003:

Year	Number of Odor Complaints
2018	3 (as of 4/10/18)
2017	27
2016	11
2015	16
2014	45
2013	94
2012	63
2011	50
2010	79
2009	112
2008	62
2007	93
2006	226
2005	653
2004	762
2003	437

8. Special Conditions – Conditions from the Best Work Practices Agreement

Suspected Nuisance: Due to odor complaints from neighbors in the area surrounding the facility, LRAPA declared the facility a suspected nuisance on December 7, 2001.

Best Work Practices Agreement: A Best Work Practices Agreement was signed on February 10, 2005, by LRAPA and the facility. An amendment to the BWPA was signed on October 19, 2006. The existing permit contains the applicable requirements of the BWPA and the amendment of the BWPA as required by LRAPA 49-030(2). Upon issuance of the previous permit on November 9, 2010, the BWPA and amendment were no longer in effect.

Special Permit Conditions: The following permit requirements, including equipment and work practice changes, were derived from the BWPA and were developed to reduce odor impacts:

- Carbon adsorption control (VPC-6) - Currently controls vapors from: Work Tanks #2, #3, #4 and #7; and, Retort vacuum pump systems VP-81 and VP-83. The adsorber efficiency is monitored weekly beginning 90 days after replacement of carbon media and is replaced once the monitoring shows the efficiency is below 75%.
- Vacuum pump systems (VP-81, VP-83, and VP-85), condensers on Retorts #81 and #85, and water pumps on Retorts #81 and #85.
- Treated material cooling in retorts: a work practice termed “crack and vac” is used to increase the volume of air moving over the treated material to more effectively cool the charges in Retort #81 and Retort #83. The practice involves cracking the retort door and pulling a vacuum so that the vapors are routed to the carbon adsorber.

- Use of Ecosorb solution mixed in treating solutions to reduce odors. Ecosorb is an essential oil-based product that may help reduce odors by binding with and neutralizing odorous compounds. Ecosorb is added to the rail car before offloading into tanks.
- Work practice to minimize treated product stored onsite and to strategize storage facility locations that will minimize offsite odor impacts. To the extent possible, creosote treated products are stored in a covered shed or in a location farthest from residential areas. Stacking procedures are also used to minimize the exposed surface area of treated wood storage.
- The facility is also required to maintain an LRAPA-approved Operations and Maintenance Plan (O&M Plan) as required by the permit. The purpose of the plan is to ensure proper operation and maintenance of control systems and continued work practices to minimize treatment-related odors on the surrounding community.

9. Performance Test Results

The facility is required to conduct periodic carbon efficiency monitoring and replace the activated carbon if results show an efficiency of less than 75%. Efficiency monitoring by the facility on the VPC-6 carbon ventilation system has resulted in several changeouts of the carbon media each year.

10. Plant Site Emission Limits (PSELs)

The following annual (rolling 12-month) PSELs are detailed in the permit (all values are in tons per year).

Annual (12-Month Rolling) PSELs
 (tons/year)

Source	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO	GHG
Plant Site Total	24	14	9	39	39	39	99	74,000

In accordance with LRAPA title 42 the Plant Site Emission Limits (PSELs) in the permit are set at the Generic PSEL level. The attachment to this review report contains the calculations of estimated emissions based upon actual throughputs.

The facility is required to perform monthly emission estimations to determine compliance with the 12-month rolling PSELs.

11. Baseline Emission Rate (BER), Netting Basis and Significant Emission Rate (SER)

The Baseline Emission Rate (BER) for 1978 was established in the previous permit and was based on the operation of five (5) retorts, three (3) boilers, and four (4) dry kilns. However, the BERs for the boilers were recalculated in the previous permit to account for the burning of Bunker C (No. 6 Fuel Oil) in the three (3) boilers. The attachment to this review report contains the recalculations of the VOC BER. The baseline year emissions (tons per year) and SER comparison for the facility is as follows:

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limit (PSEL)		
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase over netting basis (tons/yr)
PM	2.7	2.7	2.7	24	24	21.3
PM ₁₀	1.3	1.3	1.3	14	14	12.7
PM _{2.5}	NA	1.3	1.3	9	9	7.7
CO	1.3	1.3	1.3	99	99	97.7
NO _x	15	15	15	39	39	24
SO ₂	73	73	73	39	39	-34
VOC	8.3	8.3	8.3	39	39	30.7
GHG	2,687	NA	2,687	NA	74,000	71,313

VOCs from the wood treating process are limited to a maximum of approximately 3 tons/year per the production limit in Condition 3 of the permit. The one (1) million cubic feet/year limit on wood treated with all creosote types (100% and 50/50) is a requirement maintained from the Best Work Practices Agreement.

The facility also maintains the following Unassigned Emissions:

Pollutant	Unassigned Emissions (tons/yr)
PM	0
PM ₁₀	0
CO	0
NO _x	0
SO ₂	34
VOC	0

12. Other Emission Limitations

The permit includes general visible emissions limitations for the facility. The permit also includes general grain-loading (particulate matter) limitations for the facility.

13. Hazardous Air Pollutants (HAPs)

The projected maximum potential HAP emissions from the facility are shown in the following table:

Pollutant	Pounds/year	Tons/year
Acrolein	162	0.08
Barium	0.44	0.0002
Benzene	0.21	0.00011
Biphenyl	74.2	0.0371
Cadmium	0.06	3.03E-05
Penta	2.4	0.0012
Cobalt	0.005	2.3E-06
Formaldehyde	151.7	0.076
Hexachlorobenzene	2.9E-06	1.45E-09
Hexane	2.9E-06	1.45E-09
Lead	0.03	1.38E-05
Manganese	0.02	1.05E-05
Mercury	0.03	0.000013
Methanol	2260.8	1.13
Naphthalene	4696.7	2.3
Nickel	0.21	0.00011
PAH	3533	1.8
Furans	2.3E-11	1.13E-14
Zinc	1.6	0.0008
Acetaldehyde	1008	0.5
Propionaldehyde	115	0.06
TOTAL	12,006	6.0

Methanol, acetaldehyde, formaldehyde, propionaldehyde, and acrolein are HAPs predominantly emitted from dry kilns while the other HAPs originate from the wood treating process.

14. National Emission Standards for Hazardous Air Pollutants (NESHAPs)

The HAP estimations show that the facility emits less than 10 tons per year of any single HAP and less than 25 tons per year for any combination of HAPs and is, therefore, a minor or “Area” source of HAPs.

The facility is subject to the area source wood-treatment NESHAP (Subpart QQQQQQ – National Emission Standards for Hazardous Air Pollutants for Wood Preserving Area Sources) and the requirements from the NESHAP are contained in the permit.

The facility's natural gas-fired boilers in EU-3 are also potentially subject to the Boiler area source NESHAP (40 CFR Subpart JJJJJJ or 6J). However, the permit limits firing of the boilers on oil only during periods of gas curtailment, gas supply interruptions, startups or for periodic testing. The permit limits periodic testing on oil to a combined total of 48 hours during any calendar year, so the boilers are defined as gas boilers under the NESHAP and there are no requirements from the NESHAP that apply to the boilers.

15. Emissions of Ammonia

Ammonia is not a HAP, nor is it a directly-regulated air or criteria pollutant. The permit does not contain any limits on emissions of ammonia. However, complaints have been received as a result of ammonia emissions from the facility. The facility completed an ammonia emissions reduction plan in October of 1999 to minimize the emissions of ammonia. The permit contains maintenance and

inspection requirements for the ammonia scrubber to ensure proper operation of the emission reduction system. Maximum estimated emissions of ammonia are 23.1 tons/year.

16. Typically Achievable Control Technology (TACT)

LRAPA 32-008 requires an existing emission unit at a facility to meet TACT if the emissions unit has emissions of criteria pollutants greater than 10 tons per year of any gaseous pollutant or five (5) tons per year of particulate, and the emissions unit is not subject to the emissions standards under LRAPA Title 32, Title 33, Title 39, or Title 46 for the pollutants emitted, and the facility is required to have a permit. The boilers emit greater than 10 tons per year of VOC; while a formal TACT determination has not been performed, good combustion practices are likely to be TACT for the boilers. The dry kilns also emit greater than 10 tons per year of VOC; however, LRAPA has determined that dry kilns typically do not have add-on controls.

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

Because the proposed PSEs for all regulated pollutants are below the Significant Emission Rates (SERs) in LRAPA Title 38, the facility is not subject to LRAPA's New Source Review (NSR) requirements for PM₁₀, nor the Prevention of Significant Deterioration (PSD) requirements for SO_x, NO_x, CO, and VOC.

18. New Source Performance Standards (NSPSs)

Because the newest 600-horsepower boiler operates between 10 MMBTU per hour and 100 MMBTU per hour (28.8 MMBTU per hour) and because the boiler was constructed after June 9, 1989 (2004), the boiler is subject to the New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 60 Subparts A and Dc), including, but not limited to, recordkeeping of fuel usage and quarterly reporting.

As stated in the NSPS and LRAPA 32-065(2)(B), the sulfur content in the backup fuel may not exceed 0.5% by weight. The facility may demonstrate compliance with this rule by fuel supplier certification.

19. Recordkeeping

The facility is required to record and maintain a record of the following information for a period of five (5) years:

Item	Parameter	Minimum Recording Frequency
a.	Date, time, type, and quantity (cubic feet) of material removed from the retorts	Daily
b.	Amount of wood treated by treatment solution type (cubic feet)	Monthly
c.	Amount of wood dried by type (species) in dry kilns	Monthly
d.	Date and time of retort door openings	Per opening
e.	Name, type and quantity (gallons or pounds) of all chemicals used in the wood treatment process	Monthly
f.	Maintenance of scrubber and carbon ventilation system	As performed
g.	Amount of natural gas combusted (MMBtu)	Monthly
h.	Amount of oil combusted (gallons)	Monthly

Item	Parameter	Minimum Recording Frequency
i.	Hours of operation of each boiler on liquid fuel (hours)	Monthly
j.	Certification by supplier of sulfur content in oil	Upon request
k.	Pressure drop and inlet/outlet temperatures of the carbon ventilation system	Weekly
l.	Results of the Carbon Ventilation System (VP-6) efficiency monitoring	As performed
m.	A calendar year average of estimated average estimated naphthalene content (%) in creosote treating solution(s)	Monthly

20. Operation and Maintenance Plan

The facility is required to maintain an Operation and Maintenance (O&M) Plan which outlines the control equipment operating and maintenance procedures and control equipment elements that will be inspected, the frequency of inspections, and a generalized description of retort operations with respect to odor control equipment. The O&M Plan includes corrective measures that will be used when control equipment is not performing its function properly. Updated O&M Plans are required to be submitted to LRAPA for approval within 10 days of the change.

21. Reporting Requirements

The facility is required to estimate the emissions from wood treating on a monthly basis and submit an annual report with the 12-month rolling emission estimations by February 15th of each year. The facility is also required to report the upset log information as required by General Condition 15 in the annual report. By July 20th of each year, the facility is required to provide a copy and a summary of the Toxics Release Inventory (TRI) report for the previous calendar year. Greenhouse gas emissions must be submitted by March 31st each year as required by OAR 340-215, as applicable.

22. Production Limits

As specified in the Best Work Practices Agreement (BWPA) and the permit, the facility is also limited to no more than two (2) retort door openings in any 60-minute period for retorts operating with creosote and/or pentachlorophenol and treating no more than a total of one (1) million cubic feet (cubes) of material with creosote and 50/50. Because this is an odor-based production monitoring element, each cube of 50/50 product will be counted at a rate of 48% of the rate that cubes of 100% creosote products are counted.

The boiler PSELs are based upon the maximum design rate for each boiler operating 8,760 hours per year for both oil and gas and, therefore, no limits on the amount or type of fuel combustion are required.

23. Construction Approvals

The following are all the construction approvals on file for the facility, listed from newest to oldest:

LRAPA Approval Identification Code	Description	Approval Date
A15	Discontinue venting Tank 9 to carbon adsorption unit	04/13/15

LRAPA Approval Identification Code	Description	Approval Date
C13	Use of Tank 31 as a pentachlorophenol mix tank by dissolving penta block in low-odor FP9 carrier oil for treatment of products in Retorts #82 and #85	10/28/13
B13	Installation of VS-4 carbon adsorption unit and blower motor at Tank 20	04/11/13
A13	Conversion of Tank 25 for use as a pentachlorophenol work tank for Retort #82	02/22/13
B12	Addition of a vacuum pump for Retort #85	11/13/12
A12	Conversion of Tank 20 to a pentachlorophenol work tank and the addition of two small new tanks (T-20A and T-20B) and vapor phase carbon adsorber	05/07/12
A07	Tank 3 Vent and retort live steam capture and control systems	03/27/07
A06	Tank 20 Vent and retort live steam capture and control systems	01/09/07
A05	Installation of a carbon ventilation system	04/29/05
B05	Pentachlorophenol work tanks added to carbon ventilation system	07/28/05
A04	Installation of the new Kewanee 600 Hp Boiler (Gas and oil)	03/17/04
A03	Installation of 3 rd vacuum pump on #81 Retort System	03/02/04
Best Work Practices Agreement (BWPA)	#81 Retort Treating System Water Pump	12/03/03
BWPA	#85 Retort Treating System Water Pump	11/22/03
BWPA	Removal of Steam Ejectors from Treating Systems	1/14/04
BWPA	Modification of valving and piping on #83 Retort	12/18/03
BWPA	Installation of vacuum pump on #81 Retort	12/05/03
A02	Modification of vacuum process on Retorts #81, #83 and #85	10/17/02
B95	Replacement of Pole Kiln #1, Pole Kiln #2 and Boiler #3 with a new direct-fired natural gas kiln	12/29/97
Unidentified	Installation of new ammonia fume removal and recovery system (scrubber)	07/09/97
A95	Modification of existing retort from waterborne to oil-borne preservation use	04/13/95
A92	Creosote tank car circulation system	09/27/92
A88	Addition of a sixth retort	03/17/89
A80	Substitution of a small drum sander for four hand-held sanders	03/14/80
Unidentified	Substitution of a natural gas-fired boiler in place of wood-fired boiler	02/12/80
B76	Dust collection system with cyclone and bag filter	06/22/76
A76	Dry kiln duplicative of dry kiln installed in 1974	05/04/76

24. Public Notice

The permit will be on public notice from May 1, 2018 to June 5, 2018. Written comments may be submitted during the 35-day comment period. If requested by ten (10) or more individuals or an individual representing ten (10) or more individuals, there will be a public hearing following the comment period.

After the comment period and hearing (if requested), LRAPA will respond to comments received and then take final action to issue or deny the permit within 45 days of the close of the public comment or hearing period.

Max 04/20/18

Emission Factors and Emission Details:

EU-3: 600 HP GAS				
	Maximum	Emission	Annual	
	Design Capacity	Factor	Emissions	
Pollutant	(cubic ft/hr)	(lbs/10 ⁶ cuft)	(tons/year)	
PM/PM10/PM2.5	25,150	2.5	0.3	
SO2	25,150	1.7	0.2	
NOx	25,150	100	11.0	
CO	25,150	84	9.3	
VOC	25,150	5.5	0.6	
600 HP Kewanee Nat Gas (25,150 scf/hr (.02515 MMscf/hr) X 8760 hrs @ 100% firing rate) = 220.31 million scf/yr natural gas input/year				
EU-3: 600HP OIL				
	Maximum	Maximum	Emission	Annual
	Design Capacity	Allowable	Factor	Emissions
Pollutant	(gals/hr)	Annual Fuel Use	(lbs/1000 gals)	(tons)
		(gals/year)		
PM	180	8,640	3.3	0.0
PM10	180	8,640	2.3	0.0
PM2.5	180	8,640	1.6	0.0
SO2	180	8,640	71.0	0.3
NOx	180	8,640	20.0	0.1
CO	180	8,640	5.0	0.0
VOC	180	8,640	0.76	0.0
600 HP Kewanee #2 Fuel Oil (180 gals/hr (.18 Kgal/hr) X 48 hours @ 100% firing rate) = 1,577 Kgals/yr fuel oil input				
Facility accepted a limit of 48 hours per year of liquid fuel firing to maintain boilers in the "gas-fired" category of the Area Source Boiler NESHAP				

EU-3: 300 HP GAS				
	Maximum	Emission	Annual	
	Design Capacity	Factor	Emissions	
Pollutant	(cubic ft/hr)	(lbs/10 ⁶ cuft)	(tons)	
PM/PM10/PM2.5	13,580	2.5	0.1	
SO2	13,580	1.7	0.1	
NOx	13,580	100	5.9	
CO	13,580	84	5.0	
VOC	13,580	5.5	0.3	
300 HP Stone Johnston Natural Gas (13,580 scf/hr (.0136 MMscf/hr) X 8760 hrs @ 100% firing rate) = 118.96 million scf/yr natural gas input/year				
EU-3: 300HP OIL				
300 HP Stone Johnston #2 Fuel Oil (97 gals/hr X 48 hours @ 100% firing rate) = 850 Kgals/yr fuel oil input				
	Maximum	Maximum	Emission	Annual
	Design Capacity	Allowable	Factor	Emissions
Pollutant	(gals/hr)	Annual Fuel Use	(lbs/1000 gals)	(tons)
		(gals/year)		
PM	97	4,656	3.3	0.0
PM10	97	4,656	2.3	0.0
PM2.5	97	4,656	1.6	0.0
SO2	97	4,656	71	0.2
NOx	97	4,656	24	0.1
CO	97	4,656	5.0	0.0
VOC	97	4,656	0.76	0.0
Boiler gas factors are from DEQ's AQ-EF05				
Boiler oil factors are from DEQ's AQ-EF04				
Facility accepted a limit of 48 hours per year of liquid fuel firing to maintain boilers in the "gas-fired" category of the Area Source Boiler NESHAP (Subpar 6J)				

EU-2: Dry Kilns (3) - Wood Drying			
Pollutant	Maximum throughput (bd feet/year)	Emission Factor (lb/1000 bd feet)	Annual Emissions (tons)
VOC	36,000,000	3.8	68.4
PM/PM10/PM2.5	36,000,000	0.05	0.9
Methanol	36,000,000	0.144	2.6
Formaldehyde	36,000,000	0.0092	0.2
Acetaldehyde	36,000,000	0.028	0.5
Propionaldehyde	36,000,000	0.0032	0.1
Acrolien	36,000,000	0.0045	0.1

Emission factors are from the EPA 2015 Dry Kiln Summary for P.pine, except PM which is from DEQ's Sawmill ACDP
 Cubic feet to Board feet conversion assumes 1 cu.ft = 12 board feet, using Brereton log scale
 There are three (3) dry kilns in operation at the source: Pole Dry Kiln (American - 1997), Dry Kiln #1 (Moore - 1975), and Dry Kiln #2 (Moore -1975)

EU-2: Dry Kilns (3) - Direct-fired Gas Combustion			
Pollutant	Maximum Design Capacity (cubic ft/hr)	Emission Factor (lbs/10 ⁶ cuft)	Annual Emissions (tons/year)
PM	26,000	2.5	0.3
PM10	26,000	1.3	0.1
PM2.5	26,000	1.3	0.1
SO2	26,000	0.6	0.1
NOx	26,000	100.0	11.4
CO	26,000	84.0	9.6
VOC	26,000	5.5	0.6

DK1 Pole Dry Kiln has a maximum design rate of 16 MMBtu/hr; DK2 East Dry Kiln #1 is rated at 4 MMBtu/hr; and, DK3 East Dry Kiln #2 is rated at 6 MMBtu/hr
 Total = 227.76 MMCF/year potential gas usage. Annual emissions assume 8,760 hours of operation; 1CuFt = 1000 Btu; and, Emission Factors are for Gas Boilers in DEQ's AQ EF-05

EU-1 Waterborne and Oil-Based Wood Preserving				
Source	Pollutant	Throughput (cubic feet/year)	Emission Factor (lb/1000 cubic feet)	Annual Emissions (tons/year)
Creosote Treating	VOC/Creo	1,000,000	4.7	2.4
Creosote Treating	Napthalene	1,000,000	2	1.0
Pentachlorophenol Treating	VOC/Penta	2,000,000	0.00756	0.0076
Wood Treating	Total HAP	3,000,000	1.66	2.4943

Creosote treating includes both 100% and 50/50 treating types
 Wood treating includes emissions from: tanks, pressure treating point and fugitive releases, and treated wood storage
 Emission factors for VOC and Napthalene are derived from the 2009 Renewal Application; Penta and total HAP are from the 2015 Renewal Application

EU-4 Wood working
 There are no longer any cyclones or pneumatic conveyance of any wood residuals at the facility
 The remaining wood-working equipment includes the deep incisor and the lumber incisor which generate little to no PM

EU-5 Wastewater Treatment				
Source	Pollutant	Throughput (gal/year)	Emission Factor (lb/Mgal)	Emissions (lbs/year)
Process wastewater treatment	VOC/Creo	750,000	0.011	4
Thermal Evaporation	VOC/Creo	750,000	0.0002	0.0856
Groundwater treatment	VOC/PAC	26,280,000	0.00003	0.4202
			TOTAL	4.5058

Emissions from the 2014 TRI that was included in the 2015 Renewal Application

Pollutant	Baseline (PM2.5 Netting Basis)	Potential to Emit	Increase Over Baseline	PSEL
PM	2.7	1.6	-1.0	24
PM10	1.3	1.5	0.2	14
PM2.5	1.3	1.5	0.2	9
SO2	73	0.8	-72.6	39
NOx	15	28.5	13.8	39
CO	1.3	23.8	22.5	99
VOC	8.3	72.3	64.0	39
GHG*	2,687	34,814	32,127	74000

* GHGs are estimated based upon the total 68 MMBtu/hr from combustion sources and multiplied by the EF of 53.02 kg/MMBtu for CO2 (40 CFR Part 98)
 * GHG baseline emissions are estimated based upon the actual combustion emissions from the 2010 calendar year