

Air Case ID: 13211 Permit Id: 812

FIN No.: A0499

Company Name: STELLA-JONES CORPORATION - SILVER SPRINGS

HA Basin No: 102

Increment Tracked ☒

Permit No:

AP24910095.06 ✕

Select a Permit No ▼

Date App. Received:

09/16/2026



✕

Permit Writer:

Not Assigned (NA) ▼ ✕

Case Type:

Class 2 Revision w/Public Notice ▼ ✕

Default ODS Date:

09/30/2026



✕

Actual ODS Date:



Date App. to be Closed:

12/29/2026



✕

Stop Days:



Actual Date App. to be Closed: 12/29/2026

App. Incomplete?



Date App. Closed:



Fee Paid (\$):

2500 ✕

Case Description:



Comments:



Flag (For Class 4) :

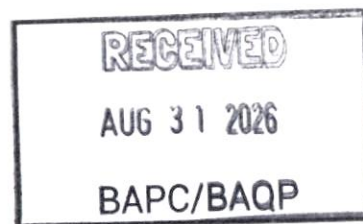
None ▼

Update

Cancel



RECEIVED
AUG 31 2026
ENVIRONMENTAL PROTECTION



August 19, 2026

Nevada Division of Environmental Protection
Bureau of Air Pollution Control, Class II Permitting Branch
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701-5249

ELECTRONIC MAIL & CERTIFIED MAIL/RETURN RECEIPT REQUESTED

RE: Class II Air Quality Permit Application Form
Revision of Permit AP2491-0095.05, Stella-Jones Corporation – Silver Springs

To Whom It May Concern,

Please find enclosed the Class II Air Quality Operating Permit Application Form for the Revision of Existing AQOP, permit number AP2491-0095.05 and all emissions calculations for each affected emissions unit for which we are requesting an increase in allowable wood production.

While the application is being processed, we would like to request written permission from NDEP Bureau of Air Pollution Control, Class II Permitting Branch to proceed with increased wood productive effective immediately for the proposed production increase.

Please feel free to contact me at (206) 852-1090 with any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tracey Jochim".

Tracey Jochim
Environmental Manager

Enclosures

CC: Chris Cook, Stella-Jones Corporation, Silver Springs



SJC Silver Springs

Narrative of Proposed Changes

Introduction

This narrative is provided as supporting information for the SJC wood treating facility, located in Silver Springs, for this air permit revision application. The facility is submitting this permit revision to request an increase in the allowable volume of wood product for S2.015 (Retort A), S2.016 (Retort B) and S2.014 (Retort C). Our request is to increase maximum allowable annual volume of wood products for combined S2.014, S2.015 and S2.016 to 4,000,000 cubic feet per year. We request that the maximum allowable volume of wood product for S2.014 and S2.015 be increased to 150,000 cubic feet per month and maximum allowable volume of wood product for S2.016 be increased to 120,000 cubic feet per month.

Wood Treating Processes

Emissions from the treating cylinders, treating solution work tanks, concentrate tank, and the drip pad are included in the wood preserving process area and are represented in the emissions calculations for this permit revision. Throughput from the wood preserving process is monitored by reviewing charge reports and tracking retort batches. Prior to the retort door being fully opened, the retorts are vented under vacuum to the Jet Vac scrubber, which is used as an odor scrubber and is not a pollution control device. Also, work tank P3 vents to this Scrubber. All emissions calculated are assuming no pollution control device efficiency.

Total emissions were estimated on the number of total charges per year based on a total treated wood throughput of 4,000,000 cubic feet per year. This throughput is considered the maximum for the facility. To streamline calculations, the cylinder dimensions/capacities were averaged to calculate an average cylinder volume. Using the average cylinder size/volume, an estimated 1,378 charges per year are required to treat the maximum production throughput. It should be noted that the actual number of charges for a smaller cylinder will be higher and for a larger cylinder, lower. However, use of the average cylinder size is a reasonable approach for estimating emissions. The void volume multiplied by the number of charges was used to calculate total VOC emissions for door opening. This permit revision allows the facility to increase production. Emissions associated with the increase in production while using DCOI preservative were calculated to be 19.85 TPY VOC and for CuNap preservative were calculated to be 15.19 TPY VOC.

Revision Request

The permit revision is requested to increase of throughput production for S2.015 (Retort A), S2.016 (Retort B) and S2.014 (Retort C

This replacement will increase production capabilities but will not alter the treatment process or the preservatives used at the facility.

Class II Air Quality Operating Permit Application Form

Facility Name: : Stella-Jones Corporation

Existing Facility ID: AAA0499

Existing Class II AQOP: AP 2491-0095.05

Type of Facility: Wood Treatment

Number of Units (including IA's) in Facility: 40

If a Revision, Number of Units (including IA's) Affected in Action: 3

Application Type:

- ☐ New AQOP
- ☒ Revision of Existing AQOP
- ☐ Renewal of Existing AQOP



Please Submit Application to:

Nevada Division of Environmental Protection
Bureau of Air Pollution Control, Class II Permitting Branch
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701-5249
Phone (775) 687-9349

September 2024
(Ver. 6)

IMPORTANT INFORMATION

- The Application packet contains:
 - General Company Information Form
 - Industrial Process Form
 - Combustion Equipment Form
 - Storage Silo Form
 - Liquid Storage Tanks Form
 - Insignificant Activities Form
 - Facility-Wide Potential to Emit Table
 - Surface Area Disturbance Form
 - Plant Boundary Coordinates Form
 - Plant Building Parameters Form
 - Application Certification Document with Required Attachments
- Please see the Guidance Document for additional instructions on how to complete the application.
- A printed copy of the application must be submitted (mailed or hand delivered), along with an electronic version.
- The application filing fee required by Nevada Administrative Code (NAC) 445B.327 must be submitted with the completed application. Checks must be made payable to the “Nevada State Treasurer, Environmental Protection” with “BAPC” noted in the memo line. Fees may also be submitted electronically at <https://epayments.ndep.nv.gov/>.
- This application shall be used for new Class II sources, revisions to existing Class II Air Quality Operating Permits, and the renewal of Class II Air Quality Operating Permits. This application packet is not for use for an Administrative Renewal, Administrative Amendment, a general permit, a stand-alone Surface Area Disturbance (SAD) permit, nor for a Request for Change of Location Approval permit for a temporary source.
- An application for a Class II Air Quality Operating Permit must be signed by the Responsible Official, as defined in NAC 445B.156. The certification/signature page is the last page of the application and the original “wet” signature must be provided.
- All items in the application must be addressed. If an item does not apply “N/A” or similar notation must be entered in the appropriate blank. All other information must be provided. Incomplete applications will be returned to the Responsible Official within 10 working days of receipt of the application.
- For the renewal of a Class II Operating Permit, a complete application and corresponding processing fee must be submitted in accordance with NAC 445B.3473, prior to the expiration date of the current permit. The BAPC suggests that the application be submitted well in advance of the timeline outlined in NAC 445B.3473 to ensure the application is deemed complete.
- If the facility applies for a permit that has not previously held a Class I or Class II operating permit, is located within 1,000 feet of a school, hospital, or residential area, or the Director determines that the change to the stationary source results in an increase in allowable emissions that exceeds the thresholds in NAC 445B.3457, the BAPC shall establish a 30-day period for public participation.

GENERAL COMPANY INFORMATION FORM

1. Briefly describe the permitted facility's process and include the Standard Industrial Classification (SIC) number and North American Industry Classification System (NAICS). Add details in the attached Process Narrative.

Wood Treating and Preserving SIC 2491 NAICS 321114

2. Company Name and Address that are to appear on the operating permit [NAC 445B.295(1)]:

Name: Stella-Jones Corporation
Address: 1680 Spruce Avenue
City: Silver Springs
State: Nevada Zip Code: 89429

3. Owner's Name and Address [NAC 445B.295(1)]:

Name: Stella-Jones Corporation
Address: 1640 Marc Avenue
City: Tacoma
State: Washington Zip Code: 98421

4. Facility Name and Address, if different from #2 [NAC 445B.295(1)]:

Name: NA
Address: _____
City: _____
State: _____ Zip Code: _____

5. If records are required under the operating permit will be kept at a location other than the facility, specify that location [NAC 445B.295(7)]:

Name: NA
Address: _____
City: _____
State: _____ Zip Code: _____

GENERAL COMPANY INFORMATION FORM (continued)

6. Responsible Official Name, Title and Mailing Address [NAC 445B.295(1)]:

Name: Andy Morgan
Title: Vice-President, Utility Pole Operations (Western Species)
Address: 1640 Marc Street
City: Tacoma
State: WA Zip Code: 98421
Phone Number: (253) 552-1040 x5331
Fax Number: (xxx) xxx-xxxx
E-mail Address: amorgan@stella-jones.com

Is this a new Responsible Official? ☐ Yes ☒ No

If yes, and the Responsible Official (RO) does not meet the definition under NAC 445B.156 then please fill out the "Responsible Official Identification/Designation/Change Request Form" and mail it in.

<https://ndep.nv.gov/air/permitting/download-permit-forms>

7. Plant Manager or other appropriate Contact Name, Title and Address [NAC 445B.295(1)]:

Name: Chris Cook
Title: Plant Manager
Address: 1680 Spruce Avenue
City: Silver Springs
State: Nevada Zip Code: 89429
Phone Number: (775) 577-2000 x6757
Fax Number: (xxx) xxx-xxxx
E-mail Address: ccook@stella-jones.com

8. Location and Driving Directions to the Facility (For Example: From Elko, Nevada, 4 miles south of I-80 at xx Interchange) [NAC 445B.295(8)]:

Hydrographic Basin (HA) Number: 102
HA Basin Name: Churchill Valley/Lyon County

Township(s): 18N N; Range(s): 25E E; Section(s): 30

UTM Coordinates for the Front Gate of the Facility (NAD 83, Zone 11):

4,362,530 m North; 308,940 m East;

Nearest City: Silver Springs

County: _____

Driving Directions from nearest city to the Facility: FROM US HWY 50 AND 95 ALT
SOUTH HWY IN SILVER SPRINGS, DRIVE SOUTH ON US95 ALT SOUTH TO SPRUCE
AVENUE. TRUN LEFT ON SPRUCE AVENUE AND TRAVEL 0.7 MILES TO THE
FACILITY.

GENERAL COMPANY INFORMATION FORM (continued)

9. Emission Cap Requested [NAC 445B.070 and NAC 445B.296(2)]:

☐ Yes ☒ No (If yes, provide details in the attached Process Narrative)

10. Important note for completing the Industrial Process, Combustion Equipment, Storage Silo, and Liquid Storage Tank Application forms: forms need to be included for permitted emission units and insignificant activities. Provide additional forms as needed. All items in the application must be addressed. If an item does not apply then "N/A" or similar notation must be entered in the appropriate blank (TBD, unknown, etc.).

11. Is the Facility located within 1,000 feet of a school, hospital, or residential area?

☒ Yes ☐ No

12. Does the Facility require controls or other limit restrictions to remain a Class II source?

☐ Yes ☒ No

13. Has the facility provided modeling for each non-combustion baghouse individually? (See Testing Determination System for Baghouses Guidance Document)

☐ Yes ☒ No

INDUSTRIAL PROCESS APPLICATION FORM CLASS II OPERATING PERMIT

System Number and Name: **S2.015**

Emission Unit Description: **Retort A**

Alternative Operating Scenario: ☐ Yes ☒ No

Insignificant Activity: ☐ Yes ☒ No If yes, identify exemption regulation: _____

Subject to a Federal Regulation (40 CFR Part 60, 61, or 63): ☐ Yes ☐ No If yes, identify in attached Process Narrative. _____

Description		Data	
Equipment Description	BAPC Emission Unit ID Applicable for Renewal or Revision	eg. Unit ID: S2.001, PF1.001	Increased production
	Source Classification Code (SCC)	eg. 3-03-024-04 for Conveyors	
	Manufacturer		
	Date Manufactured		
	Model Number		
	Equipment Dimensions (LxWxH)	feet	105' x 10'
	Drop Length if applicable	feet	
	Drop Height if applicable	feet	
	The drop height is measured from the ☐ top of the drop length ☐ middle of the drop length ☐ bottom of the drop length, in reference to the ground. Choose one, if applicable		
	Drop Horizontal Dimension 1 if applicable	feet	
	Drop Horizontal Dimension 2 if applicable	feet	
	Emissions Released Inside building?	yes/no	No
Location of Emission Source	UTM Northing (NAD 83, Zone 11)	m	308963.2
	UTM Easting (NAD 83, Zone 11)	m	14362527.6
Operating Parameters	Material Type Processed		Wood products
	Batch Process if applicable	unit /batch	3,500 ft3/charge (average)
	Start Time if operating less than 24 hours/day	hour:minute	
	End Time if operating less than 24 hours/day	hour:minute	
Control Equipment	Manufacturer		
	Manufacturer's Guarantee Included? If "yes", attach manufacturer's sheets immediately after these forms.	yes/N/A	
Stack Parameters	Stack Height	feet	
	Stack Inside Diameter	feet	
	Stack Temperature	°F	
	Stack Exit Velocity	feet/second	
	Actual Gas Volume Flow Rate	acfm	
	Dry Gas Volume Flow Rate If not included in detailed calculations.	dscfm	
	Stack Release Type	☐ vertical ☐ capped ☐ horizontal	

1. How will throughput be monitored for this emission unit? Identify if the throughput will be monitored at this emission unit or at another emission unit and the method (e.g. weigh belt).

NA

INDUSTRIAL PROCESS APPLICATION FORM CLASS II OPERATING PERMIT

System Number and Name: S2.016

Emission Unit Description: Retort B

Alternative Operating Scenario: ☐ Yes ☒ No

Insignificant Activity: ☐ Yes ☒ No If yes, identify exemption regulation: _____

Subject to a Federal Regulation (40 CFR Part 60, 61, or 63): ☐ Yes ☐ No If yes, identify in attached Process Narrative.

Description		Data	
Equipment Description	BAPC Emission Unit ID Applicable for Renewal or Revision	eg. Unit ID: S2.001, PF1.001	Increased production
	Source Classification Code (SCC)	e.g. 3-03-024-04 for Conveyors	
	Manufacturer		
	Date Manufactured		
	Model Number		
	Equipment Dimensions (LxWxH)	feet	102' x 8'
	Drop Length if applicable	feet	
	Drop Height if applicable	feet	
	The drop height is measured from the ☐ top of the drop length ☐ middle of the drop length ☐ bottom of the drop length, in reference to the ground. Choose one, if applicable		
	Drop Horizontal Dimension 1 if applicable	feet	
	Drop Horizontal Dimension 2 if applicable	feet	
	Emissions Released Inside building?	yes/no	No
Location of Emission Source	UTM Northing (NAD 83, Zone 11)	m	308963.2
	UTM Easting (NAD 83, Zone 11)	m	14362527.6
Operating Parameters	Material Type Processed		Wood products
	Batch Process if applicable	unit /batch	2,400 ft3/charge (average)
	Start Time if operating less than 24 hours/day	hour:minute	
	End Time if operating less than 24 hours/day	hour:minute	
Control Equipment	Manufacturer		
	Manufacturer's Guarantee Included? If "yes", attach manufacturer's sheets immediately after these forms.	yes/N/A	
Stack Parameters	Stack Height	feet	
	Stack Inside Diameter	feet	
	Stack Temperature	°F	
	Stack Exit Velocity	feet/second	
	Actual Gas Volume Flow Rate	acfm	
	Dry Gas Volume Flow Rate If not included in detailed calculations.	dscfm	
	Stack Release Type	☐ vertical ☐ capped ☐ horizontal	

1. How will throughput be monitored for this emission unit? Identify if the throughput will be monitored at this emission unit or at another emission unit and the method (e.g. weigh belt).

NA

INDUSTRIAL PROCESS APPLICATION FORM CLASS II OPERATING PERMIT

System Number and Name: S2.014

Emission Unit Description: Retort C

Alternative Operating Scenario: ☐ Yes ☒ No

Insignificant Activity: ☐ Yes ☒ No If yes, identify exemption regulation: _____

Subject to a Federal Regulation (40 CFR Part 60, 61, or 63): ☐ Yes ☐ No If yes, identify in attached Process Narrative. _____

Description		Data	
Equipment Description	BAPC Emission Unit ID <i>Applicable for Renewal or Revision</i>	eg. Unit ID: S2.001, PF1.001	Increased production
	Source Classification Code (SCC)	eg. 3-03-024-04 for Conveyors	
	Manufacturer		
	Date Manufactured		
	Model Number		
	Equipment Dimensions (LxWxH)	feet	105' x 10'
	Drop Length <i>if applicable</i>	feet	
	Drop Height <i>if applicable</i>	feet	
	The drop height is measured from the ☐ top of the drop length ☐ middle of the drop length ☐ bottom of the drop length, in reference to the ground. <i>Choose one, if applicable</i>		
	Drop Horizontal Dimension 1 <i>if applicable</i>	feet	
	Drop Horizontal Dimension 2 <i>if applicable</i>	feet	
	Emissions Released Inside building?	yes/no	No
Location of Emission Source	UTM Northing (NAD 83, Zone 11)	m	308963.2
	UTM Easting (NAD 83, Zone 11)	m	14362527.6
Operating Parameters	Material Type Processed		Wood products
	Batch Process <i>if applicable</i>	unit /batch	3,600 ft3/charge (average)
	Start Time <i>if operating less than 24 hours/day</i>	hour:minute	
	End Time <i>if operating less than 24 hours/day</i>	hour:minute	
Control Equipment	Manufacturer		
	Manufacturer's Guarantee Included? <i>If "yes", attach manufacturer's sheets immediately after these forms.</i>	yes/N/A	
Stack Parameters	Stack Height	feet	
	Stack Inside Diameter	feet	
	Stack Temperature	°F	
	Stack Exit Velocity	feet/second	
	Actual Gas Volume Flow Rate	acfm	
	Dry Gas Volume Flow Rate <i>If not included in detailed calculations.</i>	dscfm	
	Stack Release Type	☐ vertical ☐ capped ☐ horizontal	

1. How will throughput be monitored for this emission unit? Identify if the throughput will be monitored at this emission unit or at another emission unit and the method (e.g. weigh belt).

NA

COMBUSTION EQUIPMENT APPLICATION FORM CLASS II OPERATING PERMIT

System Number and Name:

Emission Unit Description:

Alternative Operating Scenario: ☐ Yes ☐ No

Insignificant Activity: ☐ Yes ☐ No If yes, identify exemption regulation: _____

Subject to a Federal Regulation (40 CFR Part 60, 61, or 63): ☐ Yes ☐ No If yes, identify in process narrative. _____

Description		Data
Equipment Description	BAPC Emission Unit ID Applicable for Renewal or Revision	eg. Unit ID: S2.001
	Source Classification Code (SCC)	e.g. 3-03-024-04 for Conveyors
	Manufacturer	
	Date Manufactured	
	Model and Serial Number	
	Emissions Released Inside building?	yes/no
For Reciprocating Internal Combustion Engines (RICE) Only	Type of Engine Code (See Notes*)	
	Date Constructed	month/day/yr
	Cylinder Displacement	liter/cylinder
	EPA Tier #	
Location of Emission Source	UTM Northing (NAD 83, Zone 11)	m
	UTM Easting (NAD 83, Zone 11)	m
Operating Parameters /Fuel Usage	Fuel Type	
	Fuel Flow Meter Installed?	yes/no/NA
	Sulfur Content	%
	Heat Content	Btu/unit
	Start Time if operating less than 24 hours day	hour:minute
	End Time if operating less than 24 hours day	hour:minute
Control Equipment	Manufacturer	
	Manufacturer's Guarantee Included? If "yes", attach manufacturer's sheets immediately after these forms.	yes/N/A
Stack Parameters	Stack Height	feet
	Stack Inside Diameter	feet
	Stack Temperature	°F
	Stack Exit Velocity	feet/second
	Actual Gas Volume Flow Rate	acfm
	Dry Gas Volume Flow Rate If not included in detailed calculations.	dscfm
	Stack Release Type	☐ vertical ☐ capped ☐ horizontal

Notes*

Code	Description	Code	Description
LU	Limited Use	E-SI	Emergency Spark Ignition
LDG	Landfill/Digester Gas	SI4SRB	Spark Ignition 4-Stroke Rich Burn
NECI	Non-Emergency Compression Ignition	SI4SLB	Spark Ignition 4-Stroke Lean Burn
ECI	Emergency Compression Ignition	SI2SLB	Spark Ignition 2-Stroke Lean Burn

COMBUSTION EQUIPMENT APPLICATION FORM CLASS II OPERATING PERMIT (continued)

Emission Unit Description:

1. How will fuel consumption be monitored for this emission unit? (e.g. maximum fuel consumption rate supplied by manufacturer, fuel flow meter).

2. Does this unit have the capability to bypass air pollution controls in an emergency situation as defined under NAC 445B.056?:
☐ Yes ☐ No

STORAGE SILO APPLICATION FORM CLASS II OPERATING PERMIT

System Number and Name:

Emission Unit Description:

Alternative Operating Scenario: ☐ Yes ☐ No

Insignificant Activity: ☐ Yes ☐ No If yes, identify exemption regulation: _____

Subject to a Federal Regulation (40 CFR Part 60, 61, or 63): ☐ Yes ☐ No If yes, identify in process narrative. _____

Description			Data	
Equipment Description	BAPC Emission Unit ID	eg. Unit ID: S2.001, PF1.001		
	<i>Applicable for Renewal or Revision</i>			
	Source Classification Code (SCC)	e.g. 3-03-024-04 for Conveyors		
	Manufacturer			
	Date Manufactured			
	Model Number			
	Equipment Dimensions (LxWxH)	feet		
	Drop Dimensions (LxWxH) <i>if applicable</i>	feet		
Location of Emission Source	Emissions Released Inside building?	yes/no		
Location of Emission Source	UTM Northing (NAD 83, Zone 11)	m		
	UTM Easting (NAD 83, Zone 11)	m		
Operating Parameters	Material Type Processed			
	Batch Process <i>if applicable</i>	unit/batch		
	Start Time <i>if operating less than 24 hours day</i>	hour:minute		
	End Time <i>if operating less than 24 hours day</i>	hour:minute		
Control Equipment	Manufacturer			
	Manufacturer's Guarantee Included? <i>If "yes", attach manufacturer's sheets immediately after these forms.</i>	yes/N/A		
Stack Parameters	Stack Height	feet		
	Stack Inside Diameter	feet		
	Stack Temperature	°F		
	Stack Exit Velocity	feet/second		
	Actual Gas Volume Flow Rate	acfm		
	Dry Gas Volume Flow Rate <i>If not included in detailed calculations.</i>	dscfm		
	Stack Release Type	Vertical/Capped/ Horizontal		

LIQUID STORAGE TANK APPLICATION FORM CLASS II OPERATING PERMIT

System Number and Name:

Emission Unit Description:

Alternative Operating Scenario: ☐ Yes ☐ No

Insignificant Activity: ☐ Yes ☐ No If yes, identify exemption regulation: _____

Subject to a Federal Regulation (40 CFR Part 60, 61, or 63): ☐ Yes ☐ No If yes, identify in process narrative.

Description		Data	
Equipment Description	BAPC Emission Unit ID and System Number Applicable for Renewal or Revision	eg. Unit ID: S2.001, PF1.001 System Number: 5	
	Source Classification Code (SCC)	eg. 3-03-024-04 for Conveyors	
	Manufacturer		
	Date Manufactured		
	Model Number		
	Heated Tank	yes/no	
	Shell Height	feet	
	Shell Diameter	feet	
	Maximum Liquid Height	feet	
	Average Liquid Height	feet	
	Capacity of Tank	gallons	
	Shell Color		
	Roof Condition	good/poor	
	Roof Type (Cone, Dome, External, or Internal Floating Roof)		
	Roof Height	feet	
	Cone Roof Slope		
	Dome Roof Radius	feet	
	True Vapor Pressure of Liquid	psig	
	Reid Vapor Pressure of Liquid	psig	
	Orientation of Tank	Horizontal/Vertical	
Submerged Fill [NAC 445B.22093(3)]	yes/no		
Equipment Dimensions (LxWxH)	feet		
Location of Emission Source	UTM Northing (NAD 83, Zone 11)	m	
	UTM Easting (NAD 83, Zone 11)	m	

LIQUID STORAGE TANK APPLICATION FORM CLASS II OPERATING PERMIT (CONTINUED)

Emission Unit Description:

Description			Data
Operating Parameters	Material Type		
	Operating Time per Year	hour/year	
	Maximum Throughput	gallon/month	
	Maximum Throughput	gallon/year	
Control Equipment	Type of Control		
	Control Efficiency	%	
	Pollutant(s) Controlled		
	Manufacturer		
	Manufacturer's Guarantee Included?	yes/N/A	
Volatile Organic Compounds (VOC) Emissions	Emission Limit	ton/year	
Other Pollutants	Emission Factor (with units)	<i>(insert unit)</i>	
	Emission Factor Reference		
	Emission Limit	pound/hour	
	Emission Limit	ton/year	

INDUSTRIAL PROCESS AND STORAGE SILO DETAILED CALCULATIONS

Unit No.	Unit Description	Operating Hours		Throughput			Controls		Emissions					References
		Daily	Annual	Hourly	Annual	Units	Type	Efficiency or Dry Volume Flow Rate	Pollutant	Factor	Unit	Hourly Rate (lbs/hr)	Yearly Rate (tons/yr)	
System No. & Name:														
									PM					
									PM ₁₀					
									PM _{2.5}					
System No. & Name:														
									PM					
									PM ₁₀					
									PM _{2.5}					
System No. & Name:														
									PM					
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System No. & Name:														

*Exact format may be changed, but requested information is still required.

COMBUSTION EQUIPMENT DETAILED CALCULATIONS

Unit No.	Unit Description	Operating Hours		Heat Input (MMBtu)		Fuel Usage			Power Output		Controls		Emissions					References	
		Daily	Annual	Hourly	Annual	Hourly	Annual	Units	Amount	Units	Type	Efficiency or Dry Volume Flow Rate	Pollutant	Factor	Unit	Hourly Rate (lbs/hr)	Yearly Rate (tons/yr)		
System No. & Name:																			
													PM						
													PM ₁₀						
													PM _{2.5}						
													SO ₂						
													NO _x						
													CO						
													VOC						
													Pb						
													Hg						
H ₂ S																			
System No. & Name:																			
													PM						
													PM ₁₀						
													PM _{2.5}						
													SO ₂						
													NO _x						
													CO						
													VOC						
													Pb						
													Hg						
H ₂ S																			
System No. & Name:																			
													PM						
													PM ₁₀						
													PM _{2.5}						
													SO ₂						
													NO _x						
													CO						
													VOC						
													Pb						
													Hg						
H ₂ S																			

*Exact format may be changed, but requested information is still required.

GREENHOUSE GASES (GHG) DETAILED CALCULATIONS

Unit No.	Unit Description	Operating Hours		Heat Input (MMBtu)		Fuel Usage			Controls		Emissions						References
		Daily	Annual	Hourly	Annual	Hourly	Annual	Units	Type	Efficiency or Dry Volume Flow Rate	Pollutant	Factor	GWP Multiplier	Unit	Hourly Rate (lbs/hr)	Yearly Rate (tons/yr)	
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				
System No. & Name:																	
											CO ₂		1				
											CH ₄		25				
											N ₂ O		298				

*Exact format may be changed, but requested information is still required.

HAZARDOUS AIR POLLUTANTS (HAPS) DETAILED CALCULATIONS

[illegible]

*Exact format may be changed, but requested information is still required.

**FACILITY-WIDE POTENTIAL TO EMIT TABLE
(FOR ALL SOURCES INCLUDING INSIGNIFICANT ACTIVITIES)
(POUND/HOUR AND TON/YEAR)**

Pollutant	Facility-Wide Potential to Emit (pound/hour)	Facility-Wide Potential to Emit (ton/year)
Total Particulate Matter (PM)	0.220	0.964
Total PM ₁₀	0.110	0.482
Total PM _{2.5}	0.110	0.482
Total Sulfur Dioxide (SO ₂)	0.010	0.044
Total Carbon Monoxide (CO)	1.200	5.256
Total Oxides of Nitrogen (NO _x)	1.430	6.263
Total Volatile Organic Compounds (VOC)	4.24	18.58
Total Lead (Pb)	NA	NA
Total Hydrogen Sulfide (H ₂ S)	NA	NA
Total Sulfuric Acid Mist (H ₂ SO ₄)	NA	NA
Total Hazardous Air Pollutants (HAPs)	0.691	3.002
Total Greenhouse Gases (CO _{2e})	NA	NA
Other Regulated Pollutants (Specify)	NA	NA

REVISION TABLE

Please complete the table below if this application is for a **Revision** of an existing Class II Air Quality Operating Permit. Add more columns if needed for any other applicable regulated pollutants. All Potential To Emit (PTE) must be in tons per year (TPY) [NAC 445B.3457(5)(b)]

Description	Pollutants									
	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC	HAPs	CO _{2e}	Other
Permitted Facility-Wide PTE (TPY)							24.50	5.0		
Proposed Facility-Wide PTE (TPY)							24.50	5.0		
Change in Facility-Wide PTE (TPY)							0	0		

SURFACE AREA DISTURBANCE FORM

1. Total Acres of the Facility Site: 83
2. Total Acres Disturbed: 83
3. Add Surface Area Disturbance location as Township(s), Range(s) and Section
T18N, R25E, Section 30
4. NAC 445B.22037 requires fugitive dust to be controlled (regardless of the size or amount of acreage disturbed), and requires an ongoing program, using best practical methods, to prevent particulate matter from becoming airborne. All activities which have the potential to adversely affect the local air quality must implement all appropriate measures to limit controllable emissions. Appropriate measures for dust control may consist of a phased approach to acreage disturbance rather than disturbing the entire area all at once; using wet suppression through such application methods as water trucks or water spray systems to control wind-blown dust; the application of soil binding agents or chemical surfactant to roadways and areas of disturbed soil; as well as the use of wind-break or wind limiting fencing designed to limit wind erosion soils.
5. If the Surface Area Disturbance is greater than 5 acres, please check each box that applies for Best Management Practices (BMPs) used for controlling dust on project's disturbed areas:
 - ☒ Water trucks
 - ☐ Graveling/paving of roadway storage areas and staging areas
 - ☐ Dust palliatives
 - ☐ Posting and limiting vehicle speeds to 10-15 miles per hour
 - ☐ Ceasing operations during high wind events
 - ☐ Fencing or berming to prevent unauthorized access to disturbed areas
 - ☐ Application of water sprays on material storage piles on a regular basis
 - ☐ Covering material storage piles with tarpaulin or geo-textiles; tenting
 - ☐ Use of overhead water spray racks or water hoses
 - ☐ Track-out controls (graveled entranced, exit area, and street sweeping)
 - ☐ Landscape preservation and impact avoidance
 - ☐ Wind fence
 - ☒ Pre-watering of areas to be disturbed (including all unpaved onsite roads and staging areas)
 - ☐ Inform all subcontractors (including truck drivers) of their responsibilities for the control of fugitive dust while they are on the project site
 - ☐ Training of equipment operators to recognize fugitive dust generation and having the authority to shut down operations until water truck arrives and sprays water on the disturbed areas
 - ☐ Other Applicable BMPs: [Click or tap here to enter text.](#)
 - ☐ Other Applicable BMPs: [Click or tap here to enter text.](#)
 - ☒ If using water trucks, list how many water trucks are used and their capacity in gallons:
1 – 4,000 gallon truck that is ran twice per day

PLANT BOUNDARY COORDINATES FORM if applicable

[illegible]

PLANT BUILDING PARAMETERS FORM if applicable

Building Parameters

Building Name: Building 1, Main Office
 Roof Height (ft): 15'

Building Tier : 1
 Building Diameter (ft): _____

Building UTM Coordinates

UTM Easting	UTM Northing	UTM Easting	UTM Northing
308,911 m	4,362,494 m		
308,917 m	4,362,493 m		
308,919 m	4,362,498 m		
308,950 m	4,362,491 m		
308,950 m	4,362,487 m		
309,022 m	4,362,474 m		
309,017 m	4,362,453 m		
308,906 m	4,362,475 m		

Building Parameters

Building Name: Building 2, Office
 Roof Height (ft): 15'

Building Tier : 1
 Building Diameter⁴ (ft): _____

Building UTM Coordinates

UTM Easting	UTM Northing	UTM Easting	UTM Northing
308,920 m	4,362,543 m		
308,932 m	4,362,541 m		
308,931 m	4,362,535 m		
308,936 m	4,362,534 m		
308,935 m	4,362,526 m		
308,932 m	4,362,526 m		
308,929 m	4,362,515 m		
308,914 m	4,362,519 m		

Building Parameters

Building Name: Building 3, Storage
 Roof Height (ft): 15'

Building Tier : _____
 Building Diameter⁴ (ft): _____

Building UTM Coordinates

UTM Easting	UTM Northing	UTM Easting	UTM Northing
308,870 m	4,362,455 m		
308,821 m	4,362,456 m		
308,820 m	4,362,432 m		
308,870 m	4,362,432 m		

Building Parameters

Building Name: Building 4, Kiln

Building Tier : 1

Roof Height (ft): 15'

Building Diameter⁴ (ft):

Building UTM Coordinates

UTM Easting	UTM Northing	UTM Easting	UTM Northing
308,912 m	4,362, 955 m		
308,923 m	4,362, 953 m		
308,928 m	4,362, 978 m		
308,917 m	4,362, 980 m		
308,916 m	4,362, 973 m		
308,915 m	4,362, 974 m		

APPLICATION CERTIFICATION DOCUMENT

(With Required Attachments)

Please check all applicable boxes below to indicate the information provided in your application submittal:

- ☒ General Company Information Form
- ☒ Industrial Process Application Form(s)
- ☐ Combustion Equipment Application Form(s)
- ☐ Storage Silos Application Form(s)
- ☐ Liquid Storage Tank Application Form(s)
- ☐ Manufacturer's Guarantee
- ☐ Facility-Wide Potential to Emit Table
- ☒ Surface Area Disturbance Form
- ☒ Plant Boundary Coordinates Form *if applicable*
- ☒ Plant Building Parameters Form *if applicable*
- ☒ Detailed Emission Calculations (for all emission units including IA units)
- ☐ Source Testing Data (if referenced in calculations)
- ☒ Process Narrative
- ☐ Process Flow Diagram(s)
- ☐ Site Plan(s) showing the locations (UTM coordinates), dimensions, and heights of buildings on the site
- ☐ Maps:
 - ☐ Vicinity Map of where the facility is located in the State
 - ☐ Area Map of the Facility (including location of all emission units, building locations (with UTM's), location of front gate, and fence line/site boundary (with UTM's))
- ☐ Environmental Evaluation (AERMOD Air Dispersion Modeling) *if applicable*
[NAC 445B.310]
- ☐ Manufacturer's Guarantee *if applicable*
- ☐ Equipment Specifications *if applicable*
- ☐ TANKs Modeling Output *if applicable*
- ☐ Application Fee Attached or Electronically Submitted
- ☐ Digital Copy of Application on CD or Thumb Drive
- ☒ Application Certification Document with Original Responsible Official Signature

APPLICATION CERTIFICATION DOCUMENT (CONTINUED)

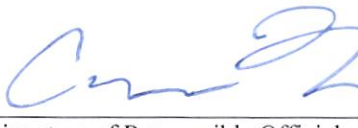
(With Required Attachments)

PLEASE NOTE THE FOLLOWING REQUIREMENTS WHICH APPLY TO PERMIT APPLICANTS DURING THE APPLICATION PROCESS:

- A. A permit applicant must submit supplementary facts or corrected information upon discovery [NAC 445B.297(1)(b)].
- B. A permit applicant is required to provide any additional information which the Director requests in writing within the time specified in the Director's request [NAC 445B.297(1)(c)].
- C. Submission of fraudulent data or other information may result in prosecution for an alleged criminal offense [NRS 445B.470].

CERTIFICATION:

I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate and complete.



Signature of Responsible Official
Andy Morgan VP Utility Pole Operations

Print or Type Name and Title
8/17/2026

Date

Silver Springs

Permit Modification- Increased Wood Product Production

DCOI WOOD TREATING EMISSIONS

	VOCs	HAPs _{1,2}
DCOI Treatment	5.17	0.03
Concentrate Tanks	0.02	0
Work Tanks	14.59	0.11
Drip Pad (TWS)	6.95	0.31
TOTAL VOC Potential Emissions (TPY)	19.78	0.14

1 = Chemical composition supplied within SDS of the Diesel noted naphthalene concentration of "less than 1% " Emissions calculations conservatively assume 1%.

2= Chemical composition supplied within SDS of of the Concentrate solution did not indicate presences of HAPs.

CuNap WOOD TREATING EMISSIONS

	VOCs	HAPs _{1,2}
CuNap Treatment	5.11	0.03
Concentrate Tanks	0.0035	0
Work Tanks	10.07	0.08
Drip Pad (TWS)	7.25	0.31
TOTAL VOC Potential Emissions (TPY)	15.19	0.11

1 = Chemical composition supplied within SDS of the Diesel noted naphthalene concentration of "less than 1% " Emissions calculations conservatively assume 1%.

Chemical composition supplied within SDS of of the Concentrate solution did not indicate presences of HA

Facility: Silver Springs
Permit Modification- Increased Wood Product Production

Unit Summary

Uncontrolled Emission Summary

Pollutant	Condition Cycle (lb/yr)	Treating Cycle- Initial Air (lb/yr)	Treating Cycle- Final Vacuum (lb/yr)	Total Emissions (lb/yr)	
VOC	0.000	4245.448	6101.13	10346.58	
DCOI	0.000	0.041	0.06	0.10	
Fuel Oil	0.000	4171.521	5994.89	10166.42	
Naphthalene	0.000	23.794	34.19	57.99	
Polyurethane	0.000	50.092	71.99	122.08	Inclusive of VOC total
TONS PER YEAR				5.17	

FACILITY AND PROCESS DATA

Retort A	Retort B	Retort C
Retort Cylinder Length	105	102
Retort Cylinder Diameter	10	10

AVERAGE RETORT

Retort Cylinder Length	106	ft	Calculated Info	
Retort Cylinder Diameter	9	ft	Retort Cylinder Volume	7,229 ft ³
Wood Volume Per Charge	2,909	ft ³	Void Volume Per Charge	4,326 ft ³
Length of Steam Cycles	7	hours	Pumpbacks	1,447 total number per year
Steam Condition Charges	0	per year	Total Liquid Volume of Cylinder	54,083 gallons
Air Dry Charges	1,378	(based on total CF treated as entered in DCOI Mix Calcs)		
Boulton Cycle Charges	69	(assumes 5% of total charges are boultonized, per 2018 plant production numbers)		
Initial Air Pressure, psia	25	(as reported in 2018 TRI Form R)		

CONDITION CYCLE

Note: only emissions from boulton conditioning are included at this time because Stella-Jones only boulton and kiln dries charges.
 Kiln dried charges have no penta emissions and VOC emissions are assumed to be negligible.

$$LW = (0.52325 * MWI * MFL * PVI * Q * KN * KP) / (460 + t)$$

Void Volume	4,326.4	cubic feet	Molecular weight, MW	134.2
Number of steam charges	0.0	charges/year	Mole Fraction in Liquid, MFL	1
Total volume of air emissions	0	cubic feet/yr	Vapor Pressure, P _v	0.081 psia
Total volume of air emissions	0	bbl/yr		
Turnover Factor, K _{tc}	1		VOC Emissions	0.000 lb
Product Factor, K _p	0.4		DCOI	0.000 lb
			Fuel Oil	0.000 lb
			Naphthalene	0.000 lb
			Polyurethane	0.000 lb

TREATING CYCLE - INITIAL AIR

If the treating cycle immediately follows a boulton conditioning cycle, then emissions associated with the initial air are assumed to be negligible (i.e. VOCs would be emitted with the condition cycle). Assume cylinder is at treating temperature.

Kiln charges	1,378	charges	Volume released per charge	6322	cf/charge
Void Volume	4,326.4	cf/charge	Volume gas released	8,711,742	cf
Initial Air Pressure	25	psi			
Mix MW	134.20				
Mix Partial Pressure (psia)	2.18E-02		VOC Emissions	4,245.448	lb
DCOI Solution MW	282.20		DCOI Emission	0.041	lb
DCOI Solution Partial Pressure (psia)	9.87E-08		Fuel Oil	4,171.521	lb
Fuel Oil MW	130.00		Naphthalene	23.794	lb
Fuel Oil Partial Pressure (psia)	2.16E-02		Polyurethane	50.092	lb
Naphthalene MW	128.20				
Naphthalene Partial Pressure (psia)	1.25E-04				
Polyurethane MW	548.60				
Polyurethane Partial Pressure (psia)	6.16E-05				

TREATING CYCLE - FINAL VACUUM

Assume cylinder is at treating temperature and one void volume per final vacuum is released.

Charges	1,447	charges	Volume released per charge	8653	cf/charge
Void Volume	4,326.4	cf/charge	Volume gas released	12,519,647	cf
Final Vacuums per charge	2				
Mix MW	134.20				
Mix Partial Pressure (psia)	2.18E-02		VOC Emissions	6,101.135	lb
DCOI Solution MW	282.20		DCOI	0.059	lb
DCOI Solution Partial Pressure (psia)	9.87E-08		Fuel Oil	5,994.894	lb
Fuel Oil MW	130.00		Naphthalene	34.194	lb
Fuel Oil Partial Pressure (psia)	2.16E-02		Polyurethane	71.987	lb
Polyurethane MW	548.60				
Polyurethane Partial Pressure (psia)	6.16E-05				
Naphthalene MW	128.20				
Naphthalene Partial Pressure (psia)	1.25E-04				

TREATING CYCLE - CHARGE CHANGE/DOOR OPENING

Assume cylinder is at treating temperature and one void volume per final vacuum is released.

Charges	1,447	charges	Volume released per charge	8653	cf/charge
Void Volume	4,326.4	cf/charge	Volume gas released	12,519,647	cf
Final Vacuums per charge	2				
Mix MW	134.20				
Mix Partial Pressure (psia)	8.06E-02		VOC Emissions	22,535.774	lb
DCOI Solution MW	282.20		DCOI	0.220	lb
DCOI Solution Partial Pressure (psia)	1.35E-06		Fuel Oil	5,959.454	lb
Fuel Oil MW	130.00		Naphthalene	45.555	lb
Fuel Oil Partial Pressure (psia)	7.97E-02		Polyurethane	95.905	lb
Polyurethane MW	548.60				
Polyurethane Partial Pressure (psia)	3.04E-04				
Naphthalene MW	128.20				
Naphthalene Partial Pressure (psia)	6.18E-04				

Work Tank: Working Losses

EMISSIONS ARE BASED ON WORK TANK A WITH A TANK CAPACITY OF 75,202 GALLONS, ALL OTHER WORK TANKS ARE BELOW THE 40,000 GAL VOLUME THRESHOLD
AND ARE CONSIDERED AN INSIGNIFICANT ACTIVITY, EXEMPT FROM PERMITTING

FACILITY AND PROCESS DATA

Retort Cylinder Length	106	ft
Retort Cylinder Diameter	9	ft
Wood Volume Per Charge	3,224	ft ³
Length of Steam Cycles	7	hours
Steam Condition Charges	0	per year
Air Dry Charges ¹	1,378	
Boulton Cycle Charges ¹	69	

Calculated Info

Retort Cylinder Volume	7,229	ft ³
Void Volume Per Charge	4,326	ft ³
Pumpbacks	1,447	total number per year
Total Liquid Volume of Cylinder	54,083	gallons

SOLUTION TANK DATA

Volume of air emissions (V), ft ³ :	6,259,824
Volume of air emissions (Q), bbl:	1,114,922
Average Discharge Temperature (t):	180.0 °F
Molecular Weight of the vapor, Mv:	131.567

Length of Steam Cycle, hours	7
Turnovers (N):	691.791
Turnover Factor (Kn):	0.210
Product Factor (Kp):	1.000
Vapor Pressure, Pv:	0.206

$$N = \frac{5.614Q}{V_{LX}}$$

$$V_{LX} = \frac{\pi}{4} D^2 H_{LX}$$

$$V_{LX} = 9047.7868$$

$$L_W = (0.52325 \cdot M_V \cdot P_{VA} \cdot Q \cdot K_N \cdot K_P) / (460 + t)$$

Where:

D² = diameter, 16 ft
H_{LX} = maximum liquid height, 45

Where:

L_W = Working Losses

0.52325 is a factor assuming varying temperature derived from the following:

$$0.001 \frac{\text{lb mole}}{\text{psia} \cdot \text{bbl}} = \frac{\text{lb mole} \cdot ^\circ\text{R}}{10.731 \text{ psia} \cdot \text{ft}^3} \times \frac{1}{520 ^\circ\text{R}} \times \frac{1 \text{ ft}^3}{7.48 \text{ gal}} \times \frac{42 \text{ gal}}{1 \text{ bbl}} \times \frac{520 ^\circ\text{R}}{(t + 460) ^\circ\text{R}}$$

$$= \frac{0.52325 \text{ lb mole}}{(t + 460) ^\circ\text{R} \text{ psia} \cdot \text{bbl}}$$

Q = Annual throughput volume, bbl

t = temperature, °F

P_{VA} = Vapor pressure of the mixture at the daily average surface liquid temperature, psia

M_V = Vapor molecular weight of the mixture, lb mole

K_N = Turnover factor, dimensionless

where: for turnovers >36, K_N = (180 + N)/6N

for turnovers <36, K_N = 1

N = number of turnovers

K_P = working loss product factor, dimensionless (1.00)

Total uncontrolled VOC working losses from the work tanks are: 29184.19 lb/yr.

Air emission control device efficiency, %: 0.00

Total VOC working losses from the work tank are: 29184.19 lb/yr.

Individual releases are calculated by applying the vapor mass fraction determined elsewhere.

Total working losses of VOCs:	29184.19 lb/yr.	14.59 TPY
Total Naphthalene	217.9084 lb/yr.	0.11 TPY

Permit Modification-Increased Wood Product Production
Buck-Jones Corporation
Silver Springs

DCO Concentrate Tank - Working Losses

The volume of the tanks is:

475 081

Volume of concentrate through tank, Q:

8,908 081

Molecular Weight of the vapor, Mr:

379.4

Turnovers (N): 53.72

Turnover Factor (Kt): 0.7751

Product Factor (Pf): 1.0000

Vapor Pressure, Pv: 9.686-03

$$L_w = (0.001 * M_v * P_{v,s} * Q * K_t * K_p)$$

Where:

L_w = Working Losses

0.001 is a factor assuming varying temperature derived from the following:

Q = Annual throughput volume, bbl

P_{v,s} = Vapor pressure of the mixture at the daily average surface liquid temperature, psia

M_v = Vapor molecular weight of the mixture, lb/mole

K_t = Turnover factor, dimensionless

where: for turnovers >35, K_t = (180 + N)/N

for turnovers <35, K_t = 1

N = number of turnovers

K_p = working loss product factor, dimensionless (1)

Total uncontrolled VOC working losses from the storage tank is: 16.002 lb/yr

Air emission control device efficiency, %: 0.0

Total VOC working losses from the storage tank is: 16.002 lb/yr

Individual releases are calculated by applying the vapor mass fraction determined elsewhere.

Total working losses of VOCs from the storage tank: 16.002 lb/yr

DCO CONCENTRATE TANK - BREATHING LOSSES (STANDING LOSSES)

Vapor space volume (V_s):

57 83

Vapor space density (W_s):

0.0007 lb/R3

Vapor space expansion factor (K_s):

0.0883

Vented vapor saturation factor (K_v):

0.9967

$$L_s = 365 * V_s * W_s * K_s * K_v$$

Where:

L_s = Standing Losses

V_s = Vapor space volume, ft³

W_s = Vapor density, lb/ft³

K_s = Vapor space expansion factor, dimensionless

K_v = Vented vapor saturation factor, dimensionless

Total uncontrolled VOC working losses from the storage tank is: 1.194 lb/yr

Air emission control device efficiency, %: 0.0

Total working losses from the storage tank is: 1.194 lb/yr

Total losses of VOCs from the storage tank: 17.196 lb/yr

Total Losses (L_T) = L_s + L_w = 0.0172 TPY

NOTES:

*Equations for calculating losses from storage tanks taken from AP-42, Chapter 7.

N = 5.6140

V_s =

V_s =

V_s =

Where:

D = diameter, 5.75

H_l = maximum liquid height, 20

Tank shell height, 30

$$K_p = 0.00186T_s + 0.0018[0.77(T_{s,m} - T_{a,m}) + 0.028 \alpha]$$

Where:

ΔT_v = Daily vapor temperature range, 51 °R

0.0018 = Constant, °R

0.72 = Constant, dimensionless

T_{s,m} = Daily maximum ambient temperature, °R = 543.1

T_{a,m} = Daily minimum ambient temperature, °R = 482.4

0.028 = Constant, °R ft³ day/ftU

α = Tank paint solar absorptance factor, dimensionless, 0.74

I = Daily total solar insulation on a horizontal surface = 1988 Btu/ft² day AP-42, Table 7-1.2

K_s = 0.0883

$$K_v = \frac{1}{1 + 0.053P_{v,s}/H_{v,s}}$$

Where:

0.053 = Constant, (psia-ft)⁻¹

P_{v,s} = Vapor pressure at daily average liquid surface temperature, 0.009 psia

H_{v,s} = Vapor space outage, 3.0 ft

K_v = 0.9967

$$W_s = \frac{M_v P_{v,s}}{R T_{s,m}}$$

Where:

M_v = Vapor molecular weight of the mixture, lb/mole

P_{v,s} = Vapor pressure of the mixture at the daily average surface liquid temperature, psia

R = Ideal gas constant, 10.731 psia ft³/lb mole °R

T_{s,m} = daily average liquid surface temperature, °R = 524.6642

= 0.447 T_{ss} + 0.56 T_{sl} + 0.0079 °R °F

T_{ss} = Daily Average Temperature, °R

T_{sl} = liquid bulk temperature, °R

W_s = 0.0007

V_s =

H_l =

V_s = 56.82 ft³

Where:

H_l =

H_l =

H_l =

H_l = Tank roof height, 20 ft

R_s = Tank shell radius, 2.625 ft

H_l = Tank shell height, 0 ft

H_l = Liquid height, 29 ft

H_l = 0.549 ft

H_l = 1/20 = 1/1014 = 2.6 ft

H_l = 2.625 ft

$$T_{ss} = (T_{ss} + T_{sl})/2$$

T_{ss} = 513.17

T_{sl} = T_{ss} + 60 = 1

T_{sl} = 516.61

T_{sl} = 516.61

T_{sl} = 516.61

A	0
B	7.25
C	0
D	0.0%
E	0
F	3,000,000
G	21,750,000
H	2.3%
I	500,250
J	500,250
K	8.62
L	1.98
M	252,320
N	2,747,680

252320
2,747,680
3,000,000

TOTAL CF WOOD
Retention (gal per cube)
Total Gallons of
Treating Solution
Needed

DCOI Mix Worksheet

Gallons of treating solution in work tank before mix
Weight in pounds of one gallon of treating solution (approx. 7.5 lb.)
Pounds of treating solution in work tank before mix (A X B)
Work tank concentration before mix
Pounds of DCOI in work tank before mix (C X D)
Total gallons of solution wanted after mix
Pounds of treating solution after mix (F X B)
Work tank concentration wanted after mix
Pounds of DCOI in tank after mix (G X H)
Pounds of DCOI to add to the work tank (J - E)
Weight in pounds of one gallon of 23% Concentrate(from supplier)
Weight of DCOI in one gallon of 23% concentrate (K X 0.23)
Gallons of concentrate to add to the work tank (J / L)
Gallons of carrier oil to add to the work tank (F - A - M)

Gallons of Concentrate Needed
Gallons of Carrier Oil Needed
Total Solution Gallons

	4,000,000
	0.75
	3000000

DCOI Solution Analytical**Equipment Leaks**

Temp, °F:	70	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)
	DCOI	282.20	3.000	1.06E-02	1.43E-02	4.03E+00
	Fuel Oil	130.00	94.050	7.23E-01	9.71E-01	1.26E+02
	Naphthalene	128.20	0.950	7.41E-03	9.94E-03	1.27E+00
	Polyurethane Resin	548.60	2.000	3.65E-03	4.89E-03	2.68E+00
Total		100.000	0.745	1.000	134.201	

Retort Door

Temp, °F:	100	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)
	DCOI	282.20	3.000	1.06E-02	1.43E-02	4.03E+00
	Fuel Oil	130.00	94.050	7.23E-01	9.71E-01	1.26E+02
	Naphthalene	128.20	0.950	7.41E-03	9.94E-03	1.27E+00
	Polyurethane Resin	548.60	2.000	3.65E-03	4.89E-03	2.68E+00
Total		100.000	0.745	1.000	134.201	

Treatment and Conditioning

Temp, °F:	150	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)
	DCOI	282.20	3.000	1.06E-02	1.43E-02	4.03E+00
	Fuel Oil	130.00	94.050	7.23E-01	9.71E-01	1.26E+02
	Naphthalene	128.20	0.950	7.41E-03	9.94E-03	1.27E+00
	Polyurethane resin	548.60	2.000	3.65E-03	4.89E-03	2.68E+00
Total		100.000	0.745	1.000	134.201	

Initial Air

Temp, °F:	100	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)
	DCOI	282.20	3.000	1.06E-02	1.43E-02	4.03E+00
	Fuel Oil	130.00	94.050	7.23E-01	9.71E-01	1.26E+02
	Naphthalene	128.20	0.950	7.41E-03	9.94E-03	1.27E+00
	Polyurethane resin	548.60	2.000	3.65E-03	4.89E-03	2.68E+00
Total		100.000	0.745	1.000	134.201	

Final Vacuum

Temp, °F:	100	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)
	DCOI	282.20	3.000	1.06E-02	1.43E-02	4.03E+00
	Fuel Oil	130.00	94.050	7.23E-01	9.71E-01	1.26E+02
	Naphthalene	128.20	0.950	7.41E-03	9.94E-03	1.27E+00
	Polyurethane resin	548.60	2.000	3.65E-03	4.89E-03	2.68E+00
Total		100.000	0.745	1.000	134.201	

Wood Products Storage

Temp, °F:	55	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)
87865	DCOI	282.20	4.000	1.42E-02	1.90E-02	5.36E+00
	Fuel Oil	130.00	94.050	7.23E-01	9.69E-01	1.26E+02
	Naphthalene	128.20	0.950	7.41E-03	9.92E-03	1.27E+00
	Polyurethane resin	548.60	1.000	1.82E-03	2.44E-03	1.34E+00
Total		100.000	0.747	1.000	133.892	

Work Tanks

Temp, °F:	150	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A
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CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X_i)	Contribution to MW (lbs/lb-mol)
87865	DCOI	282.20	3.000	1.06E-02	1.43E-02	4.03E+00
	Fuel Oil	130.00	94.050	7.23E-01	9.71E-01	1.26E+02
	Naphthalene	128.20	0.950	7.41E-03	9.94E-03	1.27E+00
	Polyurethane resin	548.60	2.000	3.65E-03	4.89E-03	2.68E+00
Total		100.000	0.745	1.000	134.201	

CoSolvent Storage Tanks

Temp, °F:	55	A	B	C=B/A	D= $C_i/\text{Sum}(C_i)$	F= $D_i \cdot A$
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X_i)	Contribution to MW (lbs/lb-mol)
	Fuel Oil	130.00	99.000	7.62E-01	1.02E+00	1.33E+02
	Naphthalene	128.20	1.000	7.80E-03	1.05E-02	1.34E+00
Total		100.000	0.769	1.032	134.201	

Concentrate Storage Tanks

Temp, °F:	55	A	B _{penta}	C=B/A	D= $C_i/\text{Sum}(C_i)$	F= $D_i \cdot A$
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X_i)	Contribution to MW (lbs/lb-mol)
645359-81-5	DCOI	282.20	22.000	7.80E-02	1.05E-01	2.95E+01
64742-94-5	Solvent Naptha	335.46	50.000	1.49E-01	2.00E-01	6.71E+01
NA	Polyurethane	548.60	28.000	5.10E-02	6.85E-02	3.76E+01
Total		100.000	0.278	0.373	134.201	

G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=J _i /J _{tot}
Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
1.13E-06	1.62E-08	1.83E-06	5.15E-04	3.94E-06
9.06E-03	8.79E-03	9.93E-01	1.29E+02	9.86E-01
4.18E-03	4.15E-05	4.69E-03	6.01E-01	4.59E-03
4.18E-03	2.04E-05	2.31E-03	1.27E+00	9.67E-03
0.017	0.009	1.000	130.958	1.000

G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=J _i /J _{tot}
Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
6.92E-06	9.87E-08	4.52E-06	1.28E-03	9.73E-06
2.23E-02	2.16E-02	9.91E-01	1.29E+02	9.83E-01
1.26E-02	1.25E-04	5.73E-03	7.35E-01	5.60E-03
1.26E-02	6.16E-05	2.82E-03	1.55E+00	1.18E-02
0.047	0.022	1.000	131.171	1.000

G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=J _i /J _{tot}
Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
9.49E-05	1.35E-06	1.68E-05	4.74E-03	3.60E-05
8.21E-02	7.97E-02	9.89E-01	1.29E+02	9.77E-01
6.21E-02	6.18E-04	7.66E-03	9.82E-01	7.47E-03
6.21E-02	3.04E-04	3.77E-03	2.07E+00	1.57E-02
0.206	0.081	1.000	131.567	1.000

G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=J _i /J _{tot}
Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
6.92E-06	9.87E-08	4.52E-06	1.28E-03	9.73E-06
2.23E-02	2.16E-02	9.91E-01	1.29E+02	9.83E-01
1.26E-02	1.25E-04	5.73E-03	7.35E-01	5.60E-03
1.26E-02	6.16E-05	2.82E-03	1.55E+00	1.18E-02
0.047	0.022	1.000	131.171	1.000

G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=J _i /J _{tot}
Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
6.92E-06	9.87E-08	4.52E-06	1.28E-03	9.73E-06
2.23E-02	2.16E-02	9.91E-01	1.29E+02	9.83E-01
1.26E-02	1.25E-04	5.73E-03	7.35E-01	5.60E-03
1.26E-02	6.16E-05	2.82E-03	1.55E+00	1.18E-02
0.047	0.022	1.000	131.171	1.000

G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=J _i /J _{tot}
Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
4.17E-07	7.91E-09	1.48E-06	4.17E-04	3.19E-06
5.50E-03	5.33E-03	9.95E-01	1.29E+02	9.92E-01
2.27E-03	2.25E-05	4.20E-03	5.39E-01	4.13E-03
2.27E-03	5.54E-06	1.03E-03	5.67E-01	4.35E-03
0.010	0.005	1.000	130.425	1.000

G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=J _i /J _{tot}
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Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X_{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
9.49E-05	1.35E-06	1.68E-05	4.74E-03	3.60E-05
8.21E-02	7.97E-02	9.89E-01	1.29E+02	9.77E-01
6.21E-02	6.18E-04	7.66E-03	9.82E-01	7.47E-03
6.21E-02	3.04E-04	3.77E-03	2.07E+00	1.57E-02
0.206	0.081	1.000	131.567	1.000

G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=J _i /J _{tot}
Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X_{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
7.02E-04	7.17E-04	9.68E-01	1.26E+02	9.68E-01
2.27E-03	2.38E-05	3.21E-02	4.11E+00	3.16E-02
0.003	0.001	1.000	129.942	1.000

G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=J _i /J _{tot}
Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X_{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
4.17E-07	4.36E-08	3.14E-05	8.87E-03	2.34E-05
5.50E-03	1.10E-03	7.94E-01	2.66E+02	7.02E-01
4.18E-03	2.86E-04	2.06E-01	1.13E+02	2.98E-01
0.010	0.001	1.000	379.420	1.000

FUGITIVE EMISSIONS FROM THE DCOI-TREATED WOOD, ON THE DRIP PAD/ QC, AND IN TREATED WOOD STORAGE YARD

Emission Summary

Pollutant	Drip Pad (Treated Wood)		Treated Wood Storage	
	(lb/yr)	Tons Per Year	(lb/yr)	Tons Per Year
VOC	4,536.30	2.27	9367.33	4.68
Naphthalene	573.18	0.287	38.69	0.019

POLE STORAGE INFORMATION

QA/QC Naphthalene Emission factor	5.71E-05	lb/ft ² -hr	Emission factor from SARA calculations (1990 Feather River test)
QA/QC VOC Emission factor	4.52E-04	lb/ft ² -hr	conversion based on naphthalene emissions from Feather River test
Number of DCOI Charges	1,447		
DCOI QA/QC Time on Drip Track	6	hours	
Surface Area of One DCOI Tram	1,156.28	ft ²	
Number of Trams per change	3.00		
QA/QC VOC Emissions from DCOI Poles	4,536.30	lb VOC	

Average CF Poles in Storage: 144090
Total Poles in Storage: 5768.712635

Emissions Equation from Fugitive Emissions from Creosote Treated Wood Products Prepared for AWPI and Submitted to USEPA

Based on 6 poles with a 699 ft² surface area, assumes 30 days per month

N1(t)=	1.370E-03	* exp (	0.467	*t)	, t<=0.25 days	QA/QC Emissions
N2(t)=	2.777E-03	* exp (	-2.435	*t)	, 0.25<t<=1.0 days	
N3(t)=	2.533E-04	* exp (	-0.044	*t)	, t>1.0 days	

Calculated 24-hour Average California Pole Test Temperature = 80 °F

Temperature Correction Factor for Other Geographic Locations = $\exp[-11,161.25 \cdot (1/T_oF + 459.67) - 1/(80 + 459.67)]$

Naphthalene emission factor	5.71E-05	lb nap/ft ² -hr	Emission factor from SARA calculations (1990 Feather River Test)
Emission Factor Naphthalene Liquid Weight %	14	% Liquid Mass percent from 1990 Feather River Test	

Monthly VOC Emissions Calculations from Penta Poles

Month	Surface Area of DCOI Poles in Storage	VOC Emissions from DCOI Poles	Temperature Correction Factor	VOC Emissions from DCOI Poles and Tram Storage
		lb/month		lb/month
January	151,597	1756.96	0.13	233.29
February	151,597	1756.96	0.19	335.53
March	151,597	1756.96	0.26	456.84
April	151,597	1756.96	0.32	566.56
May	151,597	1756.96	0.47	826.04
June	151,597	1756.96	0.73	1287.10
July	151,597	1756.96	1.04	1825.47
August	151,597	1756.96	0.89	1565.14
September	151,597	1756.96	0.60	1054.53
October	151,597	1756.96	0.35	616.78
November	151,597	1756.96	0.21	366.78
December	151,597	1756.96	0.13	233.29

Facility: Silver Springs
 Reporting Year: Permit Modification- Increased Wood Product Production

Unit Summary

Uncontrolled Emission Summary

Pollutant	Condition Cycle	Treating Cycle- Initial Air	Treating Cycle- Final Vacuum	Total Emissions	TONS PER YEAR
	(lb/yr)	(lb/yr)	(lb/yr)	(lb/yr)	TPY
VOC	0.000	4195.473	6029.32	10224.79	5.11
HAPs	0.000	23.794	34.20	57.99	0.03

FACILITY AND PROCESS DATA

Retort A		Retort B		Retort C	
Retort Cylinder Length	105	Retort Cylinder Length	102	Retort Cylinder Length	110
Retort Cylinder Diameter	10	Retort Cylinder Diameter	8	Retort Cylinder Diameter	10

AVERAGE RETORT

Retort Cylinder Length	106	ft	Calculated Info		
Retort Cylinder Diameter	9	ft	Retort Cylinder Volume	7,229	ft^3
Wood Volume Per Charge	2,903	ft^3	Void Volume Per Charge	4,326	ft^3
Length of Steam Cycles	7	hours	Pumpbacks	1,447	total number per year
Steam Condition Charges	0	per year	Total Liquid Volume of Cylinder	54,083	gallons
Air Dry Charges	1,378	(based on total CF treated as entered in CuNap Mix Calcs)			
Boulton Cycle Charges	69	(assumes 5% of total charges are boultonized, per 2018 plant production numbers)			
Initial Air Pressure, psia	25	(as reported in 2018 TRI Form R)			

CONDITION CYCLE

Note: only emissions from Boulton conditioning are included at this time because Stella-Jones only Boulton and kiln dries charges.
 Kiln dried charges have no penta emissions and VOC emissions are assumed to be negligible.
 $LW = (0.52325 \cdot MWI \cdot MFLI \cdot PVI \cdot Q \cdot KN \cdot KP) / (460 + t)$

Void Volume	4,326.4	cubic feet	Molecular weight, MW	130.9	
Number of steam charges	0.0	charges/year	Mole Fraction in Liquid, MFL	1	
Total volume of air emissions	0	cubic feet/yr	Vapor Pressure, Pv	0.144	psia
Total volume of air emissions	0	bbl/yr			
Turnover Factor, K _o :	1		VOC Emissions	0.000	lb
Product Factor, K _p :	0.4				

TREATING CYCLE - INITIAL AIR

If the treating cycle immediately follows a Boulton conditioning cycle, then emissions associated with the initial air are assumed to be negligible (i.e. VOCs would be emitted with the condition cycle). Assume cylinder is at treating temperature.

Kiln charges	1,378	charges	Volume released per charge	6322	cf/charge
Void Volume	4,326.4	cf/charge	Volume gas released	8,711,742	cf
Initial Air Pressure	25	psi			
Mix MW	130.87		VOC Emissions	4,195.473	lb
Mix Partial Pressure (psia)	2.21E-02				
CuNap MW	405.89				
CuNap Solution Partial Pressure (psia)	6.23E-09				
Diesel MW	130.00				
Diesel #2 Oil Partial Pressure (psia)	2.20E-02				

TREATING CYCLE - FINAL VACUUM

Assume cylinder is at treating temperature and one void volume per final vacuum is released.

Charges	1,447	charges	Volume released per charge	8653	cf/charge
Void Volume	4,326.4	cf/charge	Volume gas released	12,519,647	cf
Final Vacuums per charge	2				
Mix MW	130.87		VOC Emissions	6,029.315	lb
Mix Partial Pressure (psia)	2.21E-02				
CuNap MW	405.89				
CuNap Partial Pressure (psia)	6.23E-09				
Diesel MW	130.00				
Diesel #2 Oil Partial Pressure (psia)	2.20E-02				

TREATING CYCLE - CHARGE CHANGE/DOOR OPENING

Assume cylinder is at treating temperature and one void volume per final vacuum is released.

Charges	1,447	charges	Volume released per charge	8653	cf/charge
Void Volume	4,326.4	cf/charge	Volume gas released	12,519,647	cf
Final Vacuums per charge	2				
Mix MW	130.87		VOC Emissions	0.000	lb
Mix Partial Pressure (psia)	5.54E-06		DCOI	#VALUE!	lb
DCOI Solution MW		Molecular Weight	Fuel Oil	0.000	lb
DCOI Solution Partial Pressure (psia)		Partial Pressure (psia)	Naphthalene	0.000	lb
Fuel Oil MW	282.20		Polyurethane	0.000	lb
Fuel Oil Partial Pressure (psia)	7.91E-09				
Polyurethane MW	128.20				
Polyurethane Partial Pressure (psia)	2.25E-05				
Naphthalene MW	130.00				
Naphthalene Partial Pressure (psia)	5.33E-03				

Work Tank: Working Losses

EMISSIONS ARE BASED ON WORK TANK A WITH A TANK CAPACITY OF 75,202 GALLONS. ALL OTHER WORK TANKS ARE BELOW THE 40,000 GAL VOLUME THRESHOLD

FACILITY AND PROCESS DATA

Retort Cylinder Length	106	ft
Retort Cylinder Diameter	9	ft
Wood Volume Per Charge	2,903	ft ³
Length of Steam Cycles	7	hours
Steam Condition Charges	0	per year
Air Dry Charges ¹	1,378	
Boulton Cycle Charges ¹	69	

Calculated Info

Retort Cylinder Volume	7,229	ft ³
Void Volume Per Charge	4,326	ft ³
Pumpbacks	1,447	total number per year
Total Liquid Volume of Cylinder	54,083	gallons

SOLUTION TANK DATA

Volume of air emissions (V), ft ³ :	6,259,824
Volume of air emissions (Q), bbl:	1,114,922
Average Discharge Temperature (t):	180.0 °F
Molecular Weight of the vapor, Mv:	129.986

Length of Steam Cycle, hours	7
Turnovers (N):	691.791
Turnover Factor (Kn):	0.210
Product Factor (Kp):	1.000
Vapor Pressure, Pv:	0.144

$$N = \frac{5.614Q}{V_{LX}}$$

$$V_{LX} = \frac{\pi}{4} D^2 H_{LX}$$

$$V_{LX} = 9047.7868$$

Where:

D² = diameter, 16 ft
H_{LX} = maximum liquid height, 45

$$L_W = (0.52325 \cdot M_v \cdot P_{VA} \cdot Q \cdot K_N \cdot K_P) / (460 + t)$$

Where:

L_W = Working Losses

0.52325 is a factor assuming varying temperature derived from the following:

$$0.001 \frac{\text{lb mole}}{\text{psia} \cdot \text{bbl}} = \frac{\text{lb mole} \cdot ^\circ\text{R}}{10.731 \text{ psia} \cdot \text{ft}^3} \times \frac{1}{520 ^\circ\text{R}} \times \frac{1 \text{ ft}^3}{7.48 \text{ gal}} \times \frac{42 \text{ gal}}{1 \text{ bbl}} \times \frac{520 ^\circ\text{R}}{(t + 460) ^\circ\text{R}}$$

$$= \frac{0.52325 \text{ lb mole}}{(t + 460) ^\circ\text{R} \text{ psia} \cdot \text{bbl}}$$

Q = Annual throughput volume, bbl

t = temperature, °F

P_{VA} = Vapor pressure of the mixture at the daily average surface liquid temperature, psia

Mv = Vapor molecular weight of the mixture, lb mole

K_N = Turnover factor, dimensionless

where: for turnovers >36, K_N = (180 + N)/6N

for turnovers <36, K_N = 1

N = number of turnovers

K_P = working loss product factor, dimensionless (1.00)

Total uncontrolled VOC working losses from the work tanks are: 20143.42 lb/yr.

Air emission control device efficiency, %: 0.00

Total VOC working losses from the work tank are: 20143.42 lb/yr.

Individual releases are calculated by applying the vapor mass fraction determined elsewhere.

Total working losses of VOCs :	20143.42 lb/yr.	10.07 TPY
Total Naphthalene :	152.8117 lb/yr.	0.08 TPY

CullNap Concentrate Tanks
Stella-Jones Corporation
Silver Springs

CullNap Concentrate Tank - Working Losses

The volume of the tanks is:	475.368	Turnovers (N):	54.11
Volume of concentrate through tank, Q:	7,169.368	Turnover Factor (K ₁):	5.6346
Molecular Weight of the vapor, M _v :	130.0	Product Factor (K ₂):	1.0000
		Vapor Pressure, P _v :	5.51E-03

$$L_w = (0.001 * M_v * P_{va} * Q * K_a * K_p)$$

Where:

L_w = Working Losses

0.001 is a factor assuming varying temperature derived from the following:

Q = Annual throughput volume, bbl

P_{va} = Vapor pressure of the mixture at the daily average surface liquid temperature, psia

M_v = Vapor molecular weight of the mixture, lb/mole

K₁ = Turnover factor, dimensionless

where: for turnovers > 36, K₁ = (180 * N)/6N

for turnovers < 36, K₁ = 1

N = number of turnovers

K_p = working loss product factor, dimensionless (1)

Total uncontrolled VOC working losses from the storage tank is: 3.257 lb/yr

Air emission control device efficiency, %: 0.0

Total VOC working losses from the storage tank is: 3.257 lb/yr

Individual releases are calculated by applying the vapor mass fraction determined elsewhere.

Total working losses of VOCs from the storage tank: 3.257 lb/yr

CullNap Concentrate Tank - Breathing Losses (Standing Losses)

**vapor space volume (V _s)	57.83
**vapor space density (W _v)	0.0001 lb/ft ³
**Vapor space expansion factor (K ₃)	0.0883
**Vented vapor saturation factor (K ₄)	0.9987

$$L_b = 365 * V_s * W_v * K_3 * K_4$$

Where:

L_b = Standing Losses

V_s = Vapor space volume, ft³

W_v = Vapor density, lb/ft³

K₃ = Vapor space expansion factor, dimensionless

K₄ = Vented vapor saturation factor, dimensionless

Total uncontrolled VOC working losses from the storage tank is: 0.233 lb/yr

Air emission control device efficiency, %: 0.0

Total working losses from the storage tank is: 0.233 lb/yr

Total losses of VOCs from the storage tank: 3.489 lb/yr

Total Losses (L_T) = L_w + L_b 0.0035 TPY

NOTES:

*Equations for calculating losses from storage tanks taken from AP-42, Chapter 7.

$$N = \frac{5.614Q}{V_{sa}}$$

$$V_{sa} = \frac{\pi D^2 H_{sa}}{4}$$

$$V_{sa} = 627.78$$

Where:

D = diameter: 5.25

H_{sa} = maximum liquid height: 29

Tank Height: 36

$$K_1 = 0.00186T_v + 0.0018(0.72(T_{va} - T_{sa})) + 0.028 \alpha$$

Where:

ΔT_v = Daily vapor temperature range, 51 °R

0.0018 = Constant, °R

0.72 = Constant, dimensionless

T_{va} = Daily maximum ambient temperature, °R = 545.67

T_{sa} = Daily minimum ambient temperature, °R = 482.67

0.028 = Constant, °R ft³ day/ft³

α = Tank paint solar absorptance factor, dimensionless, 0.74

I = Daily total solar insulation on a horizontal surface = 1509 Btu/R² day AP-42, Table 7.1-7

$$K_2 = 0.0003$$

$$K_3 = \frac{1}{1 + 0.053P_{va}M_{va}}$$

Where:

0.053 = Constant, (psia-ft)⁻¹

P_{va} = Vapor pressure at daily average liquid surface temperature, 0.009 psia

M_{va} = Vapor space outage, 3.0 ft

$$K_4 = 0.9987$$

$$W_v = \frac{M_v P_{va}}{R T_{sa}}$$

Where:

M_v = Vapor molecular weight of the mixture, lb/mole

P_{va} = Vapor pressure of the mixture at the daily average surface liquid temperature, psia

R = Ideal gas constant, 10.731 psia ft³/lb mole °R

T_{sa} = daily average liquid surface temperature, °R 524.442

⇒ 0.44T_{sa} + 0.56T_a + 0.0079 °R = 1

T_{sa} = Daily Average Temperature, °R

T_a = liquid bulk temperature, °R

$$W_v = 0.0001$$

$$V_{sa} = 627.78$$

Where:

H_{sa} = Tank roof height, 20 ft

R_{sa} = Tank shell radius, 2.625 ft

H_{sa} = Tank shell height, ft 30 ft

H_{sa} = Liquid height, ft 29 ft

H_{sa} = 0.548 ft

H_{sa} = 1/20 + 1/2(914) = 2.6 ft

H_{sa} = 2.625 ft

H_{sa} = 0.2688

H_{sa} = 1.072

$$T_{sa} = \frac{T_{sa} + T_{sa}/2}{2}$$

$$T_{sa} = 513.17$$

$$T_a = T_{sa} + 6a - 1$$

$$T_a = 516.61$$

FUGITIVE EMISSIONS FROM THE CuNap-TREATED WOOD, ON THE DRIP PAD/ QC, AND IN TREATED WOOD STORAGE YARD

Emission Summary

Pollutant	Drip Pad (Treated Wood)		Treated Wood Storage	
	(lb/yr)	Tons Per Year	(lb/yr)	Tons Per Year
VOC	4,615.87	2.31	9889.77	4.94
Naphthalene	573.18	0.287	40.85	0.020

POLE STORAGE INFORMATION

QA/QC Naphthalene Emission factor	5.71E-05	lb/ft ² -hr	Emission factor from SARA calculations (1990 Feather River test)
QA/QC VOC Emission factor	4.60E-04	lb/ft ² -hr	conversion based on naphthalene emissions from Feather River test
Number of CuNap Charges	1,447		
DCOI QA/QC Time on Drip Track	6	hours	
Surface Area of One CuNap Tram	1,156.28	ft ²	
Number of Trams per change	3.00		
QA/QC VOC Emissions from CuNap Poles	4,615.87	lb VOC	

Average CF Poles in Storage: 144090
Total Poles in Storage: 5768.712635

Emissions Equation from Fugitive Emissions from Creosote Treated Wood Products Prepared for AWPI and Submitted to USEPA

Based on 6 poles with a 699 ft² surface area, assumes 30 days per month

$$\begin{aligned}
 N1(t) &= 1.370E-03 \quad * \exp (0.467 * t) \quad , t \leq 0.25 \text{ days} \quad \text{QA/QC Emissions} \\
 N2(t) &= 2.777E-03 \quad * \exp (-2.435 * t) \quad , 0.25 < t \leq 1.0 \text{ days} \\
 N3(t) &= 2.533E-04 \quad * \exp (-0.044 * t) \quad , t > 1.0 \text{ days}
 \end{aligned}$$

$$\text{Calculated 24-hour Average California Pole Test Temperature} = 80 \text{ } ^\circ\text{F}$$

$$\text{Temperature Correction Factor for Other Geographic Locations} = \exp[-11,161.25 * (1/T_oF + 459.67) - 1/(80 + 459.67)]$$

Naphthalene emission factor 5.71E-05 lb nap/ft²-hr Emission factor from SARA calculations (1990 Feather River Test)
Emission Factor Naphthalene Liquid Weight % 14 % Liquid Mass percent from 1990 Feather River Test

Monthly VOC Emissions Calculations from Penta Poles

Month	Surface Area of CuNap Poles in Storage	VOC Emissions from CuNap Poles	Temperature Correction Factor	VOC Emissions from CuNap Poles and Tram Storage
		lb/month		lb/month
January	151,597	1854.95	0.13	246.30
February	151,597	1854.95	0.19	354.25
March	151,597	1854.95	0.26	482.31
April	151,597	1854.95	0.32	598.16
May	151,597	1854.95	0.47	872.11
June	151,597	1854.95	0.73	1358.88
July	151,597	1854.95	1.04	1927.28
August	151,597	1854.95	0.89	1652.43
September	151,597	1854.95	0.60	1113.34
October	151,597	1854.95	0.35	651.18
November	151,597	1854.95	0.21	387.24
December	151,597	1854.95	0.13	246.30

A	0
B	7.25
C	0
D	0.0%
E	0
F	3,000,000
G	21,750,000
H	1.0%
I	206,625
J	206,625
K	8.40
L	0.69
M	301,080
N	2,698,920

301080

2,698,920

3,000,000

TOTAL CF WOOD
Retention (gal per cube)
Total Gallons of
Treating Solution
Needed

CuNap Mix Worksheet

- Gallons of treating solution in work tank before mix
- Weight in pounds of one gallon of treating solution (approx. 7.5 lb.)
- Pounds of treating solution in work tank before mix (A X B)
- Work tank concentration before mix
- Pounds of CuNap in work tank before mix (C X D)
- Total gallons of solution wanted after mix
- Pounds of treating solution after mix (F X B)
- Work tank concentration wanted after mix
- Pounds of CuNap in tank after mix (G X H)
- Pounds of CuNap to add to the work tank (J - E)
- Weight in pounds of one gallon of Concentrate
- Weight of CuNap in one gallon of concentrate (K X 8.17)
- Gallons of concentrate to add to the work tank (J / L)
- Gallons of carrier oil to add to the work tank (F - A - M)

Gallons of Concetnrate Needed
Gallons of Carrier Oil Needed
Total Solution Gallons

	4,000,000
	0.75
	3000000

CuNap Solution Analytical

Equipment Leaks

Temp, °F:	70	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A	G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=Ji/J _{tot}
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)	Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
	Copper Naphthenate	405.89	1.000	2.46E-03	3.22E-03	1.31E+00	1.93E-06	6.23E-09	6.94E-07	2.82E-04	2.17E-06
	Fuel Oil	130.00	98.010	7.54E-01	9.87E-01	1.28E+02	9.06E-03	8.94E-03	9.95E-01	1.29E+02	9.95E-01
	Naphthalene	128.20	0.990	7.72E-03	1.01E-02	1.30E+00	4.18E-03	4.22E-05	4.70E-03	6.03E-01	4.64E-03
Total		100.000	0.764	1.000	130.871	0.013	0.009	1.000	129.992	1.000	

Retort Door

Temp, °F:	100	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A	G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=Ji/J _{tot}
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)	Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
	Copper Naphthenate	405.89	1.000	2.46E-03	3.22E-03	1.31E+00	1.93E-06	6.23E-09	2.82E-07	1.14E-04	8.80E-07
	Fuel Oil	130.00	98.010	7.54E-01	9.87E-01	1.28E+02	2.23E-02	2.20E-02	9.94E-01	1.29E+02	9.94E-01
	Naphthalene	128.20	0.990	7.72E-03	1.01E-02	1.30E+00	1.26E-02	1.27E-04	5.75E-03	7.37E-01	5.67E-03
Total		100.000	0.764	1.000	130.871	0.035	0.022	1.000	129.990	1.000	

Treatment and Conditioning

Temp, °F:	150	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A	G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=Ji/J _{tot}
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)	Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
	Copper Naphthenate	405.89	1.000	2.46E-03	3.22E-03	1.31E+00	1.93E-06	6.23E-09	7.64E-08	3.10E-05	2.39E-07
	Fuel Oil	130.00	98.010	7.54E-01	9.87E-01	1.28E+02	8.21E-02	8.10E-02	9.92E-01	1.29E+02	9.92E-01
	Naphthalene	128.20	0.990	7.72E-03	1.01E-02	1.30E+00	6.21E-02	6.28E-04	7.69E-03	9.86E-01	7.59E-03
Total		100.000	0.764	1.000	130.871	0.144	0.082	1.000	129.986	1.000	

Initial Air

Temp, °F:	100	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A	G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=Ji/J _{tot}
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)	Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
	Copper Naphthenate	405.89	1.000	2.46E-03	3.22E-03	1.31E+00	1.93E-06	6.23E-09	2.82E-07	1.14E-04	8.80E-07
	Fuel Oil	130.00	98.010	7.54E-01	9.87E-01	1.28E+02	2.23E-02	2.20E-02	9.94E-01	1.29E+02	9.94E-01
	Naphthalene	128.20	0.990	7.72E-03	1.01E-02	1.30E+00	1.26E-02	1.27E-04	5.75E-03	7.37E-01	5.67E-03
Total		100.000	0.764	1.000	130.871	0.035	0.022	1.000	129.990	1.000	

Final Vacuum

Temp, °F:	100	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A	G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=Ji/J _{tot}
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)	Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
	Copper Naphthenate	405.89	1.000	2.46E-03	3.22E-03	1.31E+00	1.93E-06	6.23E-09	2.82E-07	1.14E-04	8.80E-07
	Fuel Oil	130.00	98.010	7.54E-01	9.87E-01	1.28E+02	2.23E-02	2.20E-02	9.94E-01	1.29E+02	9.94E-01
	Naphthalene	128.20	0.990	7.72E-03	1.01E-02	1.30E+00	1.26E-02	1.27E-04	5.75E-03	7.37E-01	5.67E-03
Total		100.000	0.764	1.000	130.871	0.035	0.022	1.000	129.990	1.000	

Wood Products Storage

Temp, °F:	55	A	B	C=B/A	D=C _i /Sum(C _i)	F=Di*A	G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=Ji/J _{tot}
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)	Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction

87865	Copper Naphthenate	405.89	1.000	2.46E-03	3.22E-03	1.31E+00	1.93E-06	6.23E-09	1.14E-06	4.64E-04	3.57E-06
	Fuel Oil	130.00	98.010	7.54E-01	9.87E-01	1.28E+02	5.50E-03	5.43E-03	9.96E-01	1.29E+02	9.96E-01
	Naphthalene	128.20	0.990	7.72E-03	1.01E-02	1.30E+00	2.27E-03	2.29E-05	4.21E-03	5.39E-01	4.15E-03
Total		100.000	0.764	1.000	130.871	0.008	0.005	1.000	129.993	1.000	

Work Tanks

Temp, °F:	150	A	B _{penta}	C=B/A	D=C _i /Sum(C _i)	F=D _i *A	G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=J _i /J _{tot}
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)	Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
1338-02-9	Copper Naphthenate	405.89	1.000	2.46E-03	3.22E-03	1.31E+00	1.93E-06	6.23E-09	7.64E-08	3.10E-05	2.39E-07
	Fuel Oil	130.00	98.010	7.54E-01	9.87E-01	1.28E+02	8.21E-02	8.10E-02	9.92E-01	1.29E+02	9.92E-01
	Naphthalene	128.20	0.990	7.72E-03	1.01E-02	1.30E+00	6.21E-02	6.28E-04	7.69E-03	9.86E-01	7.59E-03
Total		100.000	0.764	1.000	130.871	0.144	0.082	1.000	129.986	1.000	

CoSolvent Storage Tanks

Temp, °F:	55	A	B	C=B/A	D=C _i /Sum(C _i)	F=D _i *A	G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=J _i /J _{tot}
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)	Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
	Fuel Oil	130.00	99.000	7.62E-01	9.97E-01	1.30E+02	7.02E-04	7.00E-04	3.02E+01	3.92E+03	3.06E+01
	Naphthalene	128.20	1.000	7.80E-03	1.02E-02	1.31E+00	2.27E-03	2.32E-05	1.00E+00	1.28E+02	1.00E+00
Total		100.000	0.008	0.010	1.309	0.002	0.000	1.000	128.200	1.000	

Concentrate Storage Tanks

Temp, °F:	55	A	B	C=B/A	D=C _i /Sum(C _i)	F=D _i *A	G=Given	H=G*D	I=H/P _{tot}	J=I*A	K=J _i /J _{tot}
CAS No.	Component	Molecular Weight	Liquid Weight %	Moles of Component (lb-moles)	Mol Fraction in Blend (X _i)	Contribution to MW (lbs/lb-mol)	Pure Component Vapor Pressure (psia)	Partial Pressure (psia)	Vapor Fraction in the Gas (X _{AG})	Contribution to Vapor Mol Weight	Vapor Mass Fraction
1338-02-9	Copper Naphthenate	405.89	8.000	1.97E-02	2.58E-02	1.05E+01	1.93E-06	4.99E-08	9.78E-06	3.97E-03	3.05E-05
68476-34-6	Fuel Oil	130.00	92.000	7.08E-01	9.26E-01	1.20E+02	5.50E-03	5.10E-03	1.00E+00	1.30E+02	1.00E+00
Total		100.000	0.727	0.952	130.871	0.006	0.005	1.000	130.003	1.000	

Copper Naphthenate vapor pressure data is from the Registration Eligibility Decision for Naphthenate Salts.
<https://archive.epa.gov/pesticides/reregistration/web/pdf/naphthenate-salts-red.pdf>, (10⁻⁴ mm Hg)

Permit Modification- Increased Wood Product
Stella-Jones Corporation
Silver Springs

**DIESEL STORAGE TANKS AT SILVER SPRINGS ARE A
SSP DIESEL STORAGE TANK emissions not included in the**

DIESEL STORAGE TANK - WORKING LOSSES

The volume of the tanks is:

Volume of diesel through tank, Q:

Molecular Weight of the vapor, Mv:

1,066	bbl
54,331	bbl
128.2	

Tur
Turnover F
Product F
Vapor Pr

$$L_w = (0.001 * M_v * P_{VA} * Q * K_N * K_P)$$

Where:

L_w = Working Losses

0.001 is a factor assuming varying temperature derived from the following:

Q = Annual throughput volume, bbl

P_{VA} = Vapor pressure of the mixture at the daily average surface liquid temper

M_v = Vapor molecular weight of the mixture, lb mole

K_N = Turnover factor, dimensionless

where: for turnovers >36, $K_N = (180 + N)/6N$

for turnovers <36, $K_N = 1$

N = number of turnovers

K_P = working loss product factor, dimensionless (1)

Total uncontrolled VOC working losses from the gasoline storage tank is:

Air emission control device efficiency, %:

Total VOC working losses from the gasoline storage tank is:

Individual releases are calculated by applying the vapor mass fraction determined elsewhere.

Total working losses of VOCs from the Diesel storage tank:

DIESEL STORAGE TANK - BREATHING LOSSES (STANDING LOSSES)

**vapor space volume (V_v)

**vapor space density (W_v)

**Vapor space expansion factor (K_E)

199	ft3
0.0001	lb/ft3
0.0788	

**Vented vapor saturation factor (K_S)

0.9990

$$L_S = 365 * V_v * W_v * K_E * K_S$$

Where:

L_S = Standing Losses

V_v = Vapor space volume, ft^3

W_v = Vapor density, lb/ft^3

K_E = Vapor space expansion factor, dimensionless

K_S = Vented vapor saturation factor, dimensionless

Total uncontrolled VOC working losses from the storage tank is:	0.382
Air emission control device efficiency, %:	0.0
Total working losses from the diesel storage tank is:	0.382

Total losses of VOCs from the diesel storage tank:

$$\text{Total Losses (LT)} = L_S + L_W$$

NOTES:

*Equations for calculating losses from storage tanks taken from AP-42, Chapter 7.

N INSIGNIFICANT ACTIVITY, EXEMPT FROM PERMITTING AS THEY ARE UNDER THE 40,000 Gal VOLUME THRESH
overall DCOI Treating emission calculations, because there will be no change in bulk diesel storage resulting fro
of DCOI. Existing Diesel tank emissions should be used.

novers (N):	105.81
Factor (Kn):	0.4502
Factor (Kp):	1.0000
essure, Pv:	2.97E-03

$$N = \frac{5.614Q}{V_{LX}}$$

$$V_{LX} = \frac{\pi}{4} D^2 H_{LX}$$

$$V_{LX} = 2882.66$$

Where:

D = diameter, 11.25

H_{LX} = maximum liquid height, 30 ft 29

ature, psia

9.320	lb/yr.
0.0	
9.320	lb/yr.

9.320 lb/yr.

$$K_E = 0.0018\Delta T_v = 0.0018[0.72(T_{ax} - T_{an}) + 0.028 \alpha I]$$

Where:

ΔT_v = Daily vapor temperature range, 51 °R

0.0018 = Constant, °R

0.72 = Constant, dimensionless

T_{ax} = Daily maximum ambient temperature, °R, (532.87)

T_{an} = Daily minimum ambient temperature, °R, (510.77)

0.028 = Constant, °R ft² day/BTU

α = Tank paint solar absorptance factor, dimensionless, 0.7

I = Daily total solar insulation on a horizontal surface, 134!

$$K_E = 0.0788$$

$$K_S = \frac{1}{1 + 0.053P_{VA}H_{VO}}$$

Where:

0.053 = Constant, (psia-ft)⁻¹

P_{VA} = Vapor pressure at daily average liquid surface tempera

H_{VO} = Vapor space outage, 3.0 ft

$$K_S = 0.9990$$

lb/yr.

lb/yr.

9.701 lb/yr.

0.0097 TPY

OLD
om the use

$$W_V = \frac{M_V P_{VA}}{R T_{LA}}$$

Where:

M_V = Vapor molecular weight of the mixture

P_{VA} = Vapor pressure of the mixture at the

R = Ideal gas constant, $10.731 \text{ psia ft}^3/$

T_{LA} = daily average liquid surface temperature

$$= 0.44T_{AA} + 0.56T_B + 0.0079 \cdot \alpha \cdot I$$

T_{AA} = Daily Average Temperature,

$$W_V = 0.0001$$

$V_V =$

H_{VO}

$V_V =$

Where:

$H_{RO} =$

H_R

+

H_R = Tank roof height, 20 ft

R_S = Tank shell radius, 4 ft

H_S = Tank shell height, 20 ft

H_L = Liquid height, 18 ft

$$H_{RO} = 0.549 \text{ ft}$$

$$H_{VO} = 1/2D = 1/2(8) = 4 \text{ ft}$$

$$H_{VO} = 2.000 \text{ ft}$$

ure, lb mole

$$T_{AA} = T_{AX} + T_{AN}/2$$

$$T_{AA} = 521.82$$

$$T_B = T_{AA} + 6\alpha - 1$$

the daily average surface liquid temperature, psia

$$T_B = 525.26$$

lb mole °R

temperature, °R 531.6093

°R T_B = liquid bulk temperature, °R

198.80 ft³

2

$$H_R = 0.268R_S$$

$$H_R = 1.072$$

Silver Springs
8/18/2026

Average Number of poles per tram 44

Diameter of treated tram bundle 8.333333 ft
Pole Diameter 10.7 inches
Pole Length 40 ft
Average cubes per pole 24.97784

Month	AVE T (F)	Number of Poles			Average CF of wood in inventory
		0-30 Days Old (25%)	30-60 Days Old (50%)	60-90 Days Old (25%)	
January	32	1,442	2,884	1,442	144090 5768.713 Total poles
February	40	1,442	2,884	1,442	
March	47	1,442	2,884	1,442	
April	52	1,442	2,884	1,442	
May	61	1,442	2,884	1,442	
June	72	1,442	2,884	1,442	
July	81	1,442	2,884	1,442	
August	77	1,442	2,884	1,442	
September	67	1,442	2,884	1,442	
October	54	1,442	2,884	1,442	
November	42	1,442	2,884	1,442	
December	32	1,442	2,884	1,442	

<https://www.areavibes.com/silver+springs-nv/weather/>

**Nevada Division of Environmental Protection
Bureaus of Air Pollution Control & Air Quality Planning
Responsible Official Identification/Designation/Change Request Form**

Use this form to identify the **Responsible Official who will be the point of contact for all permit related correspondence**. You can also use this form to designate an authorized representative **who is responsible for the overall operation of the facility** pursuant to (1)(e) above. If you wish to change the Responsible Official designation governing one or more Air Quality Operating Permits [AQOP(s)], please specify the Permit Number(s) and FIN(s) that are covered by this notice:

FIN(s): A0499

Permit No.(s): AP 2491-0095.06

Pursuant to Nevada Administrative Code (NAC) 445B.156, a Responsible Official is defined as:

- (1) For a corporation: (a) president; (b) vice president in charge of a principal business function; (c) secretary; (d) treasurer; (e) authorized representative of such a person **who is responsible for the overall operation of the facility** and who is designated in writing by an officer of the corporation and approved in advance by the Director.
- (2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.
- (3) For a municipality or a state, federal or other public agency: a ranking elected official or a principal executive officer, including for a federal agency, a chief executive officer who has responsibility for the overall operations of a principal geographic unit of the agency.
- (4) For an affected source: the designated representative or his or her alternate, as defined in 42 U.S.C. 7651a(26)

A. Please Identify an individual who is either a Corporate Officer ((1)(a)-(d) above), Sole Proprietor, or Government Official as identified above:

Name:	<u>Andy Morgan</u>		
Title:	<u>Vice President Utility Pole Operations (Western Species)</u>		
Address:	<u>1640 Marc Avenue</u>		
City:	<u>Tacoma</u>		
State:	<u>WA</u>	Zip Code:	<u>98421</u>
Phone #:	<u>253-552-1040(xxx) xxx-xxxx</u>		
Fax #:	<u>Enter Fax #.(xxx) xxx-xxxx</u>		
E-mail:	<u>amorgan@stella-jones.com</u>		

Select One Option:

- ☐ The person identified above will be **acting as the Responsible Official** for the identified permit(s).
Continue to Section C. Signature

OR

- ☒ The person identified above is **designating the following person to act as the Responsible Official** for the identified permit(s): (designee's information must be provided in **Section B.** on following page)

- B. Please provide **ALL** of the following information **only if designating** a Responsible Official **other than the person Identified in Section A.**

Designated Responsible Official Name, Title and Mailing Address [NAC 445B.295.1]:

Name:	Chris Cook		
Title:	Plant Manager		
Address:	1680 East Spruce Avenue		
City:	Silver Springs		
State:	NV	Zip Code:	89429
Phone #:	775-577-2000(xxx) xxx-xxxx		
Fax #:	Fax Number.(xxx) xxx-xxxx		
E-mail:	ccook@stella-jones.com		

C. Signature Authority

Pursuant to the conditions specified under NAC 445B.156, I hereby certify the above Responsible Official notification or designation under penalty of perjury. **This certification rescinds all previous notifications or designations.**

Signed:



Print Name:

Andy Morgan

Title:

Vice President Utility Pole Operations (Western Species)

*Must be the individual identified in **Section A** above.*