STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0559-AOP-R8 AFIN: 33-00013

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

Unilin North America, LLC - Melbourne Plant
State Highway 9 Spur
Melbourne, Arkansas 72556

3. PERMIT WRITER:

Patty Campbell, P.E.

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Other Millwork (including Flooring)
NAICS Code: 321918

5. SUBMITTALS:

Date of Application	Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment)	Short Description of Any Changes That Would Be Considered New or Modified Emissions
8/28/2015	Minor Mod	Installing two new fabric filter baghouses and a hot melt glue application process
8/28/2015	Renewal	Title V Renewal
10/06/2015	Minor Mod	Adding the use of new stains, sealers, topcoats and fillers to the Finishing Department. No change in emissions.

6. REVIEWER'S NOTES:

Unilin North America, LLC – Melbourne Plant (Unilin) owns and operates a hardwood flooring manufacturing facility located at State Highway 9 Spur in Melbourne, Izard County, Arkansas 72556. This permitting action is necessary to modify the permit as follows:

1. Renew Title V operating air permit;
2. Identify new facility name;
3. Allow any single HAP for materials in the Finishing Department (SN-08, 09, 10, and 21) with emissions equal or less than 10 tons per year or any HAP with a TLV greater than 1 mg/m^3, regardless of emission rates;
4. Replace HAP TLV Table and associated conditions with PAER emission rate calculation for daily maximum usage or prior Department approval for any other HAP that does not meet the above limitations;
5. Update 40 C.F.R. § 63 Subpart ZZZZ, amended January 30, 2013, conditions for SN-19;
6. Add Engineered Hardwood Flooring Line (SN-22) with Baghouse #4;
7. Add Engineered Hardwood Flooring Line (SN-23) with Baghouse #5;
8. Add annual process limit for SN-22 and SN-23 combined for hardwood flooring;
9. Add Hot Melt Adhesive Application and Wood Press (SN-24);
10. Add annual usage limit for SN-24 hot melt adhesive; and
11. Add a content limit for hot melt adhesive.

Total annual emission changes associated with this modification are: +0.5 tpy PM/PM_{10} and +2.9 tpy VOC.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

There are no pending or active air enforcement actions at this time. No areas of concern were identified during the last air inspection conducted on 3/30/2015.

8. PSD APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N
b) Is the facility categorized as a major source for PSD? N

- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

If yes, explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
05 & 06	HAPs	NESHAP Subpart JJJJJJ
19	HAPs	NESHAP Subpart ZZZZ

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

a) Reserved.

b) Non-Criteria Pollutants:

Based on Department procedures for review of non-criteria pollutants, emissions of non-criteria pollutants are below thresholds of concern.

H_2S Modeling:

Not applicable. There are no H_2S emissions.

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01, 02, 03	EF from informal testing event performed at SN-03 on 8/11/2003 by Trinity & engineering judgment	01/04 Test result = 0.0016 grains/dscf PM conservatively used EF = 0.01 gr/dscf PM	SN-01 Pneumafil Baghouse #135-448-10 Fabric Filter SN-02, 03 Carter Day Baghouses #RFJ-376 Fabric Filters	99.9% each	Flooring Plant Baghouses #1, #2, #3 Emissions calc based on exhaust air flow of individual baghouses @8,760 hrs/yr Rated air flow SN-01 = 17.06 ft/sec = 20,500 scfm SN-02, 03 = 20.07 ft/sec = 20,100 scfm 100% of PM is PM_{10}.

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
05/06	Criteria EF from test HAP EF from AP-42 Chapter 1.6 Tables 1.6-3[1] & 1.6-4[2] (9/03)	<u>lbs/hr</u> PM/PM_{10}: 25.0 SO_2: 1.0 VOC: 0.7 CO: 21.7 NO_X: 18.3 <u>lbs/MMBtu/hr</u> [1]Acrolein: 4.00E-03 [2]Arsenic: 2.20E-05 [1]Benzene: 4.20E-03 [1]Chlorine: 7.90E-04 [1]Formaldehyde: 4.40E-03 [1]HCl: 1.90E-02 [2]Lead: 4.80E-05 [2]Manganese: 1.60E-03 [1]Dixions: 1.70E-06 [1]Furans: 1.90E-09 [1]Styrene: 1.90E-03 HAPs limit 10/25 plantwide	Zurn fly ash arrestor, multi-clone	80-90% 85% for PM 63% for PM_{10}	Wood fired Boilers SN-05 – Deltak Boiler (MAIN) = 47.64 MMBtu/hr SN-06 – Keeler Boiler = 37.5 MMBtu/hr Boilers operated mutually exclusive, 1 @ a time. SN-05 @ 8,760 hrs/yr SN-06 @ 1 hr/yr Actual is about 80/20 but conservatively estimated larger Boiler SN-05 ops 100% HAPs lb/hr
07	MSDS	100% Acetone 6.59 lb/gallon max	None	N/A	Equipment Cleaning Solvent
08, 09, 10, 21	Mass Balance, MSDS, usage and TLV Lookup Table	<u>Max VOC content limit Lb/gallon</u> Acetone (SN-07): 6.59 Stains (SN-08): 6.54 (SN-9, 10 & 21): 2.53 VOC limited to 85 tpy & <u>Max HAP content limit Lb/gallon</u> Stains (SN-08): 5.992 Sealers (SN-9): 0.54 Topcoats & Fillers (SN-10 & 21): 0.30	None	N/A	<u>VOC & HAP-containing Materials in Finishing Dept.</u> Assumes 100% of VOCs & HAPs emitted Facility can only use either water or solvent based stain at a time HAPs limit 10/25 plantwide
11	AP-42 Tables 1.4-1 & -2* (07/98)	<u>(lb/MMscf)</u> PM/PM_{10}: 7.6 SO_2: 0.6 VOC: 5.5 *CO: 84 *NO_X: 100	None	N/A	1.18 MMBtu/hr @8,760 hrs/yr Natural gas is <u>only</u> fuel used. HAPs limit 10/25 plantwide

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
17	VOC[1]- Brian W. Beakler, et al "Quantification VOCs kin-drying Red Oak & White Oak Lumber" (11/07) Formaldehyde [2] & Methanol[2] – OR State Univ. "Small Scale Kiln Study Utilizing Ponderosa Pine, . . . White Fir . . ." (9/20/00)	Lumber Kiln Max Thruput = 50 MMBF lumber / 12 rolling mos. 47,833 BF/hr ave. Lb/mbf VOC = 0.256[1] Formaldehyde = 0.0028[2] Methanol = 0.122[2] Hourly rate based on 24-hr drying cycle Formaldehyde and methanol are naturally occurring HAPs	None	N/A	@8,760 hrs/yr, 12 kilns, limited by throughput MBF x 1000 = MMBF Kilns steam heated [1] worst case, red oak range 0.154 – 0.356 = 0.256 lb/mbf VOC (both white & red are dried) [2] used white fir emission factor since oak not included HAPs limit 10/25 plantwide
19	AP-42 Chap 3.4-1 (10/96)	lbs/hp-hr PM/PM_{10}: 0.0007 SO_2: 0.00405[1] VOC: 0.000705 CO: 0.0055 NO_X: 0.0240	None	N/A	Emergency Diesel Generator Engine 981 hp [Large] @1000 hrs/yr max 100% of PM is PM_{10}. [1] Sulfur content of diesel fuel is 0.05% x 0.00809 lbs/hp-hr = 0.00405 lbs/hp-hr EF HAPs limit 10/25 plantwide
20	AP-42 Chap 9.9.1-1 (03/03)	lbs/ton PM: 0.086 PM_{10}: 0.029 Max 1 truck/hr @ max 25 tons/truck Max 100 trucks/mo = 2,500 tons/mo x 12 mos = 30,000 tons/yr	None	N/A	AP-42 is for Grain Truck Shipping as substitute for wood waste (sawdust). Facility can only load one truck per hour. Historical data (last 5 yrs show max 96 loads/mo in 10/07.

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
22	[1] Provided by manufacturer Southern Felt	PM = PM_{10} Outlet grain loading: 0.0001153 Gr/dscf [1] Exhaust air flow: 25,650 cfm @8,760 hrs/yr	Fabric Filter PE-16-US	99.99%	Baghouse #4 Lb/hr = (cfm x gr/dscf) / (7,000 gr/lb x 60 min/hr) tpy = lb/hr x hr/yr / lb/ton
23	[1] Provided by manufacturer Southern Felt	PM = PM_{10} Outlet grain loading: 0.0001153 Gr/dscf [1] Exhaust air flow: 66,750 cfm @8,760 hrs/yr	Fabric Filter PE-16-US	99.99%	Baghouse #5 Lb/hr = (cfm x gr/dscf) / (7,000 gr/lb x 60 min/hr) tpy = lb/hr x hr/yr / lb/ton
24	Mass Balance MSDS	VOC: 1.1% by wt HAPs: 1.1% by wt HAPs limit 10/25 plantwide	N/A	None	Hot Melt Adhesive as applied

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
05 Boiler	PM	5 and 202	Once every 5 years or if test fails, two consecutive annual tests until boiler passes. Next test, no later than 11/4/2020.	Reg.19.702 & Reg.19.901
	PM_{10}	201A and 202		
	CO	10		
	NO_X	7E		
06 Boiler	PM, PM_{10}, CO, & NO_X	Same as above	One-time Test – Complete – December 2014	

14. MONITORING OR CEMS:

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
None required.				

15. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
05	Performance Tests	PM, PM_{10}, CO and NO_X limits	Every 5 years or if failed 2 consecutive successful tests	Yes
06	Performance Test	PM, PM_{10}, CO and NO_X limits	One-time	Complete
05/06	Boilers Manufacturer's Specification	Maintain for life of units	On-going	No
05/06	Hourly Operation of SN-05 & 06	Max simultaneous operation of 1-hour during periods of start-up/shutdown.	Monthly	No
05/06	Multi-clone fly ash arrestors Manufacturer's Specification	Maintain for life of units	On-going	No
05/06	Tune-ups	Must be completed as specified in §63.11223 (b)(1) through (7)	Biennially or no more than 25 months after previous tune-up. If unit not operating on the required date, tune-up must be conducted within 1 week of start-up	No
05/06, Facility	Energy Assessment performed by a qualified Energy Assessor	Must be completed according to §63.11214(c.) and Table 2 to Subpart JJJJJJ of Part 63, item #4, (1) through (7) and be performed by March 21, 2014.	One time	No
05/06, Facility	Energy Assessment (above)	Maintain Report for life of Facility	On-going	No
05/06	Initial Notification of Compliance Status	Initial due by 9/17/2011. Include the §63.11225(a)(4) certifications.	Complete	Yes

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
05/06	Annual Notification of Compliance Status with NESHAP Subpart JJJJJJ	Include the §63.11225(a)(4) certifications. Include completion of boiler tune-up, date, signed, as appropriate, per §63.11214(b)	Annually, prepare by 3/1 each year and received by ADEQ by 3/15 each year	Yes
05/06	Work practices, emission reduction measures, and management practices required by §63.11214	Identify Boiler, date of tune-up, tune-up procedures followed, manufacturer's specs; Document fuel type; Occurrence and duration of malfunction; Corrective action taken	Annually	No
07	Solvent MSDS, Usage, Mass balance	10.28 tpy Acetone	Monthly Material Balance	Yes
08, 09, 10 & 21	VOC, HAP &, MSDSs, Usage, Mass balance	85.0 tpy VOC 6.00 tpy Single HAP 13.0 tpy Total HAPs	Monthly Material Balance	Yes
24	VOC, HAP &, MSDSs, Usage, Mass balance	2.9 tpy VOC 2.87 tpy Single Hap 2.88 tpy Total HAPs	Monthly Material Balance	Yes
08, 09, 10, 21, & 24	Individual HAPs	Not to emit any HAP with TLV less than 1 mg/m^3 at or above 10 tpy	Daily and Monthly	Yes
08, 09, 10, 21, & 24	Individual HAPs	Calculate Short term (Daily) PAER, SC #25	Daily	No
07, 08, 09, 10, 21, & 24	Content Limits	See SC #27	Daily	No
17	Lumber Throughput	50 MMBF dried Lumber per rolling 12 months	Monthly	Yes
19	Operating Hours	1,000 operating hours per rolling 12 months	Monthly	Yes
19	Diesel Fuel and MSDSs or other documents	Diesel fuel with sulfur content >0.05% by wt	On-going	No
19	NESHAP Subpart ZZZZ	See SC #41 through SC #54	As stated	No

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
20	Wood Waste Truck Loadout	30,000 tons Wood waste per rolling12 month	Monthly	Y
Plantwide Facility PWC #7	Any Single HAP and total combined HAPs	HAP emissions must be <10.00 tpy single HAP and <25.00 tpy total HAPs emitted per rolling 12 months	Monthly	No

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 02, 03, 22, 23	5%	Reg.18.501	Weekly Observation
05, 06	20%	Reg.19.503	Daily Observation
11	5%	Reg.18.501	Natural gas as only fuel
19	20%	Reg.19.503	Annual Observation
20	10%	Reg.18.501	Weekly Observation

17. DELETED CONDITIONS:

Former SC	Justification for removal
24	This condition was combined with SC #27
25 & 27	TLV Table was replaced with new strategy, SC #24 and #25.
41 through 54	Not deleted *but* updated with NESHAP Subpart ZZZZ, amended 01/30/2013.

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	A	Emissions (tpy)						
		PM/ PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							S	Tot
One Diesel Fuel Storage Tank, 10,000 gallon capacity (formerly SN-18)	A-3	0.0	0.0	0.003	0.0	0.0	-	2.80E-04
Eight Electric UV Ovens	A-13	0.0	0.0	0.0	0.0	0.0	0	0.0
Four Wood Storage Silos	A-13	0.0	0.0	0.0	0.0	0.0	0	0.0

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
0559-AOP-R7

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 08-26-15

Facility Name: Unilin North America, LLC - Melbourne Plant
Permit Number: 0559-AOP-R8
AFIN: 33-00013

$/ton factor	23.93	Annual Chargeable Emissions (tpy)	341.08
Permit Type	Modification	Permit Fee $	1000

Minor Modification Fee $	500
Minimum Modification Fee $	1000
Renewal with Minor Modification $	500
Check if Facility Holds an Active Minor Source or Minor Source General Permit	☐
If Hold Active Permit, Amt of Last Annual Air Permit Invoice $	0
Total Permit Fee Chargeable Emissions (tpy)	3.4
Initial Title V Permit Fee Chargeable Emissions (tpy)	

HAPs not included in VOC or PM: *Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride*

Air Contaminants: *All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensible PM, H2S in TRS, etc.)*

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM		134.2	134.7	0.5	0.5	134.7
PM_{10}		133.4	133.9	0.5		
SO_2		6.4	6.4	0	0	6.4
VOC		95	97.9	2.9	2.9	97.9
CO		98.1	98.1	0		
NO_X		91.8	91.8	0	0	91.8
Single HAP	☐	10	10	0		
Total HAPs	☐	25	25	0		
Acetone	☑	10.28	10.28	0	0	10.28
PC 10.22.2015	☐	0	0	0		