

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1803-AOP-R8 AFIN: 07-00212

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Georgia-Pacific Wood Products, LLC Fordyce OSB
#1 Georgia-Pacific Road
Fordyce, Arkansas 71742

3. PERMIT WRITER:

Patty Campbell, PE

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Reconstituted Wood Product Manufacturing
NAICS Code: 321219

5. SUBMITTALS:

2/18/2011 and 3/4/2011

6. REVIEWER'S NOTES:

Georgia-Pacific Wood Products, LLC Fordyce OSB (07-00212) operates a facility located at #1 Georgia-Pacific Road, Fordyce, AR 71742. This permitting action was necessary to increase the maximum operating speed of the Overlay Application Process (SN-15) from 80 to 120 feet per minute. The proposed higher line speed will be achieved by additional switches to monitor the in-feed parts (reducing "dead time"), adjusting the control settings of the variable-speed motors and, if necessary, adjusting the sheave ratio of the sprockets. Additionally, justifications of opacity observations are revised to cite the appropriate regulation. The total permitted annual emission rate changes associated with this modification include: 3.6 tpy VOC, 1.73 tpy acetaldehyde, 0.48 tpy formaldehyde, 1.05 tpy methanol and 1.73 tpy vinyl acetate.

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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 active or pending air enforcement actions at this time.

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? Y

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?

None of the PSD pollutant rate increases (including NO_x, and VOC) are at significant levels.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Facility	PM/PM ₁₀ , VOC, CO, and NO _x	PSD
Facility	HAPs	40 CFR Part 63, Subpart DDDD, <i>National Emissions Standards for Hazardous Air Pollutants for Plywood and Composite Wood Products</i>
15	HAPs	40 CFR Part 63, Subpart QQQQ, <i>National Emissions Standards for Hazardous Air Pollutants for Surface Coating of Wood Building Products</i>
17	HAPs	40 CFR Part 63, Subpart ZZZZ- <i>National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines</i>

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

Criteria Pollutants

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu\text{g}/\text{m}^3$)	Averaging Time	Highest Concentration ($\mu\text{g}/\text{m}^3$)	% of NAAQS
*PM ₁₀	136.8**	50	Annual	43.2	86.4
		150	24-Hour	133	88.7
CO	226.0**	10,000	8-Hour	137.12	1.37
		40,000	1-Hour	267.35	0.67
NO _x	143.9**	100	Annual	7.54	7.54

*North Little Rock background values 2008 were used, since there are few PM₁₀ monitors in Arkansas, the monitors from the urban areas (Little Rock) overestimate the background conditions in rural areas. The facility originally requested to use a 3-year average since attainment/nonattainment is determined on that basis. Background value averaging will not be allowed since it is not appropriate, per Thomas Rheume 07/31/2009.

**The above modeling was conducted Permit #1803-AOP-R7, issued 03/24/2010. There are no changes in VOC, CO and NO_x hourly emissions in Permit #1803-AOP-R8. (PC, 4/2011)

Non-Criteria Pollutants:

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = $0.11 \times \text{TLV}$	Proposed lb/hr	Pass?
Acetaldehyde	45.04	4.9544	2.71**	Y
Acrolein	0.23	0.0253	1.11*	N
Benzene	1.60	0.176	0.14*	Y

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Cadmium	0.002	0.00022	0.03*	N
Cumene	245.8	27.0	0.77*	Y
Formaldehyde	1.5	0.165	6.90**	N
Hexane	176.24	19.3864	0.96*	Y
Methanol	262.09	28.8299	13.41**	Y
Phenol	19.25	2.1175	2.96*	N
POM	0.20	0.022	0.011*	Y
Propionaldehyde	47.53	5.2283	0.2*	Y
Vinyl Acetate	35.21	3.8731	1.24**	Y
Acetone	1187.12	130.5832	2.2*	Y

* Emissions unchanged as of Permit #1803-AOP-R7, March 24, 2010.

**Emissions updated as of Permit #1803-AOP-R8, re change to SN-15, April 2011.

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL (µg/m ³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m ³)	Pass?
Acrolein	2.3	0.486	Y
Cadmium	0.02	2.3E-4	Y
Formaldehyde	15.0**	11.415*	Y

Pollutant	PAIL ($\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Phenol	192.5	1.38	Y

* Modeled on March 7, 2010 for Permit #1803-AOP-R8 by PC.

**Surrogate screening value adopted by ADEQ (Steve Patrick memo of 10/19/1998).

Other Modeling: None.

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01 OSB Dryer	2002 PSD Application (Permit #1803-AOP-R2)	18.81 lb/hr PM/PM ₁₀ 14.66 lb/hr NO _x 31.89 lb/hr VOC	2 RTOs & multiclones	90% (PM/PM ₁₀) 90% (VOC) 40% (CO) 90% (Acetone)	PM ₁₀ control efficiency of multiclones is 33.3% PM ₁₀ control efficiency due only to the RTO is 85% Total PM ₁₀ control efficiency (operated in series) is 90%
	AP-42, Table 1.6-2	0.025 lb/MMbtu SO ₂			
	AP-42, Table 10.6.1-2	5.3 lb/ODT CO			
	AP-42, Table 10.6.1-3	0.172 lb/ODT Acetaldehyde 0.200 lb/ODT Acetone 0.128 lb/ODT Acrolein 0.0113 lb/ODT Benzene 0.405 lb/ODT CH ₂ O 0.142 lb/ODT Methanol 0.0284 lb/ODT Phenol 0.0172 lb/ODT Propionaldehyde			
01 Natural Gas	AP-42, Table 1.4-2	0.6 lb/MMscf SO ₂			
	AP-42, Table 1.4-3	2.1E-03 lb/MMscf Benzene 7.5E-02 lb/MMscf CH ₂ O 1.8 lb/MMscf Hexane			
	AP-42, Table 1.4-4	1.1E-03 lb/MMscf Cadmium			
01A	AP-42, Table 1.4-1	100 lb/MMscf NO _x 84 lb/MMscf CO	N/A	N/A	N/A
	AP-42, Table 1.4-2	7.6 lb/MMscf PM/PM ₁₀ 0.6 lb/MMscf SO ₂			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		5.5 lb/MMscf VOC			
	AP-42, Table 1.4-3	2.1E-03 lb/MMscf Benzene 7.5E-02 lb/MMscf CH ₂ O 1.8 lb/MMscf Hexane			
	AP-42, Table 1.4-4	1.1E-03 lb/MMscf Cadmium			
02 OSB PRESS	AP-42, Table 10.6.1-4	0.11 lb/MSF PM/PM ₁₀	RTO/TCO	75% (PM) 90% (VOC) 75% (CO)	N/A
	AP-42, Table 10.6.1-5	0.0014 lb/MSF NO _x 0.0026 lb/MSF CO			
	AP-42, Table 10.6.1-6	0.21 lb/MSF VOC 0.0052 lb/MSF Acetaldehyde 0.0035 lb/MSF Acetone 0.044 lb/MSF CH ₂ O 0.50 lb/MSF Methanol 0.072 lb/MSF Phenol			
AP-42, Table 1.4-1	100 lb/MMscf NO _x 84 lb/MMscf CO				
02 Natural Gas	AP-42, Table 1.4-2	7.6 lb/MMscf PM/PM ₁₀ 0.6 lb/MMscf SO ₂ 5.5 lb/MMscf VOC			
	AP-42, Table 1.4-3	2.1E-03 lb/MMscf Benzene 7.5E-02 lb/MMscf CH ₂ O 1.8 lb/MMscf Hexane			
	AP-42, Table 1.4-4	1.1E-03 lb/MMscf Cadmium			
03	Throughput	33,152 lb/hr 76.8 MSF/hr			
	AP-42, Table 10.6.1-7	0.06 lb/MSF VOC 0.0003 lb/MSF CH ₂ O 0.0015 lb/MSF Acetone 0.0015 lb/MSF Methanol			
04	Throughput	6,203 lb/hr	Receiver Bag Filter	80.00% 99.83%	

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
05	Air flow/ Grain loading	33,800 dscfm 0.01 grain/dscf	Receiver Bag Filter	80.00% 99.83%	used.
06	Air flow/ Grain loading	15,175 dscfm 0.01 grain/dscf	Receiver Bag Filter	80.00% 99.88%	
	Throughput	76.8MSF/hr			
	AP-42, Table 10.6.1-7	0.12 lb/MSF VOC 0.00073 lb/MSF Methanol			
07	Throughput	5,323 lb/hr 76.8 MSF/hr	Receiver Bag Filter	80.00% 99.96%	
	AP-42, Table 10.6.1-7	0.12 lb/MSF VOC 0.00073 lb/MSF Methanol			
08	Air flow/ Grain loading	14,248 dscfm 0.01 grain/dscf	Receiver Bag Filter	80.00% 99.46%	
09	Throughput	33,152 lb/hr	Receiver Bag Filter	80.00% 99.96%	
10	Production	134.5 tons logs/hr Debarker 13.45 tons bark/hr Bark Hog	N/A	N/A	
	AP-42	0.024 lb/ton PM 0.011 lb/ton PM ₁₀			
11	Inside Spray Booth	0.176 gal/MSF 13.7 gal/hr	N/A	54% (solids content) 30% (exhaust) 98% (filter efficiency)	
	Outside Spray Booth	0.018 gal/MSF 1.4 gal/hr			
	Throughput	78 MSF/hr			
	Testing	8.5 lb/gal Paint/Ink Density 0.31lb/gal VOC 0.085 lb/gal HAPs			
				Total emissions are sum of painting inside and outside spray booth	
12	AP-42, Section 13.2.1	Paved Roads	N/A		

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	AP-42, Section 13.2.2	Unpaved Roads			
13	AP-42 Table 11.9-4 AP-42 Table 11.9-1 AP-42 Section 13.2.4	0.38 tons/acre-year 0.72U TSP \square 30 μ m 0.000046 lb/ton PM/PM ₁₀	N/A	N/A	N/A
14	Testing	0.21 ppm VOC 0.21 ppm CH ₂ O 40,000 acfm fan speed	N/A	N/A	N/A
15	Throughput	1125 lb adhesive/hour	N/A	N/A	Max op speed 120 ft/m (900 panels/hr) @ 1.25 lbs adhesive/panel @8760 hr/yr
	Production	0.22% by wt content VOC 0.11% by wt Acetaldehyde 0.03% by wt CH ₂ O 0.07% by wt Methanol 0.11% by wt Vinyl Acetate			
16	Throughput	76.8 MSF/hr	N/A	N/A	N/A
	AP-42, Table 10.6.1-7	0.16 lb/MSF VOC 0.0018 lb/MSF Acetone 0.0036 lb/MSF CH ₂ O 0.063 lb/MSF Methanol			
17	Throughput	500 hrs/yr	N/A	N/A	N/A
	AP-42, Section 3.3	7,000 Btu/hp-hr			
	AP-42, Table 3.3-1	0.0022 lb/hp-hr PM/PM ₁₀ 0.00205 lb/hp-hr SO ₂ 0.00247 lb/hp-hr VOC 0.00668 lb-hp-hr CO 0.031 lb/hp-hr NOX			
	AP-42, Table 3.3-2	7.67E-04 lb/MMBtu Acetaldehyde 9.25E-04 lb/MMBtu Acrolein 9.33E-04 lb/MMBtu Benzene 0.00118 lb/MMBtu CH ₂ O 0.000168 lb/MMBtu POM			

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01 and 02	PM ₁₀ NO _x CO VOC	5 or 201 7E 10 25A	Every 5 years	Basis for Calculations
01 and 02	Formaldehyde	Acetylacetone Method; OR Method 316 in appendix A to 40CFR part 63t; OR Method 320 in appendix A to 40 CFR part 63; OR Method 0011 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA Publication No. SW-846) for formaldehyde; OR the NCASI Method CI/WP-98.01 (IBR, see §63.14(f)); OR the NCASI Method IM/CAN/WP-99.02 (IBR, see §63.14(f)); OR the NCASI Method ISS/FP-A105.01 (IBR, see §63.14(f)); Or other test method upon the Department's approval.	Every 5 years	Basis for Calculations
01 and 02	Total HAPs	25A	Once	Initial Performance Test

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)
01	RTO Temperature	CEM	15 minutes	N
01	ID Fan Static Pressure	CEM	Hourly	N
02	RTO Temperature	CEM	15 minutes	N

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
02	ID Fan Static Pressure	CEM	Hourly	N

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)
Facility	OSB Throughput	600 MMSF on a 3/8-inch basis	12 consecutive months	Y
01A	Venting to Atmosphere and Fuel used	Only Natural Gas	Monthly	N
11	VOC emitted	17.4 tpy	Monthly	N
	Only non-HAP coatings (see SC #67)	Non-HAP coating is defined as coating with HAP contents below 0.1% by mass for OSHA defined carcinogens as specified in 29 CFR 1910.1200(d)(4), and below 1.0% by mass for other HAP compounds.	As necessary	N
15	VOC Acetaldehyde Formaldehyde Methanol Vinyl Acetate	0.22 % by weight 0.11 % by weight 0.03 % by weight 0.07 % by weight 0.11% by weight	Monthly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01 and 02	10%	§18.501 and A.C.A.	Weekly
01 and 02	20%	§19.503 and Part 52	Daily During Bakeout

SN	Opacity	Justification for limit	Compliance Mechanism
03 thru 09	10%	§18.501 and A.C.A.	Weekly
10	20%	§19.503 and Part 52	Weekly
13	20%	§19.503 and Part 52	None
17	20%	§18.501 and A.C.A.	None

17. DELETED CONDITIONS:

No conditions were deleted.

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Portable Heaters	A-1	0.004	0.17	0.018	0.012	0.043		
Coolant Tank	A-2			0.0001				
Used Oil Tank	A-2			0.0008				
Diesel Fueling Tank	A-3			0.002				
Emergency Generator Diesel Tank	A-3			0.001				
Fire Pump Diesel Tank	A-3			0.004				
Kerosene Tank	A-3			0.0008				
Thermal Oil Tank	A-3			0.0008				
Maintenance Welding and Cutting	A-7	0.125						0.069
Gasoline Fueling Tank	A-13			0.25				
Emergency Fire Pump	A-13	0.12	0.12	0.14	0.38	1.74		0.003

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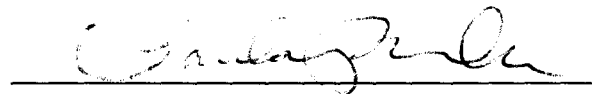
19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

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20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.



Paula Parker, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 12-15-10

Facility Name: Georgia-Pacific Wood Products, LLC
 Fordyce OSB
 Permit Number: 1803-AOP-R8
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\$/ton factor	22.07	Annual Chargeable Emissions (tpy)	2197.3
Permit Type	Minor Mod	Permit Fee \$	500

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	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	3.6
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 condensable 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	<input checked="" type="checkbox"/>	723.1	723.1	0	0	723.1
PM ₁₀	<input type="checkbox"/>	549.1	549.1	0		
SO ₂	<input checked="" type="checkbox"/>	33.2	33.2	0	0	33.2
VOC	<input checked="" type="checkbox"/>	1005.1	1008.7	3.6	3.6	1008.7
CO	<input type="checkbox"/>	944.7	944.7	0		
NO _x	<input checked="" type="checkbox"/>	423.8	423.8	0	0	423.8
Acetaldehyde	<input type="checkbox"/>	9.95	11.68	1.73		
Acrolein	<input type="checkbox"/>	4.51	4.51	0		
Benzene	<input type="checkbox"/>	0.43	0.43	0		
Cadmium	<input type="checkbox"/>	0.03	0.03	0		
Formaldehyde	<input type="checkbox"/>	28.95	29.43	0.48		
Hexane	<input type="checkbox"/>	3.76	3.76	0		
Methanol	<input type="checkbox"/>	53.98	55.03	1.05		
Phenol	<input type="checkbox"/>	10.54	10.54	0		
POM	<input type="checkbox"/>	0.0145	0.0145	0		
Propionaldehyde	<input type="checkbox"/>	0.6	0.6	0		
Vinyl Acetate	<input type="checkbox"/>	3.7	5.43	1.73		
HAPs	<input type="checkbox"/>	4	4	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Acetone	<input checked="" type="checkbox"/>	8.5	8.5	0	0	8.5
PC 4/21/2011	<input type="checkbox"/>	0	0	0		