STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1803-AOP-R7 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:

   Michael Lynch

4. PROCESS DESCRIPTION AND NAICS CODE:

   NAICS Description: Reconstituted Wood Product Manufacturing
   NAICS Code: 321219

5. SUBMITTALS:

   1/9/2009

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 facility has submitted an application to renew the Title V Permit and to revise emission limits by using updated EPA AP-42 emission factors. In addition to revisions due to updated emission factors, the facility would like to request the following:

   - Reassign the fugitive emission sources previously combined as SN-10 by redefining SN-10, adding SN-12 through SN-16 and distributing emissions accordingly.
   - Reassign blender fugitive emissions previously included with SN-08 and SN-10 to SN-16.
   - Increase the emission limits in association with the overlay application process (SN-15). The increase is related to an increase in the application rate of the adhesive from 0.85 lb/panel to 1.25 lb/panel.

- Change testing frequency of carbon monoxide (CO) for SN-01 from annually to every five years to reflect the confirmed closed enforcement CAO (LIS# 06-127).
- Incorporate revisions, including corrections to annual emission rates, to the Routine Control Device Maintenance Exemption (RCDME) for SN-01 and SN-02 provided by Permit 1803-AOP-R6 in accordance with 40 CFR 63, Subpart DDDD. (After Department review it was determined the RCDME was not appropriate and the RCDME provisions were removed).
- Modify the current method for formaldehyde analysis (SN-01 and SN-02) during stack testing to allow flexibility to utilize other approved methods as specified in 40 CFR 63, Subpart DDDD.
- Reassign the emergency generator (SN-17) from the insignificant activity list to the permitted list according to 40 CFR Part 63 – Subpart ZZZZ.

The permitted emission increases are: 2.4 tpy SO_2, 58.1 tpy VOC, 14.5 tpy CO, 30.3 tpy NO_X, 3.39 tpy acetaldehyde, 4.51 tpy acrolein, 0.43 tpy benzene, 0.03 tpy cadmium, 3.76 tpy hexane, 6.88 tpy methanol, 0.01 tpy POM, 0.60 tpy propionaldehyde, 1.20 tpy vinyl acetate, and 8.50 tpy Acetone.

The permitted emission decreases are: 40.4 tpy PM, 16.7 tpy PM_{10}, and 0.15 tpy formaldehyde

The permittee has requested a Routine Control Device Maintenance Exemption (RCDME) for SN-01 and SN-02, as provided in 40 CFR 63 – Subpart DDDD and included in Permit 1803-AOP-R6. (After Department review, it was determined the RCDME was not appropriate and the RCDME provisions were removed for Permit 1803-AOP-R7)

Significant increases in VOCs shown between 1803-AOP-R2 and 1803-AOP-R3 were the result of changing emission factors. No physical process changes were made and no PSD review required.

7. COMPLIANCE STATUS:

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

The facility has no active or pending enforcement actions.

August 02, 2007 –Consent Administrative Order (CAO) LIS: 06-127 closed.

April 17, 2006 – ADEQ agrees to allow GP-OSB to remove the two (2) CO CEMS provided GP-OSB complies with the following requirements:

- Modify permit to reduce CO limits at SN-01 from 260-200 lb/hr
- Annual CO testing of both RTOs

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 not PSD?

1. No process changes have are proposed.
2. 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, *National Emissions Standards for Hazardous Air Pollutants for Plywood and Composite Wood Products*
SN-15	HAPs	40 CFR Part 63, Subpart QQQQ, *National Emissions Standards for Hazardous Air Pollutants for Surface Coating of Wood Building Products*
SN-17	HAPs	40 CFR Part 63, Subpart ZZZZ-*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

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 ($\mu g/m^3$)	Averaging Time	Highest Concentration ($\mu g/m^3$)	% 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 PM_{10} 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 Rheaume 07/31/2009.

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 × TLV	Proposed lb/hr	Pass?
Acetaldehyde	45.04	4.9544	2.37	Y
Acrolein	0.23	0.0253	1.11	N
Benzene	1.60	0.176	0.14	Y
Cadmium	0.002	0.00022	0.03	N
Cumene	245.8	27.0	0.77	Y
Formaldehyde	0.37	0.0407	6.86	N
Hexane	176.24	19.3864	0.96	Y

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Methanol	262.09	28.8299	13.22	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	0.9	Y
Acetone	1187.12	130.5832	2.2	Y

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 ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Acrolein	2.3	0.486	Y
Cadmium	0.02	2.3E-4	Y
Formaldehyde*	15.0	10.8	Y
Phenol	192.5	1.38	Y

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

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, Table1.6-2	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_2O 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_2O 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 5.5 lb/MMscf VOC			
	AP-42, Table 1.4-3	2.1E-03 lb/MMscf Benzene 7.5E-02 lb/MMscf CH_2O 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_2O 0.50 lb/MSF Methanol 0.072 lb/MSF Phenol			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
02 Natural Gas	AP-42, Table 1.4-1	100 lb/MMscf NOX 84 lb/MMscf CO			
	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_2O 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	Receiver Bag Filter	80.00% 99.96%	Calculations were provided for both Throughput and Air flow/Grain loading. The maximum emissions were used.
	AP-42, Table 10.6.1-7	0.06 lb/MSF VOC 0.0003 lb/MSF CH_2O 0.0015 lb/MSF Acetone 0.0015 lb/MSF Methanol			
04	Throughput	6,203 lb/hr	Receiver Bag Filter	80.00% 99.83%	
05	Air flow/Grain loading	33,800 dscfm 0.01 grain/dscf	Receiver Bag Filter	80.00% 99.83%	
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	Assume bark equals 10% by weight of total logs
	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		66% (solids content) 60% (sprayer transfer efficiency) 75% (reduction from building enclosure)	
	Throughput	78 MSF/hr		Total emissions are sum of painting inside and outside spray booth	
	Testing	8.5 lb/gal Paint/Ink Density 0.31lb/gal VOC 0.085 lb/gal HAPs			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
12	AP-42, Section 13.2.1	Paved Roads	N/A		
	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 $\leq$ 30 µm 0.000046 lb/ton PM/PM_{10}	N/A	N/A	N/A
14	Testing	0.21 ppm VOC 0.21 ppm CH_2O 40,000 acfm fan speed	N/A	N/A	N/A
15	Throughput	750 lb/hour	N/A	N/A	N/A
	Production	0.22% by weight content VOC 0.11% by weight Acetaldehyde 0.03% by weight CH_2O 0.07% by weight Methanol 0.11% by weight 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_2O 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/PM10 0.00205 lb/hp-hr SO2 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 CH2O 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	Every 5 years	Basis for Calculations

SN	Pollutants	Test Method	Test Interval	Justification
		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.		
01 and 02	Total HAPs	25A	One Time	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
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	Annual	Y
SN-01A	Venting to Atmosphere and Fuel used	Only Natural Gas	Monthly	N
SN-11	VOC emitted	17.4 tpy	Monthly	N
	Only using non-HAP coatings (see Specific Condition 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

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
SN-15	VOC Acetaldehyde Formaldehyde Methanol Vinyl Acetate	0.22 % by weight 0.11 % by weight 0.03 % by weight 0.07 % by weight	Monthly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01 and 02	10%	Dept. Guidance	Weekly
01 and 02	20%	Dept. Guidance	Daily During Bakeout
03 thru 09	10%	Dept. Guidance	Weekly
10	20%	Dept. Guidance	Weekly
13	20%	Dept. Guidance	None
17	20%	Dept. Guidance	None

17. DELETED CONDITIONS:

Former SC	Justification for removal
8, 9, 27 and 28	Conditions repeated in Subpart DDDD conditions

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

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1803-AOP-R6

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

_____

Phillip Murphy, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 07-27-09

Facility Name: Georgia-Pacific Wood Products, LLC
Fordyce OSB
Permit Number: 1803-AOP-R7
AFIN: 07-00212

$/ton factor	22.07	Annual Chargeable Emissions (tpy)	2193.7
Permit Type	Modification	Permit Fee $	1299.923

Minor Modification Fee $	500
Minimum Modification Fee $	1000
Renewal with Minor Modification $	500
Check if Facility Holds an Active Minor Source Permit	☐
If Hold Active Permit, Amt of Last Annual Air Permit Invoice $	0
Total Permit Fee Chargeable Emissions (tpy)	58.9
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	☑	763.5	723.1	-40.4	-40.4	723.1
PM_{10}	☐	565.8	549.1	-16.7		
SO_2	☑	30.8	33.2	2.4	2.4	33.2
VOC	☑	947	1005.1	58.1	58.1	1005.1
CO	☐	930.2	944.7	14.5		
NO_X	☑	393.5	423.8	30.3	30.3	423.8
Acetaldehyde*	☐	6.56	9.95	3.39		
Acrolein*	☐	0	4.51	4.51		
Benzene*	☐	0	0.43	0.43		
Cadmium*	☐	0	0.03	0.03		
Formaldehyde*	☐	29.1	28.95	-0.15		
Hexane*	☐	0	3.76	3.76		
Methanol*	☐	47.1	53.98	6.88		
Phenol*	☐	10.54	10.54	0		
POM*	☐	0.0045	0.0145	0.01		
Propionaldehyde*	☐	0	0.6	0.6		
Vinyl Acetate*	☐	2.5	3.7	1.2		
HAPs**	☐	1.28	4	2.72		
Acetone	☑	0	8.5	8.5	8.5	8.5
	☐	0	0	0		
	☐	0	0	0		
	☐	0	0	0		
	☐	0	0	0		
	☐	0	0	0		