

## STATEMENT OF BASIS

for the issuance of Draft Air Permit # 1177-AOP-R2

### 1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality  
8001 National Drive  
Post Office Box 8913  
Little Rock, Arkansas 72219-8913

### 2. APPLICANT:

Georgia-Pacific Resins, Inc.  
Highway 82 and Paper Mill Road  
Crossett, Arkansas 71635

### 3. PERMIT WRITER: Charles Hurt

### 4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Code	NAICS Description
325211	Plastics Materials, Synthetic and Resins, and Nonvulcanizable Elastomers
325191	Gum and Wood Chemicals
325998	All Other Basic Organic Chemical Manufacturing

### 5. SUBMITTALS: March 11, 2003 and April 28, 2003

### 6. REVIEWER'S NOTES:

Georgia-Pacific Resins, Inc.(GPRI), a subsidiary of Georgia-Pacific Corporation, operates a resin, formaldehyde, and tall oil manufacturing facility located at Highway 82 and Paper Mill Road in Crossett, Arkansas. GPRI submitted applications requesting the following:

- a. Include the production of Phenolic Rosin Resin (PRR);
- b. Allow a change in service for the storage tank SN-17 and weight tank W-3 (SN-95);
- c. Allow GPRI to use Method 320 in lieu of Method 18; and
- d. Install a new loading rack (SN-133), a new 30,000 gal urea solution storage tank, two new 30,000 gal wet strength resin (WSR) tanks (SN-101 and SN-102), and a 7,343 gal wet strength resin and urea dilute tank (Insignificant Activity).

The modification resulted in an increase of VOC by 0.8 tpy and HAPs by 0.044 tpy. The two new WSR are already permitted. A letter from Lawrence P.E. Otwell of the EPA granted the use of Method 320 in lieu of Method 18 to meet the requirements of NESHAPs to which the facility is subject.

The facility mentioned in a letter dated May 13, 2003 replacing a damaged Derivatives Reactor (R-1) with another vessel of the same capacity. The VOC emissions from R-1 were

controlled by a pitch boiler (SN-05). The VOC emissions from the new vessel will also be controlled by SN-05. VOC emissions from SN-05 are less than 20.1 tpy. Since R-1 is one of several other reactors controlled by SN-05, its contribution to VOCs emitted at the pitch boiler cannot exceed 20 tpy. Therefore, the replacement of R-1 cannot trigger PSD review.

The facility is subject to Hydrogen Sulfide Emissions, A.C.A §8-3-103. H<sub>2</sub>S modeling indicates ambient concentrations of H<sub>2</sub>S are below the limits established in A.C.A §8-3-103 (a). Compliance with A.C.A §8-3-103 (a)(2) was determined using a 1-hour average period due to limitations of the model and the availability of metdata in 1-hour increments.

**7. COMPLIANCE STATUS:**

There are currently no enforcement issues or actions against the facility at this time.

**8. APPLICABLE REGULATIONS:**

**PSD Applicability**

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera)?	Y/N		N
Has this facility undergone PSD review in the past?	N	Permit#	N/A
Is this facility categorized as a major source for PSD?	Y/N		Y
\$ 100 tpy and on the list of 28 (100 tpy)?	Y/N		Y
\$ 250 tpy all other	Y/N		N/A

**PSD Netting**

Was netting performed to avoid PSD review in this permit?	Y/N	N
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If so, indicate increases and decreases used in netting for PSD purposes only.

**Source and Pollutant Specific Regulatory Applicability**

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD only]
See Table in Plantwide Condition #18	Record keeping only	40 CFR Part 60, Subpart Kb
SN-11 and equipment in formaldehyde production	HAP	40 CFR Part 63, Subparts F, G, and H (HON Rule)
SN-11 and equipment in wet strength resin production	HAP	40 CFR Part 63, Subpart W
SN-11 and equipment in	HAP	40 CFR Part 63, Subparts

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD only]
Amino/Phenolic Resin Production		OOO, SS, UU, and WW
SN-130	Fuel Usage Records only	40 CFR Part 60, Subpart Dc

**9. EMISSION CHANGES:**

The following table summarizes plant wide emission changes associated with this permitting action.

Plant Wide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1177-AOP-R1	Air Permit 1177-AOP-R2	Change
PM/PM <sub>10</sub>	391.1	391.1	0
SO <sub>2</sub>	151.7	151.7	0
VOC	182.7	183.9	1.2
CO	97.6	97.6	0
NO <sub>x</sub>	143.1	143.1	0
Hydrogen Sulfide	1.30	1.30	0
Sulfuric Acid	0.40	0.40	0
Phenol	14.50	14.70	0.2
Formaldehyde	22.40	22.60	0.2
Methanol	16.00	16.00	0
Epichlorohydrin	0.40	0.400	0
O-Cresol	0.08	0.80	0
Maleic Anhydride	2.50	2.50	0
Iodine	1.00	1.00	0

**10. MODELING:**

**Criteria Pollutants**

Pollutant	Emission Rate (lb/hr)	NAAQS Standard (µg/m <sup>3</sup> )	Averaging Time	Highest Concentration (µg/m <sup>3</sup> )	% of NAAQS
PM <sub>10</sub>	89.5	50	Annual	31.8	64%
		150	24-hour	82.4	55%
SO <sub>2</sub>	34.9	80	Annual	19	24%
		1,300	3-hour	306.4	24%
		365	24-hour	103.7	28%
NO <sub>x</sub>	35.0	100	Annual	23.1	23%
CO	23.0	10,000	8-hour	6217.8	62%

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
		40,000	1-hour	85465	21%

## 11. 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 deemed PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value ( $\text{mg}/\text{m}^3$ ), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV ( $\text{mg}/\text{m}^3$ )	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
Formaldehyde	1.5	0.1650	11	N
Phenol	19.3	2.1230	5.4	N
Methanol	262.1	28.8310	7.7	Y
Epichlorohydrin	1.89	0.2079	0.1	Y
O-Cresol	22.1	2.431	0.2	Y
Maleic Anhydride	0.4	0.044	7.4	N

### 2nd Tier Screening (PAIL)

ISCST3 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 was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

Pollutant	(PAIL, $\mu\text{g}/\text{m}^3$ ) = 1/100 of Threshold Limit Value	Modeled Concentration ( $\mu\text{g}/\text{m}^3$ )	Pass?
Formaldehyde	15	2.9	Y
Phenol	192	17.6	Y
Maleic Anhydride	10	8.6	Y

## 12. CALCULATIONS:

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type ( if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
All uncontrolled tanks	Tanks 4.0	Varied	N/A	N/A	
05	Mass Balance and Testing	Varied	The boiler itself is the final step in a VOC control chain and it follows a scrubber and condenser.	98%	
10 and 11	Testing	Varied	Thermal Oxidizers	Minimum 95% required	
129	Mass balance and AP-42	Varied	SN-129 is a control device used to operate when SN-05 is shut down.		
130	AP-42 and testing verified	Varied	None	N/A	
All Baghouses	Grain loadings for PM emissions Any VOC emissions calculated	Varied			

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
	from Tanks 4 or testing				
12	Testing	Varied	Scrubber	99.0	
40	Tanks 4.0	0.1 lb VOC/hr	None	N/A	Uncontrolled
132, 133	Mass Balance	0.08 lb VOC/hr	None	N/A	Uncontrolled

**13. TESTING REQUIREMENTS:**

This permit does not require any stack testing.

**14. MONITORING OR CEMS**

The permittee must monitor the following parameters with CEMs or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and the need for records included in any annual, semiannual or other reports.

SN	Parameter or Pollutant to be Monitored	Method of Monitoring (CEM, Pressure Gauge, etc)	Frequency*	Report (Y/N)**
10, 11	Firebox Temperature	Temperature Monitoring Device	Continuous	Y
129	Temperature	Temperature Monitoring Device	Continuous	Y

\* Indicate frequency of recording required for the parameter (Continuously, hourly, daily, etc.)

\*\* Indicates whether the parameter needs to be included in reports.

**15. RECORD KEEPING REQUIREMENTS**

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Recorded Item	Limit (as established in permit)	Frequency *	Report (Y/N)**
All Kb Tanks	Dimensions	N/A		N

SN	Recorded Item	Limit (as established in permit)	Frequency *	Report (Y/N)**
10	Firebox Temperature	1600 °F	Continuous	Y
11	Firebox Temperature	1250 °F	Continuous	Y
11	Transfer rack design analysis and throughput	None	Annual	Y
11 and Subpart OOO processes	Leak Detection Requirements	None	Varied	Y
129	Temperature	1500 °F	Daily	N
130	Fuel Usage	536.67 MMscf	Monthly	Y
114	Throughput	500,000 gal	Monthly	Y
Facility	Production Rates	See Plantwide Conditions #14 and #27	Monthly	Y
12	Hours of Operation	4,400	Monthly	Y

\* Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)

\*\* Indicates whether the item needs to be included in reports

**16. OPACITY**

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
3, 6, 9, 13, 18, and 19	5	Department Guidance	Weekly Observations
5	20/40	Department Guidance – see administrative agreement in appendix of permit.	Weekly and per batch observations
10, 11	5	Department Guidance	Natural Gas Combustion
129	20	Department Guidance	Weekly Observations
130	5	Department Guidance	Natural Gas Combustion

**17. DELETED CONDITIONS:**

No specific conditions were deleted in this revision.

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**18. VOIDED, SUPERSEDED OR SUBSUMED PERMITS**

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

Permit #
1177-AOP-R1

**19. CONCURRENCE BY:**

The following supervisor concurs with the permitting decision:

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*Phillip Murphy, P.E.*  
*Engineering Supervisor, Air Division*