

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1177-AOP-R15 AFIN: 02-00028

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Georgia-Pacific Chemicals LLC  
124 Paper Mill Road  
Crossett, Arkansas 71635

3. PERMIT WRITER:

Franck Houenou

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Other Basic Inorganic Chemical Manufacturing  
NAICS Code: 325180

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
9/6/2016	Administrative Amendment	Re-install the previously removed sodium hydroxide storage tank M-5. This tank will replace the sodium hydroxide storage tank M-4 that has been removed. The sodium hydroxide storage tank M-5 is added to the permit as an insignificant activity.

6. REVIEWER’S NOTES:

Georgia Pacific Chemicals LLC, formerly Georgia-Pacific Resins, Inc., located at 124 Paper Mill Road, Crossett, Arkansas 71635. The facility has submitted an application for administrative amendment to re-install the previously removed sodium hydroxide storage tank M-5. This tank will replace the sodium hydroxide storage tank M-4 that has been removed. The sodium hydroxide storage tank M-5 is added to the permit as an insignificant activity. Also, the facility has requested to remove the word “storage” from the emission summary table group heading, to change the description of SN-121, SN-52, and of the sources in the table shown under Specific Condition #125. There is no change with the total permitted emissions rates.

7. COMPLIANCE STATUS:

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

None

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)
See Table in Plantwide Condition #13	Record keeping only	40 C.F.R. Part 60, Subpart Kb
SN-11 and equipment in formaldehyde production	HAPs	40 C.F.R. Part 63, Subpart F, G, H (HON Rule)
SN-11 and equipment in wet strength resin production	HAPs	40 C.F.R. Part 63, Subpart W
SN-11 and equipment in Amino/Phenolic Resin Production	HAPs	40 C.F.R. Part 63, Subpart SS, UU, WW, OOO
SN-05, SN-129, SN-42, SN-51, SN-25, SN-120, SN-121, SN-122, SN-41, SN-06, SN-123, SN-126, SN-134	HAPs	40 C.F.R. 63, Subpart FFFF
Facility	Benzene	40 C.F.R. 61, Subpart FF

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-140	HAPs	40 C.F.R. Part 63, Subpart <u>ZZZZ</u>

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:

1<sup>st</sup> 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<sup>3</sup>), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acetaldehyde	45.04	4.95	2.70	Yes
Acrolein	0.23	0.03	0.02	Yes
Methanol	262.09	28.83	30.81	No
Phenol	19.25	2.12	5.934	No
Lead Compounds	0.05	0.01	0.10	No
Cadmium	0.01	0.0011	0.07	No
Ammonia	17.41	1.92	22.78	No
Formaldehyde	1.5	0.165	3.63	No

2<sup>nd</sup> 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 ( $\mu\text{g}/\text{m}^3$ ) = 1/100 of Threshold Limit Value	Modeled Concentration ( $\mu\text{g}/\text{m}^3$ )	Pass?
Methanol	2621.0	55.81	Yes
Phenol	192.5	5.83	Yes
Lead Compounds	0.50	0.01	Yes
Cadmium	0.1	0.01	Yes
Ammonia	174.1	33.25	Yes
Formaldehyde	15.0	8.11	Yes

c) H<sub>2</sub>S Modeling:

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H<sub>2</sub>S Standards N  
 If exempt, explain: No H<sub>2</sub>S Emission

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
03	AP-42	<p>Natural Gas Emission (lb/MMScf)</p> <p>PM/PM<sub>10</sub>/PM<sub>2.5</sub> 7.6</p> <p>SO<sub>2</sub> 0.6</p> <p>NO<sub>x</sub> 100</p> <p>CO 84</p> <p>VOC 5.5</p> <p>Pb 0.0005</p> <p>Formaldehyde 0.075</p> <p>Hexane 1.8</p> <p>Naphthalene 0.00061</p> <p>POM (Total) 0.000044</p> <p>Toluene 0.0034</p> <p>Cadmium 0.0011</p>			
	Testing	<p>Production Related Emissions (lb/hr)</p> <p>Acetaldehyde 1.19</p> <p>Formaldehyde 1.83</p> <p>Methanol 12.3</p> <p>Phenol 0.71</p> <p>Dimethyl Ether 0.48</p> <p>Total VOC 27.7</p> <p>PM/PM<sub>10</sub>/PM<sub>2.5</sub> 11.5</p> <p>Ammonia 0.02</p>			
05	Stack Testing	varied	Boiler	98%	Production Related PM/PM- <sub>10</sub> /PM <sub>2.5</sub> , NO <sub>x</sub> , VOC/HAP & CO emissions based on stack test data
11	AP-42, Table 1.4-1, 1.4-2, 1.4-3, 1.4-4 (natural gas combustion)		Thermal Oxidizer	99%	

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
129	Manuf. Specs. AP-42 (natural gas combustion) Stack Testing	varied	Thermal Oxidizer	98%	Production Related PM/PM- <sub>10</sub> /PM <sub>2.5</sub> , NO <sub>x</sub> , & CO emissions based on manufacturer specifications SO <sub>2</sub> – stack testing
134		Emissions were calculated based on equation 7 found in USEPA Technical Guidance for Hazardous Analysis, Emergency Planning for EHS, December 1987 (Appendix G)			
136 138 139	AP-42, Section 5.2				
140	AP-42 Table 3.3-1, 3.3-2.	Lb/MMBtu PM: 0.31 SO <sub>2</sub> : 0.29 NO <sub>x</sub> : 4.41 CO: 0.95 VOC: 0.36 Acetaldehyde: 7.67x10 <sup>-4</sup> Benzene: 9.33x10 <sup>-4</sup> Formaldehyde: 1.18x10 <sup>-3</sup> Naphthalene: 8.48x10 <sup>-5</sup> Toluene: 4.09x10 <sup>-4</sup> Xylene: 2.85x10 <sup>-4</sup> Total POM: 1.68x10 <sup>-4</sup>			
145	AP-42 13.2.1.3				
146		Emissions were estimated using emission factors and control efficiencies found in the document titles "Air Permit Technical Guidance for Chemical Sources – Equipment Leak Fugitives", prepared by the Texas Commission on Environmental Quality, draft, October 2000			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
148	Vendor		Dust collector	95%	Maximum air flow through the dust collector is 2,600 cfm Particulate emission from dust collector: 0.005 gr/cf

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
None				

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)
10, 11	Firebox Temperature	Temperature Monitoring Device	Continuous	Y
05 129	Temperature	Temperature Monitoring Device	Continuous	Y
12	pH, Liquid flow rate	Monitoring Device	Weekly	Y
03, 05, 09, 13, 18, 19	Pressure Drop	Visual Inspection	Weekly	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)
All Kb Tanks	Dimensions	N/A		N
10	Firebox Temperature	1600 °F	Continuous	Y
11	Combustion Chamber Temperature	910°C	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	1,410 °F	Daily	N
114	Throughput	500,000 gal	Monthly	Y
Facility	Production Rates	See Plantwide Conditions #13 and #25	Monthly	Y
12	Hours of Operation	4,400	Monthly	Y
12	pH	9.0 or greater	Weekly	Y
12	Liquid flow rate	80-120 gallons/min	Weekly	Y
70	Throughput	500,000 gal	Monthly	Y
135	Ammonia Throughput	1,300,000 gallons	Monthly	Y
05	Firebox Temperature	1100 °F	Daily	N
95	HAP	0.25 tpy single or combination	Monthly	Y
140	Hours of Operation	1,500	Monthly	Y



16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
3, 6, 9,13, 18, 19, 148	5%	Department Guidance	Weekly Observations
5	20%	Department Guidance	Weekly and per batch observations
10, 11	5%	Department Guidance	Natural Gas Combustion
129	20%	Department Guidance	Weekly Observations

17. DELETED CONDITIONS:

Former SC	Justification for removal
	None

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
325hp Hydroblaster	A1	0.15	0.14	0.17	0.44	2.01	0.002	
1,000 gal Dowtherm Storage Tank	A3			0.00004				
4,000 gal Therminol Charging Tank	A3			0.00029				
Sodium Hydroxide Storage Tank	A4							
Sodium Hydroxide Storage Tank	A4							
Sodium Hydroxide Process Weigh Tank	A4							
Sodium Hydroxide	A4							

Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
Process Weigh Tank								
Dilute Caustic Storage	A4							
Sodium Hydroxide Storage Tank	A4							
Sodium Hydroxide Storage Tank	A4							
Potassium Hydroxide Storage Tank	A4							
NaOH/KOH and Water Dilution Tank	A4							
Urea Storage Silo	A13	1.63						
Kettle Urea Feed Hoppers	A13	1.63						
Epichlorohydrin Storage Tank	A13			0.48			0.48	0.48
DETA Railcar Storage and Transfer to Trucks	A13			0.09				
Phenol Storage Tank	A13			0.12			0.12	0.12
Urea Solution Storage Tank	A13			0.05				
Wet Strength Resin and Urea Solution Dilute Tank	A13			0.03				
Novacote and Glassmat Resin Blend Storage Tanks	A13							
Onsite Storage of Epichlorohydrin:	A13			0.00001			0.0001	0.0001

Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
2-7,200 gallon trailers								
RCI Distillate Tank	A13			0.042			0.042	0.042
Hexamine Storage Tank	A13			0.0008				
Column	A13			0.18				
XTOL Light Distilled Head Storage tank	A13			0.45				
Test Tank	A13							
XTOL Railcar Loading	A13			0.32				
Therminol Surge Tank	A13			0.00007				
Crude Tall Oil Storage Tank	A13			0.04				
Methanol Railcar Maintenance	A13			0.27			0.27	0.27
Portable Pump with Diesel Engine	A13	0.07	0.06	0.08	0.20	0.89	0.0008	0.0008
10 hp Self-Priming Water Pump	A13	0.01	0.01	0.06	0.02	0.03		
208 hp Non-Road, Non-Stationary Emergency Generator	A13	0.06	0.05	0.07	0.17	0.77	0.0007	0.0007
111 hp Non-Road, Non-Stationary Diesel Fired Air Compressor	A13	0.01	0.01	0.01	0.02	0.07	0.00006	0.00006
Ethylene Glycol Tank	A13						0.00001	0.00001

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19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1177-AOP-R14

## APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Georgia-Pacific Chemicals LLC  
 Permit Number: 1177-AOP-R15  
 AFIN: 02-00028

\$/ton factor	23.93	Annual Chargeable Emissions (tpy)	706.2
Permit Type	AA	Permit Fee \$	0

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) 0

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		249	249	0	0	249
PM <sub>10</sub>		248.7	248.7	0		
PM <sub>2.5</sub>		0	0	0		
SO <sub>2</sub>		99.5	99.5	0	0	99.5
VOC		219.5	219.5	0	0	219.5
CO		102.2	102.2	0		
NO <sub>x</sub>		112.8	112.8	0	0	112.8
Total Iodine	<input checked="" type="checkbox"/>	3.8	3.8	0	0	3.8

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Formic Acid	<input type="checkbox"/>	0.2	0.2	0		
Ammonia	<input checked="" type="checkbox"/>	15.83	15.83	0	0	15.83
Dimethyl Ether (DME)	<input type="checkbox"/>	2.45	2.45	0		
Chlorine	<input checked="" type="checkbox"/>	1.3	1.3	0	0	1.3
Hydrogen Chloride	<input checked="" type="checkbox"/>	4.47	4.47	0	0	4.47