

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1177-AOP-R21 AFIN: 02-00028

1. PERMITTING AUTHORITY:

Division 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:

Shawn Hutchings

4. NAICS DESCRIPTION AND CODE:

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

5. ALL SUBMITTALS:

The following is a list of ALL permit applications included in this permit revision.

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
9/15/2020	Renewal	Tanks changing service.
8/31/2020	Minor Mod	Replaced a sump with a tank vented to thermal oxidizer. New insignificant tank.

6. REVIEWER'S NOTES:

Georgia Pacific Chemicals LLC, operates a chemical manufacturing plant located at 124 Paper Mill Road, Crossett, Arkansas 71635. This permit is the Title V renewal for the facility. In this renewal, a number of changes associated with selling off a portion of the facility, MACT applicability, and changes due to changes in process were made. These changes include:

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Removing HON MACT requirements. This made a number of sources subject to the Resin MACT, Subpart OOO.

Removing never constructed sources from the permit, SN-92, 93, and 94.

Adding emissions from SN-137 the UFC Loading to SN-11 the RCI UFC Manufacturing Process Thermal Oxidizer.

Removal of a number of no longer used sources, SN-10, 13, 18, 71, and 148.

Making insignificant tanks U-5 and U-6 sources SN-86 and 87. The sources were previously insignificant tanks for storage of Novacote and Glassmat Resin Blend. They now store UF/PF resin. These source numbers correspond to the numbers the tanks were assigned previously.

Changing record keeping for SN-135 to pounds per year instead of gallons per year.

Renaming SN-142 to the West Cooling tower and SN-143 to the East cooling tower. Due to changes in MACT applicability, these sources were moved to the same section of the permit.

A number of Plantwide Conditions which apply to single sources were moved to the Specific Conditions for those sources.

This permit also incorporates a minor modification which added an Epichlorohydrin Storage Tank (M-27) to the insignificant activity list as category A-13, and allowed capturing the emissions from the vacuum pump water sump by installing a fully enclosed seal water tank. The captured emissions will be routed to the RCI UFC/Formaldehyde Manufacturing Process Regenerative Thermal Oxidizer (SN-11) for control.

7. COMPLIANCE STATUS:

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

There were two issues in this application reported to enforcement. First, the facility changed service in two insignificant tanks in the past and added them back as sources in this renewal. Second, the facility did not test a source as required by the MACT. The source did not operate between the MACT compliance date and the deadline for testing, but the facility did not request an extension.

There were no listed compliance issues in EPA's ECHO database.

8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N

If yes, were GHG emission increases significant? 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 for 8(b), explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
152	No specific limit	40 C.F.R. Part 60, Subpart Dc
SN-11 and equipment in formaldehyde production	HAPs	40 C.F.R. Part 63, Subpart W
SN-11 and equipment in wet strength resin production	HAPs	40 C.F.R. Part 63, Subpart SS
SN-11 and equipment in Amino/Phenolic Resin Production	HAPs	40 C.F.R. Part 63, Subpart UU
SN-11 and equipment in Amino/Phenolic Resin Production	HAPs	40 C.F.R. Part 63, Subpart WW
SN-11 and equipment in Amino/Phenolic Resin Production	HAPs	40 C.F.R. Part 63, Subpart OOO
SN-11 and equipment in wet strength resin production	HAPs	40 C.F.R. Part 61, Subpart FF
SN-140, 149, 150	HAPs	40 C.F.R. Part 63, Subpart ZZZZ
152	HAPs	40 C.F.R. Part 63, Subpart DDDDD
03, 11	See Section 12	40 C.F.R. Part 64 Compliance Assurance Monitoring
SN-149	Criteria Pollutants	40 C.F.R. Part 60, Subpart IIII

10. UNCONSTRUCTED SOURCES:

Unconstructed Source	Permit Approval Date	Extension Requested Date	Extension Approval Date	If Greater than 18 Months without Approval, List Reason for Continued Inclusion in Permit
None				

11. PERMIT SHIELD – TITLE V PERMITS ONLY:

Did the facility request a permit shield in this application? Y

(Note - permit shields are not allowed to be added, but existing ones can remain, for minor modification applications or any Regulation 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? Y and N

If not, explain why. The request for a shield stated multiple federal regulations applied to the whole facility and did not list the specific sources to which they apply. This is true for Regulation 26 and Rule 19, but not for the other regulations to which the facility is subject. Only Regulation 26 and Rule 19 were added to the permit shield.

For any requested inapplicable regulation in the permit shield, explain the reason why it is not applicable in the table below.

Source	Inapplicable Regulation	Reason
Facility	40 C.F.R. Part 52.21	The facility is no longer a major source under PSD
No sources at the facility	40 C.F.R. Part 60 Subpart VV and VVa	ICI formaldehyde production predated NSPS. Since been removed.
No sources at the facility	40 C.F.R. Part 60, Subpart JJJJ	No spark ignition engines
No sources at the facility	40 C.F.R. Part 61, Subpart FFFF	Subject sources sold to Ingevity.
No sources at the facility	40 C.F.R. Part 63, Subpart F 40 C.F.R. Part 63, Subpart G	Subject sources sold to Ingevity.
No sources at the facility	40 C.F.R. Part 63, Subpart EEEE	Organic Liquid Distribution the facility does not distribute organic liquids.
No sources at the facility	40 C.F.R. Part 60 Subpart Kb	No tanks meet the requirements for emission reduction or records due to size, age, or material stored.
No sources at the facility	40 C.F.R. Part 60 Subpart DDD	The Crossett facility does not manufacture polypropylene, polyethylene, polystyrene or poly (ethylene terephthalate).
No sources at the facility	40 C.F.R. Part 60 Subpart III	The facility no longer produces formaldehyde or other subject chemicals.
No sources at the facility	40 C.F.R. Part 60 Subpart NNN	The facility does not operate distillation units that meet the definition of affected facilities.
No sources	40 C.F.R. Part 60 Subpart RRR	Facility reactors are batch reactors and

Source	Inapplicable Regulation	Reason
at the facility		exempt.

12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

List sources potentially subject to CAM because they use a control device to achieve compliance and have pre-control emissions of at least 100 percent of the major source level. List the pollutant of concern and a brief summary of the CAM plan (temperature monitoring, CEMs, opacity monitoring, etc.) and frequency requirements of § 64.

Source	Pollutant Controlled	Cite Exemption or CAM Plan Monitoring and Frequency
03	Particulate	weekly opacity, hourly pressure reading
11	HAPs	Exempt MACT Subpart OOO, post 1990 emission standard
11	CO, VOC	Average daily temperature

13. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

14. AMBIENT AIR EVALUATIONS:

The following are results for ambient air evaluations or modeling.

a) NAAQS

A NAAQS evaluation is not required under the Arkansas State Implementation Plan, National Ambient Air Quality Standards, Infrastructure SIPs and NAAQS SIP per Ark. Code Ann. § 8-4-318, dated March 2017 and the DEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated. Based on Division of Environmental Quality procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Division of Environmental Quality has deemed the PAER to be the product, in lb/hr, of 0.11 and the

Threshold Limit Value (mg/m³), 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?
Formaldehyde	15	150	25	Yes

c) H₂S 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 H₂S Standards N/A

If exempt, explain: _____

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H ₂ S	20 parts per million (5-minute average*)		
	80 parts per billion (8-hour average) residential area		
	100 parts per billion (8-hour average) nonresidential area		

*To determine the 5-minute average use the following equation

$$C_p = C_m (t_m/t_p)^{0.2} \text{ where}$$

C_p = 5-minute average concentration

C_m = 1-hour average concentration

t_m = 60 minutes

t_p = 5 minutes

15. 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	Natural Gas Emission			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		(lb/MMScf) PM/PM ₁₀ /PM _{2.5} 7.6 SO ₂ 0.6 NO _x 100 CO 84 VOC 5.5 Pb 0.0005 Formaldehyde 0.075 Hexane 1.8 Naphthalene 0.00061 POM (Total) 0.000044 Toluene 0.0034 Cadmium 0.0011			
	Testing	Production Related Emissions (lb/hr) Acetaldehyde 1.19 2.17 Formaldehyde 1.83 2.20 Methanol 12.3 21.74 Phenol 0.71 0.89 Dimethyl Ether 0.48 0.56 Total VOC 27.7 27.70 PM/PM ₁₀ /PM _{2.5} 11.5 11.50 Ammonia 0.02 0.03			
11			Thermal Oxidizer	99%	
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 ₂ : 0.29 NO _x : 4.41 CO: 0.95 VOC: 0.36			

SN	Emission Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		Acetaldehyde: 7.67×10^{-4} Benzene: 9.33×10^{-4} Formaldehyde: 1.18×10^{-3} Naphthalene: 8.48×10^{-5} Toluene: 4.09×10^{-4} Xylene: 2.85×10^{-4} Total POM: 1.68×10^{-4}			
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			
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
134		Emissions were calculated based on equation 7 found in USEPA Technical Guidance for Hazardous Analysis, Emergency Planning for EHS, December 1987 (Appendix G)			
145	AP-42 13.2.1.3				
146		Emissions were estimated using emission factors and control efficiencies			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		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			
149 150	AP-42 Engines and NSPS limits	Varied	None		
111 151	AP-42 Tanks	Equations	None		
153	AP-42	Varied	None	N/A	

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
None				

17. 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
03, 05, 13, 18, 19	Pressure Drop	Visual Inspection	Weekly	N

18. 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)
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
Facility	Production Rates	See Plantwide Conditions #13 and #25	Monthly	Y
135	Ammonia Throughput	1,300,000 gallons	Monthly	Y
95	HAP	0.25 tpy single or combination	Monthly	Y
140 149 150	Hours of Operation	1,500 500/12 mo 500/12 mo	Monthly	Y
149 150	RICE Records	None	As needed	Y
111 151	Throughput	35,000,000 gallons tall oil	Monthly	Y

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
3	5%	Department Guidance	Weekly Observations
10, 11	5%	Department Guidance	Natural Gas Combustion
140 149 150	20	Department Guidance	Emergency Engines
152	5%	Department Guidance	Natural Gas Combustion

20. DELETED CONDITIONS:

Former SC	Justification for removal
Many	Many sources were removed from the permit. Their associated conditions were deleted. MACT compliance for the facility is completely different with different regulations applicable. The incorrect MACT conditions were removed with new compliance conditions added for the newly applicable MACTs.

21. GROUP A INSIGNIFICANT ACTIVITIES:

The following is a list of Insignificant Activities including revisions by this permit.

Source Name	Group A Category	Emissions (tpy)							Ammonia
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs		
							Single	Total	
1,000 gal Dowtherm Storage Tank	A-3			0.03					
Urea Storage Silo	A-13	1.63							
Kettle Urea Feed Hoppers	A-13	1.63							
Epichlorohydrin Storage Tank M-7	A-13			0.34			0.34	0.34	
Urea Solution Storage Tank	A-13								0.05
Urea Solution Storage Tank	A-13								0.18
Wet Strength Resin and Urea Solution Dilute Tank	A-13			0.01			0.14		0.03
Onsite Storage of Epichlorohydrin:	A-13			0.0005			0.0005	0.0005	

2-7,200 gallon trailers									
RCI Distillate Tank	A-13			0.01					0.05
Crude Tall Oil Storage Tank	A-13			1.03					0.04
Solid Resins Drying Pad	A-13								
Epichlorohydrin Storage Tank M-27	A-13			0.34			0.34	0.34	
Process Water Storage Tanks (2) 112,000 gal each	A-13			0.14					
Total	A-13	3.26		1.83			0.64	0.85	0.32

22. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1177-AOP-R20

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Georgia-Pacific Chemicals LLC
 Permit #: 1177-AOP-R21
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\$/ton factor	25.13	Annual Chargeable Emissions (tpy)	215.69002
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	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	-80.079976
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		55.5	77.9	22.4	21.6	77.9
PM ₁₀		56.3	62.8	6.5		
PM _{2.5}		0	0	0		
SO ₂		2	1.6	-0.4	-0.4	1.6
VOC		182.9	86.1	-96.8	-96.8	86.1
CO		43.1	53	9.9		
NO _x		33.3	29.4	-3.9	-3.9	29.4
Lead	<input type="checkbox"/>	0	0.010048	0.010048		

