ADEQ

A R K A N S A S
Department of Environmental Quality

February 15, 2010

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (7002 0860 0007 6826 8934)

Karen Dickinson
Georgia-Pacific LLC
Crossett Paper Operations
100 Mill Supply Road
Crossett, AR 71635

RE: Discharge Permit Number AR0001210, AFIN 02-00013

Dear Ms. Dickinson:

Enclosed is the public notice, Fact Sheet, and a copy of the draft permit which the Arkansas Department of Environmental Quality (ADEQ) has prepared under the authority of the National Pollutant Discharge Elimination System and the Arkansas Water and Air Pollution Control Act. A copy of the final permit will be mailed to you when the Department has made a final permitting decision.

In accordance with Arkansas Pollution Control and Ecology Commission (APCEC) Regulation No. 8, Part 2.1.6, the enclosed public notice will be published by ADEQ in a newspaper of general circulation for one (1) day only. An invoice for the cost of publishing the public notice and proof of publication will be sent to you by the advertising newspaper. The permittee must send proof of publication and payment to the following address as soon as possible but no later than 30 days from the above date. Until this Department receives proof of publication of the public notice, no further action will be taken on the issuance of your discharge permit.

Arkansas Department of Environmental Quality
Permits Branch-Water Division
5301 Northshore Drive
North Little Rock, AR 72118-5317
501-682-0622 Fax: 501-682-0910

Comments must be received at ADEQ prior to the close of the public comment period as shown in the enclosed public notice. The public comment period will begin on the date of publication and will end no sooner than 30 days from that date. Once a final permit is issued by the Director and becomes effective, the permittee must comply with all terms and conditions of the permit, or be subject to enforcement actions for any instances of noncompliance during the duration of the permit, usually five (5) years. Consequently, **it is imperative that you, as the applicant, thoroughly review the enclosed documentation for accuracy, applicability, and your ability to comply with all conditions therein.**

Should you have any questions concerning any part of the permit, please contact Loretta Reiber, P.E. at (501) 682-0612.

Sincerely,

Steven L. Drown

Steven L. Drown
Chief, Water Division

SD:lr

Enclosure

PUBLIC NOTICE OF DRAFT DISCHARGE PERMIT
PERMIT NUMBER AR0001210, AFIN 02-00013

This is to give notice that the Permits Branch of the Water Division of the Arkansas Department of Environmental Quality (ADEQ), 5301 Northshore Drive, North Little Rock, Arkansas 72118-5317 at telephone number (501) 682-0622, proposes a draft renewal of the permit for which an application was received on 3/2/2009 for the following applicant under the National Pollutant Discharge Elimination System (NPDES) and the Arkansas Water and Air Pollution Control Act.

Applicant: Georgia-Pacific LLC - Crossett Paper Operations, 100 Mill Supply Road, Crossett, AR 71635. Location: west on Hwy 82 from the paper mill, go 1 mile before turning left onto Texas Ave. Go 2 miles then turn right. Proceed until you come to a T in the road, noting where the primary clarifier is located; Latitude: 33° 08' 30"; Longitude: 91° 58' 12" in Ashley County, Arkansas. The discharge is into Mossy Lake, then to Coffee Creek, then to the Ouachita River in Segment 2D of the Ouachita River Basin.

ADEQ's contact person for submitting written comments, requesting information regarding the draft permit, or obtaining copy of the permit and the Fact Sheet is Loretta Reiber, P.E., at the above address and telephone number or by email at Water-Draft-Permit-Comment@adeq.state.ar.us. For those with Internet access, a copy of the proposed draft permit may be found on the ADEQ's website at:
http://www.adeq.state.ar.us/water/branch_permits/individual_permits/pn_permits/pnpermits.asp.

The last day of the comment period is 30 days after the publication date. If the last day of the comment period is a Saturday, Sunday or legal holiday, the public comment period shall expire on the next day that is not a Saturday, Sunday or legal holiday. The permit will become effective approximately two weeks after the close of the comment period unless comments are received and/or a public hearing is requested prior to the close of the comment period requiring a delay of the effective date. Comments and public hearing procedures may be found at 40 CFR Parts 124.10 through 124.12 and APCEC Regulation No. 8. All persons, including the permittee, who wish to comment on ADEQ's draft permitting decision must submit written comments to ADEQ, along with their name and mailing address. After the public comment period, and public hearing, if one is held, ADEQ will issue a final permitting decision. A Public Hearing will be held when ADEQ finds a significant degree of public interest. ADEQ will notify the applicant and each person who has submitted written comments or requested notice of the final permitting decision. Any interested person who has submitted comments may appeal a final decision by ADEQ in accordance with the APCEC Regulation No. 8 (Administrative Procedures).

DRAFT

Fact Sheet

This Fact Sheet is for information and justification of the permit limits only and is not enforceable.

For renewal of the draft discharge Permit Number AR0001210 with AFIN 02-00013 to discharge to Waters of the State

1. **PERMITTING AUTHORITY.**

   The issuing office is:

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

2. **APPLICANT.**

   The applicant's facility and mailing address is:

   Georgia-Pacific LLC
   Crossett Paper Operations
   100 Mill Supply Road
   Crossett, AR 71635

3. **PREPARED BY.**

   The permit was prepared by:

   Loretta Reiber, P.E.
   Staff Engineer
   Permits Branch, Water Division
   (501) 682-0612
   E-Mail: reiber@adeq.state.ar.us

4. **PERMIT ACTIVITY.**

Previous Permit Effective Date:	9/01/2004
Previous Permit Expiration Date:	8/31/2009

   The permittee submitted a permit renewal application on 3/2/2009. It is proposed that the current discharge permit be reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

DMR Review:

The Discharge Monitoring Reports (DMR's) from December 2003 through December 2008 were reviewed during the permit renewal process. The only exceedance of a permit limit was the monthly average BOD5 concentration limit at Outfall 001 in December 2006. This exceedance appears due to a typographical error based upon a review of the daily maximum concentration and the loading rates reported for the same month. Therefore, no permit action will be taken.

Legal Order Review:

There are currently no active Consent Administrative Orders (CAOs) or Notice of Violations (NOVs) for this facility.

Use Attainability Analyses (UAAs)

A UAA was performed in the 1980's. As a result of this UAA, the fishable/swimmable uses as well as the drinking water use were removed for Coffee Creek and Mossy Lake. Reg. 2.406 and Chapter 5 of Reg. 2 do not apply to Coffee Creek and Mossy Lake.

EPA Region VI finalized a UAA in 2007. That UAA is under review and has not been incorporated into Reg. 2.

5. FINANCIAL ASSURANCE

The permittee is not required to obtain financial assurance because the City of Crossett, which discharges to Georgia-Pacific upstream of the aeration basin and downstream of all other treatment units, already owns and operates its own wastewater treatment plant.

6. SIGNIFICANT CHANGES FROM THE PREVIOUSLY ISSUED PERMIT.

The permittee is responsible for carefully reading the permit in detail and becoming familiar with all of the changes therein:

1. The outfall and the facility coordinates have been corrected.
2. The chloroform limits and monitoring requirements have been removed from all of the internal outfalls. These limits have been replaced with the following: minimum pH after the first bleaching stage, maximum Kappa Factor, and maximum total bleach line ClO_2 application rate. These limits are based on the data submitted by the permittee as required under 40 CFR 430.02(f).
3. The facility name has been corrected.
4. The BOD5 and the TSS concentration limits at Outfall 001 have changed based upon new production data.

5. Total Phosphorous and Nitrates monitoring and reporting requirements have been added to the permit at Outfall 001 and Stream Monitoring Station 2. These requirements have been added because the permittee adds a nutrient solution which contains phosphorous and nitrates to the treatment system prior to the aerated lagoon.
6. The BOD5 mass limits at Outfall 001 have decreased. These limits are calculated using production based Effluent Limitation Guidelines contained in 40 CFR Part 430, Subpart B. A decrease in the production of fine paper is the cause of the lower BOD5 limits.
7. The AOX limits at Outfall 001 have increased. These limits are calculated using production based Effluent Limitation Guidelines contained in 40 CFR Part 430, Subpart B. An increase in the production of unbleached pulp is the cause of the higher AOX limits.
8. Parts II, III, and IV have been modified.
9. Part II of the permit now specifies that the licensed operator must hold an Advanced Industrial license.
10. BMP language has replaced the SWPPP language.
11. Several metals and pesticides have been added to the permit at Outfall 001 and SMS2.
12. The description of the location of SMS2 has been reworded.

7. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

The outfall is located at the following coordinates based on the May 26, 2009, site visit, Google Earth, and the permit application using NAD83:

Outfall 001:	Latitude : 33° 06' 25"; Longitude: 92° 02' 16"
SMS2:	Latitude : 33° 01' 58"; Longitude: 92° 04' 25"
Internal Outfall 101:	Latitude : 33° 08' 29.5"; Longitude: 91° 58' 25.8"
Internal Outfall 102:	Latitude : 33° 08' 29.5"; Longitude: 91° 58' 25.8"
Internal Outfall 103:	Latitude : 33° 08' 29.5"; Longitude: 91° 58' 25.8"

The receiving waters named:

Mossy Lake, then to Coffee Creek, then to the Ouachita River in Segment 2D of the Ouachita River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 8040202 is a Water of the State classified for primary and secondary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

8. 303(d) LIST AND ENDANGERED SPECIES CONSIDERATIONS.

a. 303(d) List:

Coffee Creek below Mossy Lake is not listed on the 303(d) list. However, Reach #002 of the Ouachita River in HUC 08040202 is on the 303(d) list for Mercury in Category 4a. A numerical limit on Total Recoverable Mercury has been included in the permit.

Coffee Creek enters the Ouachita River in Reach #002, HUC 08040202 of Segment 2D in the Ouachita River Basin. The Ouachita River is on the State's currently approved 303(d) list in Category 5d as impaired due to Total Recoverable Copper and Total Recoverable Zinc. The sources of such pollutants are unknown. In accordance with the requirements of 40 CFR Part 122.4(i) (prohibitions on issuance of a discharge permit for a discharge to impaired waters), information and data provided in the application, or additional information supplied by the applicant indicates that pollutants of concern are present in the effluent at concentrations which are above detection levels. Detection levels, where applicable, are consistent with EPA-defined minimum quantification levels (MQLs). Therefore, the proposed permit establishes end-of pipe (point-of-discharge) limits, based on the most stringent applicable water quality criteria established for the receiving water, to ensure that the discharge will not contribute Total Recoverable Copper or Total Recoverable Zinc to the receiving water at levels which may exacerbate the impairment of the receiving water's designated uses. However, the stream segments listed in Category 5d are those in need of additional data to verify the accuracy of the assessment. The Department therefore reserves the right to remove these requirements at the time of the next permit renewal if the data collected demonstrates that there is not reasonable potential for water quality violations due to the levels of these parameters in the effluent and/or the reach and HUC of the Ouachita River is no longer on the 303(d) list for these parameters.

b. Endangered Species:

No comments on the application were received from the U.S. Fish and Wildlife Service (USF&WS). The draft permit and Fact Sheet will be sent to the USF&WS for their review.

9. OUTFALL AND TREATMENT PROCESS DESCRIPTION.

The following is a description of the facility described in the application:

Design Flow: 45 MGD.

Type of Treatment: screening followed by primary clarifier, settling for ash removal, equalization, aerated lagoon with solids settling, and sludge dewatering.

Discharge Description: process wastewater (Paper Mill, Plywood Plant, and Studmill operations), sanitary wastewater, landfill leachate, site stormwater, chemical plant, building products, treated effluent from the City of Crossett, truck wash and backwash wastewater.

The City of Crossett treats sanitary wastewater and some industrial wastewater in a two cell lagoon. This wastewater enters the Georgia-Pacific treatment system upstream of the aerated lagoon and downstream of any other treatment unit located at this facility.

Facility Status: This facility was evaluated using the NPDES Permit Rating Worksheet (MRAT) to determine the correct permitting status. Since the facility's MRAT score of 130 is greater than 80, this facility is classified as a Major industrial.

10. APPLICANT ACTIVITY.

Under the Standard Industrial Classification (SIC) code of 2621 or the North American Industry Classification System (NAICS) code of 322121, the applicant's activities are the operation of a paper mill.

11. SLUDGE PRACTICES.

Sludge is placed in the facility's north landfill (Permit No. 292-S3N) as necessary. Sludge is mechanically dewatered. The dewatered sludge may be combined with ash, sand, and grit for use as fill material for the sludge pond closure.

12. PERMIT CONDITIONS.

The Arkansas Department of Environmental Quality has made a determination to issue a draft permit for the discharge described in the application. Permit requirements are based on federal regulations (40 CFR Parts 122, 124, and Subchapter N) and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et. seq.).

a. **Final Effluent Limitations**

Outfall 001 - process wastewater (Paper Mill, Plywood Plant, and Studmill operations), sanitary wastewater, landfill leachate, site stormwater, chemical plant, building products, treated effluent from the City of Crossett, truck wash and backwash wastewater (Note: Outfall 001 is located immediately downstream of the permittee's aerated lagoon.)

1. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow (MGD)	N/A	N/A	Report	Report	daily	totalizing meter
Biochemical Oxygen Demand (BOD5)	24155.4	46453.0	64.6	123.8	three/week	24-hr composite
Total Suspended Solids (TSS)	37720	70188	119.6	222.4	three/week	24-hr composite
2,3,7,8-TCDD	Report	Report	Report pg/l	Report pg/l	once/quarter	24-hr composite
Adsorbable Organic Halogens (AOX)	2193.04	3299.97	N/A	N/A	once/day	24-hr composite
Dieldrin	0.00034	0.0011	0.00091µg/l	0.00284 µg/l	once/month	24-hr composite
Total Recoverable Copper	8.42	16.89	22.43 µg/l	45.00 µg/l	once/month	24-hr composite
Total Recoverable Mercury	0.026	0.053	0.07 µg/l	0.14 µg/l	once/month	24-hr composite
Total Recoverable Zinc	75.21	150.90	200.40 µg/l	402.09 µg/l	once/month	24-hr composite
Total Phosphorous	Report	Report	Report	Report	three/week	24-hr composite
Nitrates as Nitrogen	Report	Report	Report	Report	three/week	24-hr composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Chronic WET Testing	N/A	N/A	Report, See Item #14 of this Fact Sheet.		once/2 months	24-hr composite

2. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

b. **Final Effluent Limitations**

Stream Monitoring Station (SMS) 002 – At the Transition from Mossy Lake to Coffee Creek

1. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements*	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow (MGD)	N/A	N/A	Report	Report	daily	totalizing meter
Biochemical Oxygen Demand (BOD5)						
(October – July)	8000	12000	Report	Report	three/week	24-hr composite
(August)	7262	10893	Report	Report	three/week	24-hr composite
(September)	5911	8867	Report	Report	three/week	24-hr composite
Total Suspended Solids (TSS)	18000	30000	Report	Report	three/week	24-hr composite
Dieldrin	0.00034	0.0011	0.00091 µg/l	0.00284 µg/l	once/month	24-hr composite
Total Recoverable Copper	8.42	16.89	22.43 µg/l	45.00 µg/l	once/month	24-hr composite
Total Recoverable Mercury	0.026	0.053	0.07 µg/l	0.14 µg/l	once/month	24-hr composite
Total Recoverable Zinc	75.21	150.90	200.40 µg/l	402.09 µg/l	once/month	24-hr composite
Total Phosphorous	Report	Report	Report	Report	three/week	24-hr composite
Nitrates as Nitrogen	Report	Report	Report	Report	three/week	24-hr composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

* **When Mossy Lake is not flooded.** A flooded state is defined as the period when the gauge at the Felsenthal Lock and Dam exceeds 62 feet and also for the two weeks following the recession of flood waters below 62 feet.

2. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

c. **Effluent Limitations**

Internal Outfall 101 – Line 1A of Hardwood Effluent

1. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow (MGD)	N/A	N/A	Report	Report	Daily	Instantaneous
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	N/A	N/A	N/A	< 10 pg/l	Once/month	24-hr composite
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	N/A	N/A	N/A	31.9 pg/l	Once/month	24-hr composite
Trichlorosyringol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
3,4,5-Trichlorocatechol	N/A	N/A	N/A	< 5.0 µg/l	Once/month	24-hr composite
3,4,6-Trichlorocatechol	N/A	N/A	N/A	< 5.0 µg/l	Once/month	24-hr composite
3,4,5-Trichloroguaiacol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
3,4,6-Trichloroguaiacol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
4,5,6-Trichloroguaiacol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
2,4,5-Trichlorophenol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
2,4,6-Trichlorophenol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
Tetrachlorocatechol	N/A	N/A	N/A	< 5.0 µg/l	Once/month	24-hr composite
Tetrachloroguaiacol	N/A	N/A	N/A	< 5.0 µg/l	Once/month	24-hr composite
2,3,4,6-Tetrachlorophenol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
Pentachlorophenol	N/A	N/A	N/A	<5.0 µg/l	Once/month	24-hr composite
pH of 1st ClO_2 Bleaching Stage	N/A	N/A	1.86 s.u., minimum		Once/day	Grab
Kappa Factor	N/A	N/A	0.45, maximum		Once/day	Grab
Total Bleach Line ClO_2 Application Rate	N/A	N/A	134.2 lb ClO_2/ton of pulp, maximum		Once/day	Totalizing Meter

d. **Effluent Limitations**

Internal Outfall 102 – Line 1B of Hardwood Effluent

1. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow (MGD)	N/A	N/A	Report	Report	Daily	Instantaneous
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	N/A	N/A	N/A	< 10 pg/l	Once/month	24-hr composite
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	N/A	N/A	N/A	31.9 pg/l	Once/month	24-hr composite
Trichlorosyringol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
3,4,5-Trichlorocatechol	N/A	N/A	N/A	< 5.0 µg/l	Once/month	24-hr composite
3,4,6-Trichlorocatechol	N/A	N/A	N/A	< 5.0 µg/l	Once/month	24-hr composite
3,4,5-Trichloroguaiacol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
3,4,6-Trichloroguaiacol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
4,5,6-Trichloroguaiacol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
2,4,5-Trichlorophenol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
2,4,6-Trichlorophenol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
Tetrachlorocatechol	N/A	N/A	N/A	< 5.0 µg/l	Once/month	24-hr composite
Tetrachloroguaiacol	N/A	N/A	N/A	< 5.0 µg/l	Once/month	24-hr composite
2,3,4,6-Tetrachlorophenol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
Pentachlorophenol	N/A	N/A	N/A	<5.0 µg/l	Once/month	24-hr composite
pH of 1st ClO_2 Bleaching Stage	N/A	N/A	1.76 s.u., minimum		Once/day	Grab
Kappa Factor	N/A	N/A	0.42, maximum		Once/day	Grab
Total Bleach Line ClO_2 Application Rate	N/A	N/A	128.2 lb ClO_2/ton of pulp, maximum		Once/day	Totalizing Meter

e. **Effluent Limitations**

Internal Outfall 103 – Line 2 of Softwood Effluent

1. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow (MGD)	N/A	N/A	Report	Report	Daily	Instantaneous
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	N/A	N/A	N/A	< 10 pg/l	Once/month	24-hr composite
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	N/A	N/A	N/A	31.9 pg/l	Once/month	24-hr composite
Trichlorosyringol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
3,4,5-Trichlorocatechol	N/A	N/A	N/A	< 5.0 µg/l	Once/month	24-hr composite
3,4,6-Trichlorocatechol	N/A	N/A	N/A	< 5.0 µg/l	Once/month	24-hr composite
3,4,5-Trichloroguaiacol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
3,4,6-Trichloroguaiacol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
4,5,6-Trichloroguaiacol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
2,4,5-Trichlorophenol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
2,4,6-Trichlorophenol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
Tetrachlorocatechol	N/A	N/A	N/A	< 5.0 µg/l	Once/month	24-hr composite
Tetrachloroguaiacol	N/A	N/A	N/A	< 5.0 µg/l	Once/month	24-hr composite
2,3,4,6-Tetrachlorophenol	N/A	N/A	N/A	< 2.5 µg/l	Once/month	24-hr composite
Pentachlorophenol	N/A	N/A	N/A	<5.0 µg/l	Once/month	24-hr composite
pH of 1st ClO_2 Bleaching Stage	N/A	N/A	1.28 s.u., minimum		Once/day	Grab
Kappa Factor	N/A	N/A	0.57, maximum		Once/day	Grab
Total Bleach Line ClO_2 Application Rate	N/A	N/A	185.8 lb ClO_2/ton of pulp, maximum		Once/day	Totalizing Meter

13. **BASIS FOR PERMIT CONDITIONS**.

The following is an explanation of the derivation of the conditions of the draft permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons suggesting the decisions as required under 40 CFR Part 124.7 (48 FR 1413, April 1, 1983).

DRAFT

Technology-Based versus Water Quality-Based Effluent Limitations and Conditions

Following regulations promulgated at 40 CFR Part 122.44 (1) (2) (ii), the draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR Part 122.44 (a) or on State water quality standards and requirements pursuant to 40 CFR Part 122.44 (d), whichever are more stringent as follows:

Parameter	Water Quality-Based		Technology-Based		Previous Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
OUTFALL 001								
BOD5								
Concentration	N/A	N/A	64.4	123.8	70	135	64.4	123.8
Mass (lbs/day)	N/A	N/A	24155.4	46453.0	26310	50617	24155.4	46453.0
TSS								
Concentration	N/A	N/A	119.6	222.4	134	249	119.6	222.4
40 CFR 430.22, Mass (lbs/day)	N/A	N/A	44868.2	83481.1				
BPJ limits, Mass (lbs/day)	N/A	N/A	37720	70188	37720	70188	37720	70188
2,3,7,8-TCDD	N/A	N/A	Report	Report	Report	Report	Report	Report
AOX, lbs/day	N/A	N/A	2193.04	3299.97	2146	3276	2193.04	3299.97
Dieldrin	0.00091 µg/l	0.00284 µg/l	N/A	N/A	N/A	N/A	0.00091 µg/l	0.00284 µg/l
Total Recoverable Copper	22.43 µg/l	45.00 µg/l	N/A	N/A	N/A	N/A	22.43 µg/l	45.00 µg/l
Total Recoverable Mercury	0.07 µg/l	0.14 µg/l	N/A	N/A	N/A	N/A	0.07 µg/l	0.14 µg/l
Total Recoverable Zinc	200.40 µg/l	402.09 µg/l	N/A	N/A	N/A	N/A	200.40 µg/l	402.09 µg/l
Total Phosphorous	N/A	N/A	Report	Report	N/A	N/A	Report	Report
Nitrates as Nitrogen	N/A	N/A	Report	Report	N/A	N/A	Report	Report
pH	6.0 – 9.0 s.u.		5.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
SMS2								
BOD5, lb/day								
October – July	8000	12000	N/A	N/A	8000	12000	8000	12000
August	7262	10893	N/A	N/A	7262	10893	7262	10893

Parameter	Water Quality-Based		Technology-Based		Previous Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
September	5911	8867	N/A	N/A	5911	8867	5911	8867
TSS, lb/day	18000	30000	N/A	N/A	18000	30000	18000	30000
Dieldrin	0.00091 µg/l	0.00284 µg/l	N/A	N/A	N/A	N/A	0.00091 µg/l	0.00284 µg/l
Total Recoverable Copper	22.43 µg/l	45.00 µg/l	N/A	N/A	N/A	N/A	22.43 µg/l	45.00 µg/l
Total Recoverable Mercury	0.07 µg/l	0.14 µg/l	N/A	N/A	N/A	N/A	0.07 µg/l	0.14 µg/l
Total Recoverable Zinc	200.40 µg/l	402.09 µg/l	N/A	N/A	N/A	N/A	200.40 µg/l	402.09 µg/l
Total Phosphorous	N/A	N/A	Report	Report	N/A	N/A	Report	Report
Nitrates as Nitrogen	N/A	N/A	Report	Report	N/A	N/A	Report	Report
pH	6.0 – 9.0 s.u.		N/A		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
ALL INTERNAL OUTFALLS (101, 102, and 103)								
TCDD	N/A	N/A	N/A	<10 pg/l*	N/A	<10 pg/l*	N/A	<10 pg/l*
TCDF	N/A	N/A	N/A	31.9 pg/l*	N/A	31.9 pg/l*	N/A	31.9 pg/l*
Trichlorosyringol	N/A	N/A	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l
3,4,5-Trichlorocatechol	N/A	N/A	N/A	< 5.0 µg/l	N/A	< 5.0 µg/l	N/A	< 5.0 µg/l
3,4,6-Trichlorocatechol	N/A	N/A	N/A	< 5.0 µg/l	N/A	< 5.0 µg/l	N/A	< 5.0 µg/l
3,4,5-Trichloroguaiacol	N/A	N/A	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l
3,4,6-Trichloroguaiacol	N/A	N/A	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l
4,5,6-Trichloroguaiacol	N/A	N/A	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l
2,4,5-Trichlorophenol	N/A	N/A	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l
2,4,6-Trichlorophenol	N/A	N/A	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l

Parameter	Water Quality-Based		Technology-Based		Previous Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
Tetrachlorocatechol	N/A	N/A	N/A	< 5.0 µg/l	N/A	< 5.0 µg/l	N/A	< 5.0 µg/l
Tetrachloroguaiacol	N/A	N/A	N/A	< 5.0 µg/l	N/A	< 5.0 µg/l	N/A	< 5.0 µg/l
2,3,4,6-Tetrachlorophenol	N/A	N/A	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l	N/A	< 2.5 µg/l
Pentachlorophenol	N/A	N/A	N/A	<5.0 µg/l	N/A	<5.0 µg/l	N/A	<5.0 µg/l
Internal Outfall 101								
pH of 1st ClO_2 Bleaching Stage	N/A		1.86 s.u., minimum		N/A		1.86 s.u., minimum	
Kappa Factor of 1st ClO_2 Bleaching Stage	N/A		0.45, maximum		N/A		0.45, maximum	
Total Bleach Line ClO_2 Application Rate	N/A		134.2 lb ClO_2/ton of pulp, maximum		N/A		134.2 lb ClO_2/ton of pulp, maximum	
Internal Outfall 102								
pH of 1st ClO_2 Bleaching Stage	N/A		1.76 s.u., minimum		N/A		1.76 s.u., minimum	
Kappa Factor of 1st ClO_2 Bleaching Stage	N/A		0.42, maximum		N/A		0.42, maximum	
Total Bleach Line ClO_2 Application Rate	N/A		128.2 lb ClO_2/ton of pulp, maximum		N/A		128.2 lb ClO_2/ton of pulp, maximum	
Internal Outfall 103								
pH of 1st ClO_2 Bleaching Stage	N/A		1.28 s.u., minimum		N/A		1.28 s.u., minimum	
Kappa Factor of 1st ClO_2 Bleaching Stage	N/A		0.57, maximum		N/A		0.57, maximum	
Total Bleach Line ClO_2 Application Rate	N/A		185.8 lb ClO_2/ton of pulp, maximum		N/A		185.8 lb ClO_2/ton of pulp, maximum	

Parameter	Water Quality or Technology	Justification
Outfall 001		
BOD5	Technology	40 CFR 430.22(a)
TSS	Technology	40 CFR 430.22(a) and continued from previous permit
2,3,7,8-TCDD	Technology	40 CFR 430.24(a)(1)
AOX	Technology	40 CFR 430.24(a)(1)
Dieldrin	Water Quality	L.A.C. 33:IX:1113
Total Recoverable Copper	Water Quality	Reg. 2.508
Total Recoverable Mercury	Water Quality	Reg. 2.508
Total Recoverable Zinc	Water Quality	Reg. 2.508
Total Phosphorous	Technology	Judgment of permit writer (see further explanation below this table.)
Nitrates as Nitrogen	Technology	Judgment of permit writer (see further explanation below this table.)
pH	Water Quality	Reg. 2.504
SMS2		
BOD5		
October – July	Water Quality	TMDL/WLA report approved by EPA on 01/11/2002
August	Water Quality	TMDL/WLA report approved by EPA on 01/11/2002
September	Water Quality	TMDL/WLA report approved by EPA on 01/11/2002
TSS	Water Quality	TMDL/WLA report approved by EPA on 01/11/2002
Dieldrin	Water Quality	L.A.C. 33:IX:1113
Total Recoverable Copper	Water Quality	Reg. 2.508
Total Recoverable Mercury	Water Quality	Reg. 2.508
Total Recoverable Zinc	Water Quality	Reg. 2.508
Total Phosphorous	Technology	Judgment of permit writer (see further explanation below this table.)
Nitrates as Nitrogen	Technology	Judgment of permit writer (see further explanation below this table.)
pH	Water Quality	Reg. 2.504
All Internal Outfalls		
TCDD	Technology	40 CFR 430.24(a)(1)
TCDF	Technology	40 CFR 430.24(a)(1)
Trichlorosyringol	Technology	40 CFR 430.24(a)(1)
3,4,5-Trichlorocatechol	Technology	40 CFR 430.24(a)(1)
3,4,6-Trichlorocatechol	Technology	40 CFR 430.24(a)(1)
3,4,5-Trichloroguaiacol	Technology	40 CFR 430.24(a)(1)
3,4,6-Trichloroguaiacol	Technology	40 CFR 430.24(a)(1)
4,5,6-Trichloroguaiacol	Technology	40 CFR 430.24(a)(1)
2,4,5-Trichlorophenol	Technology	40 CFR 430.24(a)(1)

Parameter	Water Quality or Technology	Justification
2,4,6-Trichlorophenol	Technology	40 CFR 430.24(a)(1)
Tetrachlorocatechol	Technology	40 CFR 430.24(a)(1)
Tetrachloroguaiacol	Technology	40 CFR 430.24(a)(1)
2,3,4,6-Tetrachlorophenol	Technology	40 CFR 430.24(a)(1)
Pentachlorophenol	Technology	40 CFR 430.24(a)(1)
pH of 1st ClO_2 Bleaching Stage	Technology	40 CFR 430.02(f)
Kappa Factor of 1st ClO_2 Bleaching Stage	Technology	40 CFR 430.02(f)
Total Bleach Line ClO_2 Application Rate	Technology	40 CFR 430.02(f)

The explanation for all technology-based limits may be found below in Item #13.b.iii. The calculations for all water-quality based toxics limits may be found below in Item #13.e.

Limits and Requirements Applicable at Both Outfall 001 and SMS2

The pH limits are remaining unchanged with this permit renewal.

The Department recognizes that Chapter 5 of Reg. No. 2 does not apply to Outfall 001. However, the toxics limits have been included at Outfall 001 in addition to SMS2 because the permittee cannot always monitor at SMS2 due to flooding of Mossy Lake. The limits at Outfall 001 are the numerical limits which were calculated for SMS2. The permittee will be required to monitor at both locations when Mossy Lake is not flooded. This is to ensure that there is a continuity of data at a single location.

Monitoring and reporting requirements for Total Phosphorous and Nitrates as Nitrogen have been included in the permit at Outfall 001 and SMS2 because the permittee adds a nutrient solution just prior to the aerated lagoon to aid in biological activity. Nitrites have not been included in the requirements because the MSDS of the nutrient mix does not indicate that nitrites are present. Numerical limits have not been included in the permit because water quality standards do not apply at Outfall 001 and the effluent passing through SMS2 enters the Ouachita River downstream of the Felsenthal National Wildlife Refuge via a half-mile stretch of Coffee Creek.

a. **Anti-backsliding**

The draft permit is consistent with the requirements to meet Anti-backsliding provisions of the Clean Water Act (CWA), Section 402(o) [40 CFR 122.44(l)]. The final effluent limitations for reissuance permits must be as stringent as those in the previous permit,

unless the less stringent limitations can be justified using exceptions listed in 40 CFR 122.44 (l)(2)(i).

The draft permit maintains the requirements of the previous permit with the exception of the removal of chloroform at the internal outfalls. This removal is allowed under 40 CFR 430.02(f) as long as the requirements of the section are met. The permittee has met the certification requirements and the reporting requirements have been included in the permit. (See 40 CFR 122.44(l)(2)(i)(B)(*1*).)

b. **Limits Calculations**

i. Mass limits:

The calculation of the loadings (lbs per day) uses a design flow of 45 MGD and the following equation:

lbs/day = Concentration (mg/l) X Flow (MGD) X 8.34

The applicable parts of 40 CFR do not require that the permit contain concentration limits for BOD5 and TSS. Therefore it is not necessary to calculate the mass limits and ratios of wastewaters from various sources to determine concentration limits. The concentration limits for BOD5 and TSS were calculated using the highest average monthly flow and the mass limits calculated for the paper mill discharge.

ii. Daily Maximum Limits:

Daily maximum limits are based on the standards contained in 40 CFR Part 430 and the CPP.

iii. Process wastewater

Outfall 001

Paper Mill

According to the permit renewal application, GP produces **257** tons per day of fine paper (Step 1) and **1512** tons per day Paperboard and Tissue Paper (Step 2).

Effluent limitations guidelines (ELG) for Bleached Paper grade Kraft and Soda Subcategory (40 CFR Part 430.22) cover this industry. Final effluent limitations for BOD5 and TSS are based on 40 CFR Part 430.22 Subpart B (Please see below for calculations).

Calculations:

Step 1:

Effluent limitations based on production of **257** tons/day are as follows:

BPT Effluent Limitations		
Pollutant	**Daily Maximum (lbs/1000 lb)**	**Monthly Average (lbs/1000 lb)**
BOD5	10.6	5.5
TSS	22.15	11.9
pH	5.0 – 9.0 s.u. at all times	

Average Daily Production (1000 lbs/day)= 514[1]

[1] ((257 tons/day) X (2000 lbs/ton)) / 1000 = 514

Monthly Average

Parameter	Production	X	EG Factor	BPT Limit
	(Klbs/day)	X	(lbs/Klbs)	lbs/day
BOD5	514	X	5.5	2827.0
TSS	514	X	11.9	6116.6

Daily Maximum

Parameter	Production X EG Factor			BPT Limit
	(Klbs/day)	X	(lbs/Klbs)	lbs/day
BOD5	514	X	10.6	5448.4
TSS	514	X	22.15	11385.1

Step 2:

Effluent limitations based on production of **1502** tons/day are as follows:

BPT Effluent Limitations		
Pollutant	**Daily Maximum (lbs/1000 lb)**	**Monthly Average (lbs/1000 lb)**
BOD5	13.65	7.1
TSS	24	12.9
pH	5.0 – 9.0 s.u. at all times	

Average Daily Production (1000 lbs/day)= 3004[1]

[1] ((1502 tons/day) X (2000 lbs/ton)) / 1000 = 3004

Monthly Average

Parameter	Production (Klbs/day)	X	EG Factor (lbs/Klbs)	BPT Limit lbs/day
BOD5	3004	X	7.1	21328.4
TSS	3004	X	12.9	38751.6

Daily Maximum

Parameter	Production (Klbs/day)	X	EG Factor (lbs/Klbs)	BPT Limit lbs/day
BOD5	3004	X	13.65	41004.6
TSS	3004	X	24	72096.0

Step 3 = Step 1 + Step 2

Parameter	Monthly Average, lbs/day	Daily Maximum, lbs/day
BOD5	24155.4	46453.0
TSS	44868.2	83481.1

During renewal of the last permit, the technology-based TSS limits at Outfall 001 were reduced to 37720 lbs/day (Monthly Average) and 70188 lbs/day (Daily Maximum) with the agreement of the permittee based on the performance of the treatment system. However, the concentration limits for TSS were based on the above calculated technology limits. This methodology will continue to be used in this permit.

AOX

The Adsorbable Organic Halogen (AOX) limits were calculated based on the annual **unbleached** pulp production and effluent guidelines representing the application of the Best Available Technology (BAT) economically achievable (40 CFR Part 430.24). The Permittee has reported an average unbleached pulp production of 1735 tons per day. Based on 40 CFR 430.24(b)(1), AOX limits must be determined at the end of the pipe. Therefore, production of 1735 tons/day has been used to calculate AOX limits as follows:

40 CFR 430.24, BAT Effluent Limitations		
Pollutant	**Daily Max kg/kkg (lbs/1000 lbs)**	**Monthly Average kg/kkg (lbs/1000 lbs)**
AOX	0.951	0.623

Calculations

Average Daily Production (1000 lbs/day) = 3470[1]

[1] ((1735 ADT/day) x (2000 lbs/ton)) / 1000 = 3470

Monthly Average

Parameter	Production (1000 lbs/day)	x	ELG Factor (lbs/1000lbs)	BAT Limit lb/day
AOX	3470	x	0.632	2193.04

Daily Max

Parameter	Production x ELG Factor (1000 lbs/day)	x	(lbs/1000lbs)	BAT Limit lb/day
AOX	3470	x	0.951	3299.97

In accordance with 40 CFR 430.01(i), Method 1650 and minimum level (ML) of 20 μg/l apply to AOX.

40 CFR 430.24(d) states that effluent limitations for pentachlorophenol and trichlorophenol apply to all dischargers subject to this section in accordance with the previous subcategorization scheme unless the discharger certifies to the permitting authority that it is not using these compounds as biocides. Also, for non-continuous dischargers, concentration limitations (mg/l) shall apply. Concentration limitations will only apply to non-continuous dischargers.

The permittee has certified that pentachlorophenol and trichlorophenol are not used as biocides at this facility. Also, this facility is a continuous discharger. Therefore, the BAT limits set forth in 40 CFR 430.24(d) do not apply to this facility.

Dioxin

In the previous permit, it was determined that the technology based requirement of < 10 pg/l for Dioxin (2,3,7,8-TCDD) at the internal outfalls was more stringent than the Dioxin technology (BPJ) permit limits at Outfall 001. The Dioxin limits at Outfall 001 were changed to monitor and report. The Dioxin monitoring and reporting requirements at Outfall 001 are therefore continued unchanged from the previous permit.

LAC 33:IX:713.C requires a daily maximum 2,3,7,8-TCDD limit of no more than 20 pg/l. As the limits contained for the internal outfalls is less than the Louisiana standard, no additional action (as compared to the previous permit) is necessary to protect the water quality of the State of Louisiana in regards to dioxin.

INTERNAL OUTFALLS

Chloroform

The removal of the chloroform limits at the internal out is allowed under 40 CFR 430.02(f) as long as the requirements of the section are met. The permittee must:

(i) Demonstrate, based on 104 measurements taken over a period of not less than two years of monitoring conducted in accordance with paragraph (a) of this section, that you are complying with the applicable limitations or standards for chloroform;

(ii) Certify that they will maintain a record of the maximum value for each of the following process and operating conditions for the fiber line that was recorded during the collection of each of the samples used to make the demonstration required under paragraph (f)(2)(i) of this section.

(A) The pH of the first chlorine dioxide bleaching stage;

(B) The chlorine (Cl_2) content of chlorine dioxide (ClO_2) used on the bleach line;

(C) The kappa factor of the first chlorine dioxide bleaching stage; and

(D) The total bleach line chlorine dioxide application rate;

(iii) Identify the chlorine-containing compound used for bleaching during the collection of samples used to make the demonstration required under paragraph (f)(2)(i) of this section; and

(iv) Certify that the fiber line does not use either elemental chlorine or hypochlorite as bleaching agents.

The permittee submitted all of the required information in a permit modification request submitted on 11/28/2007, i.e, compliance with the chloroform limits and the monitoring results for pH after the first bleaching stage, Kappa Factor, and maximum total bleach line ClO_2 application rate. Part II of the permit contains conditions (See Nos. 19 and 20) outlining the requirements contained in 40 CFR 430.02(f)(4), (6), and (7) for the chloroform monitoring exemption to continue.

Other Parameters

In accordance with 40 CFR 430.24(a)(1), the following parameters have been included in the permit for each of the three internal outfalls. With the exception of 2,3,7,8-Tetrachlorodebenzofuran (TCDF), the permit limits are the minimum levels (ML) specified in 40 CFR 430.01(i).

Parameter	Permit Limit
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	<10 pg/l
2,3,7,8-Tetrachlorodebenzofuran (TCDF)	31.9 pg/l
Trichlorosyringol	<2.5 µg/l
3,4,5-Trichlorocatechol	<5.0 µg/l
3,4,6-Trichlorocatechol	<5.0 µg/l
3,4,5-Trichloroguaiacol	<2.5 µg/l
3,4,6-Trichloroguaiacol	<2.5 µg/l
4,5,6-Trichloroguaiacol	<2.5 µg/l
2,4,5-Trichlorophenol	<2.5 µg/l
2,4,6-Trichlorophenol	<2.5 µg/l
Tetrachlorocatechol	<5.0 µg/l
Tetrachloroguaiacol	<5.0 µg/l
2,3,4,6-Tetrachlorophenol	<2.5 µg/l
Pentachlorophenol	<5.0 µg/l

Plywood Plant and Studmill

In accordance with 40 CFR 429.43, any existing point source subject to this subpart (40 CFR Part 429, Subpart C), must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of best available technology

economically achievable (BAT): There shall be no discharge of process wastewater pollutants.

In accordance with 40 CFR 429.123, any existing point source subject to this subpart (40 CFR Part 429, Subpart K), must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of best available technology economically achievable (BAT): There shall be no discharge of process wastewater pollutants.

However, the Federal Register, Vol. 39, No. 76 dated Thursday, April 18, 1974, in response to Comment #15 on 40 CFR Part 429, states the following:

"A 'no discharge of process wastewater' limitation does allow a plant to discharge wastewater to an available treatment system which might be present where a number of timber products processing operations are conducted; however, no credit will be given for the wastewater pollutants attributable to the point source categories included in Part 429that have a no dischargee limitation."

The effluent description will reflect that the wastewaters that may be discharged through Outfall 001 include process wastewaters from the plywood plant and studmill.

Chemical Plant

The permittee stated in an e-mail dated 06/10/2009, that, in addition to boiler blowdown and cooling tower blowdown, the following types of wastewater are discharged from the chemical plant:

From the Formaldehyde plant – RCI distillates
From the Resin Manufacturing – Glass Mat distillates, Prepolymer distillates, Vacuum sump discharges, and Red water impoundment discharges
From the Tall Oil plant – API separator discharges

The permittee is not subject to the Best Available Technology Economically Achievable (BAT) requirements of 40 CFR Part 414, Subpart E (Organic Chemicals, Plastics, and Synthetic Fibers, Thermosetting Resins Subpart) or 40 CFR Part 430, Subpart F (Organic Chemicals, Plastics, and Synthetic Fibers, Thermosetting Resins Subpart). The biological treatment associated with this permit occurs after all sources of wastewater (process wastewater from the paper mill, stormwater runoff, City of Crossett's wastewater, etc.) have commingled. Therefore, the biological treatment is not considered to be end-of-pipe.

The permittee is subject to the requirements of 40 CFR Part 414 (Organic Chemicals, Plastics, and Synthetic Fibers), Subpart E (Thermosetting Resins) and Subpart F

(Commodity Organic Chemicals). The permittee is also subject to the requirements of 40 CFR Part 454 (Gum and Wood Chemicals Manufacturing Point Source Category), Subpart D (Tall Oil Rosin, Pitch and Fatty Acids Subcategory). These subparts contain Effluent Limitation Guidelines for BOD5 and TSS in pounds of the effluent characteristic per 1,000 pounds of product.

The pounds of BOD5 and TSS which could be discharged as a result of the operations at the Chemical Plant would normally be calculated and then added to the BOD5 and TSS limits calculated for the paper mill and other sources of wastewater at this facility. However, the permittee has demonstrated that the limits set based on the paper mill alone are adequate to cover all of the various operations at this facility. Therefore, no additional calculations will be done at this time.

SMS 002

BOD5 and TSS limits as stated in the permit on page 3 of Part IA are based on Waste Load Allocation which was done by the permittee and approved by EPA and ADEQ during the last permit renewal. The loading limits apply **when Mossy Lake is not flooded**; otherwise the permittee must comply with the BOD5 and TSS limits at Outfall 001.

c. **Stormwater runoff**

All stormwater runoff discharges which are not routed through Outfall 001 are covered under the general permit for stormwater runoff associated with industrial activity. (See tracking no. ARR00A776.) Therefore, stormwater pollution prevention plan (SWPPP) requirements have not been included in this permit. The permit will continue to contain conditions requiring Best Management Practices (BMPs). This does not violate the anti-backsliding requirements contained in 40 CFR 122.44(l) because the permit has not been relieved of the SWPPP requirements.

d. **208 Plan (Water Quality Management Plan)**

No revisions to the 208 Plan are being proposed under this permit renewal.

e. **Toxics Pollutants**

A. **Toxics Pollutants**

(1) Post Third Round Policy and Strategy

Section 101 of the Clean Water Act (CWA) states that "...it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited..." To insure

that the CWA's prohibitions on toxic discharges are met, EPA has issued a "Policy for the Development of Water Quality-Based Permit Limitations by Toxic Pollutants"(49 FR 9016-9019, 3/9/84). In support of the national policy, Region 6 adopted the "Policy for post Third Round NPDES Permitting" and the "Post Third Round NPDES Permit Implementation Strategy" on October 1, 1992. The Regional policy and strategy are designed to insure that no source will be allowed to discharge any wastewater which (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical State water quality standard resulting in non-conformance with the provisions of 40 CFR Part 122.44(d); (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

(2) Implementation

The State of Arkansas is currently implementing EPA's Post Third-Round Policy in conformance with the EPA Regional strategy. The 5-year discharge permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, or where there are no applicable technology-based limits, additional water quality-based effluent limitations and/or conditions are included in the discharge permits. State narrative and numerical water quality standards from Regulation No. 2 are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

(3) Priority Pollutant Scan

In accordance with the regional policy ADEQ has reviewed and evaluated the effluent in evaluating the potential toxicity of each analyzed pollutant:

a. The results were evaluated and compared to EPA's Minimum Quantification Levels (MQLs) to determine the potential presence of a respective toxic pollutant. Those pollutants which are greater than or equal to the MQLs are determined to be reasonably present in the effluent and an evaluation of their potential toxicity is necessary.

b. Those pollutants with one datum shown as "non-detect" (ND), providing the level of detection is equal to or lower than MQL are determined to be not potentially present in the effluent and eliminated from further evaluation.

c. Those pollutants with a detectable value even if below the MQL are determined to be reasonably present in the effluent and an evaluation of their potential toxicity is necessary.

d. For those pollutants with multiple data values and all values are determined to be non-detect, therefore no further evaluation is necessary. However, where data set includes some detectable concentrations and some values as ND, one-half of the detection level is used for those values below the level of detection to calculate the geometric mean of the data set.

The concentration of each pollutant after mixing with the receiving stream was compared to the applicable water quality standards as established in the Arkansas Water Quality Standards, Reg. No. 2 and with the aquatic toxicity, human health, and drinking water criteria obtained from the "Quality Criteria for Water, 1986 (Gold Book)". The manner in which the Instream Waste Concentrations are calculated may be found on page 2 of each of the attachments.

I. Aquatic Toxicity, Bioaccumulation, and Drinking Water

Arkansas Requirements

As stated on page A-31 of Reg. 2, Chapter 5 of Reg. 2 does not apply to Mossy Lake and Coffee Creek. Therefore, toxics limits based on levels in the effluent at Outfall 001 have not been calculated.

SMS2 is a monitoring point located approximately 2.5 miles upstream of the Arkansas/Louisiana state line. The methods for calculating the background flows based upon the 7Q10, TSS, hardness, etc. are based upon ADEQ's CPP.

Stream Monitoring Station (SMS2)		
Flow	45 MGD = 69.525 cfs	Previous Permit
7Q10	1200 cfs	EPA*
TSS	5.5 mg/l	CPP
Hardness as $CaCO_3$	28 mg/l	CPP
pH	7.01 s.u.	OUA008B

*Letter dated July 3, 2001.

Louisiana Requirements

The flows (for acute, chronic, and bioaccumulation) are based upon the requirements of Title 33, Part IX, Subpart I, Section 1115, Table 2a.

Stream Monitoring Station (SMS2)		
Flow	45 MGD = 69.525 cfs	Previous Permit

Stream Monitoring Station (SMS2)		
7Q10	1200 cfs	EPA*
TSS	6 mg/l	E-mail**
Hardness as $CaCO_3$	38.4 mg/l	E-mail**
pH	7.01 s.u.	OUA008B

*Letter dated July 3, 2001.
** These values were received via e-mail from Jeremy "Todd" Franklin of LDEQ on 06/16/2009.

(4) Water Quality Standards for Metals and Cyanide

Standards for Chromium (VI), Mercury, Selenium, and Cyanide are expressed as a function of the pollutant's water-effect ratio (WER), while standards for cadmium, chromium (III), copper, lead, nickel, silver, and zinc are expressed as a function of the pollutant's water-effect ratio, and as a function of hardness.

The Water-effect ratio (WER) is assigned a value of 1.0 unless scientifically defensible study clearly demonstrates that a value less than 1.0 is necessary or a value greater than 1.0 is sufficient to fully protect the designated uses of the receiving stream from the toxic effects of the pollutant.

The WER approach compares bioavailability and toxicity of a specific pollutant in receiving water and in laboratory test water. It involves running toxicity tests for at least two species, measuring LC50 for the pollutant using the local receiving water collected from the site where the criterion is being implemented, and laboratory toxicity testing water made comparable to the site water in terms of chemical hardness. The ratio between site water and lab water LC50 is used to adjust the national acute and chronic criteria to site specific values.

(5) Conversion of Dissolved Metals Criteria for Aquatic Life to Total Recoverable Metal

Metals criteria established in Regulation No. 2 for aquatic life protection are based on dissolved metals concentrations and hardness values (See Page 6 of Attachment 1). However, Federal Regulations cited at 40 CFR 122.45(c) require that effluent limitations for metals in discharge permits be expressed as total recoverable (See Attachments 1 and 2). Therefore a dissolved to the total recoverable metal conversion must be implemented. This involves determining a linear partition coefficient for the metal of concern and using this coefficient to determine the fraction of metal dissolved, so that the dissolved metal ambient criteria may be translated to a total effluent limit. The formula for converting dissolved metals to total recoverable metals for streams and lakes are provided in

Section 5.25 of the CPP and Region 6 Implementation Guidance for Arkansas Water Quality Standards promulgated at 40 CFR Part 131.36.

(6) Comparison of the submitted information with the water quality standards and criteria

(a) SMS2

The following pollutants were determined to be present at **SMS2** as reported by the permittee.

Arkansas Standards

Pollutant	Concentration Reported**, µg/l	MQL Required by ADEQ's CPP
Total Recoverable Cadmium	0.765	1
Total Recoverable Chromium	5.32	10*
Hexavalent Chromium, Dissolved	5.32	10*
Total Recoverable Copper	7.336	0.5
Total Recoverable Lead	1.769	0.5
Total Recoverable Mercury	0.0052	0.005
Total Recoverable Nickel	8.322	0.5
Total Recoverable Selenium	5.315	5
Total Recoverable Zinc	145.20	20
Bis(2-ethylhexyl) phthalate	2.679	10*
Gamma-BHC (a/k/a Lindane)	0.0492	0.05
Delta-BHC	0.0319	0.05*
Dieldrin	0.0035***	0.02
Alpha-endosulfan	0.0252	0.01

*Actual detection level achieved was lower than what was required.
**Geometric mean of two reported values.
***Geometric mean of five reported values.

Louisiana Standards

Pollutant	Concentration Reported, µg/l	MQL Required by LDEQ**
Total Recoverable Cadmium	0.765	1
Total Recoverable Chromium	5.32	10*
Hexavalent Chromium, Dissolved	5.32	10*
Total Recoverable Copper	7.336	10
Total Recoverable Lead	1.769	5
Total Recoverable Mercury	0.0052	0.2*
Total Recoverable Nickel	8.322	40
Total Recoverable Zinc	145.20	20
Gamma-BHC (a/k/a Lindane)	0.0492	0.05
Dieldrin	0.0035***	0.1
Alpha-endosulfan	0.0252	0.1*

*Actual detection level achieved was lower than what was required.
**Based on *Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan, Volume 3.* Dated April 16, 2008 (Version 6). Obtained from LDEQ's web site on June 12, 2009.
***Geometric mean of five reported values.

As indicated in the above tables, ADEQ has determined from the information submitted by the permittee that reasonable potential for exceedances of water quality standards exists for some of the parameters listed above. Permit action will be taken for the parameters for which the permittee demonstrated reasonable potential for exceedances of the water quality or bioaccumulation standards (See Attachments 1 and 2).

(b) Aquatic Toxicity

(i) Pollutants with numerical water quality standards

a. SMS2

ADEQ has determined from the information submitted by the permittee that there is a reasonable potential for the discharge to cause an instream excursion above the acute and/or chronic numeric standards as specified in the Arkansas Water Quality Standards, Reg.

No. 2 and/or in Louisiana's Water Quality Regulations at L.A.C. 33:IX:1113 (See Attachments 1 and 2).

ADEQ has identified the following toxicants in the discharge in amounts which could potentially have a toxic impact on the receiving stream:

Chronic Aquatic Toxicity Results						
Pollutant	C_e, µg/l	C_e X 2.13	AR IWC, µg/l	AR WQS, µg/l	LA IWC, µg/l	LA WQS, µg/l
Total Recoverable Zinc	251	534.63	113.62	109.63	*	*

*Reasonable potential only demonstrated based upon Arkansas' requirements.

Acute Aquatic Toxicity Results						
Pollutant	C_e, µg/l	C_e X 2.13	AR IWC, µg/l	AR WQS, µg/l	LA IWC, µg/l	LA WQS, µg/l
Total Recoverable Zinc	251	534.63	282.97	120.05	359.02	159.70

IWC's have been calculated in the manner described on page 2 of the attachments.

b. Permit Action

Under Federal Regulation 40 CFR Part 122.44(d), as adopted by Regulation No. 6, if a discharge poses the reasonable potential to cause or contribute to an exceedance above a water quality standard, the permit must contain an effluent limitation for that pollutant. Effluent limitations for the toxicants listed above have been derived in a manner consistent with the Technical Support Document (TSD) for Water Quality-based Toxics Control (EPA, March 1991), the State's implementations procedures, and 40 CFR Part 122.45(c).

Permit Limit Determination

The Department recognizes that background data exists for the reach of the Ouachita River into which Coffee Creek flows. However, the accuracy of this data is questionable as evidenced by the stream segment's categorization on the 303(d) list. Because no reliable data exists, the Department has used background concentrations of 0 mg/l

for Total Recoverable Copper and Total Recoverable Zinc when calculating the permit limits for those parameters.

The instream waste load allocation (WLA), which is the level of effluent concentration that would comply with the water quality standard (WQS) of the receiving stream, is calculated for both chronic and acute WLA using the following equations:

$WLA_c = (WQS \times (Q_d + Q_b) - Q_b \times C_b))/Q_d$

Where:

WLA_c = chronic waste load allocation (μg/l)
Q_d = discharge flow (cfs)
Q_b = 0.25 X 7Q10 (cfs) @ **SMS2 for AR WQS**
Q_b = 0.33 X 7Q10 (cfs) @ **SMS2 for LA WQS**
C_b = background concentration (μg/l)
WQS = chronic aquatic toxicity standards (μg/l)

and;

$WLA_a = (WQS \times (Q_d + Q_b) - Q_b \times C_b))/Q_d$

Where:

WLA_a = acute waste load allocation (μg/l)
Q_d = discharge flow (cfs)
Q_b = 0.06 X 7Q10 (cfs) @ **SMS2 for AR WQS**
Q_b = 0.033 X 7Q10 (cfs) @ **SMS2 for LA WQS**
C_b = background concentration (μg/l)
WQS = acute aquatic toxicity standards (μg/l)

The long term average (LTA) effluent concentration is then calculated based on the chronic and acute WLA as follows:

$LTA_c = 0.72 \times WLA_c$
$LTA_a = 0.57 \times WLA_a$

The lowest of these two (2) values is selected as being the limiting LTA. The limiting LTA is then used to calculate the monthly average (AML) and daily maximum (DML) for the final limits. AML and DML are calculated as follows:

AML = 1.55 X Limiting LTA
DML = 3.11 X Limiting LTA

Limits included in the permit are as follows:

SMS2

The reach of the Ouachita River which receives the effluent from this facility (Reach #002 in H.U.C. 08040202) is on the 303(d) due to Zinc. The permittee demonstrated reasonable potential for water quality violations due to the levels of Total Recoverable Zinc. Permit limits were determined using both ADEQ's and LDEQ's permitting procedures. The more stringent limits were those calculated using ADEQ's permitting procedures. Therefore, those limits were placed in the permit.

The permittee did not demonstrate reasonable potential for water quality violations due to Total Recoverable Copper or Total Recoverable Mercury in either Arkansas or Louisiana. However, the reach of the Ouachita River which receives the effluent from this facility is on the 303(d) list due to Copper. Therefore, permit limits based on ADEQ's permitting procedures have been included in the permit.

The Department will reopen the permit to include any TMDLs which are finalized during the term of the permit.

The permittee only demonstrated reasonable potential for exceedances of aquatic toxicity standards for Dieldrin in Arkansas. Therefore, ADEQ's permitting procedures were used to calculate the aquatic toxicity based limits for Dieldrin. The permittee did demonstrate reasonable potential for exceedances of Louisiana's bioaccumulation standards. Those limits are calculated in Item (c) below. The more stringent of the two sets of limits will be included in the permit.

Numerical Aquatic Toxicity Limits		
Parameter	AML, µg/l	DML, µg/l
Total Recoverable Copper	22.43	45.00
Total Recoverable Mercury	0.07	0.14
Total Recoverable Zinc	200.40	402.09

(ii) Pollutants without applicable water quality standards

ADEQ has determined from the information submitted by the permittee that there is not a reasonable potential for the discharge to cause an instream excursion above the acute and/or chronic criteria as specified in the Gold Book (See Attachments 1, 2, and 3).

(c) Human Health (Bioaccumulation) Limits

i. Pollutants with numerical water quality standards

ADEQ has determined from the information submitted by the permittee that there is not a reasonable potential for the discharge to cause an instream excursion above the state numeric bioaccumulation standards as specified in Reg. 2.508. However, ADEQ has determined that there is a reasonable potential for an instream excursion above the State of Louisiana's numeric bioaccumulation standard for Dieldrin.

Bioaccumulation Standard Results				
Pollutant	C_e, µg/l	C_e X 2.13	IWC, µg/l	La WQS, µg/l
Dieldrin	0.113	0.2407	0.01	0.00005

IWC's have been calculated in the manner described above.

Permit Action

Under Federal Regulation 40 CFR Part 122.44(d), as adopted by Regulation No. 6, if a discharge poses the reasonable potential to cause or contribute to an exceedance above a water quality standard, the permit must contain an effluent limitation for that pollutant. Effluent limitations for the above have been derived in a manner consistent with the Technical Support Document (TSD) for Water Quality based Toxics Control (EPA, March 1991), the Implementation of the Arkansas Water Quality Standards via Permitting, and 40 CFR Part122.45(c) as follows:

$WLA = (WQS \times (Q_d + Q_b) - Q_b \times C_b))/Q_d$

Where:

WLA = waste load allocation (μg/l)

Q_d = discharge flow (cfs)
Q_b = long term average flow (cfs)
C_b = background concentration (μg/l)
WQS = bioaccumulation standard (μg/l)

The instream WLA concentration, which is the level of effluent concentration that would comply with water quality standards (WQS) in the receiving stream, is used to calculate the monthly average (AML) and daily maximum (DML) final limits as follows:

AML = WLA
DML = AML X (DML/AML)

where the factor DML/AML is found in Table 5-3 of TSD. Limits included in the permit are as follows:

Louisiana Human Health (Bioaccumulation) limits		
Pollutant	AML, µg/l	DML, µg/l
Dieldrin	0.00091	0.00284

The Dieldrin limit based upon compliance with Louisiana's bioaccumulation standard is more stringent than the limit based upon compliance with ADEQ's chronic toxicity standard. Therefore, the permit will contain limits of 0.00091 µg/l for a monthly average and 0.00284 µg/l for a daily maximum.

ii. Pollutants without applicable water quality standards

ADEQ has determined from the information submitted by the permittee that there is not a reasonable potential for the discharge to cause exceedance of bioaccumulation criterion as specified in the Gold Book (Quality Criteria for Water 1986).

iii. Drinking Water Supply Protection

ADEQ has determined from the information submitted by the permittee that there is not a reasonable potential for the discharge to cause an instream excursion above the drinking water criteria as specified in the Gold Book.

14. WHOLE EFFLUENT TOXICITY.

Section 101(a)(3) of the Clean Water Act states that ".....it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited." In addition, ADEQ is required under 40 CFR Part 122.44(d)(1), adopted by reference in Regulation 6, to include conditions as necessary to achieve water quality standards as established under Section 303 of the Clean Water Act. Arkansas has established a narrative criteria which states "toxic materials shall not be present in receiving waters in such quantities as to be toxic to human, animal, plant or aquatic life or to interfere with the normal propagation, growth and survival of aquatic biota."

Whole effluent toxicity (WET) testing is the most direct measure of potential toxicity which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. It is the national policy of EPA to use bioassays as a measure of toxicity to allow evaluation of the effects of a discharge upon a receiving water (49 Federal Register 9016-9019, March 9, 1984). EPA Region 6 and the State of Arkansas are now implementing the Post Third Round Policy and Strategy established on September 9, 1992, and EPA Region 6 Post-Third Round Whole Effluent Toxicity Testing Frequencies, revised March 13, 2000. Whole effluent toxicity testing of the effluent is thereby required as a condition of this permit to assess potential toxicity. The whole effluent toxicity testing procedures stipulated as a condition of this permit are as follows:

TOXICITY TESTS	**FREQUENCY**
Chronic WET Testing	Once/2 months

Requirements for measurement frequency are based on the CPP.

Since 7Q10 is less than 100 cfs (ft^3/sec) and dilution ratio is less than 100:1, chronic WET testing requirements will be included in the permit.

The calculations for dilution used for chronic WET testing are continued unchanged from the previous permit.

CD = [(2.8 X D X 3.14^0.5)/ y] X 100

D = Diameter of discharge pipe = 4 ft and y = 25 for ZID
CD = [(2.8 X 4 X 3.14^0.5)/25] X 100 = **80%**

Toxicity tests shall be performed in accordance with protocols described in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", EPA/600/4-91/002, July 1994. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are **25%, 34%, 45%, 60%, and 80%** (See Section 6.3 of

the CPP). The low-flow effluent concentration (critical dilution) is defined as **80%** effluent. The requirement for chronic WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species, *Ceriodaphnia dubia* and the Fathead minnow (*Pimephales promelas*) are indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen conductivity, and alkalinity shall be reported according to EPA/600/4-91/002, July 1994 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

This permit may be reopened to require further WET testing studies, Toxicity Reduction Evaluation (TRE) and/or effluent limits if WET testing data submitted to the Department shows toxicity in the permittee's discharge. Modification or revocation of this permit is subject to the provisions of 40 CFR 122.62, as adopted by reference in ADEQ Regulation No. 6. Increased or intensified toxicity testing may also be required in accordance with Section 308 of the Clean Water Act and Section 8-4-201 of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

Administrative Records

The following information summarized toxicity test submitted by the permittee during the term of the current permit at.

WHOLE EFFLUENT TOXICITY TESTING
FREQUENCY RECOMMENDATION
AND RATIONALE FOR ADDITIONAL REQUIREMENTS

Permit Number: **AR0001210** AFIN: **02-00013**
Facility Name: **Crossett Paper Operations**
Outfall: **001**
Previous Critical Dilution: **80%** Proposed Critical Dilution: **80%**
Date of Review: **6/3/09** Name of Reviewer: **M. Barnett**

Number of tests performed during previous 5 years by species:
***Pimephales promelas* (Fathead minnow): 24**
***Ceriodaphnia dubia* (water flea): 23**

Failed test dates during previous 5 years by species:

***Pimephales promelas* (Fathead minnow):**	Lethal	Sub-lethal
	None	06-04
		09-04
		12-05

***Ceriodaphnia dubia* (water flea):**	Lethal	Sub-lethal
	None	04-02
		03-07
		06-07
		09-07
		12-07
		06-08
		12-08

Previous TRE activities: None

Frequency recommendation by species:

***Pimephales promelas* (Fathead minnow):**	**once/2 months**
***Ceriodaphnia dubia* (water flea):**	**once/2 months**

Additional requirements (including WET Limits) rationale/comments concerning permitting:

Rationale: *Continuous Planning Process, E.1.c* "For permittees with a design flow greater than or equal to 1 MGD and potential toxicity problems (e.g. failed pre-permit test, substantial industrial contribution and no pretreatment) the toxicity testing frequency may be twelve times a year for both species".

However, since the permittee has had no lethal failures, only 3 sub-lethal *P. promelas* test failures, and only 7 sub-lethal *C. dubia* failures during the past 5 years, WET testing shall occur bi-monthly.

15. **SAMPLE TYPE AND FREQUENCY.**

Outfall 001 and SMS2

Requirements for sample type and sampling frequency at Outfall 001 and SMS2 have been based on the current discharge permit for those parameters carried forth from the previous permit. The only change to sample type or sampling frequency for a parameter carried forth from the previous permit is the WET testing frequency. The WET testing frequency has been increased to once every two months based on the recommendation of the Water Division's Planning Branch.

The sample type and sampling frequency for the new parameters were based upon the CPP and the judgment of the permit writer. The sample types for metals at SMS2 are grab samples due to the difficulty in obtaining clean samples at this monitoring location.

Internal Outfalls 101, 102, and 103

The monitoring frequencies are based on 40 CFR 430.02(a). The monitoring frequencies and sample types are remaining unchanged from the previous permit.

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
OUTFALL 001				
Flow	Once/day	Totalizing meter	Once/day	Totalizing meter
BOD5	Three/week	24-hr composite	Three/week	24-hr composite
TSS	Three/week	24-hr composite	Three/week	24-hr composite
2,3,7,8-TCDD	Once/quarter	24-hr composite	Once/quarter	24-hr composite
AOX	Once/day	24-hr composite	Once/day	24-hr composite
Total Recoverable Copper	N/A	N/A	Once/month	24-hr composite
Total Recoverable Zinc	N/A	N/A	Once/month	24-hr composite
Dieldrin	N/A	N/A	Once/month	24-hr composite
Total Phosphorous	N/A	N/A	Three/week	24-hr composite
Nitrates as Nitrogen	N/A	N/A	Three/week	24-hr composite
pH	Three/week	Grab	Three/week	Grab
Chronic WET	Once/quarter	24-hr composite	Once/2 months	24-hr composite
SMS2				
Flow	Once/day	Totalizing meter	Once/day	Totalizing meter
BOD5				
October – July	Three/week	24-hr composite	Three/week	24-hr composite
August	Three/week	24-hr composite	Three/week	24-hr composite
September	Three/week	24-hr composite	Three/week	24-hr composite
Total Suspended Solids (TSS)	Three/week	24-hr composite	Three/week	24-hr composite

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Total Recoverable Copper	N/A	N/A	Once/month	24-hr composite
Total Recoverable Zinc	N/A	N/A	Once/month	24-hr composite
Dieldrin	N/A	N/A	Once/month	24-hr composite
Total Phosphorous	N/A	N/A	Three/week	24-hr composite
Nitrates as Nitrogen	N/A	N/A	Three/week	24-hr composite
pH	Three/week	Grab	Three/week	Grab
INTERNAL OUTFALLS (101, 102, and 103)				
Flow	Daily	Instantaneous	Daily	Instantaneous
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	Once/month	24-hr composite	Once/month	24-hr composite
2,3,7,8-Tetrachlorodebenzofuran (TCDF)	Once/month	24-hr composite	Once/month	24-hr composite
Trichlorosyringol	Once/month	24-hr composite	Once/month	24-hr composite
3,4,5-Trichlorocatechol	Once/month	24-hr composite	Once/month	24-hr composite
3,4,6-Trichlorocatechol	Once/month	24-hr composite	Once/month	24-hr composite
3,4,5-Trichloroguaiacol	Once/month	24-hr composite	Once/month	24-hr composite
3,4,6-Trichloroguaiacol	Once/month	24-hr composite	Once/month	24-hr composite
4,5,6-Trichloroguaiacol	Once/month	24-hr composite	Once/month	24-hr composite
2,4,5-Trichlorophenol	Once/month	24-hr composite	Once/month	24-hr composite
2,4,6-Trichlorophenol	Once/month	24-hr composite	Once/month	24-hr composite
Tetrachlorocatechol	Once/month	24-hr composite	Once/month	24-hr composite
Tetrachloroguaiacol	Once/month	24-hr composite	Once/month	24-hr composite
2,3,4,6-Tetrachlorophenol	Once/month	24-hr composite	Once/month	24-hr composite
Pentachlorophenol	Once/month	24-hr composite	Once/month	24-hr composite
pH of 1st ClO_2 Bleaching Stage	N/A	N/A	Once/day	Grab
Kappa Factor of 1st ClO_2 Bleaching Stage	N/A	N/A	Once/day	Grab

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Total Bleach Line ClO_2 Application Rate	N/A	N/A	Once/day	Totalizing Meter

16. **PERMIT COMPLIANCE.**

Compliance with final effluent limitations is required by the following schedule:

Compliance is required on the effective date of the permit except as outlined below in Item #3.

1. The report required by Condition No. 12 of Part II of this permit shall be submitted no later than May 31 of each year.

2. The permittee must conduct the fish tissue analysis required by Condition No. 14 of Part II of the permit during the third year of the permit cycle. The results must be submitted within 30 days of the completion of the sampling and analyses.

17. **MONITORING AND REPORTING.**

The applicant is at all times required to monitor the discharge on a regular basis; and report the results monthly. The monitoring results will be available to the public.

18. **SOURCES.**

The following sources were used to draft the permit:

a. Application No. AR0001210 received 03/02/2009.
b. Arkansas Water Quality Management Plan (WQMP).
c. APCEC Regulation No. 2.
d. APCEC Regulation No. 3.
e. APCEC Regulation No. 6.
f. 40 CFR Parts 122, 125, 414, 429, 430, and 454.
g. Discharge permit file AR0001210.
h. Discharge Monitoring Reports (DMRs).
i. "Arkansas Water Quality Inventory Report 2008 (305B)", ADEQ.
j. "Identification and Classification of Perennial Streams of Arkansas", Arkansas Geological Commission.
k. Continuing Planning Process (CPP).
l. Technical Support Document For Water Quality-based Toxic Control.

m. Region 6 Implementation Guidance for Arkansas Water Quality Standards promulgated at 40 CFR Part 131.36.
n. Inspection Report dated 05/28/2008.
o. Site Visit on 05/26/2009.
p. E-mail from Jeremy "Todd" Franklin of LDEQ to Loretta Reiber dated June 16, 2009.
q. EPA's Consumer Fact Sheet on Nitrates/Nitrites.
r. E-mail from Rachel Johnson to Loretta Reiber, P.E. dated June 5, 2009.
s. E-mail from Rachel Johnson to Loretta Reiber, P.E. dated June 10, 2009.
t. LAC Title 33, Part IX, Subpart 1 (LA WQS).
u. Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan Volume 3, Version 6 – April 16, 2008.
v. E-mail from Rachel Johnson to Loretta Reiber, P.E. dated July 28, 2009.
w. E-mail from Jim Wise to Loretta Reiber, P.E. dated July 29, 2009.
x. E-mail from Rachel Johnson to Loretta Reiber, P.E. dated July 29, 2009.
y. E-mail from Rachel Johnson to Loretta Reiber, P.E. dated October 26, 2009.
z. Letter of no objection from EPA Region VI dated December 16, 2009.
aa. Additional dieldrin test results received January 14, 2010

19. PUBLIC NOTICE.

The public notice describes the procedures for the formulation of final determinations and shall provide for a public comment period of 30 days. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permitting decision. A request for a public hearing shall be in writing and shall state the nature of the issue(s) proposed to be raised in the hearing.

A copy of the permit and public notice will be sent via email to the Corps of Engineers, the Regional Director of the U.S. Fish and Wildlife Service, the Department of Arkansas Heritage, the EPA, the Arkansas Department of Health, and the Louisiana Department of Environmental Quality prior to the publication of that notice.

20. POINT OF CONTACT.

For additional information, contact:

Loretta Reiber, P.E.
Permits Branch, Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317
Telephone: (501) 682-0612

CALCULATIONS OF ARKANSAS WATER QUALITY-BASED EFFLUENT LIMITATIONS

		For an Arkansas River/Stream	
		(Reserved)	
STEP 1:	INPUT TWO LETTER CODE FOR ECOREGION (Use Code at Right)	GC	
	Basin Name	Ouachita River	
FACILITY			
	Permittee	GP Crossett	
	NPDES Permit No.	AR0001210	
	Outfall No.(s)	SMS2	
	Plant Effluent Flow (MGD)	45.00	
	Plant Effluent Flow (cfs)	69.53	
RECEIVING STREAM			
	Is this a large river? (see list at right)(enter "1" if yes, "0" if no; make entry as a number)	1	
	Name of Receiving Stream:	Ouachita River	
	Waterbody Segment Code No.	2D	
	Is this a lake or reservoir? (enter '1' if yes, ' 0 ' = no; make entry as a number)	0	
	Second Enter Enter 7Q10 in Cell H31	0	
	(Reserved) DO NOT INPUT DATA INTO CELL H22, H23 & H24....LEAVE BLANK=	(Reserved)	
	(Reserved)		
	(Reserved) (Reserved)	(Reserved)	
	(Reserved)	(Reserved)	
	(Reserved)	(Reserved)	
	(Reserved)	(Reserved)	
	Ecoregion TSS (mg/l) (For Large River, See List to Right)	5.50	
	Ecoregion Hardness (mg/l)	28.00	
	Enter 7Q10 (cfs) as the Critical Flow (Reserved) (Reserved)	1200.00	(Reserved
	Long Term Ave / Harmonic Mean Flow (cfs)	3600.00	(Reserved (Reserved)
	Using Diffusers (Yes/No)	no	
	pH (Avg)	7.01	
	Percent (%) of Critical Flow for Chronic Criteria	0.25	
	Percent (%) of Critical Flow for Acute Criteria	0.06	
	Water Effect Ratio (WER)	1.00	
	Ave Monthly Limit LTA Multiplier (Ref: page 103 TSD for WQ-Based Toxics Control)	1.55	
	Max Daily Limit LTA Multiplier (Ref: " " " ")	3.11	

Codes & TSS for Ecoregions and Large Rivers

Ouachita Mts. Eco (OM) =	2.0 mg/l	Arkansas (Ft. Smith to Dardanelle Dam	12.0 mg/l
Ozark Highlands Eco (OH) =	2.5 mg/l	Arkansas (Dardanelle Dam to Terry L&	10.5 mg/l
Boston Mts. Eco (BM) =	1.3 mg/l	Arkansas (Terry L&D to L&D No. 5)	8.3 mg/l
Ark River Valley Eco (AV) =	3.0 mg/l	Arkansas (L&D No. 5 to Mouth)	9.0 mg/l
Gulf Coastal Eco (GC) =	5.5 mg/l	White (Above Beaver Lake)	2.5 mg/l
Delta Ecoregion (DL) =	8.0 mg/l	White (Below Bull Shoals to Black Riv)	3.3 mg/l
		White (From Black River to Mouth)	18.5 mg/l
		St. Francis River	18.0 mg/l
		Ouachita (Above Caddo River)	2.0 mg/l
		Ouachita (Below Caddo River)	5.5 mg/l
		Red River	33.0 mg/l

Total Hardness for:

Arkansas River = 125 mg/l
Red River = 211 mg/l
Ouachita River = 28 mg/l
St. Francis River = 103 mg/l
White River = 116 mg/l

Gulf Coastal = 31 mg/l
Ouachita Mount = 31 mg/l
Ozark Highlands = 148 mg/l
Ark River Valley = 25 mg/l
Boston Mount = 25 mg/l
Delta = 81 mg/l

Large Rivers

Mississippi River, Arkansas River, Red River
White (Below confluence with Black River)
Ouachita (Below confluence with Little Miss. River)

For industrial and federal facility, use the highest monthly average flow for the past 24 months. For POTWs, use the design flow.

#VALUE! => No violation or Not Applicable
9999999.00 => No EPA/ADEQ Guideline

STEP 2: INPUT AMBIENT AND EFFLUENT DATA
CALCULATE IN-STREAM WASTE CONCENTRATIONS

DATA INPUT

For less than 20 data points enter geometric mean concentration as micro-gram per liter (ug/l or ppb).
For 20 or more data points in set enter highest concentration as micro-gram per liter (ug/l or ppb).

Effluent value reported as "< detection level" (DL) but the DL is greater than MQL, the 1/2 DL is used.
Effluent value reported as "< detection level" (DL) and the DL is smaller than MQL, "0" is used.
If a firm value is reported, even less than MQL, the reported value is used.

The following formulae is used to calculate the Instream Waste Concentration (IWC)
(Please refer to CPP for detail)
IWC = [(F*Qa*Cb) + (Qe*2.13*Ce)] / (F*Qa + Qe)
Where:
IWC = Instream Waste Concentration
F = Fraction of stream allowed for mixing
Ce = Reported concentration in effluent
Cb = Ambient stream concentration upstream of discharge
Qe = Plant effluent flow
Qb = Critical low flow of stream at discharge point expressed as the 7Q10 or harmonic mean flow for human health criteria
Upstream Flow (Qb)= (% of 7Q10) X 7Q10 for Chronic and Acute

The following formulae convert metals reported in total form to dissolved form if criteria are in dissolved form

Kp = Kpo * (TSS**a)
C/Ct = 1/ (1 + Kp*TSS* 10^-6)
Total Metal Criteria (Ct) = Cr / (C/Ct)

Kp = Linear partition coefficient; Kpo and a can be found in table below
TSS = Total suspended solids concentration found in receiving stream (or in effluent for intermittent stream)
C/Ct = Fraction of metal dissolved; and Cr = Dissolved criteria value

***Stream Linear Partition Coefficient (Insert "Dissolved" Conc in Column B to convert t Lake Linear Partition Coefficient**

Total Metals	Dissolved Value in Stream	Kpo	alpha (a)	Kp	C/Ct	Total Value	Kpo	alpha (a)	Kp	C/Ct	Total Value
Arsenic		480000	-0.73	138285.446	0.56799788	0.00	480000.00	-0.73	138285.45	0.5679979	0
Cadmium		4000000	-1.13	582706.889	0.237818469	0.00	3520000.00	-0.92	733514.98	0.1986361	0
Chromium(3)		3360000	-0.93	688338.365	0.208948818	0.00	2170000.00	-0.27	1369499.28	0.1172024	0
Copper		1040000	-0.74	294554.016	0.381672529	0.00	2850000.00	-0.9	614495.12	0.2283249	0
Lead		2800000	-0.8	715925.58	0.202527926	0.00	2040000.00	-0.53	826490.64	0.1803199	0
Mercury		2900000	-1.14	415321.613	0.30448177	0.00	1970000.00	-1.17	268066.09	0.4041443	0
Nickel		490000	-0.57	185433.992	0.495077211	0.00	2210000.00	-0.76	604946.03	0.2310962	0
Zinc		1250000	-0.7	379014.766	0.324193117	0.00	3340000.00	-0.68	1047851.74	0.1478593	0
Silver		2400000	-1.03	414607.994	0.30484608	0.00	2400000.00	-1.03	414607.99	0.3048461	0

*Note: Use this section to convert lab concentrations shown as "dissolved" to "total"

82											Dissolved	Total				
83	**The following formulas are used to calculate water quality criteria based on Regulation No. 2 (Act 472 of Ark 1949)**										WQC (ug/l)	WQC(ug/l)				
84	Cadmium			Acute			WER X CF1 X e(1.128[ln(hardness)]-3.828)				0.93		CF1 = 1.136672 - [0.041838*ln(hardness)]			
85				Chronic			WER X CF2 X e(0.7852[ln(hardness)]-3.490)				0.40		CF2 = 1.101672 - [0.041838*ln(hardness)]			
86																
87	Chromium Tri			Acute			WER X 0.316 X e(0.819[ln(hardness)]+3.688				193.46					
88				Chronic			WER X 0.86 X e(0.819[ln(hardness)]+1.561				62.76					
89																
90	Chromium Hex			Acute			WER X 0.982 X 16				15.71					
91				Chronic			WER X 11 X 0.962				10.58					
92																
93	Copper			Acute			WER X 0.96 X e(0.9422[ln(hardness)]-1.464)				5.13					
94				Chronic			WER X 0.96 X e(0.8545[ln(hardness)]-1.465)				3.82					
95																
96	Lead			Acute			WER X e(1.273[ln(hardness)]-1.460)*CF3				15.77		CF3 = 1.46203 - [0.145712*ln(hardness)]			
97				Chronic			WER X e(1.273[ln(hardness)]-4.705)*CF3				0.61					
98																
99	Mercury			Acute			WER X 0.85 X 2.4				2.04					
100				Chronic			WER X 0.012				0.01					
101																
102	Nickel			Acute			WER X 0.998 X e(0.8460[ln(hardness)]+3.3612)				482.14					
103				Chronic			WER X 0.997 X e(0.8460[ln(hardness)]+1.1645)				53.55					
104																
105	Zinc			Acute			WER X 0.978 X e(0.8473[ln(hardness)]+0.8604)				38.92					
106				Chronic			WER X 0.986 X e(0.8473[ln(hardness)]+0.7614)				35.54					
107																
108	Silver			Acute			WER X 0.85 X e(1.72[ln(hardness)]-6.52)				0.39					
109																
110	Cyanide			Acute			WER X 22.36				22.36					
111				Chronic			WER X 5.2				5.20					
112																
113	Arsenic			Acute			WER X 360				360.00					
114				Chronic			WER X 190				190.00					
115																
116	Beryllium			Acute			WER X 130				130.00					
117				Chronic			WER X 5.3				5.30					
118																
119	Selenium			Acute			WER X 20				20.00					
120				Chronic			WER X 5				5.00					
121																
122	The following formulas are applicable to the Jet Stream Model for lakes for calculating the Dilution Factor (DF):															
123			DF = ((2.8 * D * 3.1416^0.5) / X)				where DF is % of effluent at distance X, D is the diameter of the outfall pipe									
124							and X is aquatic life criteria--25 feet for ZID; 100 feet for mixing zone; human health criteria 200 feet for mixing zone.									
125			DF =	#VALUE!	Acute	#VALUE!	Chronic	#VALUE!	Bioacc.							
126																
127	The following formulas are used to calculate the instream waste concentration (IWC) for each pollutant:															
128																
129			IWC = [(Frac X Critical Flow X Cb) + (2.13 X Ce X Qd)] / [Frac X Critical Flow + Qd] where the critical flow is the 7Q10 except for lakes with the Jet Stream Model.									
130			Use EPA Statistical Factor of 2.13 for less than 20 Ce data points with the Geometric Mean of the Ce's; use 1 for more than 20 data points with the maximum Ce.									
131			IWC = (DF X Ce) + Cb for lakes with Jet Stream Model.									

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
132	POLLUTANTS		Number of Data points	MQL	EPA Statistical	Background Conc. Cb	Effluent Conc. Ce	Domestic Supply IWC	Acute Aquatic IWC	Chronic Aquatic IWC	Bioacc. IWC	Domestic Criteria	Arkansas Acute Aquatic Criteria	Arkansas Chronic Aquatic	Arkansas Bioacc.	
133				ug/l	Factor	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
137	**METALS AND CYANIDE**															
138	1. Antimony Total		1	60	2.13	0	0	0.00	0.00	0.00	0.00	#########	9000.00	1600.00	4300	
139	2. Arsenic Total		1	0.5	2.13	0	0	0.00	0.00	0.00	0.00	50	633.81	334.51	1.4	
140	3. Beryllium Total		1	0.5	2.13	0	0	0.00	0.00	0.00	0.00	#########	130.00	5.30	4	
141	4. Cadmium Total		1	1	2.13	0	0.765	0.09	0.80	0.31	0.03	10	3.91	1.69	#########	
142	6. Chromium (Tri)		1	10	2.13	0	5.32	0.62	5.57	2.13	0.21	50	925.86	300.34	#########	
143	7. Chromium (hex)		1	10	2.13	0	5.32	0.62	5.57	2.13	0.21	50	15.71	10.58	#########	
144	8. Copper Total		1	0.5	2.13	0	7.336	0.86	7.68	2.94	0.30	#########	13.44	10.02	#########	
145	9. Lead Total		1	0.5	2.13	0	1.769	0.21	1.85	0.71	0.07	50	77.87	3.03	#########	
146	10. Mercury Total		1	0.005	2.13	0	0.0052	0.00	0.01	0.00	0.00	2	6.70	0.012	0.15	
147	12. Nickel Total		1	0.5	2.13	0	8.322	0.97	8.71	3.34	0.34	#########	973.88	108.16	4600	
148	13. Selenium Total		1	5	2.13	0	5.315	0.62	5.56	2.13	0.21	10	20.00	5.00	#########	
149	14. Silver Total		1	0.5	2.13	0	0	0.00	0.00	0.00	0.00	50	1.27	#########	#########	
150	15. Thallium Total		1	0.5	2.13	0	0	0.00	0.00	0.00	0.00	#########	1400.00	#########	6.3	
151	16. Zinc Total		1	20	2.13	0	145.2	16.94	151.93	58.19	5.86	#########	120.05	109.63	#########	
152	129. Phenols, Total		1	5	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
153	17. Cyanide Total		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	22.36	5.2	220000	
156	**DIOXIN**															
157	18. 2-3-7-8-TCDD		1	0.00001	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.01	1.00E+07	1.00E-06	
159	**VOLATILE COMPOUNDS**															
160	19. Acrolein		1	50	2.13	0	0	0.00	0.00	0.00	0.00	#########	68	21	780	
161	20. Acrylonitrile		1	20	2.13	0	0	0.00	0.00	0.00	0.00	#########	7550	2600	6.6	
162	21. Benzene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	5	5300	9999999	710	
163	22. Bromoform		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999	#########	3600	
164	23. Carbon Tetrach		1	2	2.13	0	0	0.00	0.00	0.00	0.00	5	35200	#########	44	
165	24. Chlorobenzene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	250	50	2.10E+04	
166	25. Chlorodibromomethane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999	#########	340	
167	26. Chloroethane		1	50	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999	#########	1.00E+07	
168	27. 2-Chloroethylvinyl ether		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999	#########	1.00E+07	
169	28. Chloroform		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	28900	1240	4700	
170	29. Dichlorobromomethane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999	#########	220	
171	30. 1-1-Dichloroethane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	7	9999999.00	#########	#########	
172	31. 1-2-Dichloroethane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	5	11800	20000	990	
173	32. 1-1-Dichlorethylene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	11600	#########	32	
174	33. 1,2 Dichloropropane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	23000	5700	#########	
175	34. 1,3 Dichloropropylene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	6060	244	1700	
176	35. Ethylbenzene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	32000	#########	29000	
177	37. Methyl Chloride		1	50	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
178	36. Methyl bromide		1	50	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	4000	
179	38. Methylene chloride		1	20	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	16000	
180	39. 1-1-2-2-Tetrachloroetha		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9320	2400	110	
181	40. Tetrachloroethylene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	5280	840	88.5	
182	41. Toluene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	17500	#########	2.00E+05	
183	42. 1,2-trans-dichloroethyle		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
184	44. 1-1-2-Trichloroethane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	18000	9400	420	
185	43. 1-1-1-Trichloroethane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	200	18000	#########	#########	
186	45. Trichloroethylene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	5	45000	21900	810	
187	46. Vinyl Chloride		1	10	2.13	0	0	0.00	0.00	0.00	0.00	2	9999999.00	#########	5250	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
189	**ACID COMPOUNDS**												9999999.00	#########	#########	
190	47. 2-Chlorophenol		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	4380	#########	#########	
191	48. 2-4-Dichlorphenol		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	2020	365	#########	
192	49. 2-4 Dimethylphenol		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
193	50. 4,6-Dinitro-o-Cresol		1	50	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	765	
194	51. 2,4-Dinitrophenol		1	50	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	14000	
195	52.-53. Nitrophenols		1	20	2.13	0	0	0.00	0.00	0.00	0.00	#########	230	150	#########	
196	54. 4 Chloro-3-methylpheno		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	30	#########	#########	
197	55. Pentachlorophenol		1	5	2.13	0	0	0.00	0.00	0.00	0.00	#########	9.16	5.78	82	
198	56. Phenol		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	10200	2560	4600000	
199	57. 2-4-6-Trichlorophenol		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	65	
201						Ambient Background Conc.	Effluent Conc.	Domestic Supply	Acute Aquatic	Chronic Aquatic	Human Health	Domestic Criteria	Acute Aquatic Criteria	Chronic Aquatic Criteria	Human Health Criteria	
202	**BASE/NEUTRAL COMPOUNDS**				2.13	Cb	Ce	IWC	IWC	IWC	IWC	ug/l	ug/l	ug/l	ug/l	
203	58. Acenaphthene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	1700	520	#########	
204	59. Acenapthylene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
205	60. Anthracene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	110000	
206	61. Benzidine		1	50	2.13	0	0	0.00	0.00	0.00	0.00	#########	2500	#########	5.40E-03	
207	62. Benzo(a) anthracene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	0.31	
208	63. Benzo(a) pyrene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	0.31	
209	64. 3,4-benzoflouranthene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	0.31	
210	65. Benzo(g,h,i)perylene		1	20	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
211	66. Benzo(k) fluoranthene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	0.31	
212	67. Bis(2-chloroethoxy)meth		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
213	68. Bis(2-chloroethly) Ether		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	14	
214	69. Bis(2-Chloroisopropyl) e		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	1.70E+05	
215	70. Bis(2-ethylhexyl)phthala		1	10	2.13	0	2.87	0.33	3.00	1.15	0.12	#########	9999999.00	#########	59	
216	71. 4-Bromophenyl phenyl e		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
217	72. Butylbenzy phthalate		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
218	73. 2-chloronapthalene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	1600	#########	#########	
219	74. 4-chlorophenyl phenyl e		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
220	75. Chrysene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	0.31	
221	76. Dibenzo(a,h)anthracene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	0.31	
222	77-79. Dichlorobenzene(1,2		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	1120	763	2600	
223	80. 3,3' Dichlorobenzidine		1	5	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	0.77	
224	81. Diethyl Phthalate		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	1.20E+05	
225	82. Dimethyl phthalate		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	2.90E+06	
226	83. Di-n-Butyl phthalate		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	1.20E+04	
227	84. 2-4-Dinitrotoluene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	330	230	91	
228	85. 2-6-Dinitrotoluene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
229	86. Di-n-octyl phthalate		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
230	87. 1,2-diphenylhydrazine		1	20	2.13	0	0	0.00	0.00	0.00	0.00	#########	270	#########	5.4	
231	88. Fluoranthene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	3980	#########	370	
232	89. Fluorene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	14000	
233	90. Hexachlorobenzene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	0.0077	
234	91. Hexachlorobutadiene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	90	9.3	500	
235	92. Hexachlorocyclopentadi		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	7	5.2	1.74E+04	
236	93. Hexachloroethane		1	20	2.13	0	0	0.00	0.00	0.00	0.00	#########	980	540	89	
237	Hexachlorocyclohexane		1		2.13	0	0	0.00	0.00	0.00	0.00	#########	2	0.08	#########	
238	94. Indeno(1,2,3-cd)pyrene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	0.31	
239	95. Isophorone		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	117000	#########	6000	
240	96. Naphthalene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	2300	620	#########	
241	97. Nitrobenzene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	27000	#########	1900	
242	98. N-nitrosodimethylamine		1	50	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	81	
243	99. N-nitrosodi-n-propylamir		1	20	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
244	100. N-nitrosodiphenylamin		1	20	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	160	
245	101. Phenanthrene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
246	103. 1,2,4-trichlorobenzene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
247																
248	**PESTICIDES**															
249	104. Aldrin		1	0.01	2.13	0	0	0.00	0.00	0.00	0.00	#########	3.00	#########	0.0014	
250	105. Alpha-BHC		1	0.05	2.13	0	0	0.00	0.00	0.00	0.00	#########	2.00	0.08	0.0373	
251	106. Beta-BHC		1	0.05	2.13	0	0	0.00	0.00	0.00	0.00	#########	2.00	0.08	0.46	
252	107. Gamma-BHC		1	0.05	2.13	0	0.0492	0.01	0.05	0.02	0.00	#########	2.00	0.08	0.63	
253	108. Delta-BHC		1	0.05	2.13	0	0.0319	0.00	0.03	0.01	0.00	#########	2.00	0.08	#########	
254	109. Chlordane		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	2.40	0.0043	0.005	
255	110. 4,4'-DDT		1	0.02	2.13	0	0	0.00	0.00	0.00	0.00	#########	1.10	0.001	0.0059	
256	111. 4,4'-DDE		1	0.1	2.13	0	0	0.00	0.00	0.00	0.00	#########	1.10	0.001	0.0059	
257	112. 4,4'-DDD		1	0.1	2.13	0	0	0.00	0.00	0.00	0.00	#########	1.10	0.001	0.0084	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
258	113. Dieldrin		5	0.02	2.13	0	0.0035	0.00041	0.00366	0.00140	0.00014	#########	2.50	0.0019	0.0012	
259	114. Alpha-endosulfan		1	0.01	2.13	0	0.0252	0.00	0.03	0.01	0.00	#########	0.22	0.056	2	
260	115. Beta-endosulfan		1	0.02	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.22	0.056	2	
261	116. Endosulfan sulfate		1	0.1	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.22	0.056	2	
262	117. Endrin		1	0.02	2.13	0	0	0.00	0.00	0.00	0.00	0.2	0.18	0.0023	0.81	
263	118. Endrin aldehyde		1	0.1	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.18	0.0023	0.81	
264	119. Heptachlor		1	0.01	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.52	0.0038	0.0021	
265	120. Heptachlor epoxide		1	0.01	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.52	0.0038	0.0011	
266	121. PCB-1242		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
267	122. PCB-1254		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
268	123. PCB-1221		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
269	124. PCB-1232		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
270	125. PCB-1248		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
271	126. PCB-1260		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
272	127. PCB-1016		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
273	128. Toxaphene		1	0.3	2.13	0	0	0.00	0.00	0.00	0.00	5	0.73	0.0002	0.00045	
274	130. Chlorpyrifos		1	0.07	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.08	0.041	#########	
275																
276																
277																

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
278																
279	STEP 3:	APPLICABLE WATER QUALITY-BASED LIMITS														
280																
281																
282																
283	POLLUTANTS		Permit Daily Maximum ug/l	Permit Monthly Average ug/l	Permit Daily Maximum lb/day	Permit Monthly Average lb/day		EPA Bioac Status								
284																
285	Zinc Total		433.22	215.91	162.59	81.03		N/A								

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	CALCULATIONS OF LOUSIANA WATER QUALITY-BASED EFFLUENT LIMITATIONS															
2								For an Arkansas River/Stream								
3								*(Reserved)*								
4	**STEP 1:**	INPUT TWO LETTER CODE FOR ECOREGION (Use Code at Right)						GC								
5		Basin Name						Ouachita								
6											**Codes & TSS for Ecoregions and Large Rivers**					
7	FACILITY															
8										Ouachita Mts. Eco (OM) =	2.0 mg/l		Arkansas (Ft. Smith to Dardanelle Dam			12.0 mg/l
9	Permittee							GP Crosseti		Ozark Highlands Eco (OH) =	2.5 mg/l		Arkansas (Dardanelle Dam to Terry L&			10.5 mg/l
10	NPDES Permit No.							AR0001210		Boston Mts. Eco (BM) =	1.3 mg/l		Arkansas (Terry L&D to L&D No. 5)			8.3 mg/l
11	Outfall No.(s)							SMS2		Ark River Valley Eco (AV) =	3.0 mg/l		Arkansas (L&D No. 5 to Mouth)			9.0 mg/l
12	Plant Effluent Flow (MGD)							45.00		Gulf Coastal Eco (GC) =	5.5 mg/l		White (Above Beaver Lake)			2.5 mg/l
13	Plant Effluent Flow (cfs)							69.53		Delta Ecoregion (DL) =	8.0 mg/l		White (Below Bull Shoals to Black Riv)			3.3 mg/l
14													White (From Black River to Mouth)			18.5 mg/l
15	RECEIVING STREAM												St. Francis River			18.0 mg/l
16													Ouachita (Above Caddo River)			2.0 mg/l
17	Is this a large river? (see list at right)(enter "1" if yes, "0" if no; make entry as a number)							1					Ouachita (Below Caddo River)			5.5 mg/l
18	Name of Receiving Stream:							Ouachita River					Red River			33.0 mg/l
19	Waterbody Segment Code No.							2D								
20	Is this a lake or reservoir? (enter '1' if yes, ' 0 ' = no; make entry as a number)							0			**Total Hardness for:**					
21	Second Enter Enter 7Q10 in Cell H31							0			Arkansas River = 125 mg/l			Red River = 211 mg/l		
22	(Reserved)	DO NOT INPUT DATA INTO CELL H22, H23 & H24....LEAVE BLANK=						(Reserved)			Ouachita River = 28 mg/l			St. Francis River = 103 mg/l		
23	(Reserved)										White River = 116 mg/l					
24		(Reserved)		(Reserved)				(Reserved)								
25				(Reserved)				(Reserved)			Gulf Coastal = 31 mg/l			Ouachita Mount = 31 mg/l		
26				(Reserved)				(Reserved)			Ozark Highlands = 148 mg/l			Ark River Valley = 25 mg/l		
27				(Reserved)				(Reserved)			Boston Mount = 25 mg/l			Delta = 81 mg/l		
28																
29	Ecoregion TSS (mg/l) (For Large River, See List to Right)							6.00			**Large Rivers**					
30	Ecoregion Hardness (mg/l)							38.40			Mississippi River, Arkansas River, Red River					
31	Enter 7Q10 (cfs) as the Critical Flow		(Reserved)	(Reserved)				1200.00	(Reserved		White (Below confluence with Black River)					
32	Long Term Ave / Harmonic Mean Flow (cfs)							1200.00	(Reserved	(Reserved)	Ouachita (Below confluence with Little Miss. River)					
33	Using Diffusers (Yes/No)							no								
34	pH (Avg)							7.01			For industrial and federal facility, use the highest monthly average flow					
35	Percent (%) of Critical Flow for Chronic Criteria							0.33			for the past 24 months. For POTWs, use the design flow.					
36	Percent (%) of Critical Flow for Acute Criteria							0.03								
37	Water Effect Ratio (WER)							1.00			#VALUE! => No violation or Not Applicable					
38	Ave Monthly Limit LTA Multiplier (Ref: page 103 TSD for WQ-Based Toxics Control)							1.55			9999999.00 => No EPA/ADEQ Guideline					
39	Max Daily Limit LTA Multiplier (Ref: " " " ")							3.11								

STEP 2: INPUT AMBIENT AND EFFLUENT DATA
CALCULATE IN-STREAM WASTE CONCENTRATIONS

DATA INPUT

For less than 20 data points enter geometric mean concentration as micro-gram per liter (ug/l or ppb).
For 20 or more data points in set enter highest concentration as micro-gram per liter (ug/l or ppb).

Effluent value reported as "< detection level" (DL) but the DL is greater than MQL, the 1/2 DL is used.
Effluent value reported as "< detection level" (DL) and the DL is smaller than MQL, "0" is used.
If a firm value is reported, even less than MQL, the reported value is used.

The following formulae is used to calculate the Instream Waste Concentration (IWC)
(Please refer to CPP for detail)
IWC = [(F*Qa*Cb) + (Qe*2.13*Ce)] / (F*Qa + Qe)
Where:
IWC = Instream Waste Concentration
F = Fraction of stream allowed for mixing
Ce = Reported concentration in effluent
Cb = Ambient stream concentration upstream of discharge
Qe = Plant effluent flow
Qb = Critical low flow of stream at discharge point expressed as the 7Q10 or harmonic mean flow for human health criteria
Upstream Flow (Qb)= (% of 7Q10) X 7Q10 for Chronic and Acute

The following formulae convert metals reported in total form to dissolved form if criteria are in dissolved form

Kp = Kpo * (TSS**a) — Kp = Linear partition coefficient; Kpo and a can be found in table below
C/Ct = 1/ (1 + Kp*TSS* 10^-6) — TSS = Total suspended solids concentration found in receiving stream (or in effluent for intermittent stream)
Total Metal Criteria (Ct) = Cr / (C/Ct) — C/Ct = Fraction of metal dissolved; and Cr = Dissolved criteria value

Total Metals	Dissolved Value in Stream	*Stream Linear Partition Coefficient (Insert "Dissolved" Conc in Column B to convert t… Kpo	alpha (a)	Kp	C/Ct	Total Value	Lake Linear Partition Coefficient Kpo	alpha (a)	Kp	C/Ct	Total Value
Arsenic		480000	-0.73	129774.936	0.562224279	0.00	480000.00	-0.73	129774.94	0.5622243	0
Cadmium		4000000	-1.13	528140.021	0.239874874	0.00	3520000.00	-0.92	677085.50	0.1975304	0
Chromium(3)		3360000	-0.93	634831.714	0.207943859	0.00	2170000.00	-0.27	1337700.52	0.1107886	0
Copper		1040000	-0.74	276185.843	0.376348023	0.00	2850000.00	-0.9	568209.82	0.2267955	0
Lead		2800000	-0.8	667785.571	0.199731823	0.00	2040000.00	-0.53	789241.67	0.1743542	0
Mercury		2900000	-1.14	376101.939	0.307067625	0.00	1970000.00	-1.17	242119.22	0.4077114	0
Nickel		490000	-0.57	176461.46	0.485727208	0.00	2210000.00	-0.76	566235.80	0.2274063	0
Zinc		1250000	-0.7	356618.721	0.318500517	0.00	3340000.00	-0.68	987651.25	0.1443854	0
Silver		2400000	-1.03	379066.542	0.305399532	0.00	2400000.00	-1.03	379066.54	0.3053995	0

*Note: Use this section to convert lab concentrations shown as "dissolved" to "total"

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
82											Dissolved	Total				
83	**The following formulas are used to calculate water quality criteria based on Regulation No. 2 (Act 472 of Ark 1949)**										WQC (ug/l)	WQC(ug/l)				
84	Cadmium			Acute			WER X CF1 X e(1.128[ln(hardness)]-3.828)				1.31		CF1 = 1.136672 - [0.041838*ln(hardness)]			
85				Chronic			WER X CF2 X e(0.7852[ln(hardness)]-3.490)				0.51		CF2 = 1.101672 - [0.041838*ln(hardness)]			
86																
87	Chromium Tri			Acute			WER X 0.316 X e(0.819[ln(hardness)]+3.688				250.57					
88				Chronic			WER X 0.86 X e(0.819[ln(hardness)]+1.561				81.28					
89																
90	Chromium Hex			Acute			WER X 0.982 X 16				15.71					
91				Chronic			WER X 11 X 0.962				10.58					
92																
93	Copper			Acute			WER X 0.96 X e(0.9422[ln(hardness)]-1.464)				6.91					
94				Chronic			WER X 0.96 X e(0.8545[ln(hardness)]-1.465)				5.01					
95																
96	Lead			Acute			WER X e(1.273[ln(hardness)]-1.460)*CF3				22.46		CF3 = 1.46203 - [0.145712*ln(hardness)]			
97				Chronic			WER X e(1.273[ln(hardness)]-4.705)*CF3				0.88					
98																
99	Mercury			Acute			WER X 0.85 X 2.4				2.04					
100				Chronic			WER X 0.012				0.01					
101																
102	Nickel			Acute			WER X 0.998 X e(0.8460[ln(hardness)]+3.3612)				629.83					
103				Chronic			WER X 0.997 X e(0.8460[ln(hardness)]+1.1645)				69.95					
104																
105	Zinc			Acute			WER X 0.978 X e(0.8473[ln(hardness)]+0.8604)				50.86					
106				Chronic			WER X 0.986 X e(0.8473[ln(hardness)]+0.7614)				46.45					
107																
108	Silver			Acute			WER X 0.85 X e(1.72[ln(hardness)]-6.52)				0.67					
109																
110	Cyanide			Acute			WER X 22.36				22.36					
111				Chronic			WER X 5.2				5.20					
112																
113	Arsenic			Acute			WER X 360				360.00					
114				Chronic			WER X 190				190.00					
115																
116	Beryllium			Acute			WER X 130				130.00					
117				Chronic			WER X 5.3				5.30					
118																
119	Selenium			Acute			WER X 20				20.00					
120				Chronic			WER X 5				5.00					
121																
122	The following formulas are applicable to the Jet Stream Model for lakes for calculating the Dilution Factor (DF):															
123			DF = ((2.8 * D * 3.1416^0.5) / X) where DF is % of effluent at distance X, D is the diameter of the outfall pipe													
124			and X is aquatic life criteria--25 feet for ZID; 100 feet for mixing zone; human health criteria 200 feet for mixing zone.													
125			DF = #VALUE! Acute #VALUE! Chronic #VALUE! Bioacc.													
126																
127	The following formulas are used to calculate the instream waste concentration (IWC) for each pollutant:															
128																
129			IWC = [(Frac X Critical Flow X Cb) + (2.13 X Ce X Qd)] / [Frac X Critical Flow + Qd] where the critical flow is the 7Q10 except for lakes with the Jet Stream Model.													
130			Use EPA Statistical Factor of 2.13 for less than 20 Ce data points with the Geometric Mean of the Ce's; use 1 for more than 20 data points with the maximum Ce.													
131			IWC = (DF X Ce) + Cb for lakes with Jet Stream Model.													

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
132	POLLUTANTS		Number of Data points	MQL	EPA Statistical	Background Conc. Cb	Effluent Conc. Ce	Domestic Supply IWC	Acute Aquatic IWC	Chronic Aquatic IWC	Bioacc. IWC	Domestic Criteria	Arkansas Acute Aquatic Criteria	Arkansas Chronic Aquatic	Arkansas Bioacc.	
133				ug/l	Factor	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
137	**METALS AND CYANIDE**															
138	1. Antimony Total		1	60	2.13	0	0	0.00	0.00	0.00	0.00	#########	9000.00	1600.00	10	
139	2. Arsenic Total		1	0.5	2.13	0	0	0.00	0.00	0.00	0.00	50	640.31	337.94	1.4	
140	3. Beryllium Total		1	0.5	2.13	0	0	0.00	0.00	0.00	0.00	#########	130.00	5.30	4	
141	4. Cadmium Total		1	1	2.13	0	0.765	0.09	1.04	0.24	0.09	10	5.45	2.12	10.00	
142	6. Chromium (Tri)		1	10	2.13	0	5.32	0.62	7.22	1.69	0.62	50	1205.00	390.89	50.00	
143	7. Chromium (hex)		1	10	2.13	0	5.32	0.62	7.22	1.69	0.62	50	15.71	10.58	50.00	
144	8. Copper Total		1	0.5	2.13	0	7.336	0.86	9.96	2.33	0.86	#########	19.89	14.42	1000.00	
145	9. Lead Total		1	0.5	2.13	0	1.769	0.21	2.40	0.56	0.21	50	112.47	4.38	50.00	
146	10. Mercury Total		1	0.005	2.13	0	0.0052	0.00	0.01	0.00	0.00	2	6.64	0.012	2	
147	12. Nickel Total		1	0.5	2.13	0	8.322	0.97	11.29	2.65	0.97	#########	1296.68	144.01	4600	
148	13. Selenium Total		1	5	2.13	0	5.315	0.62	7.21	1.69	0.62	10	20.00	5.00	#########	
149	14. Silver Total		1	0.5	2.13	0	0	0.00	0.00	0.00	0.00	50	2.18	#########	#########	
150	15. Thallium Total		1	0.5	2.13	0	0	0.00	0.00	0.00	0.00	#########	1400.00	#########	6.3	
151	16. Zinc Total		1	20	2.13	0	145.2	16.94	197.04	46.19	16.94	#########	159.70	145.83	#########	
152	129. Phenols, Total		1	5	2.13	0	0	0.00	0.00	0.00	0.00	#########	700.00	350.00	#########	
153	17. Cyanide Total		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	45.90	5.4	663.8	
156	**DIOXIN**															
157	18. 2-3-7-8-TCDD		1	0.00001	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.01	1.00E+07	7.10E-07	
159	**VOLATILE COMPOUNDS**															
160	19. Acrolein		1	50	2.13	0	0	0.00	0.00	0.00	0.00	#########	68	21	780	
161	20. Acrylonitrile		1	20	2.13	0	0	0.00	0.00	0.00	0.00	#########	7550	2600	6.6	
162	21. Benzene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	5	2249	1125	0.58	
163	22. Bromoform		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	2930	1465.00	3.9	
164	23. Carbon Tetrach		1	2	2.13	0	0	0.00	0.00	0.00	0.00	5	2730	1365.00	0.22	
165	24. Chlorobenzene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	250	50	2.10E+04	
166	25. Chlorodibromomethane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999	#########	340	
167	26. Chloroethane		1	50	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999	#########	1.00E+07	
168	27. 2-Chloroethylvinyl ether		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999	#########	1.00E+07	
169	28. Chloroform		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	2890	1445	5.3	
170	29. Dichlorobromomethane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999	#########	220	
171	30. 1-1-Dichloroethane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	7	9999999.00	#########	#########	
172	31. 1-2-Dichloroethane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	5	11800	5900	0.36	
173	32. 1-1-Dichlorethylene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	1160	580.00	0.05	
174	33. 1,2 Dichloropropane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	23000	5700	#########	
175	34. 1,3 Dichloropropylene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	6060	244	1700	
176	35. Ethylbenzene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	3200	1600.00	29000	
177	37. Methyl Chloride		1	50	2.13	0	0	0.00	0.00	0.00	0.00	#########	55000.00	275000.00	#########	
178	36. Methyl bromide		1	50	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	4000	
179	38. Methylene chloride		1	20	2.13	0	0	0.00	0.00	0.00	0.00	#########	19300.00	9650.00	4.4	
180	39. 1-1-2-2-Tetrachloroetha		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	932	466	0.16	
181	40. Tetrachloroethylene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	1290	645	0.65	
182	41. Toluene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	1270	635.00	6.10E+03	
183	42. 1,2-trans-dichloroethyler		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	#########	#########	
184	44. 1-1-2-Trichloroethane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	#########	1800	900	0.56	
185	43. 1-1-1-Trichloroethane		1	10	2.13	0	0	0.00	0.00	0.00	0.00	200	5280	2640.00	200.00	
186	45. Trichloroethylene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	5	3900	1950	2.8	
187	46. Vinyl Chloride		1	10	2.13	0	0	0.00	0.00	0.00	0.00	2	9999999.00	#########	0.0237	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
189	ACID COMPOUNDS															
190	47. 2-Chlorophenol		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	258	129.00	0.10	
191	48. 2-4-Dichlorphenol		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	202	101	0.30	
192	49 2-4 Dimethylphenol		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	#########	
193	50. 4,6-Dinitro-o-Cresol		1	50	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	765	
194	51. 2,4-Dinitrophenol		1	50	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	14000	
195	52.-53. Nitrophenols		1	20	2.13	0	0	0.00	0.00	0.00	0.00	########	230	150	#########	
196	54. 4 Chloro-3-methylpheno		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	30	#########	#########	
197	55. Pentachlorophenol		1	5	2.13	0	0	0.00	0.00	0.00	0.00	########	9.16	5.78	82	
198	56. Phenol		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	10200	2560	4600000	
199	57. 2-4-6-Trichlorophenol		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	65	
201						Ambient Background Conc.	Effluent Conc.	Domestic Supply	Acute Aquatic	Chronic Aquatic	Human Health	Domestic Criteria	Acute Aquatic Criteria	Chronic Aquatic Criteria	Human Health Criteria	
202	BASE/NEUTRAL COMPOUNDS				2.13	Cb	Ce	IWC	IWC	IWC	IWC	ug/l	ug/l	ug/l	ug/l	
203	58. Acenaphthene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	1700	520	#########	
204	59. Acenapthylene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	#########	
205	60. Anthracene.		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	110000	
206	61. Benzidine		1	50	2.13	0	0	0.00	0.00	0.00	0.00	########	250	125.00	8.00E-05	
207	62. Benzo(a) anthracene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	0.31	
208	63. Benzo(a) pyrene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	0.31	
209	64. 3,4-benzoflouranthene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	0.31	
210	65. Benzo(g,h,i)perylene		1	20	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	#########	
211	66. Benzo(k) fluoranthene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	0.31	
212	67. Bis(2-chloroethoxy)meth		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	#########	
213	68. Bis(2-chloroethly) Ether		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	14	
214	69. Bis(2-Chloroisopropyl) e		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	1.70E+05	
215	70. Bis(2-ethylhexyl)phthala		1	10	2.13	0	2.679	0.31	3.64	0.85	0.31	########	9999999.00	#########	59	
216	71. 4-Bromophenyl phenyl e		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	#########	
217	72. Butylbenzy phthalate		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	#########	
218	73. 2-chloronapthalene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	1600	#########	#########	
219	74. 4-chlorophenyl phenyl e		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	#########	
220	75. Chrysene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	0.31	
221	76. Dibenzo(a,h)anthracene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	0.31	
222	77-79. Dichlorobenzene(1,2		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	1120	763	2600	
223	80. 3,3' Dichlorobenzidine		1	5	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	0.77	
224	81. Diethyl Phthalate		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	1.20E+05	
225	82. Dimethyl phthalate		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	2.90E+06	
226	83. Di-n-Butyl phthalate		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	1.20E+04	
227	84. 2-4-Dinitrotoluene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	330	230	91	
228	85. 2-6-Dinitrotoluene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	#########	
229	86. Di-n-octyl phthalate		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	#########	
230	87. 1,2-diphenythydrazine		1	20	2.13	0	0	0.00	0.00	0.00	0.00	########	270	#########	5.4	
231	88. Fluoranthene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	3980	#########	370	
232	89. Fluorene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	14000	
233	90. Hexachlorobenzene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	0.00025	
234	91. Hexachlorobutadiene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	5.10	1.02	0.09	
235	92. Hexachlorocyclopentadi		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	7	5.2	1.74E+04	
236	93. Hexachloroethane		1	20	2.13	0	0	0.00	0.00	0.00	0.00	########	980	540	89	
237	Hexachlorocyclohexane		1		2.13	0	0	0.00	0.00	0.00	0.00	########	2	0.08	#########	
238	94. Indeno(1,2,3-cd)pyrene		1	5	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	0.31	
239	95. Isophorone		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	117000	#########	6000	
240	96. Naphthalene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	2300	620	#########	
241	97. Nitrobenzene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	27000	#########	1900	
242	98. N-nitrosodimethylamine		1	50	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	81	
243	99. N-nitrosodi-n-propylamir		1	20	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	#########	
244	100. N-nitrosodiphenylamin		1	20	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	160	
245	101. Phenanthrene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	#########	
246	103. 1,2,4-trichlorobenzene		1	10	2.13	0	0	0.00	0.00	0.00	0.00	########	9999999.00	#########	#########	
247																
248	PESTICIDES															
249	104. Aldrin		1	0.01	2.13	0	0	0.00	0.00	0.00	0.00	########	3.00	#########	0.00004	
250	105. Alpha-BHC		1	0.05	2.13	0	0	0.00	0.00	0.00	0.00	########	2.00	0.08	0.0373	
251	106. Beta-BHC		1	0.05	2.13	0	0	0.00	0.00	0.00	0.00	########	2.00	0.08	0.46	
252	107. Gamma-BHC		1	0.05	2.13	0	0.0492	0.01	0.07	0.02	0.01	########	5.30	0.21	0.11	
253	108. Delta-BHC		1	0.05	2.13	0	0.0319	0.00	0.04	0.01	0.00	########	2.00	0.08	#########	
254	109. Chlordane		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	########	2.40	0.0043	0.00019	
255	110. 4,4'-DDT		1	0.02	2.13	0	0	0.00	0.00	0.00	0.00	########	1.10	0.001	0.00019	
256	111. 4,4'-DDE		1	0.1	2.13	0	0	0.00	0.00	0.00	0.00	########	52.50	10.5	0.00019	
257	112. 4,4'-DDD		1	0.1	2.13	0	0	0.00	0.00	0.00	0.00	########	0.03	0.006	0.00027	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
258	113. Dieldrin		5	0.02	2.13	0	0.0035	0.00041	0.00475	0.00111	0.00041	#########	0.24	0.0557	0.00005	
259	114. Alpha-endosulfan		1	0.01	2.13	0	0.0252	0.00	0.03	0.01	0.00	#########	0.22	0.056	2	
260	115. Beta-endosulfan		1	0.02	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.22	0.056	2	
261	116. Endosulfan sulfate		1	0.1	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.22	0.056	2	
262	117. Endrin		1	0.02	2.13	0	0	0.00	0.00	0.00	0.00	0.2	0.09	0.0375	0.81	
263	118. Endrin aldehyde		1	0.1	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.18	0.0023	0.81	
264	119. Heptachlor		1	0.01	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.52	0.0038	0.00007	
265	120. Heptachlor epoxide		1	0.01	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.52	0.0038	0.0011	
266	121. PCB-1242		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
267	122. PCB-1254		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
268	123. PCB-1221		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
269	124. PCB-1232		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
270	125. PCB-1248		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
271	126. PCB-1260		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
272	127. PCB-1016		1	0.2	2.13	0	0	0.00	0.00	0.00	0.00	#########	9999999.00	0.014	0.0004	
273	128. Toxaphene		1	0.3	2.13	0	0	0.00	0.00	0.00	0.00	5	0.73	0.0002	0.00024	
274	130. Chlorpyrifos		1	0.07	2.13	0	0	0.00	0.00	0.00	0.00	#########	0.08	0.041	#########	
275																
276																
277																

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
278																
279	STEP 3:	APPLICABLE WATER QUALITY-BASED LIMITS														
280																
281																
282																
283	POLLUTANTS		Permit Daily Maximum ug/l	Permit Monthly Average ug/l	Permit Daily Maximum lb/day	Permit Monthly Average lb/day		EPA Bioac Status								
284																
285	Dieldrin		0.00284	0.00091	0.00107	0.00034		N/A								
286	Zinc Total		444.34	221.46	166.76	83.11		N/A								

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Permit Number: AR0001210
AFIN: 02-00013

AUTHORIZATION TO DISCHARGE WASTEWATER UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. §1251 et seq.),

The applicant's facility and mailing address is:

Georgia-Pacific LLC
Crossett Paper Operations
100 Mill Supply Road
Crossett, AR 71635

is authorized to discharge from a facility located as follows: west on Hwy 82 from the paper mill, go 1 mile before turning left onto Texas Ave. Go 2 miles then turn right. Proceed until you come to a T in the road, noting where the primary clarifier is located in Ashley County, Arkansas.

Latitude: 33° 08' 30"; Longitude: 91° 58' 12"

The receiving waters named:
Outfall 001: Mossy Lake, then into Coffee Creek, then into Ouachita River in Segment 2D of the Ouachita River Basin.
SMS 002: At the transition from Mossy Lake to Coffee Creek then into Ouachita River in Segment 2D of the Ouachita River Basin.

The outfalls are located at the following coordinates:

Outfall 001:	Latitude : 33° 06' 25"; Longitude: 92° 02' 16"
SMS 002:	Latitude : 33° 01' 58"; Longitude: 92° 04' 25"
Internal Outfall 101:	Latitude : 33° 08' 29.5"; Longitude: 91° 58' 25.8"
Internal Outfall 102:	Latitude : 33° 08' 29.5"; Longitude: 91° 58' 25.8"
Internal Outfall 103:	Latitude : 33° 08' 29.5"; Longitude: 91° 58' 25.8"

Discharge shall be in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit.

Issue Date:
Effective Date:
Expiration Date:

Steven L. Drown
Chief, Water Division
Arkansas Department of Environmental Quality

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PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 – process wastewater (Paper Mill, Plywood Plant, and Studmill operations), sanitary wastewater, landfill leachate, site stormwater[1], chemical plant, building products, treated effluent from the City of Crossett, truck wash and backwash wastewater.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow (MGD)	N/A	N/A	Report	Report	Daily	Totalizing Meter
Biochemical Oxygen Demand (BOD5)	24155.4	46453.0	64.4	123.8	Three/week	24-hr composite
Total Suspended Solids (TSS)	37720	70188	119.6	222.4	Three/week	24-hr composite
2,3,7,8-TCDD[4]	Report	Report	Report pg/l	Report pg/l	Once/quarter	24-hr composite
Adsorbable Organic Halogens (AOX)[2]	2193.04	3299.97	N/A	N/A	Once/day	24-hr composite
Dieldrin[5]	0.00034	0.0011	0.00091 µg/l	0.00284 µg/l	Once/month	24-hr composite
Total Recoverable Copper[5]	8.42	16.89	22.43 µg/l	45.00 µg/l	Once/month	24-hr composite
Total Recoverable Mercury[5]	0.026	0.053	0.07 µg/l	0.14 µg/l	Once/month	24-hr composite
Total Recoverable Zinc[5]	75.21	150.90	200.40 µg/l	402.09 µg/l	Once/month	24-hr composite
Total Phosphorus	Report	Report	Report	Report	Three/week	24-hr composite
Nitrates as Nitrogen	Report	Report	Report	Report	Three/week	24-hr composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	Three/week	Grab
Chronic Whole Effluent Toxicity[3]	N/A	N/A	N/A	N/A	Once/2 months	24-hr composite
Pimephales promelas (Chronic)			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Pass/Fail Growth (7-day NOEC)TGP6C			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (7-day NOEC) TOP6C			Report %		once/2 months	24-hr composite
Coefficient of Variation, Growth TQP6C			Report %		once/2 months	24-hr composite
Growth (7-day NOEC) TPP6C			Report %		once/2 months	24-hr composite
Ceriodaphnia dubia (Chronic)			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Pass/Fail production (7-day NOEC)TGP3B			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (7-day NOEC) TOP3B			Report %		once/2 months	24-hr composite
Coefficient of Variation, Reproduction TQP3B			Report %		once/2 months	24-hr composite
Reproduction (7-day NOEC) TPP3B			Report %		once/2 months	24-hr composite

1 See Condition No. 26 of Part II (BMP Requirements).
2 See Condition No. 11 of Part II (AOX Test Method).
3 See Condition No. 23 of Part II (WET Testing Requirements).
4 See Condition No. 10 of Part II (Dioxin Monitoring Requirements).
5 See Condition No. 22 of Part II (Metals and Pesticides Test Methods).

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There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the Outfall 001, following the final treatment unit (aeration basin) at Latitude : 33° 06' 25"; Longitude: 92° 02' 16" before discharge to Mossy Lake.

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PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: Stream Monitoring Station (SMS) 002 – At the Transition from Mossy Lake to Coffee Creek.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from serial number SMS 002. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements[1]	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow (MGD)	N/A	N/A	Report	Report	Daily	Totalizing Meter
Biochemical Oxygen Demand (BOD5)						
October – July	8000	12000	Report	Report	Three/week	24-hr composite
August	7262	10893	Report	Report	Three/week	24-hr composite
September	5911	8867	Report	Report	Three/week	24-hr composite
Total Suspended Solids (TSS)	18000	30000	Report	Report	Three/week	24-hr composite
Dieldrin[2]	0.00034	0.0011	0.00091 µg/l	0.00284 µg/l	Once/month	24-hr composite
Total Recoverable Copper[2]	8.42	16.89	22.43 µg/l	45.00 µg/l	Once/month	24-hr composite
Total Recoverable Mercury[2]	0.026	0.053	0.07 µg/l	0.14 µg/l	Once/month	24-hr composite
Total Recoverable Zinc[2]	75.21	150.90	200.40 µg/l	402.09 µg/l	Once/month	24-hr composite
Total Phosphorous	Report	Report	Report	Report	Three/week	24-hr composite
Nitrates as Nitrogen	Report	Report	Report	Report	Three/week	24-hr composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	Three/week	Grab

1 **When Mossy Lake is not flooded.** A flooded state is defined as the period when the gauge at the Felsenthal Lock and Dam exceeds 62 feet and also for the two weeks following the recession of flood waters below 62 feet.
2 See Condition No. 22 of Part II (Metals and Pesticides Test Methods).

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the SMS 002, after Mossy Lake and prior to Coffee Creek in the general area of the following coordinates: Latitude : 33° 01' 58"; Longitude: 92° 04' 25".

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PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: Internal Outfall 101 – Line 1A of Hardwood Effluent.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from internal Outfall 101. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (µg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow (MGD)	N/A	N/A	Report	Report	Daily	Instantaneous
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) [1]	N/A	N/A	N/A	<10 pg/l	Once/month	24-hr composite
2,3,7,8-Tetrachlorodebenzofuran (TCDF) [1]	N/A	N/A	N/A	31.9 pg/l	Once/month	24-hr composite
Trichlorosyringol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
3,4,5-Trichlorocatechol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
3,4,6-Trichlorocatechol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
3,4,5-Trichloroguaiacol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
3,4,6-Trichloroguaiacol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
4,5,6-Trichloroguaiacol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
2,4,5-Trichlorophenol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
2,4,6-Trichlorophenol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
Tetrachlorocatechol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
Tetrachloroguaiacol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
2,3,4,6-Tetrachlorophenol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
Pentachlorophenol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
pH of 1st ClO_2 Bleaching Stage	N/A	N/A	1.86 s.u., minimum		Once/day	Grab[4]
Kappa Factor of 1st ClO_2 Bleaching Stage[2]	N/A	N/A	N/A	0.45[5]	Once/day	Grab[4]
Total Bleach Line ClO_2 Application Rate[3]	N/A	N/A	N/A	134.2 lb per ton of pulp	Once/day	Totalizing Meter

1 See Condition No. 11 of Part II (Test Method Requirements).
2 See Condition No. 17 of Part II (Definition of Kappa Factor).
3 See Condition Nos. 18 and 19 of Part II (ClO_2 Application Rate).
4 Permittee may monitor these parameters via probe or grab sample.
5 Unitless ratio.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with monitoring requirements specified above shall be taken at the following location(s): internal outfall 101 (Line 1A – Hardwood) at Latitude : 33° 08' 29.5"; Longitude: 91° 58' 25.8" and prior to commingling with other waste streams.

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PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: Internal Outfall 102 – Line 1B of Hardwood Effluent.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from internal Outfall 102. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (µg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow (MGD)+	N/A	N/A	Report	Report	Daily	Instantaneous
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) [1]	N/A	N/A	N/A	<10 pg/l	Once/month	24-hr composite
2,3,7,8-Tetrachlorodebenzofuran (TCDF) [1]	N/A	N/A	N/A	31.9 pg/l	Once/month	24-hr composite
Trichlorosyringol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
3,4,5-Trichlorocatechol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
3,4,6-Trichlorocatechol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
3,4,5-Trichloroguaiacol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
3,4,6-Trichloroguaiacol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
4,5,6-Trichloroguaiacol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
2,4,5-Trichlorophenol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
2,4,6-Trichlorophenol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
Tetrachlorocatechol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
Tetrachloroguaiacol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
2,3,4,6-Tetrachlorophenol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
Pentachlorophenol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
pH of 1st ClO_2 Bleaching Stage	N/A	N/A	1.76 s.u., minimum		Once/day	Grab[4]
Kappa Factor of 1st ClO_2 Bleaching Stage[2]	N/A	N/A	N/A	0.42[5]	Once/day	Grab[4]
Total Bleach Line ClO_2 Application Rate[3]	N/A	N/A	N/A	128.2 lb per ton of pulp	Once/day	Totalizing Meter

1 See Condition No. 11 of Part II (Test Method Requirements).
2 See Condition No. 17 of Part II (Definition of Kappa Factor).
3 See Condition Nos. 18 and 19 of Part II (ClO_2 Application Rate).
4 Permittee may monitor these parameters via probe or grab sample.
5 Unitless ratio.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with monitoring requirements specified above shall be taken at the following location(s): internal outfall 102 (Line 1B – Hardwood) at Latitude : 33° 08' 29.5"; Longitude: 91° 58' 25.8"and prior to commingling with other waste streams.

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PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: Internal Outfall 103 – Line 2 of Softwood Effluent.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from internal Outfall 103. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (µg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow (MGD)+	N/A	N/A	Report	Report	Daily	Instantaneous
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) [1]	N/A	N/A	N/A	<10 pg/l	Once/month	24-hr composite
2,3,7,8-Tetrachlorodebenzofuran (TCDF) [1]	N/A	N/A	N/A	31.9 pg/l	Once/month	24-hr composite
Trichlorosyringol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
3,4,5-Trichlorocatechol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
3,4,6-Trichlorocatechol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
3,4,5-Trichloroguaiacol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
3,4,6-Trichloroguaiacol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
4,5,6-Trichloroguaiacol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
2,4,5-Trichlorophenol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
2,4,6-Trichlorophenol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
Tetrachlorocatechol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
Tetrachloroguaiacol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
2,3,4,6-Tetrachlorophenol[1]	N/A	N/A	N/A	<2.5	Once/month	24-hr composite
Pentachlorophenol[1]	N/A	N/A	N/A	<5.0	Once/month	24-hr composite
pH of 1st ClO_2 Bleaching Stage	N/A	N/A	1.28 s.u., minimum		Once/day	Grab[4]
Kappa Factor of 1st ClO_2 Bleaching Stage[2]	N/A	N/A	N/A	0.57[5]	Once/day	Grab[4]
Total Bleach Line ClO_2 Application Rate[3]	N/A	N/A	N/A	185.8 lb per ton of pulp	Once/day	Totalizing Meter

1 See Condition No. 11 of Part II (Test Method Requirements).
2 See Condition No. 17 of Part II (Definition of Kappa Factor).
3 See Condition Nos. 18 and 19 of Part II (ClO_2 Application Rate).
4 Permittee may monitor these parameters via probe or grab sample.
5 Unitless ratio.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with monitoring requirements specified above shall be taken at the following location(s): internal outfall 103 (Line 2 – Softwood) at Latitude : 33° 08' 29.5"; Longitude: 91° 58' 25.8" and prior to commingling with other waste streams.

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SECTION B. PERMIT COMPLIANCE

The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

Compliance is required on the effective date of the permit except as outlined below in Item #3.

1. The report required by Condition No. 12 of Part II of this permit shall be submitted no later than May 31 of each year.

2. The permittee must conduct the fish tissue analysis required by Condition No. 14 of Part II of the permit during the third year of the permit cycle. The results must be submitted within 30 days of the completion of the sampling and analyses.

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PART II
OTHER CONDITIONS

1. The operator of this wastewater treatment facility shall hold an Advanced Industrial license from the State of Arkansas in accordance with Act 1103 of 1991, Act 556 of 1993, Act 211 of 1971, and Regulation No. 3, as amended.

2. In accordance with 40 CFR Parts 122.62 (a)(2) and 124.5, this permit may be reopened for modification or revocation and/or reissuance to require additional monitoring and/or effluent limitations when new information is received that actual or potential exceedance of State water quality criteria and/or narrative criteria are determined to be the result of the permittee's discharge(s) to a relevant water body, or a Total Maximum Daily Load (TMDL) is established or revised for the water body that was not available at the time of the permit issuance that would have justified the application of different permit conditions at the time of permit issuance.

3. Other Specified Monitoring Requirements

   The permittee may use alternative appropriate monitoring methods and analytical instruments other than as specified in Part I Section A of the permit without a major permit modification under the following conditions:

   - The monitoring and analytical instruments are consistent with accepted scientific practices;
   - The requests shall be submitted in writing to the Permits Section of the ADEQ Water Division for use of the alternate method or instrument.
   - The method and/or instrument is in compliance with 40 CFR Part 136 or approved by the Director; and
   - All associated devices are installed, calibrated and maintained to insure the accuracy of the measurements and are consistent with the accepted capability of that type of device. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

   Upon written approval of the alternative monitoring method and/or analytical instruments, these methods or instruments must be consistently utilized throughout the monitoring period. ADEQ must be notified in writing and the permittee must receive written approval from ADEQ if the permittee decides to return to the original permit monitoring requirements.

4. The permittee has certified no chlorophenolic biocides are currently used. Any anticipated use of these biocides will require notification to ADEQ as specified in 40 CFR 122.61(a).

5. The Department has an MSDS on file for the nutrient blend (MacroGro GPC-30 Wastewater Nutrient Blend) which lists the Nitrogen content as 15 – 27% as N by weight and the Phosphorous content as 3 – 15% as P_2O_5 by weight. The permittee must receive written permission from the Department prior to changing the nutrient blend added to the treatment process for biological activity if the change causes the Nitrogen or Phosphorous to be outside of the listed range.

6. In accordance with 40 CFR 429.11(c), the term "process wastewater" specifically excludes non-contact cooling water, material storage yard runoff (either raw material or processed wood storage), boiler blowdown, and wastewater from washout of thermal oxidizers or catalytic oxidizers, wastewater from biofilters, or wastewaters from wet electrostatic precipitators used upstream of thermal oxidizers or catalytic oxidizers installed by facilities covered by subparts B, C, D, or M to comply with the national emissions standards for hazardous air pollutants (NESHAP) for plywood and composite wood products (PCWP) facilities (40 CFR Part 63, subpart DDDD). For the dry process hardboard, veneer, finishing, particleboard, and sawmills and planing mills subcategories, fire control water is excluded from the definition. This condition is applicable only to the plywood and the sawmill facilities.

7. The permittee has certified zinc hydrosulfite is not used in the bleaching process. Any anticipated use of zinc hydrosulfite will require notification to ADEQ as specified in 40 CFR 122.61(a).

8. Dioxin Monitoring Requirements

   For compliance purposes, the minimum quantification levels (MQLs) listed below or lower detection levels (DL) shall be used for monthly average and daily maximum effluent concentrations, as applicable, for listed pollutants. Test results which are less than the respective MQL or DL may be reported as 'zero'.

Pollutant	EPA Method	ML (μg/l)
2,3,7,8 - TCDD	1613 or latest	0.00001 or lower

9. In accordance with 40 CFR 430.01(i) the following EPA Methods must be utilized when testing bleach plant effluent as specified for Internal Outfalls 101,102, and 103.

Pollutant	EPA Method
2,3,7,8-TCDD	1613
2,3,7,8-TCDF	1613
Trichlorosyringol	1653

Pollutant	EPA Method
3,4,5-Trichlorocatechol	1653
3,4,6-Trichlorocatechol	1653
3,4,6-Trichloroguaiacol	1653
4,5,6-Trichloroguaiacol	1653
2,4,5-Trichlorophenol	1653
Tetrachlorocatechol	1653
Tetarachloroguaiacol	1653
2,3,4,6-Tetrachlorophenol	1653
Pentachlorophenol	1653
AOX	1650

10. Specific Conditions Related to Best Management Practices Conditions

Within 30 days after permit issuance, the Permittee shall submit a report indicating compliance with items having deadlines prior to permit issuance in accordance with 40 CFR 430.03(j).

The Permittee shall make the BMP Plan available at the facility for inspection by a representative of the ADEQ. The BMP Plan must contain all information outlined in 40 CFR 430.03(d).

No later than May 31 of each year, the Permittee shall submit a report to the ADEQ indicating the BMP monitoring results, action level exceedances and corrective actions taken to respond to any exceedances. Exceedances are not violations of the permit. Failure to take appropriate action as soon as practicable is a permit violation. This report must contain all of the information outlined in 40 CFR 430.03(i)(4). The time frame to be covered by the report is the previous calendar year.

The Permittee shall maintain the records specified in 40 CFR 430.03(g) for a minimum of three years.

11. Permit Conditions for Accepting City of Crossett Wastewater

Georgia-Pacific and the City of Crossett must maintain the agreement for the discharge of the City's treated effluent into G-P's wastewater treatment system. The agreement must continue to state that the City will have a Pretreatment Program meeting applicable parts of 40 CFR 403, and the agreement will establish treatment standards for BOD_5 and TSS for the City's treated effluent that are submitted to and approved by the ADEQ. The agreement must also continue to address the notifications that the City must provide to G-P and the ADEQ in the event of potential changes in its discharge due to new significant dischargers, or changes in their wastewater characteristics. The agreement with the City of Crossett must continue to stipulate that monitoring records of the City's flow, BOD_5 and TSS will be maintained by the city for a minimum of three years to ascertain compliance with the Agreement.

12. Fish Tissue Analysis Condition

The permittee shall continue to assess the levels of 2,3,7,8 TCDD in ambient fish tissue in the receiving stream.

A. Stations:

(Outfall) - Between the confluence of Coffee Creek & the Ouachita River and the Louisiana state line

(Background) - Upstream of Felsenthal Lock and Dam

B. Species of fish to collect

The facility shall collect a minimum of three predator species and a minimum of three bottom feeder species from each station. Any combination of the following is acceptable.

Buffalo, Blue catfish, Flathead catfish, Crappie, or Bass

C. Sampling time

Sampling is allowed at any time during the year. Monitoring results shall be submitted on an annual basis to the ADEQ within 30 days of the completion of sampling and analysis.

D. Test Frequency

Testing shall be done once during the permit cycle. This testing must be conducted during the third year of the permit cycle. The Department reserves the right to require more additional tests if the testing yields greater than 5.33 ppt of 2,3,7,8 TCDD. This is required only at the Outfall station.

E. Method of Analysis

Edible fish fillet samples shall be analyzed and reported for 2,3,7,8 TCDD. The method of analysis shall be in accordance with the latest approved procedure of Method 1613.

13. General Condition for Plant Operations

In addition to the normal wastewater discharge, this NPDES permit authorizes discharges associated with or resulting during essential maintenance, regularly scheduled maintenance, during startup and shutdown, spills and release (whether anticipated or unanticipated) from anywhere in the permitted facility, as long as they are amenable to treatment, routed to the plant's wastewater treatment system and effluent limitations are met. In addition, discharges that are necessary to prevent loss of life, personal injury or severe property damage, as long as there are no feasible alternatives available, are also authorized by this permit, so long as effluent limitations are met.

14. The permittee must continue to use no elemental chlorine on any of the bleaching lines. This requirement is based on 40 CFR 430.02(f)(4).

15. In accordance with 40 CFR 430.02(f)(7)(i), kappa factor is the ratio of available chlorine (total equivalent chlorine, as percent on oven dry pulp) to the kappa number of the pulp. Kappa number is the lignin content of pulp, as measured by a modified permanganate test corrected to 50 percent consumption of the chemical.

16. In accordance with 40 CFR 430.02(f)(7)(ii), the total bleach line chlorine dioxide application rate is the mass of chlorine dioxide applied in all stages of the bleach line per mass of unbleached pulp (i.e., lb/ton or kg/kkg).

17. In accordance with 40 CFR 430.02(f)(7)(iii), chlorine containing compounds are compounds containing chlorine used in the bleach plant for bleaching, brightening, or whitening, or viscosity control. These compounds include, but are not limited to, chlorine (Cl_2), sodium hypochlorite (NaOCl), chlorine dioxide (ClO_2), and chlorine monoxide (Cl_2O).

18. In accordance with 40 CFR 430.02(f)(6)(i), if for any reason (e.g., intentionally or due to process upset) the permittee fails to maintain process and operating conditions at values equal to or less than the maximum value recorded under paragraphs (f)(2)(ii) or (f)(3)(ii)of this section for each condition, the permittee will be in violation of the applicable chloroform limitation or standard unless:

a. Within 30 days, the permittee notifies the Department in writing of the exceedance; and
b. The permittee demonstrates compliance with the applicable chloroform limitation or standard by immediately monitoring the bleach plant effluent for chloroform at a frequency

similar to that required in paragraph (a) of this section and for a duration determined by the Department. (once per week for four weeks)

19. In accordance with 40 CFR 430.02(f)(6)(ii), in order to continue the exemption from the minimum monitoring requirements of this section for chloroform, the permittee must meet the requirements of paragraph (f)(6)(i) (condition no. 19 above) and recertify that the fiber line process and operating conditions do not exceed the maximum value recorded paragraphs (f)(2)(ii) or (f)(3)(ii) of this section for each of the parameters identified in those paragraphs.

20. The permittee may use any EPA approved method based on 40 CFR Part 136 provided the MQL for the chosen method is equal to or less than what has been specified in chart below:

Pollutant	MQL (μg/l)
Total Recoverable Copper	0.5
Total Recoverable Mercury	0.005
Total Recoverable Zinc	20
Dieldrin	0.02

The permittee may develop a matrix specific method detection limit (MDL) in accordance with Appendix B of 40 CFR Part 136. For any pollutant for which the permittee determines a site specific MDL, the permittee shall send to ADEQ, NPDES Permits Branch, a report containing QA/QC documentation, analytical results, and calculations necessary to demonstrate that a site specific MDL was correctly calculated. A site specific minimum quantification level (MQL) shall be determined in accordance with the following calculation:

MQL = 3.3 X MDL

Upon written approval by Permits Branch, the site specific MQL may be utilized by the permittee for all future Discharge Monitoring Report (DMR) calculations and reporting requirements.

21. WHOLE EFFLUENT TOXICITY LIMITS (7-DAY CHRONIC NOEC FRESHWATER)

1. SCOPE AND METHODOLOGY

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO FINAL OUTFALL(S): 001

REPORTED ON DMR AS FINAL OUTFALL: 001

CRITICAL DILUTION (%): 80%

EFFLUENT DILUTION SERIES (%): 25%, 34%, 45%, 60%, & 80%

TESTING FREQUENCY: once/2 months

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA-821-R-02-013, or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

b. The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.

c. This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

2. PERSISTENT LETHAL and/or SUB-LETHAL EFFECTS

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal and/or sub-lethal effects at or below the critical dilution. The purpose of additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result.

If any valid test demonstrates significant lethal or sub-lethal effects to a test species at or below the critical dilution, the frequency of testing for that species is automatically increased to once per quarter for the life of the permit. In addition:

a. Part I Testing Frequency Other Than Monthly

i. The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant toxic effects at or below the critical dilution. The additional tests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.

ii. IF LETHAL EFFECTS HAVE BEEN DEMONSTRATED If any of the additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may also be required due to a demonstration of-intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests. A TRE required based on lethal effects should consider any sub-lethal effects as well.

iii. IF SUB-LETHAL EFFECTS ONLY HAVE BEEN DEMONSTRATED If any two of the three additional tests demonstrates significant sub-lethal effects at 75% effluent or lower, the permittee shall initiate the Sub-Lethal Toxicity Reduction Evaluation (TRE_{SL}) requirements as specified in Item 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required for failure to perform the required retests.

iv. The provisions of Item 2.a.i. are suspended upon submittal of the TRE Action Plan.

b. Part I Testing Frequency of Monthly

The permittee shall initiate the Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section when any two of three consecutive monthly toxicity tests exhibit significant toxic effects at or below the critical dilution. A TRE may also be required due to a demonstration of intermittent lethal and/or sub-lethal effects at or below the critical dilution, or for failure to perform the required retests.

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

i. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.

ii. The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.

iii. 60% of the surviving control females must produce three broods. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.

iv. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test.

v. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or sub-lethal effects are exhibited for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test.

vi. If a test passes, yet the percent coefficient of variation between replicates is greater than 40% in the control (0% effluent) and/or in the critical dilution for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test, the test is determined to be invalid. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

vii. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.

viii. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for Ceriodaphnia dubia reproduction;

ix. A PMSD range of 12 - 30 for Fathead minnow growth.

b. Statistical Interpretation

i. For the Ceriodaphnia dubia survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA/821/R-02-013 or the most recent update thereof.

ii. For the Ceriodaphnia dubia reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA/821/R-02-013 or the most recent update thereof.

iii. If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

c. Dilution Water

i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for:

(A) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and

(B) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

(A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

(B) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 below; and

(D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above. Unless otherwise stated in this section, a composite sample for WET shall consist of 12 subsamples gathered at equal time intervals during a 24-hour period.

ii. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples, on use, are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis.

iii. The permittee must collect all three flow-weighted composite samples within the monitoring period. Second and/or third composite samples shall not be collected into the next monitoring period; such tests will be determined to be invalid. Monitoring period definitions are listed in Part IV.

iv. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to 6 degrees Centigrade during collection, shipping, and/or storage.

v. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 4 of this section.

vi. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in item 1.a. above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

vii. The permittee shall not allow the sample to be dechlorinated at the laboratory. At the time of sample collection the permittee shall measure the TRC of the effluent. The measured concentration of TRC for each sample shall be included in the lab report submitted by the permittee.

4. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA/821/R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.7 of this permit. The permittee shall submit full reports. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

b. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of WET test data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST lethal and sub-lethal effects results for each species during the reporting period. The full reports for all invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for Agency review.

c. The permittee shall submit the results of each valid toxicity test on the subsequent monthly DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. Pimephales promelas (Fathead minnow)

(A) If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP6C

(B) Report the NOEC value for survival, Parameter No. TOP6C

(C) Report the NOEC value for growth, Parameter No. TPP6C

(D) If the NOEC for growth is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP6C

(E) Report the highest (critical dilution or control) Coefficient of Variation for growth, Parameter No. TQP6C

ii. Ceriodaphnia dubia

(A) If the NOEC for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0'C for Parameter No. TLP3B

(B) Report the NOEC value for survival, Parameter No. TOP3B

(C) Report the NOEC value for reproduction, Parameter No. TPP3B

(D) If the NOEC for reproduction is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP3B

(E) Report the higher (critical dilution or control) Coefficient of Variation for reproduction, Parameter No. TQP3B

5. TOXICITY REDUCTION EVALUATIONS (TREs)

TREs for lethal and sub-lethal effects are performed in a very similar manner. EPA Region 6 is currently addressing TREs as follows: a sub-lethal TRE (TRE_{SL}) is triggered based on three sub-lethal test failures while a lethal effects TRE (TRE_L) is triggered based on only two test failures for lethality. In addition, EPA Region 6 will consider the magnitude of toxicity and use flexibility when considering a TRE_{SL} where there are no effects at effluent dilutions of less than 76% effluent.

a. Within ninety (90) days of confirming persistent toxicity, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The goal of the TRE is to maximally reduce the toxic effects of effluent at the critical dilution and includes the following:

i. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures' (EPA-600/6-91/003) and 'Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I' (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity'ç (EPA/600/R-92/080) and 'Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (703) 487-4650, or by writing:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

ii. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and

confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;

Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where lethality was demonstrated within 48 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

iii. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and

iv. Project Organization (e.g., project staff, project manager, consulting services, etc.).

c. The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal. The permittee shall assume all risks for failure to achieve the required toxicity reduction.

d. The permittee shall submit a quarterly TRE Activities Report, with the Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:

i. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

ii. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and

iii. any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at the critical dilution.

A copy of the TRE Activities Report shall also be submitted to the state agency.

e. The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming toxicity in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant toxicity at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.

A copy of the Final Report on Toxicity Reduction Evaluation Activities shall also be submitted to the state agency.

f. Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).

6. MONITORING FREQUENCY REDUCTION

a. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters or first twelve consecutive months (in accordance with Item 1.a.) of testing for one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the Fathead minnow) and not less than twice per year for the more sensitive test species (usually the Ceriodaphnia dubia).

b. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item 3.a. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance System section to update the permit reporting requirements.

c. SUB-LETHAL OR SURVIVAL FAILURES - If any test fails the survival or sub-lethal endpoint at any time during the life of this permit, three monthly retests are required and the monitoring frequency for the affected test species shall be increased to once per quarter until the permit is re-issued. Monthly retesting is not required if the permittee is performing a TRE.

Any monitoring frequency reduction granted applies only until the expiration date of this permit, at which time the monitoring frequency for both test species reverts to once per quarter until the permit is re-issued.

24. The NPDES permit is issued to the Consumer Products and Paper (CP&P) mill. Should company divestitures split the CP&P mill from the Building Products (BP) facilities in the complex (Chemical plant, Stud mill and Plywood plant) then the NPDES permit will remain with the CP&P mill. The CP&P mill, as permit holder, will enter into and maintain an

agreement with the BP facilities for the discharge of the BP facilities' effluent into the wastewater treatment system. The agreement will state that the Chemical plant, the Stud mill and Plywood plant will meet the applicable wastewater requirements of Arkansas DEQ regulations. The agreement will also establish monitoring requirements for parameters in the BP facilities' effluent. The agreement will also address the notifications that the BP facilities must provide to CP&P and the ADEQ in the event of potential changes in its discharge due to new significant dischargers, or changes in their wastewater characteristics.

25. The Agreement with the BP facilities will stipulate that monitoring records will be maintained for a minimum of three years to ascertain compliance with the Agreement.

26. Stormwater runoff commingling with other process waster discharged from Outfall 001 shall be managed in accordance with the Best Management Practices (BMPs) in the form of a stormwater pollution prevention plan (SWPPP) to control the quality of stormwater discharges associated with industrial activity that are authorized by this permit. Use of BMPs in lieu of numeric effluent limitations in NPDES permits is authorized under 40 CFR 122.44(k) when the Permitting Authority finds numeric effluent limitations to be infeasible to carry out the purposes of the Clean Water Act.

27. If the permittee can demonstrate through more sensitive analyses that the discharge does not have the potential to exceed state water quality standards-based effluent limits, the more stringent state water quality numerical standard-based effluent limit(s), monitoring requirements, and the schedule of compliance will be deleted in the final permit. Such new information must be submitted prior to the end of the public comment period. This condition applies only to Dieldrin.

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PART III
STANDARD CONDITIONS

SECTION A – GENERAL CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Water Act and the Arkansas Water and Air Pollution Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; and/or for denial of a permit renewal application. **Any values reported in the required Discharge Monitoring Report (DMR) which are in excess of an effluent limitation specified in Part I shall constitute evidence of violation of such effluent limitation and of this permit.**

2. Penalties for Violations of Permit Conditions

The Arkansas Water and Air Pollution Control Act provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a fine of not more than twenty-five thousand dollars ($25,000) or by both such fine and imprisonment for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to civil penalty in such amount as the court shall find appropriate, not to exceed ten thousand dollars ($10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.

3. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to the following:

a. Violation of any terms or conditions of this permit; or
b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
c. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
d. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.
e. Failure of the permittee to comply with the provisions of APCEC Regulation No. 9 (Permit fees) as required by Part III.A.10. herein.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

4. Toxic Pollutants

Notwithstanding Part III.A.3., if any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under APCEC Regulation No. 2, as amended, or Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitations on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standards or prohibition and the permittee so notified.

The permittee shall comply with effluent standards, narrative criteria, or prohibitions established under APCEC Regulation No. 2, as amended, or Section 307 (a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Civil and Criminal Liability

Except as provided in permit conditions on "Bypassing" (Part III.B.4.a.), and "Upsets" (Part III.B.5.b), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state and federal statues or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

6. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

7. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.

8. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

9. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Permit Fees

The permittee shall comply with all applicable permit fee requirements for wastewater discharge permits as described in APCEC Regulation No. 9 (Regulation for the Fee System for Environmental Permits). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to terminate this permit under the provisions of 40 CFR Parts 122.64 and 124.5 (d), as adopted in APCEC Regulation No. 6 and the provisions of APCEC Regulation No. 8.

SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

b. The permittee shall provide an adequate operating staff which is duly qualified to carryout operation, maintenance, and testing functions required to insure compliance with the conditions of this permit.

2. Need to Halt or Reduce not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power for the treatment facility is reduced, is lost, or alternate power supply fails.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment or the water receiving the discharge.

4. Bypass of Treatment Facilities

a. Bypass not exceeding limitation

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts II.B.4.b. and 4.c.

b. Notice

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
(2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part III.D.6. (24-hour notice).

c. Prohibition of bypass

(1) Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless:

(a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal or preventive maintenance; and

(c) The permittee submitted notices as required by Part III.B.4.b.

(2) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in Part III.B.4.c.(1).

5. Upset Conditions

a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Part III.B.5.b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
b. Conditions necessary for demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
   (1) An upset occurred and that the permittee can identify the specific cause(s) of the upset;
   (2) The permitted facility was at the time being properly operated.
   (3) The permittee submitted notice of the upset as required by Part III.D.6.; and
   (4) The permittee complied with any remedial measures required by Part III.B.3.
c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of waste waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the waters of the State. Written approval must be obtained from the ADEQ for land application only.

7. Power Failure

The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failure either by means of alternate power sources, standby generators, or retention of inadequately treated effluent.

SECTION C – MONITORING AND RECORDS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director. Intermittent discharges shall be monitored.

2. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than +/- 10% from true discharge rates throughout the range of expected discharge volumes and shall be installed at the monitoring point of the discharge.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals frequent enough to insure accuracy of measurements and shall insure that both calibration and maintenance activities will be conducted. An adequate analytical quality control program, including the analysis of sufficient standards, spikes, and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory. At a minimum, spikes and duplicate samples are to be analyzed on 10% of the samples.

4. Penalties for Tampering

The Arkansas Water and Air Pollution Control Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than ten thousand dollars ($10,000) or by both such fine and imprisonment.

5. Reporting of Monitoring Results

Monitoring results must be reported on a Discharge Monitoring Report (DMR) form (EPA No. 3320-1 or other approved Form by ADEQ). Permittees are required to use preprinted DMR forms provided by ADEQ, unless specific written authorization to use other reporting forms is obtained from ADEQ. Monitoring results obtained during the previous calendar month shall be summarized and reported on a DMR form postmarked no later than the 25th day of the month following the completed reporting period to begin on the effective date of the permit. Duplicate copies of DMR forms signed and certified as required by Part III.D.11. and all other reports required by Part III.D., shall be submitted to the Director at the following address:

Permits Enforcement Branch
Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

If permittee uses outside laboratory facilities for sampling and/or analysis, the name and address of the contract laboratory shall be included on the DMR.

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated on the DMR.

7. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

8. Record Contents

Records and monitoring information shall include:

a. The date, exact place, time and methods of sampling or measurements, and preservatives used, if any;
b. The individuals(s) who performed the sampling or measurements;

c. The date(s) and time analyses were performed;
d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The measurements and results of such analyses.

9. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
d. Sample, inspect, or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION D – REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall give notice and provide plans and specification to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility. Notice is required only when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR Part 122.29(b).
b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR Part 122.42 (a)(1).

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

The permit is nontransferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

4. Monitoring Reports

Monitoring results shall be reported at the intervals and in the form specified in Part III.C.5. **Discharge Monitoring Reports must be submitted even when no discharge occurs during the reporting period.**

5. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

6. Twenty-four Hour Report

a. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the following information:
   (1) a description of the noncompliance and its cause;
   (2) the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
   (3) steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

b. The following shall be included as information which must be reported within 24 hours:
   (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;
   (2) Any upset which exceeds any effluent limitation in the permit and
   (3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part I of the permit to be reported within 24 hours to the Enforcement Section of the Water Division of the ADEQ.

c. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours to the Enforcement Section of the Water Division of the ADEQ.

7. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under Parts II.D.4., 5., and 6., at the time monitoring reports are submitted. The reports shall contain the information listed at Part III.D.6.

8. Changes in Discharge of Toxic Substances for Industrial Dischargers

The permittee shall notify the Director as soon as he/she knows or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 CFR Part 122.42(a)(1); or
b. That any activity has occurred or will occur which would result in any discharge on a non-routine or infrequent basis of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 CFR Part 122.42(a)(2).

9. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit. Information shall be submitted in the form, manner and time frame requested by the Director.

10. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The complete application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated in APCEC Regulation No. 6.

11. Signatory Requirements

All applications, reports, or information submitted to the Director shall be signed and certified as follows:

a. All **permit applications** shall be signed as follows:

(1) For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
(i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
(ii) The manager of one or more manufacturing, production, or operation facilities, provided: the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
(2) For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or
(3) For a municipality, State, Federal, or other public agency, by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
(i) The chief executive officer of the agency, or
(ii) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

b. All **reports** required by the permit and **other information** requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
(1) The authorization is made in writing by a person described above.
(2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
(3) The written authorization is submitted to the Director.

c. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

12. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2 and APCEC Regulation No. 6, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department of Environmental Quality. As required by the Regulations, the name and address of any permit applicant or permittee, permit applications, permits, and effluent data shall not be considered confidential.

13. Penalties for Falsification of Reports

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties specified in Part III.A.2. and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

PART IV
DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act shall apply to this permit and are incorporated herein by reference. Additional definitions of words or phrases used in this permit are as follows:

1. **"Act"** means the Clean Water Act, Public Law 95-217 (33.U.S.C. 1251 et seq.) as amended.
2. **"Administrator"** means the Administrator of the U.S. Environmental Protection Agency.
3. **"Applicable effluent standards and limitations"** means all State and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards of performance, toxic effluent standards and prohibitions, and pretreatment standards.
4. **"Applicable water quality standards"** means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303(a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under (APCEC) Regulation No. 2, as amended.
5. **"Bypass"** means the intentional diversion of waste streams from any portion of a treatment facility.
6. **"Daily Discharge"** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. *Mass Calculations:* For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of pollutant discharged over the sampling day. *Concentration Calculations*: For pollutants with limitations expressed in other units of measurement, determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during that sampling day by using the following formula: where C= daily concentration, F=daily flow and n=number of daily samples

$$\frac{C_1F_1 + C_2F_2 + \cdots + C_nF_n}{F_1 + F_2 + \cdots + F_n}$$

7. **"Monthly average"** means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. For Fecal Coliform Bacteria (FCB) report the monthly average (see 30-day average below).

8. **"Daily Maximum"** discharge limitation means the highest allowable "daily discharge" during the calendar month. The daily average for Fecal Coliform Bacteria (FCB) is the geometric mean of the values of all effluent samples collected during the day in colonies per 100 ml.
9. **"Department"** means the Arkansas Department of Environmental Quality (**ADEQ**).
10. **"Director"** means the Administrator of the U.S. Environmental Protection Agency and/or the Director of the Arkansas Department of Environmental Quality.
11. **"Grab sample"** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
12. **"Industrial User"** means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
13. **"National Pollutant Discharge Elimination System"** means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements under Sections 307, 402, 318, and 405 of the Clean Water Act.
14. **"POTW"** means a Publicly Owned Treatment Works.
15. **"Severe property damage"** means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in products.
16. **"APCEC"** means the Arkansas Pollution Control and Ecology Commission.
17. **"Sewage sludge"** means the solids, residues, and precipitate separated from or created in sewage by the unit processes at a POTW. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and stormwater runoff that are discharged to or otherwise enter a POTW.
18. **"7-day average"** discharge limitation, other than for Fecal Coliform Bacteria (FCB), is the highest allowable arithmetic mean of the values for all effluent samples collected during the calendar week. The 7-day average for Fecal Coliform Bacteria (FCB) is the geometric mean of the values of all effluent samples collected during the calendar week in colonies/100 ml. The Discharge Monitoring Report should report the highest 7-day average obtained during the calendar month. For reporting purposes, the 7-day average values should be reported as occurring in the month in which the Saturday of the calendar week falls in.
19. **"30-day average"**, other than for Fecal Coliform Bacteria (FCB), is the arithmetic mean of the daily values for all effluent samples collected during a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. The 30-day average for Fecal Coliform Bacteria (FCB) is the geometric mean of the values for all effluent samples collected during a calendar month. For Fecal Coliform Bacteria (FCB), report the monthly average as a 30-day geometric mean in colonies per 100 ml.

20. **"24-hour composite sample"** consists of a minimum of 12 effluent portions collected at equal time intervals over the 24-hour period and combined proportional to flow or a sample collected at frequent intervals proportional to flow over the 24-hour period.
21. **"12-hour composite sample"** consists of 12 effluent portions, collected no closer together than one hour and composited according to flow or a sample collected at frequent intervals proportional to flow over the 12-hour period.
22. **"6-hour composite sample"** consists of six effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) and composited according to flow or a sample collected at frequent intervals proportional to flow over the 6-hour period.
23. **"3-hour composite sample"** consists of three effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) and composited according to flow or a sample collected at frequent intervals proportional to flow over the 3-hour period.
24. **"Treatment works"** means any devices and systems used in storage, treatment, recycling, and reclamation of municipal sewage and industrial wastes, of a liquid nature to implement section 201 of the Act, or necessary to recycle reuse water at the most economic cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities, and any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment.
25. **"Upset"** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. Any upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or careless of improper operations.
26. **"For Fecal Coliform Bacteria (FCB)"**, a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For Fecal Coliform Bacteria (FCB) report the monthly average as a 30-day geometric mean in colonies per 100 ml.
27. **"Dissolved oxygen limit"**, shall be defined as follows:
    a. When limited in the permit as a monthly average minimum, shall mean the lowest acceptable monthly average value, determined by averaging all samples taken during the calendar month;
    b. When limited in the permit as an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
28. **The term "MGD"** shall mean million gallons per day.
29. **The term "mg/l "**shall mean milligrams per liter or parts per million (ppm).
30. **The term "µg/l"** shall mean micrograms per liter or parts per billion (ppb).
31. **The term "cfs"** shall mean cubic feet per second.
32. **The term "ppm"** shall mean parts per million.
33. **The term "s.u."** shall mean standard units.

34. **The term "Instantaneous Maximum"** when limited in the permit as an instantaneous maximum value, shall mean that no value measured during the reporting period may fall above the stated value.

35. **Monitoring and Reporting:**
When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is monthly or more frequently, the Discharge Monitoring Report (DMR) shall be submitted by the 25th of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the DMR shall be submitted by the 25th of the month following the monitoring period end date.

MONTHLY:
is defined as a calendar month or any portion of a calendar month for monitoring requirement frequency of once/month or more frequently.

QUARTERLY:
(1) is defined as a fixed calendar quarter or any part of the fixed calendar quarter for a non-seasonal effluent characteristic with a measurement frequency of once/quarter. Fixed calendar quarters are: January through March, April through June, July through September, and October through December; or
(2) is defined as a fixed three month period (or any part of the fixed three month period) of or dependent upon the seasons specified in the permit for a seasonal effluent characteristic with a monitoring requirement frequency of once/quarter that does not coincide with the fixed calendar quarter. Seasonal calendar quarters are: May through July, August through October, November through January, and February through April.

SEMI-ANNUAL:
is defined as the fixed time periods January through June, and July through December (or any portion thereof) for an effluent characteristic with a measurement frequency of once/6 months or twice/year.

ANNUAL or YEARLY:
is defined as a fixed calendar year or any portion of the fixed calendar year for an effluent characteristic or parameter with a measurement frequency of once/year. A calendar year is January through December, or any portion thereof.

36. **The term "Weekday"** means Monday – Friday.