

ADEQ

ARKANSAS
Department of Environmental Quality

OCT 15 2015

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (91 7199 9991 7030 4937 9167)

Gerard L. Fontenot
Entergy Arkansas, Inc. - d/b/a Entergy-White Bluff Plant
P.O. Box 551
Little Rock, AR 72203-0551

RE: Modification of Discharge Permit Number AR0036331 – AFIN 35-00110

Dear Mr. Fontenot:

Enclosed are the public notice, a copy of the draft permit modification, and Fact Sheet which the Arkansas Department of Environmental Quality (ADEQ) has prepared and mailed to you on the above date under the authority of the National Pollutant Discharge Elimination System (NPDES) 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 Reg. 8.207, the enclosed public notice will be or has been published by ADEQ in a newspaper of general circulation of your facility 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 proof of payment to the address at the bottom of this letter 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 and payment of all permit fees, no further action will be taken on the issuance of your discharge permit.

THIS IS A MODIFIED PERMIT. IN ACCORDANCE WITH 40 CFR 122.62, ONLY THE CONDITIONS WHICH ARE THE SUBJECT OF THE MODIFICATION ARE REOPENED.

The following is the major change to the previously issued permit:

Ash landfill leachate has been added to the description of the wastestream that discharges through Outfall 002 in Part I Section A2 of the permit.

Comments must be received at ADEQ prior to the close of the public comment period as described in the enclosed public notice. 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 draft permit modification, please contact Guy Lester at (501) 682- 0023.

Sincerely,


Ellen Carpenter
Chief, Water Division

EC:gl

Enclosure

PUBLIC NOTICE OF DRAFT DISCHARGE PERMIT MODIFICATION
PERMIT NUMBER AR0036331, AFIN 35-00110

This is to give notice that the Arkansas Department of Environmental Quality (ADEQ), Water Division, 5301 Northshore Drive, North Little Rock, Arkansas 72118-5317 at telephone number (501) 682-0623, proposes a draft modification of the permit number AR0036331 for which an application was received on April 13, 2015, with additional information received on April 23, 2015, for the following applicant under the National Pollutant Discharge Elimination System (NPDES) and the Arkansas Water and Air Pollution Control Act.

Applicant: Entergy Arkansas, Inc. - d/b/a Entergy-White Bluff Plant, 1100 White Bluff Road, Redfield, AR 72132. Location: 1100 White Bluff Road, approximately 2.5 miles southeast of Redfield on State Highway 365; Latitude: 34° 25' 11.24" N; Longitude: 92° 9' 20.78" W in Jefferson County, Arkansas. The discharge of cooling tower blowdown and overflow from the clear water holding pond (plant and switchyard runoff, treated sanitary waste, coal pile runoff, ash disposal runoff, chemical cleaning waste, water treatment waste, boiler blowdown, ash landfill leachate, and reuse for cooling tower makeup) is into the Arkansas River in Segment 3C of the Arkansas River Basin.

THIS IS A MODIFIED PERMIT. IN ACCORDANCE WITH 40 CFR 122.62, ONLY THE CONDITIONS WHICH ARE THE SUBJECT OF THE MODIFICATION ARE REOPENED FOR PUBLIC COMMENT.

The following is a list of the major changes to the previously issued permit:

Ash landfill leachate has been added to the description of the wastestream that discharges through Outfall 002 in Part I Section A2 of the permit.

ADEQ's contact person for submitting written comments on the draft permit, requesting information regarding the draft permit, or obtaining a copy of the permit and the Fact Sheet is Guy Lester, 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 modification, as well as the publication date, 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 comment period for the draft permit modification shall end at 4:30 P.M. (Central Time) on the 30th day 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. For information regarding the actual publication date along with the actual date and time the comment period will end, please contact Guy Lester at the above address and telephone number or by email at Water-Draft-Permit-Comment@adeq.state.ar.us. Public notice, comments, and hearings will be conducted in accordance with Regulation 6.104(A)(5) [40 CFR Parts 124.10 through 124.12 by reference] and Regulation 8.207 through 8.210 (Administrative Procedures). 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. A Public Hearing will be held when ADEQ finds a significant degree of public interest. After the public comment period, ADEQ will issue a final permitting decision. ADEQ will notify the applicant and each person who has submitted written comments or request 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. 8.603.

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Fact Sheet

All changes to the draft fact sheet are italicized.

This is a modified permit and only the modified portion of the permit can be reopened for comment.

This Fact Sheet is for information and justification of the permit limits only. Please note that it is not enforceable. This *draft* permitting decision is for *major modification* of the discharge Permit Number AR0036331 with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 35-00110 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 mailing address is:

Entergy Arkansas, Inc.
d/b/a Entergy-White Bluff Plant
P.O. Box 551
Little Rock, AR 72203-0551

The facility address is:

Entergy Arkansas, Inc.
d/b/a Entergy-White Bluff Plant
1100 White Bluff Road
Redfield, AR 72132

3. **PREPARED BY.**

The permit was prepared by:

Guy Lester
Staff Engineer
Permits Branch
Water Division
(501) 682-0023
E-mail: lester@adeq.state.ar.us

John Bailey, P.E.
Manager
Permits Branch
Water Division
(501) 682-0629
Email: bailey@adeq.state.ar.us

4. PERMIT ACTIVITY.

Previous Permit Effective Date: 5/1/2006
Previous Permit Expiration Date: 4/30/2011

THIS IS A MODIFIED PERMIT. IN ACCORDANCE WITH 40 CFR 122.62, ONLY THE CONDITIONS WHICH ARE THE SUBJECT OF THE MODIFICATION ARE REOPENED.

The permittee submitted an application for a major modification to the discharge permit on April 13, 2015, with additional information received on April 23, 2015. The purpose of the modification is to add ash landfill leachate to the wastestream that discharges through Outfall 002. New cells in the on-site ash landfill will be constructed with leachate collection systems. The collected leachate will be pumped to the surge ponds, then to the coagulation and sedimentation ponds, then to the 80-acre clear water holding pond. The clear water holding pond discharges through Outfall 002. Discharge through Outfall 002 must be due to a 10-year 24-hour storm event. There have been only three discharge events through Outfall 002 since construction of the facility in 1981, the last discharge occurring in March 2002. Since there is no actual leachate from the ash landfill yet, and no recent discharge from Outfall 002, there is no actual leachate or effluent data to analyze for determination of reasonable potential (RP) to violate water quality standards. However, the current permit includes Acute WET testing for discharges through Outfall 002, so potential toxicity of the effluent is monitored.

Part IB.2 of the permit contains a requirement for the facility to conduct a Priority Pollutant Scan (PPS) and complete Part V of EPA form 2C (i.e., analysis of effluent characteristics and potential toxic pollutants) on the next discharge from Outfall 002. The PPS must be submitted to ADEQ within 90 days of the resulting discharge. This requirement is maintained in the modified permit. At such a time as a discharge occurs from Outfall 002, PPS data and Acute WET testing results must be submitted to the Department. When the PPS data and Acute WET testing results are submitted, they will be reviewed. If the PPS data shows that the discharge from Outfall 002 has RP to violate water quality standards, and/or if the Acute WET testing results show toxicity in the discharge, the permit may be reopened, in accordance with Part II.2, to include any appropriate limitations.

It is proposed that the current discharge permit be modified for the remainder of the 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

BAT - best available technology economically achievable
BCT - best conventional pollutant control technology
BMP - best management plan
BOD₅ - five-day biochemical oxygen demand
BPJ - best professional judgment

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BPT - best practicable control technology currently available
CBOD₅ - carbonaceous biochemical oxygen demand
CD - critical dilution
CFR - Code of Federal Regulations
cfs - cubic feet per second
COD - chemical oxygen demand
COE - United States Corp of Engineers
CPP - continuing planning process
CWA - Clean Water Act
DMR - discharge monitoring report
DO - dissolved oxygen
ELG - effluent limitation guidelines
EPA - United States Environmental Protection Agency
ESA - Endangered Species Act
E-COLI - fecal coliform bacteria
gpm - gallons per minute
MGD - million gallons per day
MQL - minimum quantification level
NAICS - North American Industry Classification System
NH₃-N - ammonia nitrogen
NO₃ + NO₂-N - nitrate + nitrite nitrogen
NPDES - National Pollutant Discharge Elimination System
O&G - oil and grease
Reg. 2 - APCEC Regulation No. 2
Reg. 6 - APCEC Regulation No. 6
Reg. 8 - APCEC Regulation No. 8
Reg. 9 - APCEC Regulation No. 9
RP - reasonable potential
SIC - standard industrial classification
TDS - total dissolved solids
TMDL - total maximum daily load
TP - total phosphorus
TRC - total residual chlorine
TSS - total suspended solids
UAA - use attainability analysis
USF&WS - United States Fish and Wildlife Service
WET - Whole effluent toxicity
WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

DMR Review:

The DMRs from 12/2008 through 10/2011 were reviewed during the permit renewal process. There were no exceedances of any parameter noted during the review of permit data.

Legal Order Review:

There are currently no active CAOs or NOV's for this facility.

5. **FINANCIAL ASSURANCE**

The facility does not qualify, as defined in A.C.A. § 8-4-203, as a “nonmunicipal domestic sewage treatment works” that “must continuously operate to protect human health and the environment” in that it treats sanitary waste only from the owner’s own operations. Therefore, Financial Assurance is not required.

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. *Ash landfill leachate has been added to the description of the wastestream that discharges through Outfall 002 in Part I Section A2 of the permit.*

7. **RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.**

The outfalls are located at the following coordinates based on Google Earth using WGS84:

Outfall 001: Latitude: 34° 25' 11.3" N; Longitude: 92° 7' 14.1" W

Outfall 002: Latitude: 34° 25' 10.7" N; Longitude: 92° 7' 15.7" W

The receiving waters named:

the Arkansas River in Segment 3C of the Arkansas River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 11110207 and Reach #005 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, ENDANGERED SPECIES, AND ANTI-DEGRADATION CONSIDERATIONS.**

A. **303(d) List:**

The receiving stream is not listed on the 2008 303(d) list. Therefore no permit action is needed.

B. Endangered Species:

No comments on the application were received from the USF&WS. The draft permit and Fact Sheet were sent to the USF&WS for their review.

C. Anti-Degradation:

The limitations and requirements set forth in this permit for discharge into waters of the State are consistent with the Antidegradation Policy and all other applicable water quality standards found in APC&EC Regulation No. 2.

9. OUTFALL, TREATMENT PROCESS DESCRIPTION, AND FACILITY CONSTRUCTION.

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

A. Flow Limit: Outfall 001 = 11.5 MGD

Average Flow: Outfall 002 = Intermittent - no discharge during the last five years

B. Type of Treatment:

Outfall 001 – none

Outfall 002 – oil/water separation, sedimentation, coagulation, and neutralization; sanitary treatment systems: (a) septic tanks and (b) primary settling tank, recirculation tank, packed-bed fixed-film recirculating filters, and chlorine disinfection

C. Discharge Description:

Outfall 001 - cooling tower blowdown

Outfall 002 - overflow from clear water holding pond (plant and switchyard runoff, treated sanitary waste, coal pile runoff, ash disposal runoff, chemical cleaning waste, water treatment waste, boiler blowdown, *ash landfill leachate*, reuse for cooling tower makeup)

D. 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 600 is greater than 80, this facility is classified as a Major industrial.

E. Facility Construction: This permit does not authorize or approve the construction or modification of any part of the treatment system or facilities. Approval for such construction must be by permit issued under Reg. 6.202.

10. ACTIVITY.

Under the SIC code of 4911, or NAICS code of 221112, the applicant's activities are the operation of a coal-fired, steam electric power generating station with 1690 MW capacity.

11. SOLIDS PRACTICES.

All sanitary sludge is removed by a licensed septic tank hauler. Sediments removed from other plant processes and pollution control units have different regulatory classifications and are managed according to applicable RCRA rules.

12. PERMIT CONDITIONS.

The Arkansas Department of Environmental Quality has made a determination to issue a permit for the discharge described in the application. Permit requirements are based on federal regulations (40 CFR Parts 122, 124, and Subchapter N), the National Pretreatment Regulation in 40 CFR Part 403 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. Effluent Limitations

Outfall 001 - cooling tower blowdown

1. Conventional and/or Toxic Pollutants

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	11.5 MGD	23.1 MGD	continuous	record
Temperature	N/A	N/A	105° F	105° F	continuous	record
Free Available Chlorine (FAC)	1.6	8.0	0.2	0.5	once/week	grab
Chromium, Total Recoverable (Cr) ¹	19.2	38.5	0.2	0.2	N/A ¹	N/A ¹
Zinc, Total Recoverable (Zn) ¹	95.9	192.7	1.0	1.0	N/A ¹	N/A ¹
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/week	grab
Acute WET	N/A	N/A	Report		once/quarter	composite

Monitoring for Chromium and Zinc is waived during this permit term based on 40 CFR 122.44(a)(2).
 See Condition No. 17 of Part II.

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. Effluent Limitations

Outfall 002 - overflow from the clear water holding pond consisting of plant and switchyard runoff, treated sanitary waste, coal pile runoff, ash disposal runoff, chemical cleaning waste, water treatment waste, boiler blowdown, *ash landfill leachate*, and reuse for cooling tower makeup.

1. Conventional and/or Toxic Pollutants

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day ¹	estimate
Rain Intensity (inches)	N/A	Report	N/A	N/A	once/day ²	rain gauge
Total Suspended Solids (TSS)	N/A	N/A	30.0	50.0	once/day ¹	grab
Oil & Grease (O&G)	N/A	N/A	10.0	15.0	once/day ¹	grab
Iron, Total ³	N/A	N/A	1.0	1.0	once/day ¹	grab
Copper, Total ³	N/A	N/A	532 (µg/l)	1000 (µg/l)	once/day ¹	grab
Escherichia coli Bacteria (E-coli)			(colonies/100ml)			
(April-Sept)	N/A	N/A	126	410	once/quarter ⁶	grab
(Oct-March)	N/A	N/A	630	2050	once/quarter ⁶	grab
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/day ¹	grab
Acute WET ⁴	N/A	N/A	Report		once/quarter ⁵	composite

¹ When discharging. Monitoring does not need to be performed more than once per day if there are multiple discharge events in a single calendar day. Monitoring shall be performed once per calendar day if the duration of the discharge is greater than 24 hours.

No discharge is allowed except in the case of rainfall equivalent to a 10-year 24-hour storm event (See Section 15 of Part II).

² When raining. This is to verify the amount of rainfall in the event of a discharge from Outfall 002.

³ See Section 14 of Part II, Metals Condition.

⁴ See Condition No. 6 of Part II (WET Testing Requirements).

⁵ WET testing must be performed if a discharge occurs within the quarterly monitoring period.

⁶ E-coli testing must be performed if a discharge occurs within the quarterly monitoring period.

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).

13. BASIS FOR PERMIT CONDITIONS.

The following is an explanation of the derivation of the conditions of the 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.

Technology-Based Versus Water Quality-Based Effluent Limitations And Conditions

Following regulations promulgated at 40 CFR Part 122.44, the 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		Final 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								
Flow	11.5 MGD	23.1 MGD	N/A	N/A	11.5 MGD	24.2 MGD	11.5 MGD	23.1 MGD
Temperature	105° F	105° F	N/A	N/A	105° F	105° F	105° F	105° F
FAC	N/A	N/A	0.2	0.5	0.2	0.5	0.2	0.5
Chromium, Total Recoverable (Cr)	N/A	N/A	0.2	0.2	N/A	N/A	0.2	0.2
Zinc, Total Recoverable (Zn)	N/A	N/A	1.0	1.0	N/A	N/A	1.0	1.0
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	
Outfall 002								
TSS	N/A	N/A	27.0	50.0	30	100	27.0	50.0
E-coli (col/100 ml)								
(April-Sept)	126	410	N/A	N/A	N/A	N/A	126	410
(Oct-March)	630	2050	N/A	N/A	N/A	N/A	630	2050
O&G	10.0	15.0	15.0	20.0	10	15	10.0	15.0
Iron, Total	N/A	N/A	1.0	1.0	1.0	1.0	1.0	1.0
Copper, Total	532 (µg/l)	1068 (µg/l)	1.0	1.0	597 (µg/l)	1000 (µg/l)	532 (µg/l)	1000 (µg/l)
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	

A. Justification for Limitations and Conditions of the permit:

Parameter	Water Quality or Technology	Justification
Outfall 001		
Flow	Water Quality	Reg. 2.502, 40 CFR 122.44(l), and previous permit
Temperature	Water Quality	Reg. 2.502, 40 CFR 122.44(l), and previous permit
FAC	Technology	40 CFR 423.12(b)(7), 40 CFR 122.44(l), and previous permit
Chromium, Total Recoverable (Cr) ¹	Technology	40 CFR 423.13(d)(1)
Zinc, Total Recoverable (Zn) ¹	Technology	40 CFR 423.13(d)(1)
pH	Water Quality	Reg. 2.504
Outfall 002		
TSS ²	Technology	40 CFR 423.12(b)(3), (4), and (5) for Monthly Avg. limit 40 CFR 423.12(b)(9) for Daily Max. limit
E-coli ³	Water Quality	Reg. 2.507
O&G	Water Quality	Reg. 2.510, 40 CFR 122.44(l), and previous permit
Iron, Total	Technology	40 CFR 423.12(b)(5), 40 CFR 122.44(l), and previous permit
Copper, Total ⁴	Water Quality	Reg. 2.508, 40 CFR 423.12(b)(5), 40 CFR 122.44(d)(5)
pH	Water Quality	Reg. 2.504

¹ Limitations for Chromium and Zinc have been included in the permit based on the requirements of 40 CFR 423.13(d)(1). The monitoring requirements for chromium and zinc have been waived during the term of this permit based on 40 CFR 122.44(a)(2) because the facility has certified that chemicals containing chromium and zinc are not used for cooling tower maintenance.

² The TSS limitations were based on the most restrictive of the concentration limits from the four (4) waste streams with limitations for TSS in the ELG. It is the best engineering judgment of the permit writer, based on the TSS values reported in the facility DMRs, that a schedule of compliance is not required.

³ Limits for E-coli have been include because treated sanitary wastewater is included in the effluent that discharges from Outfall 002.

⁴ The limitations for Copper have been reduced based on the WQS for the receiving stream. 40 CFR 122.44(d)(5) requires that water quality-based limits be included in a permit if they are more stringent than limits promulgated under effluent limitation guidelines (ELGs). In this case, a Copper limit based on the ELG limitation would have exceeded the WQS. Based on Copper data from the facility DMRs during the previous permit cycle, a schedule of compliance is not necessary.

B. Anti-backsliding

The 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 permit meets or exceeds the requirements of the previous permit.

C. Limits Calculations

1. Mass limits:

In accordance with 40 CFR 122.45(f)(1), all pollutants limited in permits shall have limitations expressed in terms of mass if feasible. 40 CFR 122.45(f)(2) allows for pollutants which are limited in terms of mass to also be limited in terms of other units of measurement.

The calculation of the loadings (lbs per day) for FAC from Outfall 001 uses the following equation:

$$\text{lbs/day} = \text{Concentration (mg/l)} \times \text{Flow (MGD)} \times 8.34 \times 2/24$$

$$\text{Flow} = 11.5 \text{ MGD for Monthly Avg. FAC mass limit}$$

$$\text{Flow} = 23.1 \text{ MGD for Daily Max. FAC mass limit}$$

The factor 2/24 is based on the requirement that FAC is only allowed to be discharged from the generating units for a maximum of 2 hours per day (1 day = 24 hours).

No mass limits have been included for pollutants discharged from Outfall 002 because of the variable nature of the stormwater flows that are co-mingled with the facility wastewaters.

2. Daily Maximum Limits:

The daily maximum limit for TSS is based on 40 CFR Part 423.12(b) (9), which is the most restrictive of the point source limits applicable to the waste streams from 40 CFR Parts 423.12(b)(3), (4), (5), and (9).

The daily maximum limits for E-coli and O&G are based on Regs. 2.507 and 2.510, respectively.

The daily maximum limit for Iron, Total, is based on 40 CFR 423.12(5).

The daily maximum limit for flow was calculated based on meeting the WQS for maximum temperature of the Arkansas River in Reg.2.502 using the following equation:

$$Q_{eDM} = [(M \times Q_{bmax}) \times (WQS_m - T_{bmax})] / (T_e - WQS_m)$$

where:

M = Mixing Zone Factor = 0.25

Q_{bmax} = Critical background flow at max. temperature = 7Q10 = 819 cfs*

WQS_m = Water Quality Standard max. temperature for Arkansas River = 32 °C

T_{bmax} = Max. background temperature of receiving stream = 30.5 °C† (86.9 °F)

T_e = Max. allowable temperature of the effluent = 40.6 °C (105 °F)

* Ref.: “Low-Flow Characteristics and Regionalization of Low-Flow Characteristics for Selected Streams in Arkansas”, U.S. Dept. of the Interior, U.S. Geological Survey, Scientific Investigations Report 2008-5065.

† Ref.: Stream Data (9/25/2007 – 9/14/2010) from USGS stream station 07263620 on the Arkansas River.

$$Q_{eDM} = [(0.25 \times 819) \times (32 - 30.5)] / (40.6 - 32)$$

$$Q_{eDM} = 36 \text{ cfs} = 23.1 \text{ MGD}$$

3. Temperature

The temperature limitations are continued from previous permit.

The following were used to confirm that the discharge will not cause the receiving stream (Arkansas River) to exceed the temperature requirements in Reg. 2.502 outside of the mixing zone:

For maximum downstream temperature of the receiving stream:

$$T_d = [(Q_e \times T_e) + (M \times Q_{bmax} \times T_{bmax})] / [Q_e + (M \times Q_{bmax})]$$

For maximum temperature change of the receiving stream:

$$\Delta T_d = \{[(Q_e \times T_e) + (M \times Q_{bmin} \times T_{bmin})] / [Q_e + (M \times Q_{bmin})]\} - T_{bmin}$$

where:

T_d = downstream temperature of receiving stream in °C (°F)

ΔT_d = change in temperature of receiving stream in °C (°F)

Q_e = Flow Limit = 11.5 MGD = 17.8 cfs

T_e = Max. allowable temperature of the effluent (permit limit) = 40.6 °C (105 °F)

M = Mixing Zone Factor = 0.25

Q_{bmax} = critical background flow for max. temp. = 7Q10 whole year = 819* cfs

T_{bmax} = Max. background temperature of receiving stream = 30.5 °C (86.9 °F)

T_{bmin} = minimum background temperature of receiving stream = 3.0 °C† (37.4 °F)

Q_{bmin} = critical background flow for max. temp. change = 7Q10 Nov-April = 1440 cfs

* Ref.: “Low-Flow Characteristics and Regionalization of Low-Flow Characteristics for Selected Streams in Arkansas”, U.S. Dept. of the Interior, U.S. Geological Survey, Scientific Investigations Report 2008-5065.

† Ref.: Stream Data (9/25/2007 – 9/14/2010) from USGS stream station 07263620 on the Arkansas River.

$$T_d = [(17.8 \times 40.6 \text{ °C}) + (0.25 \times 819 \times 30.5 \text{ °C})] / (17.8 + [0.25 \times 819])$$

$$T_d = 31 \text{ °C (88.4 °F)}$$

31 °C < 32 °C (max. allowable temperature for the Arkansas River from Reg. 2.502)

and

$$\Delta T_d = \{[(17.8 \times 40.6 \text{ °C}) + (0.25 \times 819 \times 3.0 \text{ °C})] / (17.8 + [0.25 \times 819])\} - 3.0 \text{ °C}$$

$$\Delta T_d = 1.8 \text{ °C (3 °F)}$$

1.8 °C ≤ 2.8 °C (3 °F ≤ 5 °F) (max. allowable temperature change for the Arkansas River from Reg. 2.502)

Therefore, with a maximum temperature limit of 105 °F and flow limits, the discharge from the facility should not cause a violation of the Arkansas Water Quality Standards for temperature.

4. Applicable Effluent Limitations Guidelines

Discharges from facilities of this type are covered by Federal effluent limitations guidelines promulgated under 40 CFR Part 423 – Steam Electric Power Generating Point Source Category. *Because the ash landfill only receives wastes generated by the facility, the ELGs in 40 CFR Part 445 – Landfills Point Source Category does not apply to discharges from Outfall 002, in accordance with 40 CFR 445.1(e).*

Outfall 001

40 CFR 423.12(b)(7) and (8) are applicable to Outfall 001 since it discharges cooling tower blowdown.

40 CFR 423.13(d)(1) is applicable to Outfall 001 since it discharges cooling tower blowdown. Therefore, limitations for Chromium and Zinc have been included in the permit. The monitoring requirements for Chromium and Zinc have been waived during the term of this permit based on 40 CFR 122.44(a)(2) because the facility has certified that chemicals containing chromium and zinc are not used for cooling tower maintenance.

Outfall 002

40 CFR 423.12(b)(3) is applicable to Outfall 002 since low volume waste sources (wastewaters from an ion exchange water treatment system, laboratory stream, boiler blowdown, and floor drains) contribute to the discharge.

40 CFR 423.12(b)(4) is applicable to Outfall 002 since fly ash and bottom ash transport waters contribute to the discharge.

40 CFR 423.12(b)(5) is applicable to Outfall 002 since metal cleaning wastes contribute to the discharge.

40 CFR 423.12(b)(9) is applicable to Outfall 002 since coal pile runoff contributes to the discharge.

The TSS limits for Outfall 002 are based on the most restrictive of the point source limits applicable to the waste streams from 40 CFR Parts 423.12(b)(3), (4), (5), and (9).

5. Water Quality Standards for ELG-limited pollutants

The ELGs promulgated under 40 CFR 423.13 include limitations for Iron and Copper. 40 CFR 122.44(d)(5) requires that water quality-based limits be included in a permit if they are more stringent than limits promulgated under effluent limitation guidelines.

There is no WQS for Iron in Reg. 2.508, so the ELG limit for Iron has been included in the permit.

A water quality-based limit for Copper was calculated as follows:

The instream waste load allocations (WLAs), which are the maximum level of effluent concentrations that would comply with the WQSs of the receiving stream, were calculated for both chronic and acute toxicity using the following equations:

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

Where:

WLA_c = chronic toxicity waste load allocation ($\mu\text{g/l}$)

WQS = chronic aquatic toxicity standards ($\mu\text{g/l}$)

Q_d = facility discharge = 3.6 MGD = 5.56 cfs

(highest flow of the only 2 discharges reported in the last 10 years)

Q_b = background flow of receiving stream = $7Q_{10} = 819$ (cfs)
 M_a = chronic toxicity mixing zone factor (large stream) = 0.25
 C_b = background concentration of pollutant ($\mu\text{g/l}$)

and

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

Where:

WLA_a = acute toxicity waste load allocation ($\mu\text{g/l}$)
 WQS = acute aquatic toxicity standards ($\mu\text{g/l}$)
 Q_d = facility discharge = 3.6 MGD = 5.56 cfs
(highest flow of the only 2 discharges reported in the last 10 years)
 Q_b = background flow of receiving stream = $7Q_{10} = 819$ (cfs)
 M_a = acute toxicity mixing zone factor (Arkansas River) = 0.06
 C_b = background concentration of pollutant ($\mu\text{g/l}$)

For this facility, the values were as follows:

$WLA_c = 1515 \mu\text{g/l}$
 $WLA_a = 602 \mu\text{g/l}$

The long term average effluent concentrations (LTAs) were then calculated based on the chronic and acute WLAs as follows:

$LTA_c = 0.72 \times WLA_c = 1091 \mu\text{g/l}$
 $LTA_a = 0.57 \times WLA_a = 343 \mu\text{g/l}$

The lowest of these two (2) values was selected as being the limiting LTA, in this case, the acute toxicity value (LTA_a). 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:

$AML = 1.55 \times LTA_a = 532 \mu\text{g/l}$
 $DML = 3.11 \times LTA_a = 1068 \mu\text{g/l}$

These water-quality based limits are lower than those calculated for the previous permit because the $7Q_{10}$ of the receiving stream has changed. The water quality of the receiving stream was not affected because the measured concentration of copper in the effluent (90 $\mu\text{g/l}$ from the March 2002 DMR) is well below this reduced water quality-based limit.

The AML is more stringent than the ELG Avg. Monthly limit and the Monthly Avg. limit in the previous permit. Therefore, this water quality-based limit for Copper have been included in the permit as the Monthly Avg. limit.

6. Stormwater Runoff

Effluent limitations guidelines have not been promulgated for discharges of this sort. Therefore under the authority of Section 402 (a) (1) of the Clean Water Act and State laws, the State has developed a permit on a case-by-case basis. Stormwater pollution prevention plan requirements are not included in this permit. These requirements are specified under Industrial Stormwater Permit **ARR00A690**.

7. Cooling Water Intake Structures (CWISs) - CWA § 316(b)

EPA promulgated Phase II regulations in accordance with section 316(b) of the CWA on 7/6/2004. The Second U.S. Circuit Court of Appeals remanded most provisions of the Phase II rule on 1/25/2007. On 3/29/2007, a memo was issued by the EPA stating that the rule should be considered suspended. A notice was published in the Federal Register by the EPA on 7/9/2007 suspending all parts of the Phase II regulations, except for 40 CFR 125.90 (b).

NPDES permits for any new or existing facilities operating CWISs must contain permit conditions meeting the requirements applicable to CWISs under section 316(b) of the CWA. Section 316(b) of the CWA requires that the location, design, construction, and capacity of CWISs reflect the Best Technology Available (BTA) for minimizing Adverse Environmental Impact (AEI). In accordance with the “EPA Draft Fact Sheet for Development of BPJ-Based Section 316(b) NPDES Permit Conditions” (Draft Fact Sheet), existing facilities are subject to section 316(b) conditions that reflect BTA for minimizing AEI on a case-by-case, BPJ basis.

Therefore, in accordance with the Draft Fact Sheet, this existing facility is subject to section 316(b) conditions.

The design flow of the CWIS is 25.0 MGD and the facility uses a closed-cycle wet cooling system. Part II.16. requires the facility to operate and maintain the CWIS in accordance with Best Management Practices (BMPs) for the closed cycle wet cooling tower system that will minimize any Adverse Environmental Impacts (AEIs).

8. Discharges from Flue Gas Desulfurization (FGD)

The facility does not have a flue gas scrubber system. Therefore, there is no wastewater stream subject to FGD regulations.

9. Coal Combustion Residuals (CCR)

The facility is installing new disposal cells at the on-site coal ash landfill. Each new cell will have a leachate collection system, which will pump the collected leachate to the surge ponds, where it commingles with stormwater runoff from the landfill (noted as

ash disposal runoff in the discharge description) *and* with other wastewaters, and may discharge through Outfall 002. Therefore, since toxic contaminants may be part of the *leachate and* stormwater runoff from the coal ash landfill, Acute WET testing requirements for the discharge from Outfall 002 have been included in the permit.

D. Priority Pollutant Scan (PPS)

ADEQ has reviewed and evaluated the effluent in accordance with the potential toxicity of each analyzed pollutant using the procedures outlined in the Continuing Planning Process (CPP).

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 (AWQS), Regulation No. 2 (Reg. 2.508) and criteria obtained from the "Quality Criteria for Water, 1986 (Gold Book)".

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 below have been derived in a manner consistent with the Technical Support Document (TSD) for Water Quality-based Toxics Control (EPA, March 1991), the CPP, and 40 CFR Part 122.45(c).

The following items were used in calculations:

Parameter	Value	Source
Flow = Q	Outfall 001 = 11.5 MGD = 17.8 cfs Outfall 002 = 3.6 MGD = 5.56 cfs	Application DMR for March 2002
7Q10	819 cfs	USGS data – Arkansas River
TSS	10.5 mg/l	CPP – Arkansas River
Hardness as CaCo3	125.0 mg/l	CPP – Arkansas River
pH	7.10 s.u.	USGS data – Arkansas River

The following pollutants were reported above the required MQL:

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Arsenic	1.99 ¹	0.5
Chromium (Tri)	13.1 ¹	10
Copper	90 ²	0.5
Mercury	0.00532 ¹	0.005
Nickel	7.53 ¹	0.5
Zinc	24.3 ¹	20

¹ Reported on PPS form for Outfall 001 in the permit renewal application.

² Reported on DMR for Outfall 002 for March 2002.

ADEQ has determined from the submitted information that the discharges from Outfall 001 and Outfall 002 do not pose the reasonable potential to cause or contribute to an exceedance above a water quality standard.

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.

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

Acute WET

FREQUENCY

once/quarter

Requirements for measurement frequency are based on the CPP.

DRAFT

Since 7Q10 is greater than 100 cfs (ft³/sec) and dilution ratio is greater than 100:1, acute WET testing requirements will be included in the permit.

The calculations for dilution used for the acute WET testing are as follows:

$$\text{Critical Dilution (CD)} = (Q_d / (Q_d + Q_b)) \times 100$$

Outfall 001

$$Q_d = \text{Design Flow} = 11.5 \text{ MGD} = 17.8 \text{ cfs}$$

$$7Q10 = 819 \text{ cfs}$$

$$Q_b = \text{Background flow} = 0.1 \times 0.25 \times 819 = 20.475 \text{ cfs}$$

$$\text{CD} = ((17.8) / (17.8 + 20.475)) \times 100 = 47\%$$

Outfall 002

$$Q_d = \text{Average Flow} = 3.6 \text{ MGD} = 5.56 \text{ cfs}$$

$$7Q10 = 819 \text{ cfs}$$

$$Q_b = \text{Background flow} = 0.1 \times 0.25 \times 819 = 20.475 \text{ cfs}$$

$$\text{CD} = ((5.56) / (5.56 + 20.475)) \times 100 = 21\%$$

Toxicity tests shall be performed in accordance with protocols described in "Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organisms", EPA/600/4-90/027. 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 20%, 26%, 35%, 47%, and 63% for Outfall 001, and 9%, 12%, 16%, 21%, and 28% for Outfall 002 (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 47% effluent for Outfall 001 and 21% for Outfall 002. The requirement for acute 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 representative of organisms 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/600/4-90/027 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 - Outfall 001

Permit Number:	AR0036331	AFIN:	35-00110	Outfall Number:	001
Date of Review:	4/28/2011	Reviewer:	M. Barnett		
Facility Name:	Entergy-White Bluff Plant				
Previous Dilution series:	19, 25, 33, 44, 59	Proposed Dilution Series:	20, 26, 35, 47, 63		
Previous Critical Dilution:	44	Proposed Critical Dilution:	47		
Previous TRE activities:	None				
Frequency recommendation by species					
<i>Pimephales promelas</i> (Fathead minnow):	once per quarter				
<i>Daphnia pulex</i> (water flea):	once per quarter				
TEST DATA SUMMARY					
	Vertebrate		Invertebrate		
TEST DATE	Lethal		Lethal		
	NOEC		NOEC		
4/30/2006	34.7		34.7		
6/30/2006	59		59		
9/30/2006	59		59		
12/31/2006	59		59		
3/31/2007	59		59		
6/30/2007	59		59		
9/30/2007	59		59		
12/31/2007	59		59		
6/30/2008	59		59		
12/31/2008	59		59		
6/30/2009	59		59		
12/31/2009	59		59		
6/30/2010	59		59		
12/31/2010	59		59		
Failures are noted in BOLD					
REASONABLE POTENTIAL CALCULATIONS					
	Vertebrate Lethal		Invertebrate Lethal		
Min NOEC Observed	34.7		34.7		
TU at Min Observed	2.88		2.88		
Count	14		14		
Failure Count	0		0		
Mean	1.780		1.780		
Std. Dev.	0.317		0.317		
CV	0.2		0.2		
RPMF	1.2		1.2		
Reasonable Potential	1.625		1.625		
100/Critical dilution	2.128		2.128		
Does Reasonable Potential Exist	No		No		
PERMIT ACTION					
<i>P. promelas</i> lethal -	Monitoring				
<i>D. pulex</i> lethal -	Monitoring				

Administrative Records - Outfall 002

There are no records because WET testing is a new requirement for Outfall 002.

15. SAMPLE TYPE AND FREQUENCY.

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [40 CFR Part 122.48(b)] and to ensure compliance with permit limitations [40 CFR Part 122.44(i)(1)].

Requirements for sample type and sampling frequency for Outfall 001 and Outfall 002 have been based on the current discharge permit.

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Outfall 001				
Flow	continuous	record	continuous	record
Temperature	continuous	record	continuous	record
FAC	once/week	grab	once/week	grab
Chromium, Total Recoverable (Cr)	N/A	N/A	N/A ¹	N/A ¹
Zinc, Total Recoverable (Zn)	N/A	N/A	N/A ¹	N/A ¹
pH	once/week	grab	once/week	grab
Acute WET	once/quarter	24-hr composite	once/quarter	composite
Outfall 002				
Flow	daily/occurrence	estimate	once/day ²	estimate
Rain Intensity	once/occurrence	rain gauge	once/day ³	rain gauge
TSS	once/occurrence	grab	once/day ²	grab
E-coli				
(April-Sept)	N/A	N/A	once/quarter ⁴	grab
(Oct-March)	N/A	N/A	once/quarter ⁴	grab
O&G	once/occurrence	grab	once/day ²	grab
Iron, Total	once/occurrence	grab	once/day ²	grab
Copper, Total	once/occurrence	grab	once/day ²	grab
pH	once/occurrence	grab	once/day ²	grab
Acute WET	N/A	N/A	once/quarter ⁵	composite

- ¹ The monitoring requirements for chromium and zinc have been waived during the term of this permit based on 40 CFR 122.44(a)(2) because the facility has certified that chemicals containing chromium and zinc are not used for cooling tower maintenance.
- ² When discharging. Monitoring does not need to be performed more than once per day if there are multiple discharge events in a single calendar day. Monitoring shall be performed once per calendar day if the duration of the discharge is greater than 24 hours. No discharge is allowed except in the case of rainfall equivalent to a 10-year 24-hour storm event (See Section 15 of Part II).
- ³ When raining. This is to verify the amount of rainfall in the event of a discharge from Outfall 002.
- ⁴ E-coli testing must be performed if a discharge occurs within the quarterly monitoring period.
- ⁵ WET testing must be performed if a discharge occurs within the quarterly monitoring period.

16. PERMIT COMPLIANCE.

A Schedule of Compliance has been included in this permit for performance of a PPS and completion of Part V of EPA form 2C for Outfall 002 when a discharge occurs. Compliance with all permit requirements is required in accordance with the schedule provided in Part IB of the permit.

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 for modification of NPDES Permit No. AR0036331 received April 13, 2015, with additional information received on April 23, 2015.*
- 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, 423, and 445.
- G. Discharge permit file AR0036331.
- H. Discharge Monitoring Reports (DMRs).
- I. "2008 List of Impaired Waterbodies (303(d) List)", ADEQ
- J. "Integrated Water Quality and Assessment Report 2008", ADEQ.
- K. "Identification and Classification of Perennial Streams of Arkansas", Arkansas Geological Commission.
- L. Continuing Planning Process (CPP).
- M. Technical Support Document For Water Quality-based Toxic Control.

- N. "Interim Guidance for Performance-Based Reduction of NPDES Permit Monitoring Frequencies", (April 1996), EPA
- O. "Analysis of AP&L White Bluff Steam Electric Station Thermal Discharge to the Arkansas River", (4 February 1994), FTN Associates, Ltd.
- P. "Low-Flow Characteristics and Regionalization of Low-Flow Characteristics for Selected Streams in Arkansas", U.S. Dept. of the Interior, U.S. Geological Survey, Scientific Investigations Report 2008-5065.
- Q. Stream Data from USGS stream station 07263620 on the Arkansas River.
- R. U.S. Dept. of Commerce Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961
- S. EPA Interim Objection Letter, dated 9/21/2011, from Claudia V. Hausch of EPA to Morteza Shafii of ADEQ.
- T. Email dated 12/13/2011 from Michael Tillman of EPA to Kim Fuller, P.E. of ADEQ.
- U. Withdrawal of Interim objection to Preliminary Draft Permit letter, dated 1/12/2012, from Michael Tillman of EPA to Morteza Shafii of ADEQ.
- V. Inspection Report dated 6/1/2010.
- W. Comments from Steve Hodge, received on 2/24/2012.
- X. Comments from the Sierra Club, received on 2/24/2012.
- Y. Email, dated 5/14/2012, from Tina Burt of Entergy Arkansas, Inc. to Guy Lester of ADEQ with analytical results for asbestos from discharge from Outfall 001.
- Z. [NPDES Permit No. AR0037451.](#)

19. POINT OF CONTACT.

For additional information, contact:

Guy Lester
Permits Branch, Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317
Telephone: (501) 682-0023

DRAFT

Permit Number: AR0036331
AFIN: 35-00110

**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 (Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. § 1251 et seq.),

The applicant's mailing address is:

Entergy Arkansas, Inc.
d/b/a Entergy-White Bluff Plant
P.O. Box 551
Little Rock, AR 72203-0551

The facility address is:

Entergy Arkansas, Inc.
d/b/a Entergy-White Bluff Plant
1100 White Bluff Road
Redfield, AR 72132

is authorized to discharge cooling tower blowdown and overflow from clear water holding pond (plant and switchyard runoff, treated sanitary waste, coal pile runoff, ash disposal runoff, chemical cleaning waste, water treatment waste, boiler blowdown, ash landfill leachate, and reuse for cooling tower makeup) from a facility located as follows: 1100 White Bluff Road, approximately 2.5 miles southeast of Redfield on State Highway 365 in Jefferson County, Arkansas.

Latitude: 34° 25' 11.24" N; Longitude: 92° 9' 20.78" W

to receiving waters named:

the Arkansas River in Segment 3C of the Arkansas River Basin.

The outfalls are located at the following coordinates:

Outfall 001: Latitude: 34° 25' 11.3" N; Longitude: 92° 7' 14.1" W

Outfall 002: Latitude: 34° 25' 10.7" N; Longitude: 92° 7' 15.7" W

Discharge shall be in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit. Per Part III.D.10, the permittee must re-apply on or before 180 days prior to the expiration date for permit coverage past the expiration date.

A Response to Comments is attached to the permit.

Effective Date: July 1, 2012
Modification Effective Date:
Expiration Date: June 30, 2017

Ellen Carpenter
Chief, Water Division
Arkansas Department of Environmental Quality

Modification Issue Date

PART I PERMIT REQUIREMENTS

SECTION A1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 – cooling tower blowdown

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:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	11.5 MGD	23.1 MGD	continuous	record
Temperature	N/A	N/A	105°F	105°F	continuous	record
Free Available Chlorine (FAC)	1.6	8.0	0.2	0.5	once/week	grab
Chromium, Total Recoverable (Cr) ²	19.2	38.5	0.2	0.2	N/A ²	N/A ²
Zinc, Total Recoverable (Zn) ²	95.9	192.7	1.0	1.0	N/A ²	N/A ²
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/week	grab
Acute WET Testing ¹	N/A	N/A	Report		once/quarter	composite
<u>Pimephales promelas (Acute)</u>¹ Pass/Fail Lethality (48-Hr NOEC) TEM6C Survival (48-Hr NOEC) TOM6C Coefficient of Variation (48-Hr NOEC) TQM6C			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/quarter once/quarter once/quarter	composite composite composite
<u>Daphnia pulex (Acute)</u>¹ Pass/Fail Lethality (48-Hr NOEC) TEM3D Survival (48-Hr NOEC) TOM3D Coefficient of Variation (48-Hr NOEC) TQM3D			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/quarter once/quarter once/quarter	composite composite composite

¹ See Condition No. 6 of Part II (WET Testing Requirements).

² Monitoring for Chromium and Zinc is waived during this permit term based on 40 CFR 122.44(a)(2). See Condition No. 17 of Part II.

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 as defined in Part IV of this permit.

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 shall be taken after final treatment at the following monitoring coordinates: Latitude: 34° 25' 11.3" N; Longitude: 92° 7' 14.1" W

SECTION A2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002 – overflow from the clear water holding pond consisting of plant and switchyard runoff, treated sanitary waste, coal pile runoff, ash disposal runoff, chemical cleaning waste, water treatment waste, boiler blowdown, ash landfill leachate, and reuse for cooling tower makeup.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 002. Such discharges shall be limited and monitored by the permittee as specified from a treatment system consisting of: oil/water separation, sedimentation, coagulation, and neutralization; sanitary treatment system consisting of an extended aeration package plant, sedimentation, and chlorine disinfection; complete system has a variable discharge flow.

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day ¹	estimate
Rain Intensity (inches)	N/A	Report	N/A	N/A	once/day ²	rain gauge
Total Suspended Solids (TSS)	N/A	N/A	30.0	50.0	once/day ¹	grab
Oil and Grease (O&G)	N/A	N/A	10.0	15.0	once/day ¹	grab
Iron, Total ³	N/A	N/A	1.0	1.0	once/day ¹	grab
Copper, Total ³	N/A	N/A	532 (µg/l)	1000 (µg/l)	once/day ¹	grab
Escherichia coli Bacteria (E-coli)			(colonies/100ml)			
(April-Sept)	N/A	N/A	126	410	once/quarter ⁶	grab
(Oct-March)	N/A	N/A	630	2050	once/quarter ⁶	grab
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/day ¹	grab
Acute WET Testing ⁴	N/A	N/A	Report		once/quarter ⁵	composite
<u>Pimephales promelas (Acute)</u> ⁴ Pass/Fail Lethality (48-Hr NOEC) TEM6C Survival (48-Hr NOEC) TOM6C Coefficient of Variation (48-Hr NOEC) TQM6C			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/quarter ⁵ once/quarter ⁵ once/quarter ⁵	composite composite composite
<u>Daphnia pulex (Acute)</u> ⁴ Pass/Fail Lethality (48-Hr NOEC) TEM3D Survival (48-Hr NOEC) TOM3D Coefficient of Variation (48-Hr NOEC) TQM3D			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/quarter ⁵ once/quarter ⁵ once/quarter ⁵	composite composite composite

¹ When discharging. Monitoring does not need to be performed more than once per day if there are multiple discharge events in a single calendar day. Monitoring shall be performed once per calendar day if the duration of the discharge is greater than 24 hours. No discharge is allowed except in the case of rainfall equivalent to a 10-year 24-hour storm event (See Section 15 of Part II).

² When raining. This is to verify the amount of rainfall in the event of a discharge from Outfall 002.

³ See Section 14 of Part II, Metals Condition.

⁴ See Condition No. 6 of Part II (WET Testing Requirements).

⁵ WET testing must be performed if a discharge occurs within the quarterly monitoring period.

⁶ E-coli testing must be performed if a discharge occurs within the quarterly monitoring period.

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 as defined in Part IV of this permit.

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 shall be taken after final treatment at the following monitoring coordinates: Latitude: 34° 25' 10.7" N; Longitude: 92° 7' 15.7" W

SECTION B. PERMIT COMPLIANCE

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

1. Compliance is required on the effective date of the permit.
2. The permittee must conduct a PPS and complete Part V of EPA form 2C (i.e., analysis of effluent characteristics and potential toxic pollutants) at Outfall 002 at the next discharge. The PPS must be submitted to ADEQ within 90 days of the resulting discharge.

PART II OTHER CONDITIONS

1. The operator of this wastewater treatment facility shall be at least a Basic Industrial licensed by 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 Water Division of the ADEQ for use of the alternate method or instrument.
- The method and/or instrument is in compliance with 40 CFR Part 136 or approved in accordance with 40 CFR Part 136.5; 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. Stormwater runoff commingling with other process wastewater discharged from Outfall 002 shall be managed in accordance with Best Management Practices (BMPs) 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 (CWA). All spilled products and other spilled wastes must be immediately cleaned up and properly disposed. The permittee must amend the BMPs whenever there is a change in the facility or a change in the operation of the facility.

5. Best Management Practices (BMPs) for stormwater runoff commingling with other process wastewaters are activities, practices, maintenance procedures, and other management practices designed to prevent or reduce the pollution of waters of the State. BMPs also include treatment technologies, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw sewage. BMPs may include structural devices or nonstructural practices.

6. WHOLE EFFLUENT TOXICITY TESTING (48-HOUR ACUTE 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 OUTFALLS: 001 and 002

REPORTED ON DMR AS FINAL OUTFALL: 001 and 002

CRITICAL DILUTION (%): 47% (Outfall 001)
100% (Outfall 002)

EFFLUENT DILUTION SERIES (%): 20%, 26%, 35%, 47%, 63% (Outfall 001)
32%, 42%, 56%, 75%, 100% (Outfall 002)

TESTING FREQUENCY: once/quarter

COMPOSITE SAMPLE TYPE: Defined at PART II.6.3.d

TEST SPECIES/METHODS: 40 CFR Part 136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest 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.

Pimephales promelas (Fathead minnow) acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest 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 defined as the greatest effluent dilution at and below which toxicity that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Acute 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.

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 LETHALITY

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal effects at or below the critical dilution. Significant lethal effects are herein defined as a statistically significant difference at the 95% confidence level between the survival of the appropriate test organism in a specified effluent dilution and the control (0% effluent). 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 effects to a test species at or below the critical dilution, the frequency of testing for this species is automatically increased to once per quarter with no option for frequency reduction.

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 lethal 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 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 be 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.
- iii. The provisions of Item 2.a 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 lethal effects at or below the critical dilution. 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.

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. Each toxicity test control (0% effluent) must have a survival equal to or greater than 90%.
- ii. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: Daphnia pulex survival test; and Fathead minnow survival test.
- iii. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal effects are exhibited for: Daphnia pulex survival test; and Fathead minnow survival test.
- iv. 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 survival in the Daphnia pulex survival test or the survival endpoint 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.
- v. 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%.

b. Statistical Interpretation

For the Daphnia pulex survival test and the Fathead minnow survival test, the statistical analyses used to determine if there is a statistically 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-02-012 or the most recent update thereof.

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 90% 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 an 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., 48 hours);
 - (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 two 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 a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.
- ii. The permittee shall collect a second composite sample for use during the 24-hour renewal of each dilution concentration for both tests. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 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 between 0 and 6 degrees Centigrade during collection, shipping, and/or storage.

- iii. The permittee must collect both flow-weighted composite samples within the monitoring period. The second composite sample 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 such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis.
- 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. 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.

4. REPORTING

- a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this Part in accordance with the Report Preparation Section of EPA-821-R-02-012, 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 Survival results for each species during the reporting period. The full report 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 report the following 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. 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 or equal to the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM6C.
 - (B) Report the NOEC value for survival, Parameter No. TOM6C.
 - (C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM6C.
 - ii. Daphnia pulex
 - (A) If the NOEC for survival is less than or equal to the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D.
 - (B) Report the NOEC value for survival, Parameter No. TOM3D.
 - (C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM3D.
5. TOXICITY REDUCTION EVALUATION (TRE)
- a. Within ninety (90) days of confirming lethality in the retests, 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 TRE Action Plan shall lead to the successful elimination of effluent toxicity at the critical dilution and include 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) 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" (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 24 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.).
- b. 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.
 - c. 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 lethality at the critical dilution.

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

- d. The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming lethality 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 lethality 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.

- e. 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 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 Daphnia pulex).
- 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 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.

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- c. SURVIVAL FAILURES - If any test fails the survival 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.
 - d. This monitoring frequency reduction 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.
7. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.
8. Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to ADEQ that the units in a particular location cannot operate at or below this level of chlorination.
9. Chemicals containing the priority pollutants (Appendix A of 40 CFR Part 423), including Chromium and Zinc, cannot be used for cooling tower maintenance without the prior approval of this Department. The permit may be reopened to include additional effluent limitations / monitoring requirements as a result of Departmental approval.
10. For the purpose of this permit, daily temperature discharge is defined as the flow weighted average temperature (FWAT) and shall be monitored and recorded on a daily basis in accordance with Part III, Section C of this permit. FWAT shall be calculated at equal time intervals not greater than two hours. The method of calculating FWAT is as follows:
 - a.
$$\text{FWAT} = \frac{\text{Summation (Instantaneous Flow * Instantaneous Temperature)}}{\text{Summation (Instantaneous Flow)}}$$
 - b. "Daily average temperature" (also known as average monthly or maximum 30 day value) shall be the arithmetic mean of all FWAT's calculated during the calendar month.
11. The term "free available chlorine" shall mean the value obtained using the amperometric titration method for free available chlorine described in the latest edition of "Standard Methods for the Examination of Water and Wastewater" as approved by ADPC&E. If any individual analytical test result is less than the required minimum quantification level (MQL), a value of zero (0) may be used for that individual result for the Discharge Monitoring report (DMR) calculations and reporting requirements.
12. The "daily maximum" concentration means the maximum daily value of concentration for any calendar day.

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13. Sampling and reporting for Total Copper and Total Iron is only required when discharging chemical cleaning waste at Outfall 002.

14. Minimum Quantification Level for Metals

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)
Antimony, Total Recoverable	60
Arsenic, Total Recoverable	0.5
Beryllium, Total Recoverable	0.5
Cadmium, Total Recoverable	0.5
Chromium, Total Recoverable	10
Chromium (6+), Dissolved	10
Copper, Total Recoverable	0.5
Cyanide, Total Recoverable	0.5
Lead, Total Recoverable	0.5
Mercury, Total Recoverable	0.005
Nickel, Total Recoverable	0.5
Selenium, Total Recoverable	5
Silver, Total Recoverable	0.5
Thallium, Total Recoverable	0.5
Zinc, Total Recoverable	20

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:

$$\text{MQL} = 3.3 \times \text{MDL}$$

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.

15. Discharge requirements for Outfall 002

- a. The applicant is required to maintain adequate storage capacity for a storm event up to a 10-year, 24-hour storm event. This capacity must exclude 2.0 feet freeboard which must exist above the total volume required for normal operation plus the required storm surge capacity.
- b. The term "10-year, 24-hour storm event" means the maximum 24-hour precipitation event with a probable recurrence interval of once in ten years as defined by the U.S. Dept. of Commerce Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.
- c. All discharges from Outfall 002 must be caused by an amount of rainfall equivalent to a 10-year, 24-hour storm event. Discharge from Outfall 002 is allowable if multiple storm events on consecutive days produce a total rainfall amount equal to, or greater than, that of a single 10-year, 24-hour storm event. If a discharge occurs from Outfall 002 the permittee must submit rainfall intensity data with the DMR for the reporting period in which the discharge occurred.

16. Cooling Water Intake Structure

The Cooling Water Intake Structure (CWIS) must be operated and maintained in accordance with Best Management Practices (BMPs) for the closed cycle wet cooling tower system that will minimize any Adverse Environmental Impacts (AEI).

17. The monitoring requirement for chromium and zinc at Outfall 001 is waived during this permit term based on 40 CFR 122.44(a)(2). This waiver is only valid for the term of this permit. The permittee must request this monitoring waiver when applying for a reissued permit. The monitoring waiver request must be accompanied by a signed certification that the facility does not use cooling tower maintenance chemicals that contain chromium or zinc. The signed certification shall include the statements specified in 40 CFR Part 122.22(d).

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 statutes 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. Applicable Federal, State or Local Requirements

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal such as endangered species, state or local statute, ordinance or regulation.

11. 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 III.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 prior to removal of substances. Additionally, the permittee shall give at least 120 days prior notice to the Director of any change planned in the permittee's sludge disposal practice or land use applications, including types of crops grown (if applicable). Produced sludge shall be disposed of by land application only when meeting the following criteria:

- A. Sewage sludge from treatment works treating domestic sewage (TWTDS) must meet the applicable provisions of 40 CFR Part 503; and
- B. The sewage sludge has not been classified as a hazardous waste under state or federal regulations.

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.

Calculated Flow Measurement

For calculated flow measurements that are performed in accordance with either the permit requirements or a Department approved method (i.e., as allowed under Part II.4), the +/- 10% accuracy requirement described above is waived. This waiver is only applicable when the method used for calculation of the flow has been reviewed and approved by the Department.

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 provided by the Department or other form/method approved in writing by the Department (e.g., electronic submittal of DMR once approved). Monitoring results obtained during the previous monitoring period shall be summarized and reported on a DMR form postmarked no later than the 25th day of the month or submitted electronically by 6:00 p.m. of the 25th (after NETDMR is approved), following the completed reporting period beginning on the effective date of the permit. When mailing the DMRs, duplicate copies of the 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:

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 within 180 days and provide plans and specification (if applicable) to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility. In no case are any new connections, increased flows, removal of substances, or significant changes in influent quality permitted that cause violation of the effluent limitations specified herein.

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 III.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:
 - (a) 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
 - (b) 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:
 - (a) The chief executive officer of the agency, or
 - (b) 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).

14. Applicable Federal, State or Local Requirements

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal, state, or local statute, ordinance, policy, or regulation.

PART IV DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act and 40 CFR 122.2 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. **“APCEC”** means the Arkansas Pollution Control and Ecology Commission.
4. **“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.
5. **“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.
6. **“Bypass”** As defined at 122.41(m).
7. **“Composite sample”** is a mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing a minimum of 4 effluent portions collected at equal time intervals (but not closer than one hour apart) during operational hours, within the 24-hour period, and combined proportional to flow or a sample collected at more frequent intervals proportional to flow over the 24-hour period.
8. **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.
 - A. **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.
 - B. **Concentration Calculations:** For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.
9. **Daily Maximum”** discharge limitation means the highest allowable “daily discharge” during the calendar month. The 7-day average for Fecal Coliform Bacteria (E-COLI) or E-Coli is the geometric mean of the values of all effluent samples collected during the calendar week in colonies per 100 ml.
10. **“Department”** means the Arkansas Department of Environmental Quality (**ADEQ**).
11. **“Director”** means the Director of the Arkansas Department of Environmental Quality.
12. **“Dissolved oxygen limit”**, shall be defined as follows:
 - A. When limited in the permit as a minimum monthly average, 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.

13. **“E-Coli”** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For E-Coli, report the monthly average as a 30-day geometric mean in colonies per 100 ml.
14. **“Fecal Coliform Bacteria (E-COLI)”** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For Fecal Coliform Bacteria (E-COLI) report the monthly average as a 30-day geometric mean in colonies per 100 ml.
15. **“Grab sample”** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
16. **“Industrial User”** means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
17. **“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.
18. **“Instantaneous Minimum”** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
19. **“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 (E-COLI) or E-Coli, report the monthly average, (see 30-day average below).
20. **“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.
21. **“POTW”** means a Publicly Owned Treatment Works.
22. **“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.
23. **“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.
24. **“7-day average”** Also known as Average weekly. means the highest allowable average of “daily discharges” over a calendar week, calculated as the sum of all “daily discharges” measured during a calendar week divided by the number of “daily discharges” measured during that week.
25. **“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.

26. **“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.
27. **“Visible sheen”** means the presence of a film or sheen upon or a discoloration of the surface of the discharge. A sheen can also be from a thin glistening layer of oil on the surface of the discharge.
28. **“MGD”** shall mean million gallons per day.
29. **“mg/l”** shall mean milligrams per liter or parts per million (ppm).
30. **“µg/l”** shall mean micrograms per liter or parts per billion (ppb).
31. **“cfs”** shall mean cubic feet per second.
32. **“ppm”** shall mean parts per million.
33. **“s.u.”** shall mean standard units.
34. **“Weekday”** means Monday – Friday.
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.

A. MONTHLY:

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

B. BI-MONTHLY:

is defined as two (2) calendar months or any portion of 2 calendar months for monitoring requirement frequency of once/2 months or more frequently.

C. 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.

D. 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.

E. **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.