

Permit Number: AR0049417  
AFIN: 30-00229

**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.),

Entergy Arkansas, LLC  
Hot Spring Plant

is authorized to discharge low volume wastewater and cooling tower blowdown from a facility located as follows: 696 Black Ranch Road, Malvern, AR 72104, approximately 5 miles southwest of Malvern and 0.5 mile west of Highway 67 in Hot Spring County, Arkansas. The applicant's mailing address is: P.O. Box 551, Little Rock, AR 72203.

Latitude: 34° 17' 46" N; Longitude: 92° 52' 10.7" W

to receiving waters named:

Ouachita River in Segment 2F of the Ouachita River Basin.

The outfall is located at the following coordinates:

Outfall 001: Latitude: 34° 18' 10" N; Longitude: 92° 55' 02" W

Internal Outfall 01A: Latitude: 34° 17' 49" N; Longitude: 92° 52' 02" W

Internal Outfall 01B: Latitude: 34° 17' 48" N; Longitude: 92° 52' 04" 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 180 days prior to the expiration date below for permit coverage to continue beyond the expiration date.

Effective Date:	July 1, 2018
1 <sup>st</sup> Minor Modification Effective Date:	January 17, 2019
2 <sup>nd</sup> Minor Modification Effective Date:	February 20, 2019
Expiration Date:	June 30, 2023



Caleb J. Osborne  
Associate Director, Office of Water Quality  
Arkansas Department of Environmental Quality

2-19-19

Minor Modification Issue Date

**PART I  
 PERMIT REQUIREMENTS**

**SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - low volume wastewater and 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 as well as Parts II and III. See Part IV for all definitions and calculations.

<u><b>Effluent Characteristics</b></u>	<u><b>Discharge Limitations</b></u>				<u><b>Monitoring Requirements</b></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	totalizing meter
Free Available Chlorine (FAC) <sup>4</sup>	0.14	0.35	0.2	0.5	once/month	grab
Oil and Grease (O & G)	42.5	63.8	10	15	once/month	grab
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/month	grab
Acute WET Testing <sup>1</sup>						
<b><u>Pimephales promelas (Acute)</u></b> <sup>1</sup> Pass/Fail Lethality (48-Hr NOEC) <b>TEM6C</b> Survival (48-Hr NOEC) <b>TOM6C</b> Coefficient of Variation (48-Hr NOEC) <b>TQM6C</b> Pass/Fail Retest 1 (48-Hr NOEC) 22418 Pass/Fail Retest 2 (48-Hr NOEC) 22419 Pass/Fail Retest 3 (48-Hr NOEC) 51444			Report (Pass=0/Fail=1) Report % Report % Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report (Pass=0/Fail=1)		once/quarter once/quarter once/quarter once/month <sup>2</sup> once/month <sup>2</sup> once/month <sup>2</sup>	composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup>
<b><u>Daphnia pulex (Acute)</u></b> <sup>1</sup> Pass/Fail Lethality (48-Hr NOEC) <b>TEM3D</b> Survival (48-Hr NOEC) <b>TOM3D</b> Coefficient of Variation (48-Hr NOEC) <b>TQM3D</b> Pass/Fail Retest 1 (48-Hr NOEC) 22415 Pass/Fail Retest 2 (48-Hr NOEC) 22416 Pass/Fail Retest 3 (48-Hr NOEC) 51443			Report (Pass=0/Fail=1) Report % Report % Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report (Pass=0/Fail=1)		once/quarter once/quarter once/quarter once/month <sup>2</sup> once/month <sup>2</sup> once/month <sup>2</sup>	composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup>

<sup>1</sup> See Condition No. 14 of Part II (WET Testing Requirements).  
<sup>2</sup> CONDITIONAL REPORTING: Use only if conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution). If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one routine toxicity test. If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under retest parameters.  
<sup>3</sup> Composite sample for WET testing is defined in Condition No. 14 of Part II.  
<sup>4</sup> FAC samples shall be representative of periods of chlorination. See Conditions Nos. 7 and 10 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 cooling tower blowdown and low volume wastewater are combined.

**PART I  
 PERMIT REQUIREMENTS**

**SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: INTERNAL OUTFALL 01A – 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 Internal Outfall 01A. Such discharges shall be limited and monitored by the permittee as specified below:

<u><b>Effluent Characteristics</b></u>	<u><b>Discharge Limitations</b></u>				<u><b>Monitoring Requirements</b></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	totalizing meter
Chromium, Total Recoverable (Cr) <sup>1</sup>	N/A	N/A	0.2	0.2	N/A <sup>1</sup>	N/A <sup>1</sup>
Zinc, Total Recoverable (Zn) <sup>1</sup>	N/A	N/A	1.0	1.0	N/A <sup>1</sup>	N/A <sup>1</sup>
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/month	grab

<sup>1</sup> Monitoring for Chromium and Zinc is waived during this permit term based on 40 CFR 122.44(a)(2). See Condition No. 11 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 at Internal Outfall 01A prior to combining with the low volume wastestream.

**PART I  
 PERMIT REQUIREMENTS**

**SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: INTERNAL OUTFALL 01B – low volume wastewater.**

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Internal Outfall 01B. Such discharges shall be limited and monitored by the permittee as specified below:

<u><b>Effluent Characteristics</b></u>	<u><b>Discharge Limitations</b></u>				<u><b>Monitoring Requirements</b></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	totalizing meter
Total Suspended Solids (TSS)	9	30	30	100	once/quarter	grab
Oil and Grease (O&G)	4.5	6	15	20	once/quarter	grab
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/quarter	grab

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 at Internal Outfall 01B prior to combining with the cooling tower blowdown wastestream.

**SECTION B. PERMIT COMPLIANCE SCHEDULE**

None.

## **PART II OTHER CONDITIONS**

1. The operator of this wastewater treatment facility shall hold at least a Basic Industrial license from the State of Arkansas in accordance with APC&EC Regulation No. 3.
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 Office of Water Quality 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.
- All associated devices are installed, calibrated, and maintained to ensure 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. Reserved.
5. There shall be no discharge of transformer fluid containing polychlorinated biphenyls or chemical metal cleaning wastewater.

6. The term *chemical metal cleaning wastewater* means any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning.
7. The term *free available chlorine* shall mean the value obtained using the amperometric titration method for free available chlorine described in the latest EPA approved edition of *Standard Methods for the Examination of Water and Wastewater*.
8. The term *low volume waste sources* means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations are otherwise established in this permit. Low volume waste sources include, but are not limited to: wastewaters from wet scrubber air pollution control systems, ion exchange water treatment system, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastes are not considered low volume waste sources.
9. The facility shall not utilize cooling tower maintenance chemicals containing chromium or zinc.
10. Free available chlorine shall not be discharged from any unit for more than two hours in any one day and not more than one unit may discharge free available chlorine at any one time unless the permittee can demonstrate to ADEQ that the units in a particular location cannot operate at or below this level of chlorination.
11. The monitoring requirement for chromium and zinc at Internal Outfall 01A 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 found in 40 CFR 122.22(d).
12. Clean Water Act Section 316(b) Conditions
  - A. The facility shall operate and maintain a closed-cycle recirculating cooling water system as defined in 40 CFR 125.92(c) in accordance with Best Management Practices (BMPs) that will minimize any Adverse Environmental Impacts (AEI) from the cooling water intake structure (CWIS).
  - B. The facility shall monitor the actual intake flows at a minimum frequency of daily. The monitoring must be representative of normal operating conditions, and must include measuring cooling water withdrawals, make-up water, and blow down volume. In lieu of daily intake flow monitoring, the facility may monitor the cycles of concentration at a

minimum frequency of daily. Actual intake flows may be calculated using the pump run time and pump capacity. The actual intake flows determined under this condition and the daily flow monitoring of blowdown at Outfall 01A, will satisfy the monitoring requirements under this condition. The daily monitoring records shall be retained in accordance with Part III.C.7 of this permit.

C. Pursuant to 40 CFR 125.98(b)(1), nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act.

13. In accordance with 40 CFR 423.15(a)(10)(i), the permittee shall not discharge detectable amounts of priority pollutants that are contained in chemicals used for cooling tower maintenance at final outfall 001. The priority pollutants are listed in Appendix A of 40 CFR 423. Prior to using any cooling tower maintenance chemical that contains any of the priority pollutants, the permittee shall submit either (1) calculations demonstrating that the priority pollutant contained in the chemical will not be detectable in the final discharge, or (2) analytical test results on the final discharge showing the priority pollutant was not detected as a result of using the chemical.

#### 14. WHOLE EFFLUENT TOXICITY TESTING (48-HOUR ACUTE NOEC FRESHWATER)

##### A. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL:	001
REPORTED ON DMR AS FINAL OUTFALL:	001
CRITICAL DILUTION (%):	5%
EFFLUENT DILUTION SERIES (%):	2.1%, 2.8%, 3.7%, 5%, and 6.7%
TESTING FREQUENCY:	once/quarter
COMPOSITE SAMPLE TYPE:	Defined at PART I
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.
- ii. 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.
  - iii. 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.

#### B. 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 retests 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 a frequency reduction, as specified in Item F, has been granted and any subsequent 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 for the life of the permit.

##### i. Part I Testing Frequency Other Than Monthly

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

- b. If any of the retests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item E 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.
- c. The provisions of Item B.i are suspended upon submittal of the TRE Action Plan.

### C. REQUIRED TOXICITY TESTING CONDITIONS

#### i. 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:

- a. Each toxicity test control (0% effluent) must have a survival equal to or greater than 90%.
- b. 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.
- c. 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.
- d. 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.
- e. 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%.

#### ii. 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 C.i 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 D below.

iii. Dilution Water

- a. 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;
  - (1) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and
  - (2) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.
- b. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item C.i), 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:
  - (1) a synthetic dilution water control which fulfills the test acceptance requirements of Item C.i was run concurrently with the receiving water control;
  - (2) the test indicating receiving water toxicity has been carried out to completion (i.e., 48 hours);
  - (3) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item D below; and
  - (4) 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.

iv. Samples and Composites

- a. The permittee shall collect two flow-weighted composite samples from the outfall(s) listed at Item A.i 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.
- b. 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.
- c. 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.
- d. 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.
- e. 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 D of this section.

#### D. REPORTING

- i. 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 or retest which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

- ii. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit. 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.
- iii. The permittee shall report the following results of each valid toxicity test and retest on the subsequent monthly DMR for that reporting period in accordance with PART III.D.4 of this permit. Only results of valid tests are to be reported on the DMR.
  - a. Pimephales promelas (Fathead minnow)
    - (1) If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM6C.
    - (2) Report the NOEC value for survival, Parameter No. TOM6C.
    - (3) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM6C.
    - (4) If conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution):
      - (A) Consecutive Monthly Retest 1: If the NOEC for P. promelas is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 22418;
      - (B) Consecutive Monthly Retest 2: If the NOEC for P. promelas is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 22419;
      - (C) Consecutive Monthly Retest 3: If the NOEC for P. promelas is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 51444;
      - (D) If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one routine toxicity test;
      - (E) If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under Parameter Nos. 22418, 22419, 51444
  - b. Daphnia pulex

- (1) If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D
- (2) Report the NOEC value for survival, Parameter No. TOM3D.
- (3) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM3D.
- (4) If conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution):
  - (A) Consecutive Monthly Retest 1: If the NOEC for D. pulex is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 22415;
  - (B) Consecutive Monthly Retest 2: If the NOEC for D. pulex is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 22416;
  - (C) Consecutive Monthly Retest 3: If the NOEC for D. pulex is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 51443;
  - (D) If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one routine toxicity test;
  - (E) If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under Parameter Nos. 22415, 22416, and 51443

E. TOXICITY REDUCTION EVALUATION (TRE)

- i. 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:
  - a. 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

- b. 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;
- c. 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;
- d. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and
- e. Project Organization (e.g., project staff, project manager, consulting services, etc.).

- ii. 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.
- iii. 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:
  - a. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
  - b. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and
  - c. 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.
- iv. 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.
- v. 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).

F. MONITORING FREQUENCY REDUCTION

- i. 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 A.i.) of the current permit term 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).



- ii. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item C.i. 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.
- iii. SURVIVAL FAILURES - Monthly retesting is not required if the permittee is performing a TRE.
- iv. Any monitoring frequency reduction granted applies only until the expiration date of this permit, at which time the monitoring frequency for both test species reverts to once per quarter until the permit is re-issued.

## **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.
- B. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.
- C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- 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 APC&EC Regulation No. 9 (Permit fees) as required by Part III.A.11 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 APC&EC 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 APC&EC 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 for “Bypass of Treatment Facilities” (Part III.B.4), and “Upset” (Part III.B.5), 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 (Ark. Code Ann. § 8-4-101 et seq.).

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 requirements such as endangered species, state or local statute, ordinance or regulation.

11. **Permit Fees**

The permittee shall comply with all applicable permit fee requirements (i.e., including annual permit fees following the initial permit fee that will be invoiced every year the permit is active) for wastewater discharge permits as described in APC&EC 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 APC&EC Regulation No. 6 and the provisions of APC&EC 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 ensure 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**

“Bypass” means the intentional diversion of waste streams from any portion of a treatment facility, as defined at 40 CFR 122.41(m)(1)(i).

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.
  - (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.
  - 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**

- A. Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State. The Permittee must comply with all applicable state and Federal regulations governing the disposal of sludge, including but not limited to 40 CFR Part 503, 40 CFR Part 257, and 40 CFR Part 258.
- B. Reserved.

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 discharge shall be monitored.

2. **Flow Measurement**

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure 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.3), 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 ensure accuracy of measurements and shall ensure 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 ensure 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**

40 CFR 127.11 (a)(1) and 40 CFR 127.16 (a) require that monitoring reports must be reported on a Discharge Monitoring Reports (DMR) and filed electronically. Signatory Authorities must initially request access for a NetDMR account. Once a NetDMR account is established, access to electronic filing should use the following link <https://netdmr.epa.gov>. Permittees who are unable to file electronically may request a waiver from the Director in accordance with 40 CFR 127.15. Monitoring results obtained during the previous monitoring period shall be summarized and reported on a DMR dated and submitted no later than the 25<sup>th</sup> day of the month, following the completed reporting period beginning on the effective date of the permit.

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 individual(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.
- 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.
- 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 to the Director as soon as possible but no later than 180 days prior to any planned physical alterations or additions to the permitted facility [40 CFR 122.41(l)]. Notice is required only when:

- A. The alteration or addition to a permitted facility may meet one of the criteria for new sources at 40 CFR 122.29(b).
- B. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants subject to effluent limitations in the permit, or to the notification requirements under 40 CFR 122.42(b).

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.
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.

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 Office of Water Quality 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 Office of Water Quality 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 Director shall be notified as soon as the permittee 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).

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 APC&EC 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.
  - (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.
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.
  - (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).
  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 APC&EC 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 (Ark. Code Ann. § 8-4-101 et seq.).

## 14. **Other Information**

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

## 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. **“APC&EC”** 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 (APC&EC) Regulation No. 2, as amended.
6. **“Best Management Practices (BMPs)”** 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.
7. **“Bypass”** means the intentional diversion of waste streams from any portion of a treatment facility, as defined at 40 CFR 122.41(m)(1)(i).
8. **“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.
9. **“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.
10. **“Daily Maximum”** discharge limitation means the highest allowable “daily discharge” during the calendar month.
11. **“Department”** means the Arkansas Department of Environmental Quality (ADEQ).
12. **“Director”** means the Director of the Arkansas Department of Environmental Quality.

13. **“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.
14. **“E-Coli”** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For E-Coli, report the Daily Maximum as the highest “daily discharge” during the calendar month, and the Monthly Average as the geometric mean of all “daily discharges” within a calendar month, in colonies per 100 ml.
15. **“Fecal Coliform Bacteria (FCB)”** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For FCB, report the Daily Maximum as the highest “daily discharge” during the calendar month, and the Monthly Average as the geometric mean of all “daily discharges” within a calendar month, in colonies per 100 ml.
16. **“Grab sample”** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
17. **“Industrial User”** means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
18. **“Instantaneous flow measurement”** means the flow measured during the minimum time required for the flow-measuring device or method to produce a result in that instance. To the extent practical, instantaneous flow measurements coincide with the collection of any grab samples required for the same sampling period so that together the samples and flow are representative of the discharge during that sampling period.
19. **“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.
20. **“Instantaneous Minimum”** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
21. **“Monthly Average”** means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month. For Fecal Coliform Bacteria (FCB) or E-Coli, report the Monthly Average as the geometric mean of all “daily discharges” within a calendar month.
22. **“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 25<sup>th</sup> 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 25<sup>th</sup> 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.

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.

23. **“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.
24. **“POTW”** means Publicly Owned Treatment Works;
25. **“Reduction of CBOD5/BOD5 and TSS in mg/l Formula”**  
$$[(\text{Influent} - \text{Effluent}) / \text{Influent}] \times 100$$
26. **“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.
27. **“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.
28. **“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. The 7-Day Average for Fecal Coliform Bacteria (FCB) or E-Coli is the geometric mean of the “daily discharges” of all effluent samples collected during a calendar week in colonies per 100 ml.



29. **“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.
30. **Units of Measure:**  
    **“MGD”** shall mean million gallons per day.  
    **“mg/l”** shall mean milligrams per liter or parts per million (ppm).  
    **“µg/l”** shall mean micrograms per liter or parts per billion (ppb).  
    **“cfs”** shall mean cubic feet per second.  
    **“ppm”** shall mean parts per million.  
    **“s.u.”** shall mean standard units.
31. **“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.
32. **“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.
33. **“Weekday”** means Monday – Friday.

## Final Fact Sheet

This Fact Sheet is for information and justification of the permit limits only. Please note that it is not enforceable. This permitting decision is for the renewal of discharge Permit Number AR0049417 with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 30-00229 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, LLC - Hot Spring Plant  
P.O. Box 551  
Little Rock, AR 72203

The facility address is:

Entergy Arkansas, LLC - Hot Spring Plant  
696 Black Ranch Road  
Malvern, AR 72104

### 3. PREPARED BY

The permit was prepared by:

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### 4. PERMIT ACTIVITY

Previous Permit Effective Date:	December 1, 2012
Previous Permit Modification Date:	December 6, 2012
Previous Permit Expiration Date:	November 30, 2017

The permittee submitted a permit renewal application on May 25, 2017, with all additional information received by June 19, 2017. The discharge permit is reissued for a 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:

APC&EC - Arkansas Pollution Control and Ecology Commission

BAT - best available technology economically achievable

BCT - best conventional pollutant control technology

BMP - best management practice

BOD<sub>5</sub> - five-day biochemical oxygen demand

BPJ - best professional judgment

BPT - best practicable control technology currently available

CBOD<sub>5</sub> - 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

FCB - fecal coliform bacteria

gpm - gallons per minute

MGD - million gallons per day

MQL - minimum quantification level

NAICS - North American Industry Classification System

NH<sub>3</sub>-N - ammonia nitrogen

NO<sub>3</sub> + NO<sub>2</sub>-N - nitrate + nitrite nitrogen

NPDES - National Pollutant Discharge Elimination System

O&G - oil and grease

Reg. 2 - APC&EC Regulation No. 2

Reg. 6 - APC&EC Regulation No. 6

Reg. 8 - APC&EC Regulation No. 8

Reg. 9 - APC&EC 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  
USGS - United States Geological Survey  
WET - Whole effluent toxicity  
WQMP - water quality management plan  
WQS - Water Quality standards  
WWTP - wastewater treatment plant

Compliance and Enforcement History:

The compliance and enforcement history for this facility can be reviewed by using the following web link:

[https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0049417\\_Compliance%20Review\\_20170615.pdf](https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0049417_Compliance%20Review_20170615.pdf)

**5. 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. Part III.C.5 of the permit now requires that DMRs be submitted electronically via NetDMR.
2. Requirements for compliance with §316(b) of the Clean Water Act have been included in the permit.
3. The critical dilution and dilution series for the Acute WET testing at Outfall 001 have changed due to a lower monthly average flow. See Item Nos. 8.A and 12 of this Fact Sheet for additional information.

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

The outfall is located at the following coordinates based on the permit application and confirmed with Google Earth using WGS84:

Latitude: 34° 18' 10" N; Longitude: 92° 55' 02" W

Internal outfalls are located at the following coordinates:

Internal Outfall 01A: Latitude: 34° 17' 49" N; Longitude: 92° 52' 02" W  
Internal Outfall 01B: Latitude: 34° 17' 48" N; Longitude: 92° 52' 04" W

The receiving waters named:

Ouachita River in Segment 2F of the Ouachita River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C.) of 8040102 and reach #007 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.

**7. 303(d) LIST, TOTAL MAXIMUM DAILY LOADS, ENDANGERED SPECIES, AND ANTI-DEGRADATION CONSIDERATIONS**

**A. 303(d) List**

This facility discharges to Reach 006 of the Ouachita River. This reach is not on the 2016 303(d) list. Therefore, no additional permit action is required.

**B. Applicable Total Maximum Daily Load (TMDL) Reports**

No TMDLs are applicable to this facility.

**C. 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.

The Department of Arkansas Heritage identified the following species of conservation concern within five miles downstream of the outfall in a letter dated February 13, 2018:

*Anguilla rostrata*, American eel – state concern  
*Lampsilis abrupta*, pink mucket – federal concern (endangered)  
*Obovaria olivaria*, hickorynut – state concern  
*Pleurobema rubrum*, Pyramid Pigtoe – state concern  
*Pleurobema sintoxia*, Round Pigtoe – state concern  
*Polyodon spathula*, paddlefish – state concern  
*Quadrula cylindrica cylindrica*, rabbitsfoot – federal concern (threatened)

Reach #007 of the Ouachita River in H.U.C. 8040102 has been designated as a Critical Habitat for *Quadrula cylindrica cylindrica* by the USFWS.

The limits in the permit are designed to protect all beneficial uses of the receiving waters, including propagation of desirable species of fish and other aquatic life, which includes the above species of concern. Therefore, ADEQ has determined that the final permit limits will serve to help protect the species of concern identified above.

#### **D. Anti-Degradation**

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

### **8. OUTFALL, TREATMENT PROCESS DESCRIPTION, AND FACILITY CONSTRUCTION**

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

#### **A. Highest Monthly Average Flows:**

Outfall 001 – 0.23 MGD (September 2015)  
Internal Outfall 01A – 0.22 MGD (September 2015)  
Internal Outfall 01B – 0.036 MGD (maximum projected flow from engineering flow diagram during maximum summer ambient conditions)

#### **B. Type of Treatment:**

Outfall 001 – no additional treatment  
Internal Outfall 01A – none  
Internal Outfall 01B – oil/water separator

#### **C. Discharge Description:**

Outfall 001 – cooling tower blowdown & low volume wastewater  
Internal Outfall 01A – cooling tower blowdown  
Internal Outfall 01B – low volume wastewater

#### **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.

## 9. ACTIVITY

Under the Standard Industrial Classification (SIC) code of 4911 or North American Industry Classification System (NAICS) code of 221112, the applicant's activities are the operation of a steam electric power generating station.

## 10. SEWAGE SLUDGE AND SOLIDS PRACTICES

Sanitary wastewater is collected in two tanks. These tanks are emptied as necessary and the contents hauled off site by a licensed septic tank hauler.

## 11. DEVELOPMENT AND BASIS FOR PERMIT CONDITIONS

The Arkansas Department of Environmental Quality has determined 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), and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.). All of the information contained in the application, including all of the submitted effluent testing data, was reviewed to determine the need for effluent limits and other permit requirements.

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 (combined wastestreams of Cooling Tower Blowdown and Low Volume Wastewater)								
FAC	N/A	N/A	0.2 <sup>1</sup>	0.5 <sup>1</sup>	0.2	0.5	0.2	0.5
O&G	10	15	N/A	N/A	10	15	10	15
pH	6.0-9.0 s.u.		N/A	N/A	6.0-9.0 s.u.		6.0-9.0 s.u.	
Internal Outfall 01A (cooling tower blowdown)								
Chromium, Total Rec.	N/A	N/A	0.2	0.2	N/A	N/A	0.2 <sup>2</sup>	0.2 <sup>2</sup>
Zinc, Total Rec.	N/A	N/A	1.0	1.0	N/A	N/A	1.0 <sup>2</sup>	1.0 <sup>2</sup>
pH	N/A		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	
Internal Outfall 01B (low volume wastewater)								
TSS	N/A	N/A	30	100	30	100	30	100
O & G	N/A	N/A	15	20	15	20	15	20
pH	N/A		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	

<sup>1</sup> Technology-based FAC limits are applied at Outfall 001 instead of Internal Outfall 01A since the sodium bisulfite injection system used for dechlorination treats the combined wastestreams from Internal Outfalls 01A and 01B prior to discharge at the final outfall. FAC mass limits were included for Outfall 001 which are based on the 2 hr/day/unit discharge limitation and were calculated using only the flow rate from the regulated wastestream (cooling tower blowdown).

<sup>2</sup> Technology-based Chromium and Zinc limits are included in the permit but monitoring requirements for these pollutants are waived during this permit term based on a certification submitted by the facility that no cooling tower maintenance chemicals containing these parameters are used at the facility.

**A. Justification for Limitations and Conditions of the Permit**

Parameter	Water Quality or Technology	Justification
<b>Outfall 001</b>		
FAC <sup>1</sup>	Technology	40 CFR 423.15(a)(10)(i), 122.44(l), and previous permit
O&G	Water Quality	Reg. 2.510, CWA §402(o), and previous permit
pH	Water Quality	Reg. 2.504, CWA §402(o), and previous permit



Parameter	Water Quality or Technology	Justification
Acute WET testing	Water Quality	Arkansas Continuing Planning Process
<b>Internal Outfall 01A</b>		
Chromium, Total Rec. <sup>2</sup>	Technology	40 CFR 423.15(a)(10)(i), 122.44(l), and previous permit
Zinc, Total Rec. <sup>2</sup>	Technology	40 CFR 423.15(a)(10)(i), 122.44(l), and previous permit
pH	Technology	40 CFR 423.15(a)(1), 122.44(l), and previous permit
<b>Internal Outfall 01B</b>		
TSS	Technology	40 CFR 423.15(a)(3), 122.44(l), and previous permit
O&G	Technology	40 CFR 423.15(a)(3), 122.44(l), and previous permit
pH	Technology	40 CFR 423.15(a)(1), 122.44(l), and previous permit

- <sup>1</sup> Technology-based FAC limits are applied at Outfall 001 instead of Internal Outfall 01A since the sodium bisulfite injection system used for dechlorination treats the combined wastestreams from Internal Outfalls 01A and 01B prior to discharge at the final outfall. FAC mass limits were included for Outfall 001 which are based on the 2 hr/day/unit discharge limitation and were calculated using only the flow rate from the regulated wastestream (cooling tower blowdown).
- <sup>2</sup> Technology-based Chromium and Zinc limits are included in the permit but monitoring requirements for these pollutants are waived during this permit term based on a certification submitted by the facility that no cooling tower maintenance chemicals containing these parameters are used at the facility.

No new information was received to warrant adding, removing, or revising any concentrations limitations in the permit. Therefore, the concentration limitations in the permit are consistent with the concentrations limitations in the previous permit. The mass limits have been revised using the updated average flows (Item No. 8.A of this Fact Sheet) and the formula in Item No. 11.C.1 below.

**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 CWA 402(o)(2), CWA 303(d)(4), or 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.

Outfall 001

Outfall 001: A flow of 0.23 MGD (highest average flow September 2015) was used for O&G mass limit calculations.

Internal Outfall 01A: A flow of 0.22 MGD (highest monthly average cooling tower blowdown flow occurring September 2015) was used for FAC mass limit calculations.

Free Available Chlorine

Mass limits were included for Free Available Chlorine (FAC) at Outfall 001 pursuant to 40 CFR 423.15(j)(2), which states that FAC shall not be discharged more than two hours per day per unit. The mass limits for FAC are calculated as follows:

Technology-based limits for cooling tower blowdown are 0.2 mg/l (monthly average) and 0.5 mg/l (daily maximum). Outfall 001 consists of the combined wastestreams of cooling tower blowdown and low volume wastewater. In order to apply the technology-based limits to final Outfall 001, these limits must be calculated using only the flow from the cooling tower blowdown. The mass limits are calculated as follows using only the average flow reported for the cooling tower blowdown during September 2015 (0.22 MGD). By excluding the flow from the low volume wastestream in this calculation, the resulting limits ensure that dilution from the low volume wastestream is not used to achieve compliance.

Monthly avg mass =  $(0.2 \text{ mg/L})(8.34)(0.22 \text{ mgd})(2 \text{ hr/day/unit})(2 \text{ units}) / 24 \text{ hr/day}$   
**Monthly avg mass = 0.06 lb/day**

Daily max mass =  $(0.421 \text{ mg/L})(8.34)(0.22 \text{ mgd})(2 \text{ hr/day/unit})(2 \text{ units}) / 24 \text{ hr/day}$   
**Daily max mass = 0.13 lb/day**

### Oil & Grease

The O&G limits at Outfall 001 are water-quality based limits. Therefore, the mass limits were calculated using the September 2015 flow rate in conjunction with the water-quality based concentration limits as follows:

Monthly avg mass =  $(10 \text{ mg/L})(8.34)(0.23 \text{ mgd}) = 19.2 \text{ lb/day}$   
Daily max mass =  $(15 \text{ mg/L})(8.34)(0.23 \text{ mgd}) = 28.8 \text{ lb/day}$

### Internal Outfall 01B

Internal Outfall 01B: A flow of 0.036 MGD (maximum projected flow from engineering flow diagram during maximum summer ambient conditions) was used for TSS and O&G mass limit calculations.

TSS monthly average mass limit =  $(0.036 \text{ MGD})(8.34)(30 \text{ mg/L}) = 9.0 \text{ lb/day}$   
TSS daily maximum mass limit =  $(0.036 \text{ MGD})(8.34)(100 \text{ mg/L}) = 30.0 \text{ lb/day}$

O&G monthly average mass limit =  $(0.036 \text{ MGD})(8.34)(15 \text{ mg/L}) = 4.5 \text{ lb/day}$   
O&G daily maximum mass limit =  $(0.036 \text{ MGD})(8.34)(20 \text{ mg/L}) = 6.0 \text{ lb/day}$

## 2. Daily Maximum Limits:

### Outfall 001

FAC daily maximum concentration limit is based on 40 CFR 423.15(a)(10)(i).

FAC daily maximum mass limit is based only on flow rate from the cooling tower blowdown (0.22 MGD), the concentration specified in 40 CFR 423.15(a)(10)(i), and the limitation on the duration of chlorine discharges in 40 CFR 423.15(a)(10)(ii).

O&G daily maximum concentration limit is based on Reg. 2.510. The daily maximum mass limit is based on the flow rate from Outfall 001 (0.23 MGD) and the concentration specified in Reg. 2.510.

Internal Outfall 01A

Chromium and Zinc daily maximum concentration limits are based on 40 CFR 423.15(a)(10)(i).

Internal Outfall 01B

TSS and O&G daily maximum concentration limits are based on 40 CFR 423.15(a)(3).

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

There are no changes to the 208 Plan.

**E. 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. Since this facility was constructed after 11/19/1982, the New Source Performance Standards within this effluent limitation guideline are applicable to this facility.

These technology-based limits are summarized in the tables below:

40 CFR Part 423.15(a)(10)(1) Technology-based Effluent Limits for Cooling Tower Blowdown		
Pollutant	Monthly Average	Daily Maximum
Free Available Chlorine	0.2 mg/L	0.5 mg/L
The priority pollutants contained in chemicals added for cooling tower maintenance, except for Chromium and Zinc	No detectable amount	No detectable amount
Chromium, Total Recoverable	0.2 mg/L	0.2 mg/L
Zinc, Total Recoverable	1.0 mg/L	1.0 mg/L
pH	6.0 – 9.0 s.u. (40 CFR 423.15(a)(1))	

40 CFR Part 423.15(a)(3) Technology-based Effluent Limits for Low Volume Wastewater		
Pollutant	Monthly Average	Daily Maximum
Total Suspended Solids	30 mg/L	100 mg/L
Oil & Grease	15 mg/L	20 mg/L
pH	6.0 – 9.0 s.u. (40 CFR 423.15(a)(1))	

Technology-based Effluent Limits Included in the Permit		
Internal Outfall 01A (Cooling Tower Blowdown)		
Pollutant	Monthly Average	Daily Maximum
Zinc, Total Recoverable	1.0 mg/L*	1.0 mg/L*
Chromium, Total Recoverable	0.2 mg/L*	0.2 mg/L*
pH	6.0 – 9.0 s.u.	

\* Chromium and Zinc monitoring at Internal Outfall 01A is waived during this permit term because the facility has certified that no cooling tower maintenance chemicals containing chromium or zinc are used at this facility.

Technology-based Effluent Limits Included in the Permit		
Internal Outfall 01B (Low Volume Wastewater)		
Pollutant	Monthly Average	Daily Maximum
TSS	30 mg/L	100 mg/L
Oil & Grease	15 mg/L	20 mg/L
pH	6.0 – 9.0 s.u.	

Technology-based Effluent Limits Included in the Permit		
Outfall 001 (combined discharge of Cooling Tower Blowdown and Low Volume Wastewater)		
Pollutant	Monthly Average	Daily Maximum
FAC	0.2 mg/L*	0.5 mg/L*
Priority pollutants contained in cooling tower maintenance chemicals	See Condition Nos. 12 and 13 of Part II of the permit.	

\*Mass limits are also included in the permit for FAC. These mass limits were calculated using only the flow from the cooling tower blowdown (excluding the flow from low volume wastewater) so that flow from the unregulated wastestream for FAC would not be used as a dilution stream to increase the mass limit.

#### Chemical metal cleaning wastes

The permit does not include the effluent guideline limits for chemical metal cleaning wastes in 40 CFR Part 423.15(a)(4) because any wastewater generated by metal cleaning activities is collected, characterized, then transported off-site for proper disposal, and no metal cleaning waste is authorized to be discharged as stated in Part II, Condition No. 5 of the permit.

F. **Power Plant Regulations**

1. 316(b) Requirements for Cooling Water Intake Structures (CWIS)

EPA promulgated the Existing Facilities Rule pursuant to Clean Water Act Section 316(b) on August 15, 2014. The rule became effective on October 14, 2014. This Existing Facilities Rule is found in Subpart J of 40 CFR Part 125 (125.90 through 125.99). Subpart J establishes the 316(b) requirements that apply to CWIS at existing facilities for the purpose of minimizing adverse environmental impact associated with the use of CWIS. The requirements are established and implemented in NPDES permits.

Subpart J is applicable to existing facilities that commenced construction on or before January 17, 2002. Since this facility commenced construction in January 2001, this facility is defined as an existing facility as defined in 40 CFR 125.92(k). Existing facilities are subject to Subpart J if all of the following items are true:

- (1) The facility is a point source;
- (2) The facility uses or proposes to use one or more CWIS with a cumulative design intake flow of greater than 2 million gallons per day (MGD) to withdraw water from waters of the United States; and
- (3) Twenty-five percent (25%) or more of the water the facility withdraws on an actual intake flow basis is used exclusively for cooling purposes.

This facility is a point source, the design intake flow of the CWIS associated with this facility is 12.9 MGD, and the facility uses at least 25% of the water withdrawn exclusively for cooling purposes. Therefore, this facility is subject to Subpart J for existing facilities. Subpart J requires the facility to choose one of seven options that represent Best Technology Available (BTA) for impingement (IM), and also requires the permitting authority to determine BTA for entrainment (E) on a site-specific basis based on the information submitted in the permit application.

The CWIS is equipped with a vertical bar screen followed by a wedgewire fish screen in a reinforced concrete structure located on the riverbank. The wedgewire fish screen bar thickness and spacing were designed to maintain the intake velocity less than 0.5 fps at the design intake flow. The facility cooling system is a closed-cycle recirculating cooling system using a 10-cell mechanical draft cooling tower. Pursuant to Subpart J, the operation of this type of cooling system and monitoring the actual intake flows or cycles of operation on a daily basis is a pre-approved BTA for minimizing impingement mortality with no biological monitoring (IM or E) required.

Based on the information submitted in the application, the facility has chosen to comply with the BTA standard for impingement mortality by operating a closed-cycle

recirculating cooling system. With this permit, ADEQ establishes the BTA standard for entrainment to be the operation of a closed-cycle recirculating cooling system. In accordance with Part II.12 of the permit, the facility is required to operate and maintain the closed-cycle recirculating cooling system and cooling tower in accordance with Best Management Practices (BMPs) that will minimize any Adverse Environmental Impacts (AEIs) from the CWIS. Part II.12 of the permit also requires the facility to monitor the actual intake flow at least daily. This monitoring must be representative of normal operating conditions, and must include measuring cooling water withdrawals, make-up water, and blow down volume. In lieu of daily intake flow monitoring, the facility may monitor the cycles of concentration at least daily.

In accordance with 40 CFR 125.98(b)(1), the following language is also included in Part II.12 of the permit: "Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act."

2. Flue Gas Desulfurization (FGD) Wastestream Considerations

This facility does not employ an FGD scrubber system, thus there is no wastestream generated from this type of scrubber system.

3. Coal Combustion Residuals (CCR) Wastestream Considerations

This facility is natural gas fired and does not combust coal, therefore no CCR wastestreams are generated.

**G. 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
Discharge Flow = Q	0.23 MGD = 0.36 cfs	DMR Data
7Q10 Background Flow	271 cfs	U.S.G.S.
LTA Background Flow	813 <sup>1</sup> cfs	Calculated
TSS	2.0 mg/l	CPP
Hardness as CaCo <sub>3</sub>	31.0 mg/l	CPP
pH	6.27 s.u.	OUA0006, January 2016 – May 2017

<sup>1</sup> Technical Support Document, Section 4.6.2.2.a, LTA = 3 \* 7Q10.

The following pollutants were reported above detection levels. The concentrations reported are the geometric mean of two samples.

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Total Rec. Arsenic	46.65	0.5
Total Rec. Copper	20.5	0.5
Total Recoverable Nickel	3.41	0.5
Total Recoverable Zinc	37.52	20

Instream Waste Concentrations (IWCs) were calculated in the manner described in Appendix D of the CPP and compared to the applicable Criteria. The following tables summarize the results of the analysis. The complete evaluation can be viewed on the Department's website at the following address:

[https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0049417\\_PPS\\_20170622.pdf](https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0049417_PPS_20170622.pdf)

**1. Aquatic Toxicity Evaluation**

a. Acute Criteria Evaluation

Pollutant	Concentration Reported (C <sub>e</sub> ) µg/l	C <sub>e</sub> x 2.13 <sup>1</sup>	Instream Waste Concentration (IWC)	Criteria <sup>2</sup>	Reasonable Potential (Yes/No)
			Acute, µg/l	Acute, µg/l	
Total Rec. Copper	20.5	43.67	0.44	12.67	No



Pollutant	Concentration Reported ( $C_e$ ) $\mu\text{g/l}$	$C_e \times 2.13^1$	Instream Waste Concentration (IWC)	Criteria <sup>2</sup>	Reasonable Potential (Yes/No)
			Acute, $\mu\text{g/l}$	Acute, $\mu\text{g/l}$	
Total Recoverable Nickel	3.41	7.26	0.07	872.41	No
Total Recoverable Zinc	37.52	79.92	0.80	107.72	No

<sup>1</sup> Statistical ratio used to estimate the 95<sup>th</sup> percentile using a single effluent concentration or the geometric mean of a dataset.

<sup>2</sup> Criteria are from Reg. 2.508 unless otherwise specified.

b. Chronic Criteria Evaluation

Pollutant	Concentration Reported ( $C_e$ ) $\mu\text{g/l}$	$C_e \times 2.13^1$	Instream Waste Concentration (IWC)	Criteria <sup>2</sup>	Reasonable Potential (Yes/No)
			Chronic, $\mu\text{g/l}$	Chronic, $\mu\text{g/l}$	
Total Rec. Copper	20.5	43.67	0.23	9.37	No
Total Recoverable Nickel	3.41	7.26	0.04	96.89	No
Total Recoverable Zinc	37.52	79.92	0.42	98.36	No

<sup>1</sup> Statistical ratio used to estimate the 95<sup>th</sup> percentile using a single effluent concentration or the geometric mean of a dataset.

<sup>2</sup> Criteria are from Reg. 2.508 unless otherwise specified.

2. Human Health (Bioaccumulation) Evaluation

Pollutant	Concentration Reported ( $C_e$ ) $\mu\text{g/l}$	$C_e \times 2.13^1$	Instream Waste Concentration (IWC)	Criteria	Reasonable Potential (Yes/No)
Total Rec. Arsenic	46.65	99.36	0.04	1.4 <sup>2</sup>	No

<sup>1</sup> Statistical ratio used to estimate the 95<sup>th</sup> percentile using a single effluent concentration or the geometric mean of a dataset.

<sup>2</sup> Adapted from "National Recommended Water Quality Criteria: 2002 – Human Health Criteria Calculation Matrix", EPA. The respective WQC from the noted reference are Consumption of Organism Only values. The values from the reference are for a lifetime risk factor of  $10^{-6}$ . These values have been multiplied by 10 to correspond to human health criteria lifetime risk factor of  $10^{-5}$  as stated in Reg. 2.508.

ADEQ has determined from the submitted information that the discharge does not pose the reasonable potential to cause or contribute to an exceedance above a listed Criteria.

## 12. 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:

<b>TOXICITY TESTS</b>	<b>FREQUENCY</b>
48 hour Acute WET	Once/quarter

Requirements for measurement frequency are based on the CPP.

Since 7Q10 is greater than 100 cfs (ft<sup>3</sup>/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:

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

$$Q_d = \text{Average Flow} = 0.23 \text{ MGD} = 0.36 \text{ cfs}$$

$$7Q_{10} = 271 \text{ cfs}$$

$$Q_b = \text{Background flow} = 0.1 \times (0.25) \times 7Q_{10} = 6.78 \text{ cfs}$$

$$CD = ((0.36) / (0.36 + 6.78)) \times 100 = 5\%$$

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 2.1%, 2.8%, 3.7%, 5%, and 6.7% (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 5% effluent. 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 *Daphnia pulex* 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-821-R-02-012, October 2002 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 APC&EC Regulation No. 6. Increased or intensified toxicity testing may also be required in accordance with Section 308 of the Clean Water Act and Section 8-4-201 of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

#### Administrative Records

The following information summarized toxicity test submitted by the permittee during the term of the current permit at Outfall 001.

Permit Number:	ar0049417	AFIN:	30-00229	Outfall Number:	001
Date of Review:	6/27/2017	Reviewer:	M. Barnett		
Facility Name:	Entergy Arkansas Inc. - Hot Spring Plant				
Previous Dilution series:	4, 6, 8, 10, 13	Proposed Dilution Series:	2.1, 2.8, 3.7, 5.0, 6.7		
Previous Critical Dilution:	10	Proposed Critical Dilution:	5		
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**

TEST DATE	Vertebrate ( <i>Pimephales promelas</i> )		Invertebrate ( <i>Daphnia pulex</i> )	
	Lethal		Lethal	
	NOEC		NOEC	
3/31/2012	9		9	
6/30/2012	9		9	
9/30/2012	9		9	
12/31/2012	9		9	
3/31/2013	13		13	
6/30/2013	13		13	
9/30/2013	13		13	
12/31/2013	13		13	
6/30/2014	13		13	
12/31/2014	13		13	
6/30/2015	13		13	
12/31/2015	13		13	
6/30/2016	13		13	
12/31/2016	13		13	

**REASONABLE POTENTIAL CALCULATIONS**

	Vertebrate Lethal		Invertebrate Lethal	
<b>Min NOEC Observed</b>	9		9	
<b>TU at Min Observed</b>	11.11		11.11	
<b>Count</b>	14		14	
<b>Failure Count</b>	0		0	
<b>Mean</b>	8.669		8.669	
<b>Std. Dev.</b>	1.603		1.603	
<b>CV</b>	0.2		0.2	
<b>RPMF</b>	1.2		1.2	
<b>Reasonable Potential</b>	0.667		0.667	
<b>100/Critical dilution</b>	20.000		20.000	
<b>Does Reasonable Potential Exist</b>	No		No	

**PERMIT ACTION**

*P. promelas* acute - monitoring  
*D. pulex* acute - monitoring

**13. STORMWATER REQUIREMENTS**

All stormwater runoff from this facility is collected in an on-site detention pond and discharged under NPDES Industrial General Permit No. ARR00C348.

**14. SAMPLE TYPE AND FREQUENCY**

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

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
<b>Outfall 001</b>				
Flow	once/day	totalizing meter	once/day	totalizing meter
FAC	three/month	grab	once/month	grab
Oil & Grease	three/month	grab	once/month	grab
pH	three/month	grab	once/month	grab
Acute WET testing	once/quarter	24-hr composite	once/quarter	composite
<b>Internal Outfall 01A</b>				
Flow	once/day	totalizing meter	once/day	totalizing meter
pH	three/month	grab	once/month	grab
<b>Internal Outfall 01B</b>				
Flow	once/day	totalizing meter	once/day	totalizing meter
TSS	once/quarter	grab	once/quarter	grab
Oil & Grease	once/quarter	grab	once/quarter	grab
pH	once/quarter	grab	once/quarter	grab

**15. PERMIT COMPLIANCE SCHEDULE**

A Schedule of Compliance has not been included in this permit.

## 16. 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.

## 17. SOURCES

The following sources were used to draft the permit:

- A. Application No. AR0049417 received May 25, 2017, with all additional information received by June 19, 2017.
- B. Arkansas Water Quality Management Plan (WQMP).
- C. APC&EC Regulation No. 2.
- D. APC&EC Regulation No. 3.
- E. APC&EC Regulation No. 6 which incorporates by reference certain federal regulations included in Title 40 of the Code of Federal Regulations at Reg. 6.104.
- F. 40 CFR Parts 122 and 125.
- G. 40 CFR Part 423.
- H. Discharge permit file AR0049417.
- I. Discharge Monitoring Reports (DMRs).
- J. “2016 Integrated Water Quality Monitoring and Assessment Report”, ADEQ.
- K. “2016 List of Impaired Waterbodies (303(d) List)”, ADEQ, July 2016.
- L. “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.
- M. “Identification and Classification of Perennial Streams of Arkansas”, Arkansas Geological Commission.
- N. Continuing Planning Process (CPP).
- O. Technical Support Document For Water Quality-based Toxic Control.
- P. [Inspection Report](#) dated March 2, 2017.
- Q. [Compliance Review Memo](#) from Layne Pemberton to Loretta Reiber, P.E. dated June 15, 2017.

## 18. POINT OF CONTACT

For additional information, contact:

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

**RESPONSE TO COMMENTS  
FINAL PERMITTING DECISION**

Permit No.: AR0049417

Applicant: Entergy Arkansas Inc.  
Hot Spring Plant

Prepared by: Loretta Reiber, P.E.

The following are responses to comments received regarding the draft permit number above and are developed in accordance with regulations promulgated at 40 C.F.R. §124.17 as incorporated in APCEC Regulation 6.104(A)(5), APC&EC Regulation No. 8 Administrative Procedures, and A.C.A. §8-4-203(e)(2).

**Introduction**

The above permit was submitted for public comment on January 30, 2018. The public comment period ended on March 2, 2018.

This document contains a summary of the comments that the Arkansas Department of Environmental Quality (hereinafter “ADEQ”) received during the public comment period. A summary of the changes to the NPDES Permit can be found on the last page of this document.

The following people or organizations sent comments to the ADEQ during the public notice. A total of eight comments were raised by three separate commenters.

Commenter	Number of Comments Raised
1. United States Fish and Wildlife Service (USFWS)	1
2. Arkansas Natural Heritage Commission	1
3. Entergy Arkansas Inc.	6

**Comment 1:** The USFWS stated that the permitted site is considered a major industrial facility and is not subject to Phase I regulations for new facilities. ADEQ has no record of effluent violations or late DMRs and no violations on inspections from December 2014 or March 2017. The changes from the previous permit include critical dilution going from 4% to 5% as well as changes to report submission and compliance requirements.

The USFWS agrees that the renewal of the permit will allow the applicant to operate and maintain the facility in accordance with BMPs that will minimize any adverse environmental impacts from cooling water intake. The USFWS has no objections, regarding fish and wildlife resources, to the renewal of the permit with the proposed changes.

**Response 1:** The Department appreciates the USFWS’ review of the draft permit and acknowledges this comment.

**Comment 2:** The Arkansas Natural Heritage Commission stated that the following species of conservation concern are known to occur in the Ouachita River at or within five miles downstream of the outfall:

*Anguilla rostrata*, American eel – state concern

*Lampsilis abrupta*, pink mucket – federal concern (endangered)

*Obovaria olivaria*, hickorynut – state concern

*Pleurobema rubrum*, Pyramid Pigtoe – state concern

*Pleurobema sintoxia*, Round Pigtoe – state concern

*Polyodon spathula*, paddlefish – state concern

*Quadrula cylindrica cylindrica*, rabbitsfoot – federal concern (threatened)

Reach #007 of the Ouachita River in H.U.C. 8040102 has been designated as a Critical Habitat for *Quadrula cylindrica cylindrica* by the USFWS.

**Response 2:** The limits in the permit are designed to protect all beneficial uses of the receiving waters, including propagation of desirable species of fish and other aquatic life, which includes the above species of concern. Therefore, ADEQ has determined that the final permit limits will serve to help protect the species of concern identified above.

### Permittee Comments

**Comment 3:** The footnote for Outfall 001 states “...Oil, grease, or petrochemical substances shall not be present in receiving waters to the extent that they produce globules or other residue or any visible, colored film on the surface or coat the banks and/or bottoms of the waterbody or adversely affect any of the associated biota.”

The previous discharge permit for Outfalls 001, 01A, and 01B reads as follows: “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.”

The language used for Outfall 001 in the draft is confusing. It addresses the receiving waters and not the effluent discharge. It sounds as if the facility would be responsible for the receiving waters versus what is being discharged. The permittee requested that the language be changed so that the discharge is addressed as to how it affects the receiving waters or they ask that the previous permit language be used for Outfall 001.

**Response 3:** The Department concurs. The footnote will be modified as requested.

**Comment 4:** The permittee requested that the BMP condition be removed from Part II of the permit. All stormwater discharges associated with industrial activity at this facility are permitted under the general permit.

**Response 4:** Since all stormwater discharges requiring permitting are covered by the general permit, the BMP condition in Part II will be removed.



**Comment 5:** The CWA 316(b) cooling water intake structure requirements are incorporated in Part II.12 of the permit. Parts A, B, and C are new to the permit and address requirements associated with maintaining compliance with the regulation. Part B states “The facility shall monitor the actual intake flows at a minimum frequency of daily. The monitoring must be representative of normal operating conditions, and must include measuring cooling tower withdrawals, make-up water, and blow down volume...”

This requirement is somewhat vague. The permittee feels that monitoring daily intake would cover monitoring for cooling tower withdrawals as well as makeup water. The permit already requires that the blowdown be monitored once a day at Outfall 01A. In coordination during the renewal process, the Department personnel clarified that monitoring intake and blowdown on a daily basis would maintain compliance with the permit.

The permittee requests that language be included in the permit stating that monitoring intake flow and blowdown daily is acceptable to maintain compliance. If this language cannot be included, the permittee requests a meeting before finalization of the permit to discuss and clarify documentation of compliance with the new requirement.

**Response 5:** The Department agrees to further clarify Condition 12.B of Part II by adding the italicized language as shown below:

The facility shall monitor the actual intake flows at a minimum frequency of daily. The monitoring must be representative of normal operating conditions, and must include measuring cooling water withdrawals, make-up water, and blow down volume. In lieu of daily intake monitoring, the facility may monitor the cycles of concentration at a minimum frequency of daily. Actual intake flows may be calculated using the pump run time and pump capacity. *The actual intake flows determined under this condition and the daily flow monitoring of blowdown at Outfall 01A, will satisfy the monitoring requirements under this condition. The daily monitoring records shall be retained in accordance with Part III.C.7 of this permit.*

**Comment 6:** New language in Part III.B has been added to the permit and states that any changes to the disposal practices described in Part II of the permit will require 180 day notice to ADEQ. Does this address solids or effluent or other disposal? If it is solids, which the permittee assumes it is based on on the location of the condition, Part A of Part III.B.6 should cover removal. If it is effluent, Part III.D.1 covers notification. If it is other disposal, the permittee doesn't believe this permit would cover notification. The permittee requests this condition be removed or clarified.

**Response 6:** The Department concurs. Part III.B.6.B has been removed from the permit.

**Comment 7:** Part III.D.6 covers 24-hour reporting. Part A discusses non-compliance which may endanger health or the environment requiring 24-hour reporting and 5 day written follow-up. Part B lists the instances requiring 24-hour reporting. Number 3 of Part B states that a violation of the maximum daily discharge limitation for any pollutant listed in Part I of the permit should be reported to the Department within 24 hours. Although it doesn't say, the permittee is assuming that a 5 day written follow up would be required and a non-compliance report would be required at the time the DMR is submitted. It has been the permittee's

understanding in the past that only a violation endangering health or the environment required 24-hour reporting. However, the wording in the permit does not seem to support that understanding. The permittee requests clarification regarding this condition.

**Response 7:** The exceedance of the maximum daily permit limitation must be reported within 24 hours because such exceedances have the potential to endanger health or the environment. A written report may be required within 5 days if the Enforcement Section has not waived that requirement. Regardless if the 5 day report requirement is waived or not, a non-compliance report must still be submitted with the DMR.

**Comment 8:** Although the Fact Sheet is not an enforceable. The permittee would like to update and clarify Item No. 10. Sanitary waste at the plant is currently collected in two separate tanks. One tank receives sanitary waste from the warehouse area of the facility. The second tank receives waste from the administration and maintenance area. The tanks are emptied as necessary by a licensed septic tank hauler. The package plant that was covered by ARG550314 has been removed and the permit coverage terminated.

**Response 8:** The Department concurs. The change will be made as requested.