Permit Number: AR0049611
AFIN: 30-00337

# 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.),

Arkansas Electric Cooperative Corporation
Magnet Cove Generating Station

is authorized to discharge cooling tower blowdown and low volume wastewater from a facility located as follows: 410 Henderson Road, Malvern, AR 72104, 6.5 miles north of Malvern and 2.3 miles south of Magnet Cove near Hwy. 270 in Hot Spring County, Arkansas. The applicant's mailing address is: 1 Cooperative Way, Little Rock, AR 72219.

Latitude: 34° 25' 47.93" N; Longitude: 92° 50' 3.38" 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° 25' 41.4" N; | Longitude: 92° 51' 31.0" W |
| Internal Outfall 01A: | Latitude: 34° 25' 48.8" N; | Longitude: 92° 49' 59.3" W |
| Internal Outfall 01B: | Latitude: 34° 25' 48.8" N; | Longitude: 92° 49' 59.3" 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: November 1, 2018
Expiration Date: October 31, 2023

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

10.16.18
Issue Date

# PART I
# PERMIT REQUIREMENTS

**SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS:** OUTFALL 001 – combined wastestream consisting of cooling tower blowdown and 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 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.

| Effluent Characteristics | Discharge Limitations | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|
| | Mass (lbs/day, unless otherwise specified) | | Concentration (mg/l, unless otherwise specified) | | Frequency | Sample Type |
| | Monthly Avg. | Daily Max | Monthly Avg. | Daily Max | | |
| Flow | N/A | N/A | Report, MGD | Report, MGD | once/day | totalizing meter[3] |
| Total Suspended Solids (TSS) | 158 | 526 | 30 | 100 | once/month | grab |
| Oil and Grease (O&G) | 53 | 79 | 10 | 15 | once/month | grab |
| pH | N/A | N/A | Minimum 6.0 s.u. | Maximum 9.0 s.u. | once/month | grab |
| Acute WET Testing[1] | | | | | | |
| **Pimephales promelas (Acute)**[1] | | | | | | |
| Pass/Fail Lethality (48-Hr NOEC) **TEM6C** | | | Report (Pass=0/Fail=1) | | once/quarter | composite |
| Survival (48-Hr NOEC) **TOM6C** | | | Report % | | once/quarter | composite |
| Coefficient of Variation (48-Hr NOEC) **TQM6C** | | | Report % | | once/quarter | composite |
| Pass/Fail Retest 1 (48-Hr NOEC) 22418 | | | Report (Pass=0/Fail=1) | | once/month[2] | composite |
| Pass/Fail Retest 2 (48-Hr NOEC) 22419 | | | Report (Pass=0/Fail=1) | | once/month[2] | composite |
| Pass/Fail Retest 3 (48-Hr NOEC) 51444 | | | Report (Pass=0/Fail=1) | | once/month[2] | composite |
| **Daphnia pulex (Acute)**[1] | | | | | | |
| Pass/Fail Lethality (48-Hr NOEC) **TEM3D** | | | Report (Pass=0/Fail=1) | | once/quarter | composite |
| Survival (48-Hr NOEC) **TOM3D** | | | Report % | | once/quarter | composite |
| Coefficient of Variation (48-Hr NOEC) **TQM3D** | | | Report % | | once/quarter | composite |
| Pass/Fail Retest 1 (48-Hr NOEC) 22415 | | | Report (Pass=0/Fail=1) | | once/month[2] | composite |
| Pass/Fail Retest 2 (48-Hr NOEC) 22416 | | | Report (Pass=0/Fail=1) | | once/month[2] | composite |
| Pass/Fail Retest 3 (48-Hr NOEC) 51443 | | | Report (Pass=0/Fail=1) | | once/month[2] | composite |

1. See Condition No. 12 of Part II (WET Testing Requirements).
2. 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. (reported on a quarterly DMR).
3. In the event that the totalizing meter is malfunctioning, flow may be determined by manually measuring the head at the v-notch weir, provided the totalizing meter is repaired and returned to service as soon as possible.

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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. 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 the cooling tower blowdown and low volume wastewater are combined in the mixing tank, and prior to the receiving stream.

**PART I**
**PERMIT REQUIREMENTS**

**SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS:** 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 Outfall 01A. 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. This internal wastestream combines in a mixing tank with the low volume wastewater prior to discharge into a pipeline leading to Outfall 001.

| **Effluent Characteristics** | **Discharge Limitations** | | | | **Monitoring Requirements** | |
|---|---|---|---|---|---|---|
| | Mass (lbs/day, unless otherwise specified) | | Concentration (mg/l, unless otherwise specified) | | Frequency | Sample Type |
| | Monthly Avg. | Daily Max | Monthly Avg. | Daily Max | | |
| Flow | N/A | N/A | Report, MGD | Report, MGD | once/day | totalizing meter[3] |
| Free Available Chlorine (FAC)[2] | 0.1 | 0.3 | 0.2 | 0.5 | once/month | grab |
| Chromium, Total Recoverable[1] | 0.5 | 0.5 | 0.2 | 0.2 | n/a[1] | n/a[1] |
| Zinc, Total Recoverable[1] | 2.3 | 2.3 | 1.0 | 1.0 | n/a[1] | n/a[1] |
| pH | N/A | N/A | Minimum 6.0 s.u. | Maximum 9.0 s.u. | once/month | grab |

1. Monitoring for Chromium and Zinc is waived during this permit term based on 40 CFR 122.44(a)(2). See Conditions No. 9 and 10 of Part II.
2. FAC samples shall be representative of periods of chlorination. See Condition No. 7 of Part II.
3. In the event that the totalizing meter is malfunctioning, flow may be estimated based on water balance under the current operating condition, provided the totalizing meter is repaired and returned to service as soon as possible.

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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. 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 prior to combining with the low volume wastewater.

**PART I**
**PERMIT REQUIREMENTS**

**SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS:** 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 Outfall 01B. 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. This internal wastestream combines in a mixing tank with the cooling tower blowdown prior to discharge into a pipeline leading to Outfall 001.

| **Effluent Characteristics** | **Discharge Limitations** | | | | **Monitoring Requirements** | |
|---|---|---|---|---|---|---|
| | Mass (lbs/day, unless otherwise specified) | | Concentration (mg/l, unless otherwise specified) | | Frequency | Sample Type |
| | Monthly Avg. | Daily Max | Monthly Avg. | Daily Max | | |
| Flow | N/A | N/A | Report, MGD | Report, MGD | once/day | totalizing meter[3] |
| Total Suspended Solids (TSS) | 20.3 | 67.6 | 30 | 100 | once/month | grab |
| Oil and Grease (O&G) | 10.1 | 13.5 | 15 | 20 | once/month | grab |
| pH | N/A | N/A | Minimum 6.0 s.u. | Maximum 9.0 s.u. | once/month | grab |

1. In the event that the totalizing meter is malfunctioning, flow may be estimated based on water balance under the current operating condition, provided the totalizing meter is repaired and returned to service as soon as possible.

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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. 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 prior to combining with the cooling tower blowdown.

## SECTION B. PERMIT COMPLIANCE SCHEDULE

None.

# PART II
# OTHER CONDITIONS

1. The operator of this wastewater treatment facility shall hold 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. Best Management Practices (BMPs), as defined in Part IV.6, must be implemented for the facility to prevent or reduce the pollution of waters of the State from stormwater runoff, spills or leaks, and/or waste disposal. The permittee must amend the BMPs whenever there is a change in the facility or a change in the operation of the facility.

5. There shall be no discharge of chemical metal cleaning wastewater or transformer fluid containing polychlorinated biphenyls.

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* means the value obtained using any of the "chlorine-free available" methods in Table IB in 40 CFR 136.3(a) where the method has the capability of measuring free available chlorine, or other methods approved by the permitting authority.

8. The term *low volume wastewater* means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations or standards are otherwise established in 40 CFR Part 423. Low volume wastewater include, but are not limited to, the following: Wastewaters from ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, recirculating house service water systems, and wet scrubber air pollution control systems whose primary purpose is particulate removal. Sanitary wastes, air conditioning wastes, and wastewater from carbon capture or sequestration systems are not included in this definition.

9. The facility shall not utilize cooling tower maintenance chemicals containing chromium or zinc without first modifying this permit.

10. 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 in 40 CFR 122.22(d).

11. In accordance with 40 CFR 423.15(a)(10), 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.

12. 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(S): 001

REPORTED ON DMR AS FINAL OUTFALL: 001

CRITICAL DILUTION (%): 13%

EFFLUENT DILUTION SERIES (%): 5%, 7%, 10%, 13%, 17%

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 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 (reported on quarterly DMR);

(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 (reported on quarterly DMR);

(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 (reported on quarterly DMR);

(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 (reported on quarterly DMR)

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 (reported on quarterly DMR);

(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 (reported on quarterly DMR);

(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 (reported on quarterly DMR);

(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 (reported on quarterly DMR)

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 statues or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (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. Any changes to the permittee's disposal practices described in the Fact Sheet, as derived from the permit application, will require at least 180 days prior notice to the Director to allow time for additional permitting. Please note that the 180 day notification requirement may be waived if additional permitting is not required for the change.

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://cdx.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 25th 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$^{th}$ 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$^{th}$ 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**"
    [(Influent – Effluent) / Influent] x 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.

**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 AR0049611 with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 30-00337 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:

Arkansas Electric Cooperative Corporation - Magnet Cove Generating Station
1 Cooperative Way
Little Rock, AR 72219

The facility address is:

Arkansas Electric Cooperative Corporation - Magnet Cove Generating Station
410 Henderson Road
Malvern, AR 72104

## 3. PREPARED BY

The permit was prepared by:

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## 4. PERMIT ACTIVITY

| | |
|---|---|
| Previous Permit Effective Date: | May 1, 2013 |
| Previous Permit Expiration Date: | April 30, 2018 |

The permittee submitted a permit renewal application on August 24, 2017. It is proposed that the current discharge permit be reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

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
$BOD_5$ - five-day biochemical oxygen demand
BPJ - best professional judgment
BPT - best practicable control technology currently available
$CBOD_5$ - 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
$NH_3$-N - ammonia nitrogen
$NO_3 + NO_2$-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/AR0049611_Compliance%20Review_20180226.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. Whole Effluent Toxicity reporting requirements for retests were included in Part II.12.
3. Mass limits for FAC, Cr, and Zn changed at Internal Outfall 01A, and for TSS and O&G at Internal Outfall 01B, based on the highest monthly average flow reported during the past five years from these outfalls. See Section 11.A of this fact sheet for details.

## 6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION

The outfalls are located at the following coordinates based on Google Earth using WGS84 map datum (Outfall 001 end of pipe), and hand held Garmin GPS unit for monitoring location of Outfalls 001, 01A and 01B:

| | |
|---|---|
| Outfall 001 (end of pipe): | Latitude: 34° 25’ 41.4” N; Longitude: 92° 51’ 31.0” W |
| Outfall 001 (monitoring point): | Latitude: 34° 25’ 48.7” N; Longitude: 92° 49’ 59.6” W |
| Internal Outfall 01A: | Latitude: 34° 25’ 48.8” N; Longitude: 92° 49’ 59.3” W |
| Internal Outfall 01B: | Latitude: 34° 25’ 48.8” N; Longitude: 92° 49’ 59.3” 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. 316(B) REQUIREMENTS FOR COOLING WATER INTAKE STRUCTURE

This facility does not operate a cooling water intake structure. This facility obtains all cooling water from the James Kimzey Regional Water District, which is a public water system. Pursuant to 40 CFR 125.91(c), obtaining cooling water from a public water system does not constitute use of a cooling water intake structure for purposes of Subpart J – Requirements Applicable to Cooling Water Intake Structures for Existing Facilities Under Section 316(b) of the Clean Water Act. Therefore, 316(b) requirements are not applicable to this facility.

## 8. FLUE GAS DESULFURIZATION (FGD) WASTESTREAM CONSIDERATIONS

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

## 9. COAL COMBUSTION RESIDUALS (CCR) WASTESTREAM CONSIDERATIONS

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

## 10. 303(d) LIST, TOTAL MAXIMUM DAILY LOADS, ENDANGERED SPECIES, AND ANTI-DEGRADATION CONSIDERATIONS

### A. 303(d) List

This facility discharges to Reach 007 of the Ouachita River. This reach of the Ouachita River is not listed on the 2016 303(d) list.

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

There are no TMDLs 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 Arkansas Natural Heritage Commission (ANHC) identified the following species of conservation concern within five miles downstream of the outfall in a letter dated September 20, 2018:

*Anguilla rostrate*, American eel – state concern
*Arcidens wheeleri*, Ouachita Rock Pocketbook – federal concern (endangered)
*Lampsilis abrupta*, Pink Mucket – federal concern (endangered)
*Percina uranidea*, stargazing darter – state concern
*Toxolasma lividum,* Purple Lilliput – state concern
*Toxolasma parvum*, Lilliput – state concern

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 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.

## 11. OUTFALL, TREATMENT PROCESS DESCRIPTION, AND FACILITY CONSTRUCTION

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

A. Facility Flows:

Internal Outfall 01A: 0.28 MGD, the highest monthly average reported from May 2013 to January 2018.

Internal Outfall 01B: 0.081 MGD, the highest monthly average reported from May 2013 to January 2018.

The above listed flow rates for Internal Outfalls 01A and 01B were used to calculate the technology-based mass limits, which were derived from the concentrations given in the effluent limitation guideline. Based on the Permit Writers Manual page 5-30 and 40 CFR 122.45(b)(2)(i), technology-based effluent mass limits are to be based on actual flow rates or production rates that can reasonably be expected to prevail during the next term of the permit (i.e. not the design flow or production rate). Therefore, the highest monthly average flow reported during the past five years at these internal outfalls were used to calculate the mass limits from the technology-based concentrations given in the effluent limitation guideline. See section 14 of this fact sheet for additional discussion.

Outfall 001: 0.631 MGD, based on plant water balance at 100% load condition.

The above listed flow rate was used to calculate the mass limits at Outfall 001 as was done in the previous permit because the technology-based limits from the effluent limitation guideline are not being applied to Outfall 001, rather they are being applied to the internal outfalls as allowed by 40 CFR 122.45(h).

B. Type of Treatment: filtration system and oil/water separator for low volume wastewater. No treatment for cooling tower blowdown.

C. Discharge Description: cooling tower blowdown and 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 more than 80, this facility is classified as a Major industrial. The rating worksheet can be seen at the following hyperlink:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0049611_Rating%20Worksheet_20180228.pdf

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.

12. **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 steam electric power generating station. This station is a natural gas fired combined cycle electric generating station with a total gross generating capacity of 750 megawatts. The facility uses a closed cycle recirculating water system with a 12-cell mechanical draft cooling tower. The facility has a total of three (3) electric generating units including two (2) natural gas fired combustion turbine generators and one (1) steam turbine generator. Collectively, the natural gas fired combustion turbine generators and the steam turbine generator form the combined cycle power plant.

13. **SEWAGE SLUDGE AND SOLIDS PRACTICES**

Domestic wastewater from this facility is treated on-site within a septic tank system permitted by the Arkansas Department of Health under permit number 0029000110. Sewage sludge is pumped from the septic tank as needed by a licensed septic tank hauler and properly disposed.

Process wastewater solids is thickened with a polymer in a mixing tank and dewatered with a filter press. The resulting solids cake is disposed of in an offsite landfill.

14. **DISCUSSION ON INTERNAL OUTFALLS AND FLOW RATES**

This facility has two internal wastestreams which combine in a mixing tank and subsequently discharge through the final outfall. These internal wastestreams are cooling tower blowdown (CTB) and low volume wastewater. The CTB wastestream is subject to technology-based limits for Free Available Chlorine, Chromium, Zinc, and pH. The low volume wastestream is subject to technology-based limits for Total Suspended Solids, Oil & Grease, and pH.

The Department has determined that applying mass limits on only the final outfall would not demonstrate compliance with the effluent limitation guideline in all flow situations. Based

on the past five years, the flow of the cooling tower blowdown wastestream has averaged about 85% of the total flow. In situations when the CTB flow is lower than average (based on past flow data, the CTB flow can be highly variable), the LV wastestream could exceed the ELG concentrations and the facility still be in compliance with the mass limits at the final outfall. Therefore, demonstrating compliance with mass limits at the final outfall will not, in all situations, adequately ensure compliance with the technology-based concentration limits for TSS and O&G on the low volume wastestream. For these reasons, the Department has elected to apply the ELG concentration limits at the internal outfalls, as was done in the previous permits. 40 CFR 122.45(h)(1) states that effluent limitations for discharges of pollutants may be imposed on internal wastestreams before mixing with other wastestreams or cooling water streams in instances when permit effluent limits imposed at the point of final discharge would be infeasible or impractical.

The 2001 and 2007 permits were issued with the technology-based limits applied to these internal wastestreams. In the 2001 and 2007 permits, the concentration limits on the internal outfalls were set equal to the technology-based concentrations in the effluent limitation guideline, and the mass limits at the internal outfalls were calculated based on projected flow rates because the facility did not begin normal operation until April 2006, thus there were no representative actual flow rates to use in preparing the 2001 and 2007 permits.

The 2013 permit was also issued with the technology-based concentration limits in the effluent limitation guideline applied to the internal wastestreams and the mass limits were calculated based on flow rates given on the water balance diagram based on 100% load because the facility anticipated operating this facility at higher loads in that upcoming permit term due to market conditions for natural gas.

In this 2018 renewal permit, the mass limits on the internal outfalls are calculated using the highest monthly average flow rates reported over the past five years. The highest monthly average flow from Outfall 01A was approximately 50% of the flow value from the water balance diagram, while the highest monthly average flow from Outfall 01B was approximately 225% of the flow value from the water balance diagram. Therefore, the mass limits for these outfalls changed accordingly. Based on the Permit Writers Manual page 5-30 and 40 CFR 122.45(b)(2)(i), technology-based effluent mass limits are to be based on actual flow rates or production rates that can reasonably be expected to prevail during the next term of the permit (i.e. not the design flow or production rate). Therefore, the highest monthly average flow reported during the past five years at these internal outfalls were used to calculate the mass limits from the technology-based concentrations given in the effluent limitation guideline. Daily generation data was reviewed for 2013 through 2017. The highest monthly average generation rate was 624 MW-hr (Megawatt hours) which occurred in December 2015, which is 83% of the rated capacity of the station. The highest daily generation rate was 737 MW-hr which occurred in January 2017, which is 98% of the rated capacity of the station. Therefore, these actual flow rates are reasonably expected to prevail during the next term of the permit and are representative of the higher operating loads that the facility has operated at during the past five years.

The daily generation data for each year (2013-2017) can be seen at the following hyperlinks:

2013 Generation Data
2014 Generation Data
2015 Generation Data
2016 Generation Data
2017 Generation Data

## 15. 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** | | | | | | | | |
| TSS | N/A | N/A | 30 | 100 | 30 | 100 | 30 | 100 |
| O&G | 10 | 15 | N/A | N/A | 10 | 15 | 10 | 15 |
| pH | 6.0-9.0 s.u. | | N/A | | 6.0-9.0 s.u. | | 6.0-9.0 s.u. | |
| **INTERNAL OUTFALL 01A** | | | | | | | | |
| FAC | N/A | N/A | 0.2 | 0.5 | 0.2 | 0.5 | 0.2 | 0.5 |

| 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 |
| Total Chromium[1] | N/A | N/A | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Total Zinc[1] | N/A | N/A | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| pH | N/A | | 6.0-9.0 s.u. | | 6.0-9.0 s.u. | | 6.0-9.0 s.u. | |
| **INTERNAL OUTFALL 01B** | | | | | | | | |
| 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. | |

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

| Parameter | Water Quality or Technology | Justification |
|---|---|---|
| **OUTFALL 001** | | |
| TSS | Technology | 40 CFR 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 |
| Acute WET Testing | Water Quality | Continuing Planning Process (CPP) |
| **INTERNAL OUTFALL 01A (Cooling Tower Blowdown)** | | |
| FAC | Technology | 40 CFR 423.15(a)(10) |
| Total Chromium | Technology | 40 CFR 423.15(a)(10) |
| Total Zinc | Technology | 40 CFR 423.15(a)(10) |
| pH | Technology | 40 CFR 423.15(a)(1) |
| **INTERNAL OUTFALL 01B (Low Volume Wastewater)** | | |
| TSS | Technology | 40 CFR 423.15(a)(3) |
| O&G | Technology | 40 CFR 423.15(a)(3) |
| pH | Technology | 40 CFR 423.15(a)(1) |

No new information was received to warrant adding, removing, or revising any of the concentration limitations in the permit. However, the mass limits for Internal Outfalls

[1] 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 dated February 26, 2018 that no cooling tower maintenance chemicals containing these parameters are used at the facility.

01A and 01B were revised from the previous permit based on actual flow rates reported during the past five years. See detailed discussion in section 14 of this fact sheet.

## 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 maintains the requirements of the previous permit with the exception of higher mass limitations identified for Internal Outfall 01B. Relaxation of the mass limits at Internal Outfall 01B is allowed in accordance with the regulations 40 CFR 122.44(2)(i)(B)(1) since new information (representative actual flows) are available which were not available at previous permit issuance. The previous permit used design rated flows because actual flow rates under previous ownership were not representative of the design operating capacity of the generating station because of market conditions at that time. This renewal permit uses actual flows to calculate the mass limits at the internal outfalls since the station has operated at loads that are representative of the station capacity during the past five year permit term as discussed in Section 14 of this fact sheet.

## 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

   Mass limits for O&G are based on the following calculations using the water quality-based concentrations in Reg. 2.510:

   O&G = (10 mg/l)(8.34 lb/gal)(0.631 mgd) = 53 lb/day (monthly average)
   O&G = (15 mg/l)(8.34 lb/gal)(0.631 mgd) = 79 lb/day (daily maximum)

   Mass limits for TSS are based on the following calculations using the allowable concentrations from previous permit and the judgement of the permit writer:

   TSS = (30 mg/l)(8.34 lb/gal)(0.631 mgd) = 158 lb/day (monthly average)
   TSS = (100 mg/l)(8.34 lb/gal)(0.631 mgd) = 526 lb/day (daily maximum)

Internal Outfall 01A - Cooling Tower Blowdown

Mass limits for Chromium and Zinc are based on the following calculations using the technology-based concentrations in 40 CFR 423.15(a)(10):

Chromium = (0.2 mg/l)(8.34 lb/gal)(0.28 mgd) = 0.5 lb/day (monthly average)
Chromium = (0.2 mg/l)(8.34 lb/gal)(0.28 mgd) = 0.5 lb/day (daily maximum)

Zinc = (1.0 mg/l)(8.34 lb/gal)(0.28 mgd) = 2.3 lb/day (monthly average)
Zinc = (1.0 mg/l)(8.34 lb/gal)(0.28 mgd) = 2.3 lb/day (daily maximum)

Mass limits for FAC are based on the following calculations taking into consideration using the technology-based concentrations in 40 CFR 423.15(a)(10) and the limitation of the discharge of chlorine to 2 hours per day per generating unit:

FAC = (0.2 mg/l)(8.34)(0.28 mgd)(2 hr/day/unit)(day/24 hr)(3 generating units)
= 0.1 lb/day (monthly average)
FAC = (0.5 mg/l)(8.34)(0.28 mgd)(2 hr/day/unit)(day/24 hr)(3 generating units)
= 0.3 lb/day (daily maximum)

Internal Outfall 01B – Low Volume Wastewater

Mass limits for TSS and O&G are based on the following calculations using the technology-based concentrations in 40 CFR 423.15(a)(3):

TSS = (30 mg/l)(8.34 lb/gal)(0.081 mgd) = 20.3 lb/day (monthly average)
TSS = (100 mg/l)(8.34 lb/gal)(0.081 mgd) = 67.6 lb/day (daily maximum)

O&G = (15 mg/l)(8.34 lb/gal)(0.081 mgd) = 10.1 lb/day (monthly average)
O&G = (20 mg/l)(8.34 lb/gal)(0.081 mgd) = 13.5 lb/day (daily maximum)

2. Daily Maximum Limits:

Outfall 001

TSS daily maximum mass limit is based on the flow on the plant water balance diagram in conjunction with the concentration given in the previous permit. Calculation of the mass limits is shown in the previous section.

O&G daily maximum mass limit is based on the flow on the plant water balance in conjunction with the concentration given in Reg. 2.510. Calculation of the daily maximum mass limit is shown in the previous section.

Internal Outfall 01A – Cooling Tower Blowdown

FAC daily maximum mass limit is based on the highest monthly average flow over the past five years (2013-2017) in conjunction with the concentration given in 40 CFR 423.15(a)(10). Calculation of the daily maximum mass limit is shown in the previous section and is based on an allowable discharge of FAC of 2 hours per day per generating unit. There are three generating units at this facility.

Chromium and Zinc daily maximum mass limits are based on the highest monthly average flow over the past five years (2013-2017) in conjunction with the concentrations given in 40 CFR 423.15(a)(10). Calculations of the daily maximum mass limits is shown in the previous section.

Internal Outfall 01B – Low Volume Wastewater

TSS and O&G daily maximum mass limits are based on the highest monthly average flow over the past five years (2013-2017) in conjunction with the concentrations given in 40 CFR 423.15(a)(3). Calculation of the daily maximum mass limits are shown in the previous section.

## D. 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)<br>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[2] | No detectable amount[2] |
| 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. | |

* 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.

[2] See Part II, Condition No. 11 of the permit. Discharge of priority pollutants in detectable amounts at the final outfall is not allowed.

| 40 CFR Part 423.15(a)(1) and 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. | |

Chemical metal cleaning wastes

The permit does not include the effluent guideline limits for chemical metal cleaning wastes 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.

## E. Temperature Calculations

Reg. 2.502 states that "Heat shall not be added to any waterbody in excess of the amount that will elevate the natural temperature, outside the mixing zone, by more than 5 degrees Fahrenheit based upon the monthly average of the maximum daily temperatures measured at mid-depth or three feet (whichever is less) in streams, lakes, or reservoirs. Reg. 2.502 also states that "The maximum allowable temperatures from man-induced causes in the Ouachita River is 89.6 degrees Fahrenheit". Therefore it is imperative that two conditions be met to insure an appropriate temperature limitation on the discharge at Outfall 001.

First, the prohibition of raising the temperature outside the mixing zone by more than 5 degrees Fahrenheit was analyzed as follows:

The following equation was used to calculate the maximum temperature that the facility could discharge that would cause a 5 degree Fahrenheit rise of temperature in the receiving stream:

$(Te \times Qe) + (Tu \times Qu) = (Td \times Qd)$

Where,
Te = Maximum effluent temperature
Qe = Effluent flow = 0.631 MGD = 0.978 cfs
Tu = Upstream temperature = 55.2°F (LOUA016R lowest value from 2012-2013)
Qu = Upstream flow = 271 cfs (7Q10 reported in 2008 USGS report for station 07359002 at Remmell Dam)
Td = Downstream temperature after mixing = 60.2°F (increase of 5°F over upstream)
Qd = Downstream flow = Qe + Qu = 0.978 cfs + 271 cfs = 271.978 cfs

Solving for Te,

Te = [(Td x Qd) – (Tu x Qu)] / Qe
Te = [(60.2 x 271.978) – (55.2 x 271)] / 0.978
Te = 1,445 °F

This shows that the effluent temperature would have to be approximately 1,445 ° F to cause a 5° F rise in the Ouachita River. Therefore, it is not necessary to impose a temperature limitation in the permit to prevent a temperature rise exceeding 5° F in the Ouachita River.

Next, the maximum allowable effluent temperature that would not cause a violation of the temperature standard of the Ouachita River was calculated using the following equation:

(Te x Qe) + (Tu x Qu) = (Td x Qd)

Where,
Te = Maximum effluent temperature
Qe = Effluent flow = 0.631 MGD = 0.978 cfs
Tu = Upstream temperature = 79.2 °F (LOUA016R average summer value 2012-2013)
Qu = Upstream flow = 271 cfs (7Q10 reported in 2008 USGS report for station 07359002 at Remmell Dam)
Td = Downstream temperature after mixing = 89.6 °F (Reg. 2 Temperature criteria)
Qd = Downstream flow = Qe + Qu = 0.978 cfs + 271 cfs = 271.978 cfs

Solving for Te,

Te = [(Td x Qd) – (Tu x Qu)] / Qe
Te = [(89.6 x 271.978) – (79.2 x 271)] / 0.978
Te = 2,971 °F

This calculation shows that the effluent temperature would have to be approximately 2,971 ° F to cause the temperature in the Ouachita River to exceed the temperature standard of 89.6 °F based on the average daily summer temperatures measured in July and August in the Ouachita River upstream of the outfall from 2012-2013. Therefore, it is not necessary to impose a temperature limitation in the permit to prevent a violation of the temperature standard in the Ouachita River.

## F. 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 | 0.631 MGD = 0.978 cfs | Plant Water Balance diagram at 100% load (Figure 3 of application) |
| 7Q10 Background Flow | 271 cfs | USGS Station 07359002 |
| LTA Background Flow | 813 cfs | Calculated as 3 times 7Q10, based on page 88 of "EPA Technical Support Document For Water Quality-based Toxics Control", March 1991. |
| TSS | 2 mg/l | CPP Table 5-4 for Ouachita River above Caddo River |
| Hardness as CaCo3 | 28 mg/l | CPP Table 5-3 for Ouachita River |
| pH | 7.0 s.u. | ADEQ Station LOUA016R |
| Background (Arsenic) | 0 | ADEQ Station LOUA016R |
| Background (Copper) | 0.7 ug/l | ADEQ Station LOUA016R |
| Background (Nickel) | 0 | ADEQ Station LOUA016R |
| Background (Mercury) | 0 | ADEQ Station LOUA016R |

The following pollutants were reported above detection levels:

| Pollutant | Concentration Reported, µg/l | MQL, µg/l |
|---|---|---|
| Arsenic | 24.9* | 0.5 |
| Copper | 11.9* | 0.5 |
| Nickel | 3.16* | 0.5 |
| Mercury | 0.00541* | 0.005 |

*Single value reported with application.

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 weblink:

PPS Evaluation

1. **Aquatic Toxicity Evaluation**

   a. Acute Criteria Evaluation

| Pollutant | Concentration Reported ($C_e$) µg/l | $C_e$ x 2.13[1] | Instream Waste Concentration (IWC) | Criteria[2] | Reasonable Potential (Yes/No) |
|---|---|---|---|---|---|
| | | | Acute, µg/l | Acute, µg/l | |
| Arsenic | 24.9 | 53.04 | 0.356 | 340[3] | No |
| Copper | 11.9 | 25.35 | 0.866 | 12.67 | No |
| Nickel | 3.16 | 6.73 | 0.045 | 872.41 | No |
| Mercury | 0.00541 | 0.01152 | 0.000077 | 7.41 | No |

[1] Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.
[2] Criteria are from Reg. 2.508 unless otherwise specified.
[3] EPA National Recommended Water Quality Criterion for acute freshwater.

b. Chronic Criteria Evaluation

| Pollutant | Concentration Reported ($C_e$) µg/l | $C_e$ x 2.13[1] | Instream Waste Concentration (IWC) | Criteria[2] | Reasonable Potential (Yes/No) |
|---|---|---|---|---|---|
| | | | Chronic, µg/l | Chronic, µg/l | |
| Arsenic | 24.9 | 53.04 | 0.186 | 150[3] | No |
| Copper | 11.9 | 25.35 | 0.786 | 9.37 | No |
| Nickel | 3.16 | 6.73 | 0.024 | 96.89 | No |
| Mercury | 0.00541 | 0.01152 | 0.000040 | 0.012 | No |

[1] Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.
[2] Criteria are from Reg. 2.508 unless otherwise specified.
[3] EPA National Recommended Water Quality Criterion for chronic freshwater.

2. **Human Health (Bioaccumulation) Evaluation**

| Pollutant | Concentration Reported ($C_e$) µg/l | $C_e$ x 2.13[1] | Instream Waste Concentration (IWC) | Criteria µg/l | Reasonable Potential (Yes/No) |
|---|---|---|---|---|---|
| Arsenic | 24.9 | 53.04 | 0.016 | 1.4[2] | No |
| Copper | 11.9 | 25.35 | 0.707 | 13,000[2] | No |
| Nickel | 3.16 | 6.73 | 0.002 | 46,000[2] | No |
| Mercury | 0.00541 | 0.01152 | 0.000003 | 2[3] | No |

[1] Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.
[2] 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.
[3] EPA National Primary Drinking Water Standard.

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.

## 16. WHOLE EFFLUENT TOXICITY

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

Whole effluent toxicity (WET) testing is the most direct measure of potential toxicity which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. It is the national policy of EPA to use bioassays as a measure of toxicity to allow evaluation of the effects of a discharge upon a receiving water (49 Federal Register 9016-9019, March 9, 1984). EPA Region 6 and the State of Arkansas are now implementing the Post Third Round Policy and Strategy established on September 9, 1992.

Whole effluent toxicity testing of the effluent is thereby required as a condition of this permit to assess potential toxicity. The whole effluent toxicity testing procedures stipulated as a condition of this permit are as follows:

| **TOXICITY TESTS** | **FREQUENCY** |
|---|---|
| 48 hour Acute WET | Once/quarter |

Requirements for measurement frequency are based on the CPP.

Since 7Q10 is greater than 100 cfs ($ft^3/sec$) 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:

Critical Dilution (CD) = (Qd / (Qd + Qb)) X 100

Qd = Average Flow = 0.631 MGD = 0.978 cfs
7Q10 = 271 cfs
Qb = Background flow= 0.1 X 0.25 X 7Q10 = 6.78 cfs
CD = ((0.978) / (0.978 + 6.78)) X 100 = 13%

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 5%, 7%, 10%, 13%, and 17% (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 13% 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: | AR0049611 | AFIN: | 30-00337 | Outfall Number: | 001 |
| Date of Review: | 3/13/2018 | Reviewer: | M. Barnett | | |
| Facility Name: | AECC-Magnet Cove Station | | | | |
| Previous Dilution series: | 5,7,10,13,17 | Proposed Dilution Series: | 5,7,10,13,17 | | |
| Previous Critical Dilution: | 13 | Proposed Critical Dilution: | 13 | | |
| **Previous TRE activities:** | | None | | | |

| | |
|---|---|
| **Frequency recommendation by species** | |
| *Pimephales promelas* (Fathead minnow): | once per quarter |
| *Daphnia pulex* (water flea): | once per quarter |

**TEST DATA SUMMARY**

| | Vertebrate (*Pimephales promelas*) | | Invertebrate (*Daphnia pulex*) | |
|---|---|---|---|---|
| TEST DATE | Lethal NOEC | | Lethal NOEC | |
| 3/31/2013 | 29 | | 29 | |
| 6/30/2013 | 17 | | 17 | |
| 9/30/2013 | 17 | | 17 | |
| 12/31/2013 | 17 | | 17 | |
| 6/30/2014 | 17 | | 17 | |
| 12/31/2014 | 17 | | 17 | |
| 6/30/2015 | 17 | | 17 | |
| 12/31/2015 | 17 | | 17 | |
| 6/30/2016 | 17 | | 17 | |
| 12/31/2016 | 17 | | 17 | |
| 6/30/2017 | 17 | | 17 | |
| 12/31/2017 | 17 | | 17 | |

**REASONABLE POTENTIAL CALCULATIONS**

| | **Vertebrate Lethal** | | **Invertebrate Lethal** | |
|---|---|---|---|---|
| **Min NOEC Observed** | 17 | | 17 | |
| **TU at Min Observed** | 5.88 | | 5.88 | |
| **Count** | 12 | | 12 | |
| **Failure Count** | 0 | | 0 | |
| **Mean** | 5.680 | | 5.680 | |
| **Std. Dev.** | 0.703 | | 0.703 | |
| **CV** | 0.1 | | 0.1 | |
| **RPMF** | 1.1 | | 1.1 | |
| **Reasonable Potential** | 0.841 | | 0.841 | |
| **100/Critical dilution** | 7.692 | | 7.692 | |
| **Does Reasonable Potential Exist** | No | | No | |

**PERMIT ACTION**

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

## 17. STORMWATER REQUIREMENTS

The federal regulations at 40 CFR 122.26(b)(14) require certain industrial sectors to have NPDES permit coverage for stormwater discharges from the facility. These requirements include the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) to control the quality of stormwater discharges from the facility. All stormwater runoff from this facility is discharged through stormwater outfalls 001, 002, and 003 and are covered under NPDES Industrial General Permit Tracking No. ARR000955 which was issued on July 1, 2014.

## 18. SAMPLE TYPE AND FREQUENCY

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

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

| Parameter | Previous Permit | | Final Permit | |
|---|---|---|---|---|
| | Frequency of Sample | Sample Type | Frequency of Sample | Sample Type |
| **Outfall 001** | | | | |
| Flow | Once/day | Totalizing meter | Once/day | Totalizing meter |
| TSS | Once/month | Grab | Once/month | Grab |
| O&G | Once/month | Grab | Once/month | Grab |
| pH | Once/month | Grab | Once/month | Grab |
| WET testing | Once/quarter | Composite | Once/quarter | Composite |
| **Internal Outfall 01A** | | | | |
| Flow | Once/day | Totalizing meter | Once/day | Totalizing meter |
| FAC | Once/month | Grab | Once/month | Grab |
| pH | Once/month | Grab | Once/month | Grab |
| **Internal Outfall 01B** | | | | |
| Flow | Once/day | Totalizing meter | Once/day | Totalizing meter |
| TSS | Once/month | Grab | Once/month | Grab |
| O&G | Once/month | Grab | Once/month | Grab |
| pH | Once/month | Grab | Once/month | Grab |

## 19. PERMIT COMPLIANCE SCHEDULE

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

## 20. 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.

## 21. SOURCES

The following sources were used to draft the permit:

A. Application No. AR0049611 received 8/24/2017.
B. APC&EC Regulation No. 2.
C. APC&EC Regulation No. 3.
D. 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.
E. 40 CFR Parts 122, 125, and 423.
F. Discharge permit file AR0049611.
G. Discharge Monitoring Reports (DMRs).
H. "2016 Integrated Water Quality Monitoring and Assessment Report", ADEQ.
I. "2016 List of Impaired Waterbodies (303(d) List)", ADEQ, July 2017.
J. Continuing Planning Process (CPP).
K. Technical Support Document For Water Quality-based Toxic Control.
L. Inspection Report dated August 25, 2016.
M. Compliance Review Memo dated February 26, 2018.
N. Site visit on March 21, 2018 discussing changes to the permit.
O. Priority Pollutant Scan evaluation dated February 28, 2018.
P. NPDES Permit Rating Sheet dated February 28, 2018.
Q. Arkansas Secretary of State status dated February 28, 2018.
R. Upstream data at LOUA016R (below Remmel Dam) from May 2012 to February 2013.
S. Station generating data from 2013 to 2017.
T. Letter dated February 26, 2018 from AECC to ADEQ certifying that cooling tower maintenance chemicals containing chromium or zinc are not used.
U. Letter dated September 20, 2018 from Arkansas Natural Heritage Commission to ADEQ identifying species of conservation concern.

## 22. PUBLIC NOTICE

The public notice of the draft permit was published for public comment on September 7, 2018. The last day of the comment period was thirty (30) days after the publication date.

A summary of the comments received by ADEQ during the public comment period and responses to the comments are included with this permit decision. The Response to Comments also includes a discussion of any substantial changes from the draft permit.

A copy of the permit and public notice were sent via email to the Corps of Engineers, the Regional Director of the U.S. Fish and Wildlife Service, the Department of Arkansas Heritage, the EPA, and the Arkansas Department of Health.

## 23. PERMIT FEE

In accordance with Reg. No. 9.403(A)(1), the initial and annual fee for the permit is $15,000.

## 24. POINT OF CONTACT

For additional information, contact:

Shane Byrum
Permits Branch, Office of Water Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317
Telephone: (501) 682-0618

**RESPONSE TO COMMENTS**
**FINAL PERMITTING DECISION**

Permit No.: AR0049611

Applicant: Arkansas Electric Cooperative Corporation
Magnet Cove Generating Station

Prepared by: Shane Byrum

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 September 7, 2018. The public comment period ended on October 8, 2018.

This document contains a summary of the comments that the 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 comment period. A total of one comment was raised by one commenter.

| | Commenter | Number of Comments Raised |
|---|---|---|
| 1. | Arkansas Natural Heritage Commission (ANHC) | 1 |

**Comment 1** In a letter dated September 20, 2018 the ANHC identified the following species of concern to occur within five miles downstream of the outfall in the Ouachita River:

*Anguilla rostrate*, American eel – state concern
*Arcidens wheeleri*, Ouachita Rock Pocketbook – federal concern (endangered)
*Lampsilis abrupta*, Pink Mucket – federal concern (endangered)
*Percina uranidea*, stargazing darter – state concern
*Toxolasma lividum,* Purple Lilliput – state concern
*Toxolasma parvum*, Lilliput – state concern

**Response:** 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. The list of species of concern in Section 10.C of the Fact Sheet was updated to be consistent with the list contained in the September 20, 2018 comment letter from ANHC.

| Summary of Changes to the Permit | | | | |
|---|---|---|---|---|
| Part | Draft Permit | Final Permit | Justification | Comment # |
| Section 10.C of Fact Sheet | List of species of conservation concern identified in a March 19, 2007 letter from ANHC were included. | List of species of conservation concern was updated based on September 20, 2018 letter from ANHC. | ANHC comment letter dated September 20, 2018. | 1 |