

Permit Number: AR0021806  
AFIN: 60-00409

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

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

The applicant's mailing address is:

Little Rock Wastewater - Adams Field WWTP  
11 Clearwater Drive  
Little Rock, AR 72204

The facility address is:

Little Rock Wastewater - Adams Field WWTP  
1001 Temple Drive  
Little Rock, AR 72202

is authorized to discharge treated municipal wastewater from a facility located as follows: 0.5 miles northeast of the Little Rock National Airport terminal building in Pulaski County, Arkansas.

Latitude: 34° 44' 07"; Longitude: 92° 12' 59"

to receiving waters named:

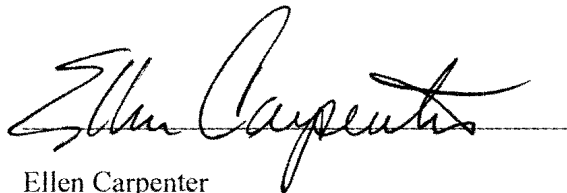
Arkansas River in Segment 3C of the Arkansas River Basin.

The outfall is located at the following coordinates:

Outfall 001: Latitude: 34° 44' 32"; Longitude: 92° 12' 36"

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

Effective Date: August 1, 2012  
Major Modification Effective Date: September 1, 2014  
Expiration Date: July 31, 2017



Ellen Carpenter  
Chief, Water Division  
Arkansas Department of Environmental Quality

*August 22, 2014*  
Issue Date

## PART I PERMIT REQUIREMENTS

### SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - treated municipal wastewater.

During the period beginning on the modification 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 from a treatment system consisting of bar screening, primary clarification (3 clarifiers), primary grit removal, equalization basin, activated sludge, secondary clarification (3 clarifiers), ultraviolet light disinfection, and sludge thickening, with a design flow of 36 MGD.

<u><b>Effluent Characteristics</b></u>	<u><b>Discharge Limitations</b></u>			<u><b>Monitoring Requirements</b></u>	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Flow <sup>4</sup>	N/A	Report, MGD <sup>4</sup>	Report, MGD (Daily Maximum) <sup>4</sup>	once/day	totalizing meter
Biochemical Oxygen Demand (BOD5)	9007	30	45	three/week	composite <sup>2</sup>
Total Suspended Solids (TSS)	9007	30	45	three/week	composite <sup>2</sup>
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(May-September)	N/A	200	400	two/week	grab
(October-April)	N/A	1000	2000	two/week	grab
Total Phosphorus (TP)	Report	Report	Report	once/month	grab
Nitrate + Nitrite Nitrogen (NO <sub>3</sub> + NO <sub>2</sub> -N)	Report	Report	Report	once/quarter	grab
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	two/week	grab
Chronic WET Testing <sup>1</sup>	N/A	Report		once/quarter	composite <sup>3</sup>
<b><u>Pimephales promelas (Chronic)</u></b> <sup>1</sup> Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC) TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation (Growth) TQP6C Growth (7-day NOEC) TPP6C		<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter once/quarter once/quarter once/quarter once/quarter	composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup>
<b><u>Ceriodaphnia dubia (Chronic)</u></b> <sup>1</sup> Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail Reproduction (7-day NOEC) TGP3B Survival (7-day NOEC) TOP3B Coefficient of Variation (Reproduction) TQP3B Reproduction (7-day NOEC) TPP3B		<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter once/quarter once/quarter once/quarter once/quarter	composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup> composite <sup>3</sup>

<sup>1</sup> See Condition No. 9 of Part II (WET Testing Condition).

<sup>2</sup> See definition of composite in Part IV.

<sup>3</sup> See definition of composite specifically for WET testing in Condition 9.3.d.i. in Part II.

<sup>4</sup> Report monthly average flow and daily maximum flow as MGD.

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen as defined in Part IV of this permit.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after the UV disinfection.

All and each unauthorized Sanitary Sewer Overflow (SSO) must be reported to ADEQ in accordance with Condition No. 5 of Part II.

## **SECTION B. PERMIT COMPLIANCE**

The permittee shall achieve compliance with the effluent limitations specified for discharges on the effective date of the permit.

Pursuant to 40 CFR 122.44(j)(2)(ii), the permittee shall submit either of the following items within sixty (60) days of the effective date of this permit:

1. **WRITTEN CERTIFICATION** that a technical evaluation has demonstrated that the existing technically based local limits (TBLL) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination.
2. **WRITTEN NOTIFICATION** that a technical evaluation revising the current TBLL will be submitted within 12 months of the effective date of this permit.

## **PART II OTHER CONDITIONS**

1. The operator of this wastewater treatment facility shall be licensed as Class IV by the State of Arkansas in accordance with APCEC Regulation No. 3.
2. For publicly owned treatment works, the 30-day average percent removal for Biochemical Oxygen Demand (BOD5) and Total Suspended Solids (TSS) shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR Part 133.102, as adopted by reference in APCEC Regulation No. 6. The permittee must monitor the influent and effluent BOD5 and TSS at least once per year and calculate the percent removal to ensure compliance with the required 85 percent removal. This information must be maintained on site and provided to Department personnel upon request.
3. 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.
4. Other Specified Monitoring Requirements

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

- The monitoring and analytical instruments are consistent with accepted scientific practices;
- The requests shall be submitted in writing to the Permits Section of the Water Division of the ADEQ for use of the alternate method or instrument.
- The method and/or instrument is in compliance with 40 CFR Part 136 or approved in accordance with 40 CFR Part 136.5; and
- All associated devices are installed, calibrated, and maintained to insure the accuracy of the measurements and are consistent with the accepted capability of that type of device. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

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

## 5. Sanitary Sewer Overflow (SSO) Reporting Requirements:

All SSOs are prohibited.

A. A sanitary sewer overflow is any spill, release or diversion of wastewater from a sanitary sewer collection system including:

1. Any overflow, whether it discharges to the waters of the state or not; or
2. An overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral), even if that overflow does not reach waters of the state.

### B. Immediate Reporting

Overflows that endanger health or the environment shall be orally reported to the Enforcement Branch of the Water Division by telephone (501-682-0638) or by email [waterenfsso@adeq.state.ar.us](mailto:waterenfsso@adeq.state.ar.us) within 24 hours from the time the permittee becomes aware of the circumstance.

The 24-hour report shall identify:

1. The location(s) of overflow; and
2. The date the permittee learned of the overflows.

### C. Follow-Up Written Reports/email:

A written report of overflows that endanger health or the environment shall be provided to ADEQ within 5 days of the time the permittee becomes aware of the circumstance.

At a minimum, the report shall identify:

1. The location(s) of overflow;
2. The receiving water (If there is one);
3. The duration of overflow;
4. Cause of overflow; and
5. The estimated volume of overflow (gal).

A 24-hr and 5-day follow-up written report can be filled-in or downloaded from the ADEQ /Water Division/Enforcement Branch Web page at

[http://www.adeq.state.ar.us/water/branch\\_enforcement/forms/sso\\_report.asp](http://www.adeq.state.ar.us/water/branch_enforcement/forms/sso_report.asp)

### D. Reporting for All SSOs on DMR

At the end of the month, report in your DMR the total number of separate SSOs and the total volume of the SSOs from all locations on your system that occurred during the

month in question. For counting SSO occurrences, each location on the sanitary sewer system where there is an overflow, spill, release, or diversion of wastewater at a given time is counted as one occurrence. For example, if at a given time overflows occur from a manhole at one location and from a damaged pipe at another location then you should record two occurrences.

#### 6. Sewage Sludge Practices

All primary and/or waste-activated sludge from all three LRW plants is ultimately processed at the Fourche Creek Treatment Facility. The sludge generated at the Adams Field Treatment Facility is thickened in circular gravity thickeners located at the Adams Field Treatment Facility and then pumped via pipeline to the Fourche Creek Treatment Facility.

#### 7. Wet Weather Peak Flow Conditions

The Department is in agreement with the permittee that bypassing the secondary treatment operations when peak flows exceed 60 MGD is prudent to protect the wastewater treatment facility and the environment. The bypassing of flows in excess of 60 MGD as an anticipated bypass is allowed under the following conditions:

- A. The permittee must notify the Department within 24 hours (1 business day) of the bypass. This notification may be made in the same manner the permittee is currently using to file other required 24 hour notice reports.
- B. The permittee must sample the blended effluent for compliance with permit limits in accordance with the limits and sampling frequencies set forth in Part IA of this permit.
- C. The permittee must submit a written report to the Department within five (5) days of stopping the bypass. This report shall include, at a minimum, the following information:
  - i. Dates and times of the bypass;
  - ii. Total flow, amount of flow which bypassed the secondary treatment operations, and amount of flow routed through the secondary treatment operations; and
  - iii. Observations of environmental impacts, if any, caused by the bypass.
- D. The permittee must establish and maintain a web page accessible to the public that will include copies of the reports required in Item C above. The permittee must update this web page within 24 hours of filing the report with the Department.
- E. At the time of issuance of this permit, Little Rock Wastewater is required to complete several projects, including the Little Maumelle wastewater treatment plant, under CAO LIS No. 06-037-001. The Department will re-evaluate the Wet Weather Peak Flow Conditions (Items A through D above) once the terms and conditions of the CAO have been met.

## 8. Contributing Industries and Pretreatment Requirements

A. The permittee shall operate an industrial pretreatment program in accordance with Section 402(b)(8) of the Clean Water Act, the General Pretreatment Regulations (40 CFR Part 403) and the approved POTW pretreatment program submitted by the permittee. The pretreatment program was approved on 11/01/1982, subsequently modified and approved on 09/10/1987, 04/06/1999, and 03/28/2008. The POTW pretreatment program is hereby incorporated by reference and shall be implemented in a manner consistent with the following requirements:

- (1) Industrial user information shall be updated at a frequency adequate to ensure that all IUs are properly characterized at all times;
- (2) The frequency and nature of industrial user compliance monitoring activities by the permittee shall be commensurate with the character, consistency and volume of waste. The permittee must inspect and sample the effluent from each Significant Industrial User in accordance with 40 CFR 403.8(f)(2)(v). This is in addition to any industrial self-monitoring activities;
- (3) The permittee shall enforce and obtain remedies for noncompliance by any industrial users with applicable pretreatment standards and requirements;
- (4) The permittee shall control through permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements. In the case of Industrial Users identified as significant under 40 CFR 403.3 (v), this control shall be achieved through individual or general control mechanisms, in accordance with 40 CFR 403.8(f)(1)(iii). Both individual and general control mechanisms must be enforceable and contain, at a minimum, the following conditions:
  - (a) Statement of duration (in no case more than five years);
  - (b) Statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator;
  - (c) Effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards, categorical Pretreatment Standards, local limits, and State and local law;
  - (d) Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored (including the process for seeking a waiver for a pollutant neither present nor expected to be present in the discharge in accordance with § 403.12(e)(2), or a specific waiver for a pollutant in the case of an individual control mechanism), sampling location, sampling frequency, and sample type, based on the applicable

general Pretreatment Standards in 40 CFR 403, categorical Pretreatment Standards, local limits, and State and local law;

- (e) Statement of applicable civil and criminal penalties for violation of Pretreatment Standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond federal deadlines; and
  - (f) Requirements to control slug discharges, if determined by the POTW to be necessary.
- (5) The permittee shall evaluate, whether each Significant Industrial User needs a plan or other action to control slug discharges, in accordance with 40 CFR 403.8(f)(2)(vi);
  - (6) The permittee shall provide adequate staff, equipment, and support capabilities to carry out all elements of the pretreatment program; and
  - (7) The approved program shall not be modified by the permittee without the prior approval of ADEQ.
- B. The permittee shall establish and enforce specific limits to implement the provisions of 40 CFR Parts 403.5(a) and (b), as required by 40 CFR Part 403.5(c). POTWs may develop Best Management Practices (BMPs) to implement paragraphs 40 CFR 403.5(c)(1) and (c)(2). Such BMPs shall be considered local limits and Pretreatment Standards. Each POTW with an approved pretreatment program shall continue to develop these limits as necessary and effectively enforce such limits.

Pursuant to 40 CFR 122.44(j)(2)(ii), the permittee shall submit, within sixty (60) days of the effective date of this permit, (1) a **WRITTEN CERTIFICATION** that a technical evaluation has demonstrated that the existing technically based local limits (TBLL) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination, **OR** (2) a **WRITTEN NOTIFICATION** that a technical evaluation revising the current TBLL will be submitted within 12 months of the effective date of this permit.

All specific prohibitions or limits developed under this requirement are deemed to be conditions of this permit. The specific prohibitions set out in 40 CFR Part 403.5(b) shall be enforced by the permittee unless modified under this provision.

- C. The permittee shall analyze the treatment facility influent and effluent for the presence of the toxic pollutants listed in 40 CFR 122 Appendix D (NPDES Application Testing Requirements) Table II at least once/year and the toxic pollutants in Table III at least 4 times/year in each quarter (Jan-Mar, Apr-Jun, Jul-Sep & Oct-Dec).. If, based upon information available to the permittee, there is reason to suspect the presence of any toxic or hazardous pollutant listed in Table V, or any other pollutant, known or suspected to adversely affect treatment plant operation, receiving water quality, or solids disposal



procedures, analysis for those pollutants shall be performed at least 4 times/year in each quarter on both the influent and the effluent.

The influent and effluent samples collected shall be composite samples. If composite sampling is not an appropriate technique (eg: pH, cyanide, total phenols, oil and grease, sulfide, and volatile organic compounds), grab samples should be taken to obtain influent and effluent operational data. Sampling and analytical procedures shall be in accordance with guidelines established in 40 CFR 136. A grab sample is an individual sample collected over a period of time not exceeding 15 minutes.

A "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.

The laboratory results must be posted on the influent-effluent chart shown in Attachment 1. This chart must be submitted each year during the month of March with the annual pretreatment report required by section D below.

- D. The permittee shall prepare annually a list of Industrial Users which during the preceding twelve months (NOTE: for this facility, the previous 12 months is the previous calendar year) were in significant noncompliance with applicable pretreatment requirements. For the purposes of this Part, significant noncompliance shall be determined based upon the more stringent of either criteria established at 40 CFR Part 403.8(f)(2)(viii) [rev. 10/14/05] or criteria established in the approved POTW pretreatment program. This list is to be published annually in the newspaper of general circulation that provides meaningful public notice within the jurisdiction(s) served by the POTW during the month of March.

[Note: For permittees with multiple NPDES permits, only one (1) updated pretreatment program status report ("Annual Report") is required. The annual report shall reference ALL NPDES permit numbers covered under the permittee's approved Pretreatment Program.]

In addition, during the month of March the permittee shall submit an updated pretreatment program status report to the ADEQ containing the following information:

- (1) An updated list of all significant industrial users and identify which Industrial Users are Non-Significant Categorical Industrial Users (NSCIUs) or Middle Tier CIUs. The list must also identify:
  - (a) Industrial Users subject to categorical Pretreatment Standards that are subject to reduced monitoring and reporting requirements under 40 CFR 403.12(e)(2) & (3),

- (b) Industrial Users subject to the following categorical Pretreatment Standards [Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) (40 CFR Part 414), Petroleum Refining (40 CFR Part 419), and Pesticide Chemicals (40 CFR Part 455)] and for which the Control Authority has chosen to use the concentration-based standards rather than converting them to flow-based mass standards as allowed at 40 CFR 403.6(c)(6).
  - (c) Categorical Industrial Users subject to concentration-based standards for which the Control Authority has chosen to convert the concentration-based standards to equivalent mass limits, as allowed at 40 CFR 403.6(c)(5).
  - (d) General Control Mechanisms used for similar groups of SIUs along with the substantially similar types of operations and the types of wastes that are the same, for each separate General Control Mechanism, as allowed at 40 CFR 403.8(f)(1)(iii).
  - (e) Best Management Practices or Pollution Prevention alternatives required by a categorical Pretreatment Standard or as a local limit requirement that are implemented and documentation to demonstrate compliance, as required at 40 CFR 403 (b), (e) and (h).
- (2) For each industrial user listed the following information shall be included:
- (a) Standard Industrial Classification (SIC) and NAICS code and categorical determination;
  - (b) Control document status. Whether the user has an effective control document, and the date such document was last issued, reissued, or modified, (indicate which industrial users were added to the system (or newly identified) within the previous 12 months (previous calendar year);
  - (c) A summary of all monitoring activities performed within the previous 12 months (previous calendar year). The following information shall be reported:
    - \* total number of inspections performed;
    - \* total number of sampling visits made;
  - (d) Status of compliance with both effluent limitations and reporting requirements. Compliance status shall be defined as follows:
    - \* Compliant (C) - no violations during the previous 12 month period (previous calendar year);
    - \* Non-compliant (NC) - one or more violations during the previous 12 months (previous calendar year) but does not meet the criteria for significantly noncompliant industrial users;

\* Significant Noncompliance (SNC) - in accordance with requirements described in Part D above; and

- (e) For significantly noncompliant industrial users, indicate the nature of the violations, the type and number of actions taken (notice of violation, administrative order, criminal or civil suit, fines or penalties collected, etc.) and current compliance status. If ANY industrial user was on a schedule to attain compliance with effluent limits, indicate the date the schedule was issued and the date compliance is to be attained;
- (3) A list of all significant industrial users whose authorization to discharge was terminated or revoked during the previous 12 month period (previous calendar year) and the reason for termination;
- (4) A report on any interference, pass through, upset or POTW permit violations known or suspected to be caused by industrial contributors and actions taken by the permittee in response;
- (5) The results of all influent and effluent analyses performed pursuant to Part II.7.C.;
- (6) A copy of the newspaper publication of the significantly noncompliant industrial users giving the name of the newspaper and the date published;
- (7) The information requested may be submitted in tabular form as per the example tables provided for your convenience (See Attachment A, B and C); and
- (8) An influent/effluent summary chart containing the monthly average water quality based effluent concentration demonstrating compliance with permit limits or the water quality levels not to exceed as developed in the approved technically based local limits document.

E. The permittee shall provide adequate notice of the following:

- (1) Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Act if it were directly discharging those pollutants; and
- (2) Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

Adequate notice shall include information on (i) the quality and quantity of effluent to be introduced into the treatment works, and (ii) any anticipated impact of the change on the quality or quantity of effluent to be discharged from the POTW.

9. WHOLE EFFLUENT TOXICITY TESTING (7-DAY CHRONIC NOEC FRESHWATER)

1. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL: 001

REPORTED ON DMR AS FINAL OUTFALL: 001

CRITICAL DILUTION (%): 21%

EFFLUENT DILUTION SERIES (%): 9%, 12%, 16%, 21%, 28%

TESTING FREQUENCY once/quarter

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

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

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

- b. The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.
- c. This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

2. PERSISTENT LETHAL and/or SUB-LETHAL EFFECTS

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

If a frequency reduction, as specified in Item 6, has been granted and any subsequent valid test demonstrates significant lethal or sub-lethal effects to a test species at or below the critical dilution, the frequency of testing for that species is automatically increased to once per quarter for the life of the permit. In addition:

a. Part I Testing Frequency Other Than Monthly

- i. The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant toxic effects at or below the critical dilution. The additional tests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.
- ii. **IF LETHAL EFFECTS HAVE BEEN DEMONSTRATED** If any of the additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests. A TRE required based on lethal effects should consider any sub-lethal effects as well.
- iii. **IF SUB-LETHAL EFFECTS ONLY HAVE BEEN DEMONSTRATED** If any two of the three additional tests demonstrates significant sub-lethal effects at 75% effluent or lower, the permittee shall initiate the Sub-Lethal Toxicity Reduction Evaluation (TRE<sub>SL</sub>) requirements as specified in Part II.8.5. The permittee shall notify ADEQ in writing within 5 days

of the failure of any retest, and the Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required for failure to perform the required retests.

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

b. Part I Testing Frequency of Monthly

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

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

Non-ideal concentration-response relationships will occasionally be encountered in toxicity testing. In the event the results from a specific toxicity test yield a non-ideal concentration-response relationship, the permittee shall submit the toxicity report to ADEQ and request a technical review prior to initiating a retest. The goal of the technical review is to properly interpret non-ideal patterns and to reduce the number of false positives and unnecessary retests. At the conclusion of the technical review, ADEQ will advise the permittee on any follow up toxicity retest(s) that may be required. However, if an ideal response-relationship is indicated in the results the Department may require the permittee to conduct additional testing.

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

- i. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- ii. The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.
- iii. 60% of the surviving control females must produce three broods. The mean dry weight of surviving Fathead minnow larvae at the

end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.

- iv. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test.
- v. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or sub-lethal effects are exhibited for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test.
- vi. If a test passes, yet the percent coefficient of variation between replicates is greater than 40% in the control (0% effluent) and/or in the critical dilution for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test, the test is determined to be invalid. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.
- vii. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.
- viii. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for Ceriodaphnia dubia reproduction;
- ix. A PMSD range of 12 - 30 for Fathead minnow growth.

b. Statistical Interpretation

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

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

c. Dilution Water

- i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for;
  - (A) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and
  - (B) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.
- ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:
  - (A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;
  - (B) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);
  - (C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 below; and
  - (D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.



d. Samples and Composites

- i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above. Unless otherwise stated in this section, a composite sample for WET shall consist of a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.
- ii. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples, on use, are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis.

The permittee previously submitted three years of data when diquat dibromide was used for root removal. This data was sufficient to conclude no effect. The requirement for collecting effluent samples while using dequat dibromide for root removal is waived.

- iii. The permittee must collect all three flow-weighted composite samples within the monitoring period. Second and/or third composite samples shall not be collected into the next monitoring period; such tests will be determined to be invalid. Monitoring period definitions are listed in Part IV.
- iv. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to between 0 and 6 degrees Centigrade during collection, shipping, and/or storage.
- v. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be

documented in the full report required in Item 4 of this section.

- vi. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in item 1.a. above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.
- vii. If chlorination is part of the treatment process, the permittee shall not allow the sample to be dechlorinated at the laboratory. At the time of sample collection the permittee shall measure the TRC of the effluent. The measured concentration of TRC for each sample shall be included in the lab report submitted by the permittee.

#### 4. REPORTING

- a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA/821/R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.7 of this permit. The permittee shall submit full reports. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.
- b. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of WET test data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST lethal and sub-lethal effects results for each species during the reporting period. The full reports for all invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for Agency review.
- c. The permittee shall submit the results of each valid toxicity test on the subsequent monthly DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. Pimephales promelas (Fathead minnow)

- (A) If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP6C
- (B) Report the NOEC value for survival, Parameter No. TOP6C
- (C) Report the NOEC value for growth, Parameter No. TPP6C
- (D) If the NOEC for growth is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP6C
- (E) Report the highest (critical dilution or control) Coefficient of Variation for growth, Parameter No. TQP6C

ii. Ceriodaphnia dubia

- (A) If the NOEC for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP3B
- (B) Report the NOEC value for survival, Parameter No. TOP3B
- (C) Report the NOEC value for reproduction, Parameter No. TPP3B
- (D) If the NOEC for reproduction is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP3B
- (E) Report the higher (critical dilution or control) Coefficient of Variation for reproduction, Parameter No. TQP3B

5. TOXICITY REDUCTION EVALUATIONS (TREs)

TREs for lethal and sub-lethal effects are performed in a very similar manner. EPA Region 6 is currently addressing TREs as follows: a sub-lethal TRE (TRE<sub>SL</sub>) is triggered based on three sub-lethal test failures while a lethal effects TRE (TRE<sub>L</sub>) is triggered based on only two test failures for lethality. In addition, EPA Region 6 will consider the magnitude of toxicity and use flexibility when considering a TRE<sub>SL</sub> where there are no effects at effluent dilutions of 75% or lower.

- a. Within ninety (90) days of confirming persistent toxicity, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The goal of the TRE is to maximally reduce the toxic effects of effluent at the critical dilution and includes the following:
- i. **Specific Activities.** The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures' (EPA-600/6-91/003) and 'Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I' (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/080) and 'Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/081), as appropriate.

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

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

- ii. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;

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

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

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

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

- 1. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
- 2. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and
- 3. any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at the critical dilution.

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

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

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

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

## 6. MONITORING FREQUENCY REDUCTION

- a. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters or first twelve consecutive months (in accordance with Item 1.a.) of testing for one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the Fathead minnow) and not less than twice per year for the more sensitive test species (usually the Ceriodaphnia dubia).
- b. **CERTIFICATION** - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item 3.a. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance System section to update the permit reporting requirements.
- c. **SUB-LETHAL OR SURVIVAL FAILURES** - If any test fails the survival or sub-lethal endpoint at any time during the life of this permit, three monthly retests are required and the monitoring frequency for the affected test species shall be increased to once per quarter until the permit is re-issued. Monthly retesting is not required if the permittee is performing a TRE.

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

## PART III STANDARD CONDITIONS

### SECTION A – GENERAL CONDITIONS

#### 1. Duty to Comply

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

#### 2. Penalties for Violations of Permit Conditions

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

#### 3. Permit Actions

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

- A. Violation of any terms or conditions of this permit; or
- B. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
- C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
- D. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.
- E. Failure of the permittee to comply with the provisions of APCEC Regulation No. 9 (Permit fees) as required by Part III.A.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 APCEC Regulation No. 2, as amended, or Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitations on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standards or prohibition and the permittee so notified.

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

#### **5. Civil and Criminal Liability**

Except as provided in permit conditions for “Bypass of Treatment Facilities” (Part III.B.4), and “Upset” (Part III.B.5), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state and federal statutes or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

#### **6. Oil and Hazardous Substance Liability**

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

#### **7. State Laws**

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

#### **8. Property Rights**

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

**9. Severability**

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

**10. Applicable Federal, State or Local Requirements**

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

**11. Permit Fees**

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

**SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS****1. Proper Operation and Maintenance**

- A. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- B. The permittee shall provide an adequate operating staff which is duly qualified to carryout operation, maintenance, and testing functions required to insure compliance with the conditions of this permit.

**2. Need to Halt or Reduce not a Defense**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or discharges or both until the facility is restored or an alternative method of

treatment is provided. This requirement applies, for example, when the primary source of power for the treatment facility is reduced, is lost, or alternate power supply fails.

### **3. Duty to Mitigate**

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

### **4. Bypass of Treatment Facilities**

#### **A. Bypass not exceeding limitation**

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

#### **B. Notice**

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

#### **C. Prohibition of bypass**

1. Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless:
  - (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal or preventive maintenance; and
  - (c) The permittee submitted notices as required by Part III.B.4.b.
2. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in Part III.B.4.c.(1).

### **5. Upset Conditions**

- #### **A. Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements

of Part III.B.5.b of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

- B. Conditions necessary for demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
1. An upset occurred and that the permittee can identify the specific cause(s) of the upset;
  2. The permitted facility was at the time being properly operated.
  3. The permittee submitted notice of the upset as required by Part III.D.6; and
  4. The permittee complied with any remedial measures required by Part III.B.3.
- C. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

## **6. Removed Substances**

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of 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.

Any changes to the permittee's disposal practices described in Part II of the permit 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 insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than +/- 10% from true discharge rates throughout the range of expected discharge volumes and shall be installed at the monitoring point of the discharge.

### **Calculated Flow Measurement**

For calculated flow measurements that are performed in accordance with either the permit requirements or a Department approved method (i.e., as allowed under Part II.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 insure accuracy of measurements and shall insure that both calibration and maintenance activities will be conducted. An adequate analytical quality control program, including the analysis of sufficient standards, spikes, and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory. At a minimum, spikes and duplicate samples are to be analyzed on 10% of the samples.

## **4. Penalties for Tampering**

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

## **5. Reporting of Monitoring Results**

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

effective date of the permit. When mailing the DMRs, duplicate copies of the forms signed and certified as required by Part III.D.11 and all other reports required by Part III.D, shall be submitted to the Director at the following address:

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

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

**6. Additional Monitoring by the Permittee**

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

**7. Retention of Records**

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

**8. Record Contents**

Records and monitoring information shall include:

- A. The date, exact place, time and methods of sampling or measurements, and preservatives used, if any;
- B. The individuals(s) who performed the sampling or measurements;
- C. The date(s) and time analyses were performed;
- D. The individual(s) who performed the analyses;
- E. The analytical techniques or methods used; and
- F. The measurements and results of such analyses.

## **9. Inspection and Entry**

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

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

## **SECTION D – REPORTING REQUIREMENTS**

### **1. Planned Changes**

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

### **2. Anticipated Noncompliance**

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

### **3. Transfers**

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

### **4. Monitoring Reports**

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

### **5. Compliance Schedule**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later

than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

**6. Twenty-four Hour Report**

- A. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the following information:
1. A description of the noncompliance and its cause;
  2. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
  3. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- B. The following shall be included as information which must be reported within 24 hours:
1. Any unanticipated bypass which exceeds any effluent limitation in the permit;
  2. Any upset which exceeds any effluent limitation in the permit; and
  3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part I of the permit to be reported within 24 hours to the Enforcement Section of the Water Division of the ADEQ.
- C. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours to the Enforcement Section of the Water Division of the ADEQ.

**7. Other Noncompliance**

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

**8. Changes in Discharge of Toxic Substances for Industrial Dischargers**

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

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



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

## **9. Duty to Provide Information**

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

## **10. Duty to Reapply**

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

## **11. Signatory Requirements**

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

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

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
  - (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
  - (b) The manager of one or more manufacturing, production, or operation facilities, provided: the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or
  3. For a municipality, State, Federal, or other public agency, by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
    - (a) The chief executive officer of the agency, or
    - (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- B. All **reports** required by the permit and **other information** requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
1. The authorization is made in writing by a person described above.
  2. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
  3. The written authorization is submitted to the Director.
- C. Certification. Any person signing a document under this section shall make the following certification:
- “I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

## **12. Availability of Reports**

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

### **13. Penalties for Falsification of Reports**

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties specified in Part III.A.2. and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

## PART IV DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act and 40 CFR 122.2 shall apply to this permit and are incorporated herein by reference. Additional definitions of words or phrases used in this permit are as follows:

1. **“Act”** means the Clean Water Act, Public Law 95-217 (33.U.S.C. 1251 et seq.) as amended.
2. **“Administrator”** means the Administrator of the U.S. Environmental Protection Agency.
3. **“APCEC”** means the Arkansas Pollution Control and Ecology Commission.
4. **“Applicable effluent standards and limitations”** means all State and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards of performance, toxic effluent standards and prohibitions, and pretreatment standards.
5. **“Applicable water quality standards”** means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303(a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under (APCEC) Regulation No. 2, as amended.
6. **“Bypass”** As defined at 122.41(m).
7. **“Composite sample”** is a mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing a minimum of 4 effluent portions collected at equal time intervals (but not closer than one hour apart) during operational hours, within the 24-hour period, and combined proportional to flow or a sample collected at more frequent intervals proportional to flow over the 24-hour period.
8. **“Daily Discharge”** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.
  - A. **Mass Calculations:** For pollutants with limitations expressed in terms of mass, the “daily discharge” is calculated as the total mass of pollutant discharged over the sampling day.
  - B. **Concentration Calculations:** For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.
9. **“Daily Maximum”** discharge limitation means the highest allowable “daily discharge” during the calendar month.
10. **“Department”** means the Arkansas Department of Environmental Quality (**ADEQ**).
11. **“Director”** means the Director of the Arkansas Department of Environmental Quality.
12. **“Dissolved oxygen limit”**, shall be defined as follows:
  - A. When limited in the permit as a minimum monthly average, shall mean the lowest acceptable monthly average value, determined by averaging all samples taken during the calendar month;
  - B. When limited in the permit as an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
13. **“E-Coli”** sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For E-Coli, report the monthly average as a geometric mean of all effluent samples collected during a calendar month in colonies per 100 ml, and the 7-day average as a

geometric mean of all effluent samples collected during a calendar week in colonies per 100 ml.

14. **"Fecal Coliform Bacteria (FCB)"** sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For Fecal Coliform Bacteria, the monthly average is the geometric mean of all effluent samples collected during a calendar month in colonies per 100 ml, and the 7-day average is the geometric mean of all effluent samples collected during a calendar week in colonies per 100 ml.
15. **"Grab sample"** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
16. **"Industrial User"** means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
17. **"Instantaneous Maximum"** when limited in the permit as an instantaneous maximum value, shall mean that no value measured during the reporting period may fall above the stated value.
18. **"Instantaneous Minimum"** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
19. **"Monthly average"** means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. For Fecal Coliform Bacteria (FCB) or E-Coli, report the monthly average as a geometric mean of all effluent samples collected during a calendar month in colonies per 100 ml.
20. **"National Pollutant Discharge Elimination System"** means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements under Sections 307, 402, 318, and 405 of the Clean Water Act.
21. **"POTW"** means a Publicly Owned Treatment Works.
22. **"Severe property damage"** means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in products.
23. **"Sewage sludge"** means the solids, residues, and precipitate separated from or created in sewage by the unit processes at a POTW. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and stormwater runoff that are discharged to or otherwise enter a POTW.
24. **"7-day average"**, also known as average weekly, means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week. For Fecal Coliform Bacteria or E-Coli, the 7-day average is the geometric mean of all effluent samples collected during a calendar week in colonies per 100 ml.
25. **"Treatment works"** means any devices and systems used in storage, treatment, recycling, and reclamation of municipal sewage and industrial wastes, of a liquid nature to implement section 201 of the Act, or necessary to recycle reuse water at the most economic cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities, and any

works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment.

26. **“Upset”** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. Any upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or careless of improper operations.
27. **“Visible sheen”** means the presence of a film or sheen upon or a discoloration of the surface of the discharge. A sheen can also be from a thin glistening layer of oil on the surface of the discharge.
28. **“MGD”** shall mean million gallons per day.
29. **“mg/l”** shall mean milligrams per liter or parts per million (ppm).
30. **“µg/l”** shall mean micrograms per liter or parts per billion (ppb).
31. **“cfs”** shall mean cubic feet per second.
32. **“ppm”** shall mean parts per million.
33. **“s.u.”** shall mean standard units.
34. **“Weekday”** means Monday – Friday.
35. **Monitoring and Reporting:**

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

**A. MONTHLY:**

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

**B. BI-MONTHLY:**

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

**C. QUARTERLY:**

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

**D. SEMI-ANNUAL:**

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

**E. ANNUAL or YEARLY:**

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

**ATTACHMENT 1**  
**MONITORING RESULTS FOR THE ANNUAL PRETREATMENT REPORT**  
**REPORTING YEAR: \_\_\_\_\_, 20\_\_\_\_ TO \_\_\_\_\_, 20\_\_\_\_**  
**TREATMENT PLANT: City of \_\_\_\_\_ NPDES PERMIT #AR00\_\_\_\_\_**  
**AVERAGE POTW FLOW: \_\_\_\_\_ MGD. % IU FLOW: \_\_\_\_\_%**

[illegible]




(1) It is advised that the influent and effluent samples are collected considering flow detention time through each plant.  
**Analytical MQLs must be met for the effluent (and SHOULD be met for the influent) so the data can also be used for Local Limits assessment and NPDES application purposes.**

(2) This value was calculated during the development of TBLL based on State WQ criteria, EPA guidance and either ADEQ Pretreatment staff Excel spreadsheets or the Permittee's consultant with concurrence from Pretreatment staff.

(3) Record the name of any pollutant [40 CFR 122, Appendix D, Table II and/or Table V] detected and the concentration at which they were detected.

MAHL - Maximum Allowable Headworks Level / MAHC – Maximum Allowable Headworks Concentration

WQ - "Water Quality Levels not to exceed" OR actual permit limit.

**ATTACHMENT A**  
**PRETREATMENT PROGRAM STATUS REPORT**  
**UPDATED SIGNIFICANT INDUSTRIAL USERS LIST**

Industrial User Name	SIC/NAICS Code	40 CFR XXX or N/A	Control Document		New User	Times Inspected	Times Sampled	Compliance Status (N/A, C, NC, or SNC)				Permit Limits  (denote parameter violated & number of times)
			Y/N	Last Action				Reports				
								BMR	90-day Compliance	Semi Annual	Self Monitoring	

Please footnote N/A reason

**ATTACHMENT B**  
**SIGNIFICANT VIOLATIONS - ENFORCEMENT ACTIONS TAKEN**

[illegible]

**ATTACHMENT C**  
PRETREATMENT PERFORMANCE SUMMARY (PPS)

**NOTE:** ALL QUESTIONS REFER TO THE INDUSTRIAL PRETREATMENT PROGRAM AS APPROVED BY ADEQ. THE PERMITTEE SHOULD NOT ANSWER THE QUESTIONS BASED ON CHANGES MADE TO THE APPROVED PROGRAM WITHOUT DEPARTMENT AUTHORIZATION.

I. General Information

Control Authority Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State/Zip \_\_\_\_\_

Contact Person \_\_\_\_\_ Position \_\_\_\_\_

Contact Telephone \_\_\_\_\_ NPDES Permit Nos. \_\_\_\_\_

Reporting Period \_\_\_\_\_

(Beginning Month and Year)

(Ending Month and Year)

Total Number of Categorical IUs \_\_\_\_\_

Total Number of Significant Noncategorical IUs \_\_\_\_\_

Total Number of Non-Significant (yet permitted) IUs \_\_\_\_\_

II. Significant Industrial User Compliance

	<u>SIGNIFICANT INDUSTRIAL USERS</u> <u>Categorical</u>	<u>NonCategorical</u>
1) No. of SIUs Submitting BMRs/Total No. Required. . . . .	/	N/A*
2) No. of SIUs Submitting 90-Day Compliance Reports/No. Required. . . . .	/	N/A*
3) No. of SIUs Submitting Semiannual Reports/ Total No. Required. . . . .	/	/
4) No. of SIUs Meeting Compliance Schedule/ Total No. Required to Meet Schedule . . . .	/	/

- 5) No. of SIUs in Significant Noncompliance/  
Total No. of SIUs . . . . .     /         /
- 6) Rate of Significant Noncompliance for all  
SIUs (categorical and noncategorical) . .

### III. Compliance Monitoring Program

#### SIGNIFICANT INDUSTRIAL USERS Categorical NonCategorical

- |   |                  |                  |
|---|------------------|------------------|
| 1) No. of Control Documents Issued/Total No.<br>Required. . . . . | <u>    /    </u> | <u>    /    </u> |
| 2) No. of Nonsampling Inspections Conducted. .                    | <u>    /    </u> | <u>    /    </u> |
| 3) No. of Sampling Visits Conducted. . . . .                      | <u>    /    </u> | <u>    /    </u> |
| 4) No. of Facilities Inspected (nonsampling) .                    | <u>    /    </u> | <u>    /    </u> |
| 5) No. of Facilities Sampled . . . . .                            | <u>    /    </u> | <u>    /    </u> |

### IV. Enforcement Actions

#### SIGNIFICANT INDUSTRIAL USERS Categorical NonCategorical

- |   |                   |                   |
|---|-------------------|-------------------|
| 1) No. of Compliance Schedules Issued/No.<br>of Schedules Required . . . . .            | <u>    /    </u>  | <u>    /    </u>  |
| 2) No. of Notices of Violations Issued to SIUs  | <u>          </u> | <u>          </u> |
| 3) No. of Administrative Orders Issued to SIUs  | <u>          </u> | <u>          </u> |
| 4) No. of Civil Suits Filed. . . . .  | <u>          </u> | <u>          </u> |
| 5) No. of Criminal Suits Filed . . . . .  | <u>          </u> | <u>          </u> |
| 6) No. of Significant Violators (attach<br>newspaper publication). . . . .              | <u>          </u> | <u>          </u> |
| 7) Amount of Penalties (not surcharges)<br>Collected (total dollars/IUs assessed) . . . | <u>    /    </u>  | <u>    /    </u>  |
| 8) Other Actions (sewer bans, etc.). . . . .  | <u>          </u> | <u>          </u> |

The following certification must be signed in order for this form to be considered complete:

I certify that the information contained herein is complete and accurate to the best of my knowledge.

---

Authorized Representative

Date

## **Fact Sheet**

*All changes to the permit and fact sheet based upon Permit Appeal Resolution (PAR) LIS 14-061, Docket No. 12-003-P, entered into on 5/21/2014, are italicized.*

For *major modification* of the discharge Permit Number AR0021806 with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 60-00409 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:

Little Rock Wastewater - Adams Field WWTP  
11 Clearwater Drive  
Little Rock, AR 72204

The facility address is:

Little Rock Wastewater - Adams Field WWTP  
1001 Temple Drive  
Little Rock, AR 72202

### **3. PREPARED BY.**

The permit was prepared by:

Shane Byrum  
Staff Engineer  
Discharge Permits Section, Water Division  
(501) 682-0618  
E-mail: [byrum@adeq.state.ar.us](mailto:byrum@adeq.state.ar.us)

Kimberly Fuller, P.E.  
Engineer Supervisor  
Discharge Permits Section, Water Division  
(501) 682-0643  
E-mail: [fuller@adeq.state.ar.us](mailto:fuller@adeq.state.ar.us)

4. **Permit Appeal Resolution – LIS 14-061, Docket No. 12-003-P, entered into on 5/21/2014**

*On June 22, 2012, the Arkansas Department of Environmental Quality (“ADEQ”) issued a renewal permit (NPDES permit No. AR0021806) to Little Rock Wastewater – Adams Field Treatment Facility (“Permittee”) with an effective date of August 1, 2012. The permittee filed a timely request for Commission Review and Adjudicatory Hearing (“Appeal”) regarding ADEQ’s decision to issue the permit. Ultimately, the parties have agreed to resolve the issues in dispute in the Appeal by agreement. Accordingly, the docket in the Appeal was closed and the proceedings were remanded to the Department to proceed in accordance with the terms of the Permit Appeal Resolution (PAR) LIS 14-061, Docket No. 12-003-P, entered into on 5/21/2014.*

*Therefore, the permit has been modified in accordance with the PAR as follows:*

- *Part II, Condition 5 (SSO Reporting Requirements) of the permit was revised to better clarify the reporting requirements and method of counting sanitary sewer overflow occurrences.*
- *Part III, Condition B.6 (Removed Substances) of the permit was revised to change the time period of required notice of a change in sludge practices, as described in Part II of the permit, from 120 days to 180 days, to clarify that prior notice requirement may be waived if additional permitting is not required for the change in sludge practice, and to require permittee to comply with all state and federal regulations governing the disposal of sludge. Since this revised condition references the sludge practices described in Part II of the permit, the sludge practices used at this facility were added in Part II of the permit. The sludge practices listed in Part II relates solely to the Adams Field Treatment facility. Listing only the sludge practices used at this facility will prevent the need to modify all three permits if there is a change in sludge practices at one of the other LRW facilities.*
- *Total Phosphorus (TP) monitoring frequency was revised to one grab sample per month.*
- *Nitrate + Nitrite Nitrogen (NO<sub>3</sub>+NO<sub>2</sub>-N) monitoring frequency was revised to one grab sample per quarter.*
- *Dissolved Oxygen limits and monitoring requirements were removed based on a new segmented model technically accepted by EPA on 10/30/2013, which includes all six municipal facilities discharging to this segment of the Arkansas River.*



## 5. PERMIT ACTIVITY.

Permit Effective Date: 8/1/2012  
Permit Expiration Date: 7/31/2017

*The discharge permit is being modified for the remainder of the 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).*

### DOCUMENT ABBREVIATIONS

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

BAT - best available technology economically achievable  
BCT - best conventional pollutant control technology  
BMP - best management practices  
BOD<sub>5</sub> - five-day biochemical oxygen demand  
BPJ - best professional judgment  
BPT - best practicable control technology currently available  
CBOD<sub>5</sub> - carbonaceous biochemical oxygen demand  
CD - critical dilution  
CFR - Code of Federal Regulations  
cfs - cubic feet per second  
COD - chemical oxygen demand  
COE - United States Corp of Engineers  
CPP - continuing planning process  
CWA - Clean Water Act  
DMR - discharge monitoring report  
DO - dissolved oxygen  
ELG - effluent limitation guidelines  
EPA - United States Environmental Protection Agency  
ESA - Endangered Species Act  
FCB - fecal coliform bacteria  
gpm - gallons per minute  
MGD - million gallons per day  
MQL - minimum quantification level  
NAICS - North American Industry Classification System  
NH<sub>3</sub>-N - ammonia nitrogen  
NO<sub>3</sub> + NO<sub>2</sub>-N - nitrate + nitrite nitrogen  
NPDES - National Pollutant Discharge Elimination System  
O&G - oil and grease  
Reg. 2 - APCEC Regulation No. 2  
Reg. 6 - APCEC Regulation No. 6  
Reg. 8 - APCEC Regulation No. 8  
Reg. 9 - APCEC Regulation No. 9  
RP - reasonable potential  
SIC - standard industrial classification

TDS - total dissolved solids  
TMDL - total maximum daily load  
TP - total phosphorus  
TRC - total residual chlorine  
TSS - total suspended solids  
UAA - use attainability analysis  
USF&WS - United States Fish and Wildlife Service  
WET - Whole effluent toxicity  
WQMP - water quality management plan  
WQS - Water Quality standards  
WWTP - wastewater treatment plant

DMR Review:

The Discharge Monitoring Reports (DMR's) for the last three years (September 2008 to August 2011) were reviewed during the permit renewal process. There was one TSS violation which occurred in December 2010, and there were six separate exceedances of Fecal Coliform Bacteria limits which occurred during the reporting months of May 2009, January 2011, February 2011, and August 2011.

Legal Order Review:

This facility is currently under Consent Administrative Order No. 06-037-001. This CAO requires Little Rock Wastewater to achieve compliance with the maintenance and operation of the wastewater collection system, as it applies to capacity related overflows by 12/31/2018.

Site Visits/Inspections

The most recent compliance inspection was performed on 2/14/2011. There were no violations found at the time of the inspection.

**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:

*The list of changes which were made in the renewal permit with an effective date of 8/1/2012 may be found in the Fact Sheet for that permit. The NPDES permit is now modified to include the changes listed in Section 4 of this Fact Sheet.*

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

The outfall is located at the following coordinates based on Acme Mapper 2.0 using WGS84 map datum in conjunction with the aerial drawing of plant layout submitted with application:

Latitude: 34° 44' 32" Longitude: 92° 12' 36"

The receiving waters named:

Arkansas River in Segment 3C of the Arkansas River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 11110207 and reach # 011 is a Water of the State classified for primary and secondary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

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

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

Reach 001 of the Arkansas River is listed on the 2008 303(d) list for impairment of the drinking water designated use due to Beryllium. This facility discharges to Reach 011, which is over 50 river miles upstream of the impaired segment. In addition, the priority pollutant scan submitted with the application shows that Beryllium concentrations are non-detectable in the discharge. Therefore, the permit writer concluded that no further permitting action is needed concerning Beryllium.

**B. Endangered Species:**

ADEQ has concluded that issuance of this discharge permit will have no effect on any endangered or candidate species or the critical habitat. A complete copy of the *renewal* application *received on 6/14/2011* was sent to the U.S. Fish and Wildlife Service (USF&WS) for review and no comments were received. The draft *modified* permit and Fact Sheet were sent to the USF&WS for their review and no comments were received.

**C. Anti-Degradation:**

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

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

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

- A. Design Flow: 36 MGD
- B. Type of Treatment: bar screening, primary clarification (3 clarifiers), primary grit removal, equilization basin, activated sludge, secondary clarification (3 clarifiers), ultraviolet light disinfection, and sludge thickening.
- C. Discharge Description: treated municipal wastewater
- D. Facility Status: This facility is classified as a major municipal since the design flow of the facility listed above is greater than 1.0 MGD.
- E. Facility Construction: This permit does not authorize or approve the construction or modification of any part of the treatment system or facilities. Approval for such construction must be by permit issued under Reg. 6.202.

**9. ACTIVITY.**

Under the Standard Industrial Classification (SIC) code of 4952 or North American Industry Classification System (NAICS) code of 221320, the applicant's activities are the operation of a sewage treatment plant.

**10. INDUSTRIAL WASTEWATER CONTRIBUTIONS.**

This facility receives industrial process wastewater. Based on the applicant's effluent compliance history and the type of industrial contributions, standard Pretreatment Program implementation conditions are deemed appropriate at this time.

Pretreatment requirements were added on 3/28/2008 to modify the permittee's pretreatment program to be current with the revised (October 2005) Pretreatment Regulations under 40 CFR 403.

**11. SEWAGE SLUDGE PRACTICES.**

*All primary and/or waste-activated sludge from all three LRW plants is ultimately processed at the Fourche Creek Treatment Facility. The sludge generated at the Adams Field Treatment Facility is thickened in circular gravity thickeners located at the Adams Field Treatment Facility and then pumped via pipeline to the Fourche Creek Treatment Facility.*

*The sludge practices stated above are also included in Part II.6 of the modified permit.*

## 12. PERMIT CONDITIONS.

The Arkansas Department of Environmental Quality has made a determination to issue a final modified permit for the discharge described in the application. Permit requirements are based on federal regulations (40 CFR Parts 122, 124, and Subchapter N), the National Pretreatment Regulation in 40 CFR Part 403 and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et. seq.).

### Effluent Limitations

Outfall 001- treated municipal wastewater

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Flow <sup>1</sup>	N/A	Report, MGD	Report, MGD (Daily Max.)	once/day	totalizing meter
Biochemical Oxygen Demand (BOD5)	9007	30	45	three/week	composite
Total Suspended Solids (TSS)	9007	30	45	three/week	composite
Fecal Coliform Bacteria (FCB)		(colonies/100 ml)			
(May-September)	N/A	200	400	two/week	grab
(October-April)	N/A	1000	2000	two/week	grab
Total Phosphorus (TP)	Report	Report	Report	once/month	grab
Nitrate + Nitrite Nitrogen (NO3+NO2-N)	Report	Report	Report	once/quarter	grab
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	two/week	grab
Chronic WET Testing	N/A	Report		once/quarter	composite
<b><u>Pimephales promelas (Chronic)</u></b> Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC)TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation (Growth) TQP6C Growth (7-day NOEC) TPP6C  <b><u>Ceriodaphnia dubia (Chronic)</u></b> Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail Reproduction (7-day NOEC)TGP3B Survival (7-day NOEC) TOP3B Coefficient of Variation (Reproduction) TQP3B Reproduction (7-day NOEC) TPP3B		<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter	composite
				once/quarter	composite
				once/quarter	composite
				once/quarter	composite
				once/quarter	composite
				once/quarter	composite
				once/quarter	composite
				once/quarter	composite
				once/quarter	composite
				once/quarter	composite
		<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter	composite
				once/quarter	composite
				once/quarter	composite
				once/quarter	composite
				once/quarter	composite
				once/quarter	composite

<sup>1</sup> Report monthly average flow and daily maximum flow as MGD.

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

### 13. BASIS FOR PERMIT CONDITIONS.

The following is an explanation of the derivation of the conditions of the *modified* 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 *modified* 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/BPJ		Previous Permit		Permit Limit	
	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l
BOD5	30*	N/A	30	45	30	45	30	45
TSS	N/A	N/A	30	45	30	45	30	45
FCB (col/100 ml)								
(May - Sept)	200	400	N/A	N/A	200	400	200	400
(Oct - March)	1000	2000	N/A	N/A	1000	2000	1000	2000
(April)	1000	2000	N/A	N/A	200	400	1000**	2000**
TP	N/A	N/A	Report	Report	N/A	N/A	Report	Report
NO <sub>3</sub> + NO <sub>2</sub> - N	N/A	N/A	Report	Report	N/A	N/A	Report	Report
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	
Chronic WET testing	Chronic WET testing		N/A		Chronic WET testing		Chronic WET testing	

\* Technology-based BOD5 limit was modeled to verify compliance with water quality.

\*\* FCB limits for April were revised from previous permit to be consistent with the revised primary and secondary contact recreation seasons adopted in Reg. 2.507 on 4/23/2004.

**A. Justification for Limitations and Conditions of the *modified* permit:**

Parameter	Water Quality or Technology	Justification
BOD5**	Technology	MultiSMP Model dated 1/19/1990* 40 CFR 133.102(a)
TSS**	Technology	40 CFR 133.102(b)
Fecal Coliform Bacteria	Water Quality	Limits are based on Reg. 2.507(A) and (B).
Total Phosphorus	Technology	Nutrient Control Implementation Plan (in Appendix D) of the CPP, which states that NPDES permit requirements will include monitoring for this parameter for all major municipal facilities.
Nitrate + Nitrite Nitrogen	Technology	Nutrient Control Implementation Plan (in Appendix D) of the CPP, which states that NPDES permit requirements will include monitoring for this parameter for all major municipal facilities.
pH	Water Quality	Reg. 2.504
Chronic WET testing	Water Quality	NPDES Permit Implementation Section (in Appendix D) of the CPP, which states that all major facilities are subject to whole effluent toxicity testing.

\*Technology-based BOD5 limit was modeled to verify compliance with water quality.

\*\*BOD5 and TSS required removal efficiency was revised to 85% for both parameters as required by 40 CFR 133.102. The previous permit contained less stringent removal efficiencies for BOD5 and TSS of 83% and 80%, respectively. The facility has tracked the actual removal efficiency achieved each month and according to data submitted from January 2007 through November 2011, the facility has achieved an average removal of 93.8% for BOD5 and 94.3% for TSS during this latest five year period and the minimum removal for BOD5 and TSS was measured at 86.9% and 89.6%, respectively. Therefore, there is no justification for continuing the reduced removal efficiencies from the previous permit because the facility is currently meeting the minimum required 85% removal on a consistent basis.

**B. Anti-backsliding**

The final permit is consistent with the requirements to meet Anti-backsliding provisions of the Clean Water Act (CWA), Section 402(o) [40 CFR 122.44(l)]. The final effluent limitations for reissuance permits must be as stringent as those in the previous permit, unless the less stringent limitations can be justified using exceptions listed in 40 CFR 122.44(l)(2)(i).

The limits in the *modified* permit are as stringent as those of the previous effective permit with the exception of Fecal Coliform Bacteria (FCB) limits for April *and the removal of the DO limit.*

The FCB limits during April were corrected to be consistent with the seasonal periods defined in Reg. 2.507 for bacteria standards. This correction is not considered backsliding.

*The Dissolved Oxygen limit was removed in this modified permit based on a new modeling analysis which includes all municipal point sources in this segment of the Arkansas River. This new modeling analysis shows that the dissolved oxygen level in the LRW-Adams Field effluent does not have a significant effect on the predicted DO sag in the Arkansas River. In accordance with 40 CFR 122.44(l)(2)(i)(B)(1), a permit may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant if information is available which was not available at the time of previous permit issuance. The new modeling analysis is considered new information that was not yet available at the time of previous permit issuance. Therefore, the removal of the DO limit from the permit does not violate the anti-backsliding provisions.*

**C. Limits Calculations**

1. Mass limits:

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

The calculation of the loadings (lbs per day) for BOD5 and TSS uses a design flow of 36 MGD and the following equation:

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

2. 7-Day Average Limits:

The 7-Day average limit for BOD5 is based on 40 CFR 133.102(a)(2).

The 7-Day average limit for TSS is based on 40 CFR 133.102(b)(2).

The 7-Day average limits for FCB are based on Reg. 2.507(A) and (B).



**D. Priority Pollutant Scan (PPS)**

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

The concentration of each pollutant after mixing with the receiving stream was compared to the applicable water quality standards as established in the Arkansas Water Quality Standards (AWQS), Regulation No. 2 (Reg. 2.508) and criteria obtained from the "Quality Criteria for Water, 1986 (Gold Book)".

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

The following items were used in calculations:

Parameter	Value	Source
Flow = Q	36 MGD = 55.62 cfs	Design Flow
7Q10	819 cfs	U.S.G.S.
TSS	10.5 mg/l	CPP
Hardness as CaCo3	125 mg/l	CPP
pH	7.39 s.u.	Average pH value measured at ADEQ Monitoring Station ARK0029 from 2004-2009.

The following pollutants were reported above the required MQL:

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Copper	4.2	0.5
Nickel	2.1	0.5
Phenols	6.5	5.0

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 water quality standard.

#### 14. WHOLE EFFLUENT TOXICITY.

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

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

##### TOXICITY TESTS

Chronic WET

##### FREQUENCY

Once/quarter

Requirements for measurement frequency are based on the CPP.

Since the dilution ratio of the 7Q10 flow to the discharge flow (819 cfs/55.7 cfs = 14:1) is less than 100:1, chronic WET testing requirements are included in the permit.

The calculations for dilution used for chronic WET testing are as follows:

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

$$Q_d = \text{design flow} = 36 \text{ MGD} = 55.7 \text{ cfs}$$

$$7Q_{10} = 819 \text{ cfs}$$

$$Q_b = \text{Background flow} = (0.25) \times 7Q_{10} = 204.75 \text{ cfs}$$

$$CD = (55.7) / (55.7 + 204.75) \times 100 = 21\%$$

Toxicity tests shall be performed in accordance with protocols described in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", EPA/600/4-91/002, July 1994. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are **9%, 12%, 16%, 21%, and 28%** (See the CPP). The low-flow effluent concentration (critical dilution) is defined as **21%** effluent. The requirement for chronic WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow.

The stipulated test species, *Ceriodaphnia dubia* and the Fathead minnow (*Pimephales promelas*) are 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-02-013, 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 ADEQ Regulation No. 6. Increased or intensified toxicity testing may also be required in accordance with Section 308 of the Clean Water Act and Section 8-4-201 of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

#### Administrative Records

The following information summarizes toxicity tests submitted by the permittee during the term of the current permit at outfall 001:

Permit Number:	AR0021806	AFIN:	60-00409	Outfall Number:	001
Date of Review:	12/1/2011	Reviewer:	M. Barnett		
Facility Name:	Little Rock Wastewater - Adams Field WWTP				
Previous Dilution series:	8, 11, 15, 20, 27	Proposed Dilution Series:	9, 12, 16, 21, 28		
Previous Critical Dilution:	20	Proposed Critical Dilution:	21		
Previous TRE activities:	None				
<b>Frequency recommendation by species</b>					
<i>Pimephales promelas</i> (Fathead minnow):	once per quarter				
<i>Ceriodaphnia dubia</i> (water flea):	once per quarter				
<b>TEST DATA SUMMARY</b>					
TEST DATE	Vertebrate		Invertebrate		
	Lethal NOEC	Sub-Lethal NOEC	Lethal NOEC	Sub-Lethal NOEC	
9/5/2006	27	27	27	27	
12/5/2006	27	27	27	27	
3/5/2007	27	27	27	27	
6/5/2007	27	27	27	27	
9/5/2007	27	27	27	27	
12/5/2007	27	27	27	27	
6/5/2008	27	27	27	27	
12/5/2008	27	27	27	27	
6/5/2009	27	27	27	27	
12/31/2009	27	27	27	27	
6/30/2010	27	27	27	27	
12/31/2010	27	27	27	27	
6/30/2011	27	27	27	27	
<b>REASONABLE POTENTIAL CALCULATIONS</b>					
	Vertebrate Lethal	Vertebrate Sub-Lethal	Invertebrate Lethal	Invertebrate Sub-Lethal	
Min NOEC Observed	27	27	27	27	
TU at Min Observed	3.70	3.70	3.70	3.70	
Count	13	13	13	13	
Failure Count	0	0	0	0	
Mean	3.704	3.704	3.704	3.704	
Std. Dev.	0.000	0.000	0.000	0.000	
CV	0	0	0	0	
RPMF	#N/A	#N/A	#N/A	#N/A	
Reasonable Potential	#N/A	#N/A	#N/A	#N/A	
100/Critical dilution	3.704	3.704	3.704	3.704	
Does Reasonable Potential Exist	No	No	No	No	
<b>PERMIT ACTION</b>					
<i>P. promelas</i> lethal - Monitoring <i>P. promelas</i> sub-lethal - Monitoring <i>C. dubia</i> lethal - Monitoring <i>C. dubia</i> sub-lethal - Monitoring					

## 15. SAMPLE TYPE AND FREQUENCY.

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

Requirements for sample type and sampling frequency have been based on the previous discharge permit for Flow, BOD5, TSS, FCB, pH, and WET testing. Sample frequency for TP and NO<sub>3</sub>+NO<sub>2</sub> were based on the *terms of the Permit Appeal Resolution (PAR) LIS 14-06, Docket No. 12-003-P, entered into on 5/21/2014.*

Parameter	Previous Permit		Modified Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Flow	once/day	totalizing meter	once/day	totalizing meter
BOD5	three/week	24-hr composite	three/week	composite
TSS	three/week	24-hr composite	three/week	composite
FCB	two/week	grab	two/week	grab
TP	n/a	n/a	<i>once/month</i>	grab
NO <sub>3</sub> + NO <sub>2</sub> - N	n/a	n/a	<i>once/quarter</i>	grab
pH	two/week	grab	two/week	grab
Chronic WET	once/quarter	24-hr composite	once/quarter	composite

## 16. STORMWATER REQUIREMENTS

This facility submitted a no exposure certification on 12/14/2010 and a no exposure tracking number ARR00A001 was issued on 1/19/2011.

## 17. PERMIT COMPLIANCE.

The permittee shall achieve compliance with the effluent limitations specified for discharges on the effective date of the permit.

Pursuant to 40 CFR 122.44(j)(2)(ii), the permittee shall submit either of the following items within sixty (60) days of the effective date of this permit:

1. **WRITTEN CERTIFICATION** that a technical evaluation has demonstrated that the existing technically based local limits (TBLL) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination.

2. **WRITTEN NOTIFICATION** that a technical evaluation revising the current TBLL will be submitted within 12 months of the effective date of this permit.

## 18. 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.

## 19. SOURCES.

The following sources were used to prepare the *modified* draft permit:

- A. APCEC Regulation No. 2.
- B. APCEC Regulation No. 3.
- C. APCEC Regulation No. 6.
- D. 40 CFR Parts 122, 125, 133, and 403.
- E. Discharge permit file AR0021806.
- F. Discharge Monitoring Reports (DMRs).
- G. "Arkansas Water Quality Inventory Report 2008 (305B)", ADEQ.
- H. Arkansas Water Quality Management Plan (WQMP).
- I. ADEQ Monitoring Data at Station No. ARK0029 collected from 2003-2013.
- J. "Low Flow Characteristics and Regionalization of Low Flow Characteristics for Selected Streams in Arkansas", USGS Scientific Investigations Report 2008-5065, p. 102, Station Number 07263450, Arkansas River at Murray Dam.
- K. Continuing Planning Process (CPP).
- L. Inspection Report dated 2/14/2011.
- M. Consent Administrative Order LIS No. 06-037 ordered on 3/9/2006.
- N. Permit Appeal Resolution LIS No. 07-021 ordered on 3/13/2007.
- O. Letter received on 5/11/2012 from Little Rock Wastewater to ADEQ containing comments on draft renewal permit.
- P. *MultiSMP Modeling Analysis dated 10/24/2013 and EPA technically accepted on 10/30/2013.*
- Q. *E-mail dated 1/22/2014 from LRW to ADEQ containing sludge practice language specifically for each LRW facility.*
- R. *Letter dated 5/21/2014 from ADEQ to LRW giving advance notice of future ammonia limits.*
- S. *Permit Appeal Resolution LIS 14-061, Docket No. 12-003-P, entered into on 5/21/2014.*
- T. *E-mail to EPA Region VI regarding review status of permit dated 4/4/2014.*
- U. *E-mails with EPA Region VI regarding permit review status dated 4/4/2014.*
- V. *E-mails with EPA Region VI regarding permit review status dated 4/9/2014.*
- W. *E-mails with EPA Region VI regarding permit review status dated 4/14/2014.*

**20. POINT OF CONTACT.**

For additional information, contact:

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