

Permit Number: AR0041335
AFIN: 60-00543

**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.),

Jacksonville Wastewater Utility - J. Albert Johnson Regional Treatment Facility

is authorized by Arkansas Department of Environmental Quality (ADEQ) to discharge treated municipal wastewater from the facility located as follows: 248 Cloverdale Road, Jacksonville, AR, 72076 1/4 mile West of Hwy. 161 North of Cloverdale Road nearby Reed's Bridge in Pulaski County, Arkansas.

Facility Coordinates: Latitude: 34° 50' 38.26"; Longitude: 92° 07' 42.55"

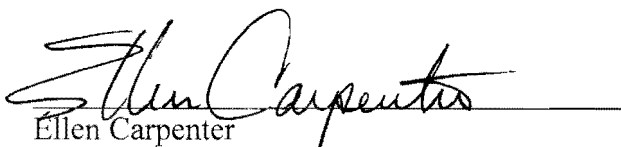
Receiving stream: Bayou Meto, thence into the Arkansas River in Segment 3B of the Arkansas River Basin.

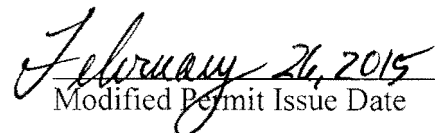
The permitted outfall is located at the following coordinates:

Outfall 001: Latitude: 34° 50' 50"; Longitude: 92° 07' 27"

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

Effective Date: 11/01/2012
Major Modification Effective Date: 03/01/2015
Expiration Date: 10/31/2017


Ellen Carpenter
Chief, Water Division
Arkansas Department of Environmental Quality


Modified Permit Issue Date

**PART I
 PERMIT REQUIREMENTS**

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

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions and calculations.

<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.		
Flow	N/A	Report, MGD	Report, MGD (Daily Max.)	Daily	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1027	10	15	Once/week	24-hr composite
Total Suspended Solids (TSS)	1540	15	22.5	Once/week	24-hr composite
Ammonia Nitrogen (NH3-N)					
(April-Oct)	226	2.2	5.6	Once/week	24-hr composite
(Nov-March)	411	4	6	Once/week	24-hr composite
Dissolved Oxygen (DO)	N/A	6.0 (Inst. Min.)		Once/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(Apr-Sept)	N/A	200	400	Once/week	grab
(Oct-Mar)	N/A	1000	2000	Once/week	grab
Total Phosphorus (TP)	N/A	Report	Report	Once/month	grab
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/week	grab
Overflows	Monthly Total Occurrences of SSOs (Occurrences/month)			See Comments ²	
Overflow volume	Monthly Total volume of SSOs (gal/month)			See Comments ²	
Chronic WET Testing ¹	N/A	Report		once/quarter	24-hr composite
<u>Pimephales promelas (Chronic)</u> ¹ 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	24-hr composite 24-hr composite 24-hr composite 24-hr composite 24-hr composite
<u>Ceriodaphnia dubia (Chronic)</u> ¹ Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail production (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	24-hr composite 24-hr composite 24-hr composite 24-hr composite 24-hr composite

1 See Condition No. 12 of Part II (WET Testing Condition).

2 See Condition No. 5.D. of Part II (SSOs Condition). If there are no overflows during the entire month, report "zero" (0).

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor there 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. All samples shall be taken after final treatment (post-aeration).

SECTION B. PERMIT COMPLIANCE

Pretreatment Schedule:

During the month of February (No later than 2/28 or 2/29) the permittee shall submit an updated pretreatment program status report to the ADEQ (See Part III.7.d.).

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. A copy of the operator license must be maintained on site and provided to Department personnel upon request.
2. For publicly owned treatment works, the 30-day average percent removal for Carbonaceous Biochemical Oxygen Demand (CBOD5) and Total Suspended Solids 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 CBOD5 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:

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.

A 24-hr and 5-day follow-up written report can be submitted by email or filled-in by downloaded from by using the following web link:

http://www.adeg.state.ar.us/water/branch_enforcement/forms/sso_report.asp

B. Immediate Reporting

Overflows that endanger health or the environment shall be orally reported to the Enforcement Branch of the Water Division by telephone (501-682-0640) or by email waterenfssso@adeg.state.ar.us within 24 hours from the time the permittee becomes aware of the circumstance.

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).

D. Reporting All SSOs on DMR:

At the end of the month, total the daily occurrences and volumes from all locations on your system and report this number on the DMR. For counting occurrences, each location on the sanitary sewer system where there is an overflow, spill, release, or diversion of wastewater on a given day is counted as one occurrence. For example, if on a given day overflows occur from a manhole at one location and from a damaged pipe at another location, you should record two occurrences for that day. If overflows from both locations continue on the following day, you should record two occurrences for that day.

6. Best Management Practices (BMPs), as defined in Part IV.6, must be implemented for the facility along with the collection system to prevent or reduce the pollution of waters of the State from stormwater runoff, overflow, SSO, spills or leaks, sludge or waste disposal, or drainage from raw sewage. The permittee must amend the BMPs whenever there is a change in the facility or a change in the operation of the facility.

7. 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 02/03/1984 and modified on 05/20/1991, 09/15/2000 and 08/01/2010. The POTW Pretreatment Program is hereby incorporated by reference and shall be implemented in a manner consistent with the following requirements:
 - i. Industrial user information shall be updated at a frequency adequate to ensure that all IUs are properly characterized at all times;
 - ii. 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;
 - iii. The permittee shall enforce and obtain remedies for noncompliance by any industrial users with applicable pretreatment standards and requirements;
 - iv. 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 control mechanisms, in accordance with 40 CFR 403.8(f)(1)(iii). The individual control mechanisms must be enforceable and contain, at a minimum, the following conditions:
 1. Statement of duration (in no case more than five years);
 2. 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;

3. Effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards, categorical Pretreatment Standards, local limits, and State and local law;
 4. Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored, 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;
 5. 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 Requirements to control slug discharges, if determined by the POTW to be necessary.
- v. 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);
 - vi. The permittee shall provide adequate staff, equipment, and support capabilities to carry out all elements of the pretreatment program; and
 - vii. 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.

All specific prohibitions or limits developed under this requirement are deemed 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 quarterly (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 quarterly (Jan-Mar, Apr-Jun, Jul-Sep & Oct-Dec) 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 (e.g.: pH, cyanide, total phenols, oil and grease, sulfide, and volatile organic compounds), grab samples should be taken to obtain influent and effluent operational data. A grab sample is an individual sample collected over a period of time not exceeding 15 minutes. Sampling and analytical procedures shall be in accordance with guidelines established in 40 CFR 136.

- d. The permittee shall prepare annually a list of Industrial Users which during the preceding twelve months 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 February.

In addition, during the month of February (no later than February 28 or 29) the permittee shall submit an updated pretreatment program status report to the ADEQ containing the following information:

- i. 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 403.12 (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);
- (c) A summary of all monitoring activities performed within the previous 12 months. 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;
 - * Non-compliant (NC) - one or more violations during the previous 12 months but does not meet the criteria for significantly noncompliant industrial users;
 - * Significant Noncompliance (SNC) - in accordance with requirements described in 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 preceding 12 month period 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 paragraph (c) above;
- (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 which is available on ADEQ web site at http://www.adeg.state.ar.us/water/branch_permits/individual_permits/pretreatment/pdfs/pre-attc.pdf ; 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.

8. Sludge is dewatered with the use of belt press process, and drying beds as a backup. Majority of the dewatered sludge is transferred to Two Pines Landfill in North Little Rock for disposal, and some sludge is disposed in Utility on-site under monofill permit #0219-S3N-R1. Additionally; the permittee must comply with the requirements of 40 CFR 503.18.

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(S):	001
REPORTED ON DMR AS FINAL OUTFALL:	001Q
CRITICAL DILUTION (%):	100
EFFLUENT DILUTION SERIES (%):	32%, 42%, 56%, 75%, 100%
TESTING FREQUENCY:	Once/Quarter
COMPOSITE SAMPLE TYPE:	24-hr composite
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_{SL}) requirements as specified in Item 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required for failure to perform the required retests.

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

b. Part I Testing Frequency of Monthly

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

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

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

- i. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- ii. The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.
- iii. 60% of the surviving control females must produce three broods. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.
- iv. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test.
- v. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or sub-lethal effects are exhibited for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test.
- vi. If a test passes, yet the percent coefficient of variation between replicates is greater than 40% in the control (0% effluent) and/or in the critical dilution for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test, the test is determined to be invalid. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

- vii. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.
- viii. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for *Ceriodaphnia dubia* reproduction;
- ix. A PMSD range of 12 - 30 for Fathead minnow growth.

b. Statistical Interpretation

- i. For the *Ceriodaphnia dubia* survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA/821/R-02-013 or the most recent update thereof.
- ii. For the *Ceriodaphnia dubia* reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA/821/R-02-013 or the most recent update thereof.
- iii. If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

c. Dilution Water

- i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for;
 - (A) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and
 - (B) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.
- ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), the permittee may substitute

synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

- (A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;
- (B) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);
- (C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 below; and
- (D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

- i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above. Unless otherwise stated in this section, a composite sample for WET shall consist of 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.
- 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.

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 (TRESL) is triggered based on three sub-lethal test failures while a lethal effects TRE (TREL) 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 TRESL 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:
 - i. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
 - ii. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and
 - iii. any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at the critical dilution.

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

- 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 also be submitted to the state agency.

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

6. MONITORING FREQUENCY REDUCTION

- a. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters or first twelve consecutive months (in accordance with Item 1.a.) of testing for one or both test species, with no lethal 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, 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

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

11. Permit Fees

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

SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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

2. Need to Halt or Reduce not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. Upon reduction, loss, or failure of the treatment facility, the

permittee shall, to the extent necessary to maintain compliance with its permit, control production or discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power for the treatment facility is reduced, is lost, or alternate power supply fails.

3. Duty to Mitigate

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

4. Bypass of Treatment Facilities

A. Bypass not exceeding limitation

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

B. Notice

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

C. Prohibition of bypass

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

5. Upset Conditions

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

6. Removed Substances

Collected grit and screenings, and other solids other than sewage sludge, shall be disposed of in such a manner as to prevent entry of those wastes into waters of the state, and in accordance with all applicable laws and rules.

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 data required by this permit shall be submitted on approved Discharge Monitoring Report (DMR) forms using the electronic DMR (NetDMR). NetDMR allows permitted facilities to enter, sign, and submit DMRs on the internet. NetDMR information is found on the following web page:

http://www.adeq.state.ar.us/water/branch_enforcement/default.htm#netdmr

Alternatively, if the permittee is unable to use NetDMR due to a demonstrated hardship, monitoring data may be submitted on paper DMR form provided by ADEQ. Reported on a DMR form postmarked no later than the 25th day of the month or submitted electronically by 6:00 p.m. of the 25th (after NetDMR is approved), following the completed reporting period beginning on the effective date of the permit. When mailing the DMRs, duplicate copies of the forms signed and certified as required by Part III.D.11 and all other reports required by Part III.D, shall be submitted to the Enforcement Branch 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 (i.e. chemical) 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.).

14. Applicable Federal, State or Local Requirements

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

PART IV DEFINITIONS

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

1. **“Act”** means the Clean Water Act, Public Law 95-217 (33.U.S.C. 1251 et seq.) as amended.
2. **“Administrator”** means the Administrator of the U.S. Environmental Protection Agency.
3. **“APCEC”** means the Arkansas Pollution Control and Ecology Commission.
4. **“Applicable effluent standards and limitations”** means all State and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards of performance, toxic effluent standards and prohibitions, and pretreatment standards.
5. **“Applicable water quality standards”** means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303(a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under (APCEC) Regulation No. 2, as amended.
6. **“Best Management Practices (BMPs)”** are activities, practices, maintenance procedures, and other management practices designed to prevent or reduce the pollution of waters of the State. BMPs also include treatment technologies, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw sewage. BMPs may include structural devices or nonstructural practices.
7. **“Bypass”** As defined at 122.41(m).
8. **“Composite sample”** is a mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing a minimum of 4 effluent portions collected at equal time intervals (but not closer than one hour apart) during operational hours, within the 24-hour period, and combined proportional to flow or a sample collected at more frequent intervals proportional to flow over the 24-hour period.
9. **“Daily Discharge”** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.
 - A. **Mass Calculations:** For pollutants with limitations expressed in terms of mass, the “daily discharge” is calculated as the total mass of pollutant discharged over the sampling day.
 - B. **Concentration Calculations:** For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.
8. **“Daily Maximum”** discharge limitation means the highest allowable “daily discharge” during the calendar month. The 7-day average for Fecal Coliform Bacteria (FCB) or E-Coli is the geometric mean of the values of all effluent samples collected during the calendar week in colonies per 100 ml.
9. **“Department”** means the Arkansas Department of Environmental Quality (**ADEQ**).
10. **“Director”** means the Director of the Arkansas Department of Environmental Quality.

11. **“E-Coli”** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For E-Coli, report the monthly average as a geometric mean as a whole number in colonies per 100 ml.
12. **“Fecal Coliform Bacteria (FCB)”**a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For Fecal Coliform Bacteria (FCB) report the monthly average as a geometric mean as a whole number in colonies per 100 ml.
13. **“Grab sample”** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
14. **“Industrial User”** means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
15. **“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.
16. **“Instantaneous Minimum”** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
17. **“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.
18. **“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.
19. **“POTW”** means a Publicly Owned Treatment Works.
20. **“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.
21. **“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.
22. **“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.
23. **“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.

24. **“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.
25. **“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.
26. **“MGD”** shall mean million gallons per day.
27. **“mg/l”** shall mean milligrams per liter or parts per million (ppm).
28. **“µg/l”** shall mean micrograms per liter or parts per billion (ppb).
29. **“cfs”** shall mean cubic feet per second.
30. **“ppm”** shall mean parts per million.
31. **“s.u.”** shall mean standard units.
32. **“Weekday”** means Monday – Friday.
33. **Monitoring and Reporting:**

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

A. **MONTHLY:**

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

B. **BI-MONTHLY:**

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

C. **QUARTERLY:**

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

D. SEMI-ANNUAL:

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

E. ANNUAL or YEARLY:

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

34. Reduction of BOD5 or CBOD5 and TSS Formula:

$((\text{Influent} - \text{Effluent}) / \text{Influent}) \times 100$

Final Fact Sheet

All changes to the Fact Sheet based upon the application to modify the permit are italicized.

This is a modified permit and only the modified portion of the permit is reopened for comment. This Fact Sheet is for information and justification of the permit limits only. Please note that it is not enforceable. This permitting decision is for *modification* of the discharge Permit Number AR0041335 with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 60-00543 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.

Jacksonville Wastewater Utility
d/b/a J. Albert Johnson Regional Treatment Facility
248 Cloverdale Road
Jacksonville, AR 72076

3. PREPARED BY.

The permit was prepared by:

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4. PERMIT ACTIVITY.

Effective Date: *11/01/2012*
Expiration Date: *10/31/2017*

The permittee submitted a permit application on 6/13/2014 for modification of the Permit Compliance section (Part IB) of the permit. All additional information was submitted by 6/24/2014. The discharge permit is modified for the remainder of the 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

Specifically, the permittee requested that the Department remove Items B and C in the Total Phosphorus (TP) portion of Part IB. The permittee requested that the Department refer to their letter dated February 28, 2014, which requested the removal of the TP requirement of 1 mg/l set to take effect upon the next permit renewal. (ADEQ Note: The TP requirement of 1 mg/l was contained only in Part IB and II.10.)

The Total Phosphorous section of Part IB required the facility to do the following three items:

- a. Evaluate the facility's ability to meet a TP requirement of 1 mg/l and submit a summary of the evaluation no later than January 31, 2014;*
- b. Submit a permit application no later than July 1, 2016, for needed improvements if the permittee determined that the facility could not meet a TP requirement of 1 mg/l; and*
- c. Annually notify the Department to show reduction in TP levels and achieve compliance with the specified TP requirement in the next renewal permit.*

In a letter dated February 28, 2014, the permittee stated that the three permitted Industrial Users do not currently use any chemicals that could discharge phosphorus into their system and that all TP in the discharge is due to uncontrollable sources such as residential detergents.

There are currently no numerical water quality standards for TP which would be applicable to this facility, only narrative criteria. The City of Jacksonville stated that they have spent significant amounts of money in the past 13 years on two upgrades to the wastewater treatment plant as well as the collection system.

Department Review

The average TP level reported to the Department during the last permit renewal process was over 1 mg/l. The TP requirements were therefore placed in Parts IB and II.10 of the permit to protect the water quality of the receiving stream.

The Department reviewed the TP data obtained from the two monitoring stations on Bayou Meto closest to the outfall. The monitoring data from ARK0060 (13 miles upstream of the outfall) showed an average TP level of 0.06 mg/l for the time frame of April 2006 through July 2014. The monitoring data from ARK0050 (0.5 miles downstream of the outfall) showed an average TP level of 0.77 mg/l during the same time frame.

The only applicable TP criteria is the narrative criteria contained in Reg. 2.509(A) so the Department relies on a combination of factors such as TP levels, water clarity, periphyton or phytoplankton production, DO levels, DO saturation, diurnal DO fluctuations, pH values, aquatic life community structure, and possibly other factors to determine if there is an impairment due to nutrients.

The Department reviewed DO and turbidity data at ARK0050 and ARK0060. The reach of Bayou Meto upstream of the discharge is on the 2008 303(d) list due to a DO impairment caused by unknown sources. (See Item No. 7.A of this Fact Sheet for additional information concerning this impairment.) However, the monitoring station downstream of the outfall does not show an impairment due to DO. The average Tb at ARK0050 is approximately 10 NTU higher than it is at ARK0060 when the outliers have been eliminated. However, Bayou Meto has not been deemed impaired due to siltation for the reaches surrounding the outfall.

The permittee is not causing water quality issues in the receiving stream due to the levels of Total Phosphorus in the effluent as evidenced by the average level for the downstream monitoring station, ARK0050, and lack of inclusion on the 303(d) list for nutrients. There is not a numeric water quality criteria for TP in Bayou Meto.

The TP requirements in Parts IB and II.10 were included in the current permit since the average TP level for the three years prior to renewal of the permit was reported to be 1.6 mg/l with a maximum of 2.7 mg/l. The Fact Sheet for the renewal permit stated that limits were necessary since there was cause, or reasonable potential to cause or contribute to an excursion of the narrative criteria. However, the results for the downstream monitoring station (ARK0050) were not analyzed to determine if the discharge was causing or contributing to an impairment in the receiving stream due to the levels of TP in their effluent. A review of the monitoring data for station ARK0050 would have revealed that the receiving stream is not impaired due to the permittee's effluent.

The Fact Sheet for the renewal permit stated that the TP requirement of 1 mg/l was based on BPJ and 40 CFR 122.44(d)(1)(vi) as incorporated by reference in APC&EC Reg. 6.104(A)(3) by using APC&EC Reg. 2.509 for facilities with a design flow of 3 – 15 MGD. Since the stream is not impaired due to the levels of TP or indicator parameters in the permittee's effluent, the Department was not mandated by 40 CFR 122.44(d)(1)(vi) as incorporated by APC&EC Reg. 6.104(A)(3) to place TP limits in the permit. Additionally, the Fact Sheet for the renewal permit stated that the TP requirement of 1 mg/l was based in part on BPJ. The steps required to implement a limit based on BPJ are contained in 40 CFR 125.3 as incorporated by reference in APC&EC Reg. 6.104(A)(6). Neither the Fact Sheet nor the Department's records for the renewal permit does not contain the required analyses.

Since the receiving stream has not been deemed impaired due to nutrients or the indicator parameters listed in Reg. 2.509(A), the average downstream level is less than 0.8 mg/l, there are no numerical standards for TP in Bayou Meto, there are no technology based TP limits which are applicable to this facility, the three industrial users do not use chemicals containing phosphorus, and the reasoning for including the TP requirement of 1 mg/l in the renewal permit is flawed, the Department has determined that the inclusion of TP requirements in Parts IB and II.10 are not necessary at this time.

Therefore, the Department will remove Items B and C from the TP portion of Part IB of the permit as well as Part II.10 of the permit. Part II.10, a condition in the current permit which

required the permittee to take the actions set forth in Part IB, will also be removed from the permit.

The monitoring and reporting requirements for TP set forth in Part IA of the permit will be continued in the modified permit. The Department reserves the right to include additional TP requirements in the next renewal permit if the stream becomes impaired due to elevated levels of TP. The Department will also use the TP, DO, and Tb data obtained from monitoring stations ARK0050 and ARK0060 to determine if additional TP requirements are necessary at the next permit renewal.

The removal of these items does not constitute backsliding since the permit does not contain a numeric limit for TP which must be met during the term of this permit. The permittee was not required to monitor for Total Phosphorus in the previous permit. Only three years of data, which the permittee had collected voluntarily prior to issuance of the current permit, was available when this permit was issued in 2012. Also, the current permit did not take the monitoring data from ARK0050 into account when placing the requirements in Part IB and Part II.10 of the permit. See Item #13.D of this Fact Sheet for additional information concerning the anti-backsliding requirements.

Item A from the TP portion, as well as Items A and B of the pretreatment portion, of Part IB of the permit will also be removed since the submittal dates have passed. The items required by those portions of Part IB have been submitted.

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. Please note that some of these terms are not applicable to every fact sheet. They are as follows:

BAT - best available technology economically achievable
BCT - best conventional pollutant control technology
BMP - best management practices
BOD₅ - five-day biochemical oxygen demand
BPJ - best professional judgment
BPT - best practicable control technology currently available
CBOD₅ - carbonaceous biochemical oxygen demand
CD - critical dilution
CFR - Code of Federal Regulations
cfs - cubic feet per second
COD - chemical oxygen demand
COE - United States Corp of Engineers
CPP - continuing planning process
CWA - Clean Water Act
DMR - discharge monitoring report
DO - dissolved oxygen
ELG - effluent limitation guidelines

EPA - United States Environmental Protection Agency
ESA - Endangered Species Act
FCB - fecal coliform bacteria
gpm - gallons per minute
MGD - million gallons per day
MQL - minimum quantification level
NAICS - North American Industry Classification System
NH₃-N - ammonia nitrogen
NO₃ + NO₂-N - nitrate + nitrite nitrogen
NPDES - National Pollutant Discharge Elimination System
O&G - oil and grease
Reg. 2 - APCEC Regulation No. 2
Reg. 6 - APCEC Regulation No. 6
Reg. 8 - APCEC Regulation No. 8
Reg. 9 - APCEC Regulation No. 9
RP - reasonable potential
SIC - standard industrial classification
TDS - total dissolved solids
TMDL - total maximum daily load
TP - total phosphorus
TRC - total residual chlorine
TSS - total suspended solids
UAA - use attainability analysis
USF&WS - United States Fish and Wildlife Service
WET - Whole effluent toxicity
WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

Compliance and Enforcement History:

The Discharge Monitoring Reports (DMR's) for the last three years were reviewed during the permit renewal process. No violation was noted. There are currently no active Consent Administrative Orders (CAOs) or Notices of Violation (NOVs) for this facility. Compliance and Enforcement History for this facility could be reviewed by using the following web link:

<http://www.epa-echo.gov/cgi-bin/get1cReport.cgi?tool=echo&IDNumber=AR0041335>

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:

This is a modified permit. In accordance with 40 CFR 122.62, only the portions of the permit which are the subject of the modification were open for comment.

- *The Permit Compliance section (Part IB) of the permit has been modified. See Item #4 of this Fact Sheet for additional information.*
- *Part II.10 has been removed. See Item #4 of this Fact Sheet for additional information.*

6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

The outfall 001 and only discharge point is located at the following coordinates:

Latitude: 34° 50' 50" Longitude: 92° 07' 27"

The receiving waters named:

Bayou Meto, thence into the Arkansas River in Segment 3B of the Arkansas River Basin. The [receiving stream](#) with USGS Hydrologic Unit Code (H.U.C) of 08020402 and reach #07B 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:

The 2008 Arkansas Integrated Water Quality Monitoring and Assessment Report (aka [305\(b\) Report/Arkansas 303\(d\) list](#)) lists the Reach 007B of Bayou Meto as impaired for aquatic life, Lead (Pb), Priority Organic (PO), Copper (Cu), and dissolved oxygen as causes of the impairment. Industrial point sources (IP) are listed among the sources. No municipality was listed as a source of the impairment. Data for two monitoring stations, ARK0060 and ARK0050, has been reviewed. These two stations are upstream and downstream respectively of the discharge point from this facility, and this facility is the only discharger between these two stations as shown in the [map](#).

Monitoring Station ARK0060

Monitoring Station ARK0060-Bayou Meto at west Main Street in Jacksonville is approximately 13 miles upstream of the discharge point. The 305(b) report listed ARK0060 for Lead (Pb) as a category 5d (Category 5d are those in need of additional data to verify the accuracy of the assessment. The majority of the listings in this category are for various types of metals contamination. Others include elevated minerals or silt concentrations, and low dissolved oxygen values), and Dissolved Oxygen (D.O.) as a category 5f (Category 5f are waters that are not currently meeting water quality standards, however, “the basis for not meeting an applicable water quality standard is not caused by a pollutant, but is attributed to other types of pollution” (This is also known as natural or background water quality conditions)). However, the Monitoring Station ARK0050-Bayou Meto at Highway 161 is approximately 0.5 miles below the discharge point. The 305(b) report did not list ARK0050 for these two pollutants. By using this information and other sources such as effluent data (DMRs), PPS data, and pretreatment information data, the facility is not the source of the impairment. Additionally, dissolved oxygen limit of 6.0 mg/l as instantaneous minimum has been included in the permit based on Reg.2.505.

Monitoring Station ARK0050

Monitoring Station ARK0050-Bayou Meto at Highway 161 is approximately 0.5 miles below the discharge point. The 305(b) report listed ARK0050 for Priority Organic (PO) (Dioxin) as a category 5e (Category 5e listed waters are those impaired by point source discharges; it is anticipated that future permit restrictions will correct the problem). Dioxin is a by-product of manufacturing processes. This facility is a POTW which does not receive wastewater from a significant industrial user with Dioxin, and Dioxin was not detected in the effluent in PPS as documented in the application. Based on information that was obtained from the Planning Branch, this facility is not causing PO. The cause of PO could be from the Jacksonville-Vertac site. Additionally, the 305(b) report listed ARK0050 for copper (Cu) as a category 5e. Review of the data for three years (4/1/2004 – 3/31/2007) for upstream (ARK0060) and downstream (ARK0050) have shown that the receiving stream was listed in 2008 for two exceedance in 2005 based on the assessment methodology “In accordance with Reg. 2.508, metals toxicity will be evaluated based on instream hardness values at the time of sample collection. If the ambient hardness value is less than 25 mg/l, then a hardness value of 25 mg/l will be used to calculate metals toxicity. *If more than one exceedance of the criterion occurs during the period of record, the water body will be listed as not attaining the standard.* However, review of the [data for the last 6 years](#) (4/1/2006 – 3/31/212) for upstream (ARK0060) and downstream (ARK0050) have shown several exceedances based on the assessment methodology. Review of the data from these two monitoring stations indicates several sampling data with higher dissolved concentrations than measured totals, which brings into question the validity of the rest of the samples. Therefore, the receiving stream is not meeting the above assessment methodology criteria and should be listed in a category 3 (Category 3 is reserved for those waters where there are insufficient available data and information to

make a designated use attainment determination). Additionally, the [effluent data for the copper](#) for the last 5 years shows (The data were examined for outliers and 15 ug/l was eliminated from the data set) that there is no reasonable potential of WQS by using the [upstream monitoring station ARK0060 average hardness data](#) of 26.475 mg/l in lieu of default data for the Delta ecoregion of 81 mg/l ([PPS Evaluation](#).) The permittee also reported and continues to report quarterly influent and effluent data for metals (i.e. Copper) based on 40 CFR 403. ADEQ can take into account detailed information such as specific discharge regimes of individual facilities to ensure that the discharges do not cause or contribute to a violation of water quality standards. 40 CFR 122.44(d)(1)(iii) requires an NPDES permit to have numeric limits when the discharge has reasonable potential to cause or contribute to a violation of water quality standards. However, there are no state or federal regulations that require numeric limits if the discharge does not have reasonable potential to cause or contribute to a violation of water quality standards. Therefore, no additional limitations are required to address 303(d) concerns and if later the receiving stream listed for copper or a TMDL is completed, the standard reopener clause will allow additional limitations to be placed in the permit.

B. Endangered Species:

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

C. Anti-Degradation:

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

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

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

A. Design Flow: 12.31 MGD.

B. Type of Treatment: The facility consists of headworks (pumps, bar screens, Grit chamber) sludge drying beds, sludge grinder, belt filter press, polymer feed tank and pump, gravity thickener, one equalization basin, extended aeration basins, clarifiers, gravity filters, ultraviolet (UV) System, flow meter, and post-aeration ([Process Flow Schematic](#)).

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.

INDUSTRIAL USERS

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.

11. SEWAGE SLUDGE PRACTICES.

Sludge is dewatered with the use of belt press process, and drying beds as a backup. The majority of the dewatered sludge is transferred to Two Pines Landfill in North Little Rock for disposal, and some sludge is disposed in Utility on-site under monofill permit #0219-S3N-R1.

12. PERMIT CONDITIONS.

The Arkansas Department of Environmental Quality has made a determination to issue a permit for the discharge described in the application. Permit requirements are based on federal regulations (40 CFR Parts 122, 124, and Subchapter N), the National Pretreatment Regulation in 40 CFR Part 403 and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et. seq.), Ark. Code Ann. 8-1-101 et. Seq., and Ark. Code Ann. 8-4-203(e)(2)(B)(i).

A. 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.		
Flow	Report, MGD as monthly average and Report, MGD (Daily Max.)			Daily	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1027	10	15	Once/week	24-hr composite
Total Suspended Solids (TSS)	1540	15	22.5	Once/week	24-hr composite
Ammonia Nitrogen (NH3-N)					
(April-Oct)	226	2.2	5.6	Once/week	24-hr composite
(Nov-March)	411	4	6	Once/week	24-hr composite
Dissolved Oxygen (DO)	N/A	6.0 (Inst. Min.)		Once/week	Grab
Fecal Coliform Bacteria (FCB)		(colonies/100 ml)			
(Apr-Sept)	N/A	200	400	Once/week	Grab
(Oct-Mar)	N/A	1000	2000	Once/week	Grab
Total Phosphorus (TP)	N/A	Report	Report	Once/month	Grab
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/week	Grab
Chronic WET Testing	N/A	Report		once/quarter	24-hr composite

2. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks [Reg. 2.408]. There shall be no visible sheen due to the presence of oil[Reg. 2.409].

13. BASIS FOR PERMIT CONDITIONS.

The following is an explanation of the derivation of the conditions of the permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons suggesting the decisions as required under 40 CFR Part 124.7.

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

Following regulations promulgated at 40 CFR Part 122.44, the permit limits are based on either technology-based effluent limits pursuant to 40 CFR Part 122.44 (a) or on State water quality standards and requirements pursuant to 40 CFR Part 122.44 (d), whichever are more stringent as follows. The facility is a POTW that has technology-based ELG's established at 40 CFR Part 133, Secondary Treatment Regulation. Pollutants with ELG's established in this part are BOD, TSS, and percent removal for each. BOD5 or CBOD5 limits of 30 mg/l or 25 mg/l for the 30-day average, 45 mg/l for the 7-day average and 85% percent (minimum) removal are found at 40 CFR 133.102(a). TSS limits of 30 mg/l for the 30-day average, 45 mg/l for the 7-day average and 85% percent (minimum) removal are found at 40 CFR 133.102(b). ELGs for pH are between 6-9 s.u. and are found at 40 CFR 133.102 (c). However, Water Quality Base Limits (WQBL) supersedes ELG limits.

A. Justification and Sources for Limitations and Conditions of the Permit:

Carbonaceous Biochemical Oxygen Demand (CBOD5)

CBOD5 has been included in the permit to protect designated use as well as to measure the strength of wastewater. High levels of CBOD5 in streams can kill fish. Therefore, these limits are necessary to protect the water quality of the receiving. In addition, the facility is a POTW, then inclusion of CBOD5 limits is required based on 40 CFR Part 133, Secondary Treatment Regulation. The CBOD5 of 10 mg/l as monthly average is based on a desktop model was performed by the ADEQ on 5/27/2002. The CBOD5 limits are further carried over from the existing permit in accordance with antibacksliding requirements found in 40 CFR 122.44(l).

Total Suspended Solids (TSS) Limits:

TSS has been included in the permit to protect designated use. Total Suspended Solids (TSS) is a factor contributing to physical and aesthetic degradation of water quality. TSS is physically related to other pollutants, particularly nutrients and metals which may be carried on the surface of suspended sediments. In accordance with 40 CFR 122.44(d) (1), limitations must control all pollutants or pollutant parameters (either conventional, non-conventional, or toxic pollutants) which the Director determines are being discharged, or may be discharged at a level which will cause, or have reasonable potential to cause or contribute to an excursion above any State water quality standard, including state narrative criteria. In accordance with Reg. 2.408, "The receiving waters shall have no distinctly visible solids, scum or foam of a persistent nature..." ADEQ acknowledges

that there are no Water Quality Standards for TSS; however, as TSS increases in a stream, light is blocked from aquatic plants, and then fish and other aquatic organisms are affected by the cloudy conditions. Therefore, these limits are necessary to protect the water quality of the receiving stream. Additionally, elevated TSS could cause high turbidity in the receiving stream. TSS can also influence the benthic environment after settling in the receiving stream. Suspended solids that settle in the receiving stream can exert oxygen demand in the receiving stream, which can contribute to unacceptable level of dissolved oxygen sags in the receiving stream as result of high-suspended solids. Based on the MOU between ADEQ and EPA concerning modeling, the TSS limit will be assumed 1.5 times WQBL of CBOD5 of 10 mg/l. In this cased the TSS limit of 15 mg/l is more stringent of ELG of 30 mg/l based on 40 CFR 133. The TSS limits are further carried over from the existing permit in accordance with antibacksliding requirements found in 40 CFR 122.44(l).

Dissolved Oxygen (D.O.)

As stated above, high levels of CBOD and TSS in streams could kill fish. D.O. limit has been included in the permit to protect designated use and to make sure the permittee at all times properly operates and maintains all facilities and systems of treatment. The calibrated model was used to simulate DO for summer and winter critical conditions as defined in the water quality standards. The D.O. limit is based on 2002 MultiSMP Model and has been changed from monthly average minimum to instantaneous minimum. Reg. 2.505 states that dissolved oxygen criteria are to be met at minimum stream flows for the primary season and at 7Q10 flow for the critical season. Therefore, the permittee is not allowed to average D.O. readings throughout the month to demonstrate compliance with an instantaneous standard. D.O. limit is further carried over from the existing permit in accordance with antibacksliding requirements found in 40 CFR 122.44(l).

Ammonia-Nitrogen (NH₃-N):

Ammonia limits have been included to protect designated use. Domestic wastewater contains levels of ammonia that can cause toxicity if discharged to the receiving stream without any reduction. Ammonia will also exert an unacceptable oxygen demand on the receiving water if discharged without any reduction. The purpose of the NH₃-N limits is to ensure that the ammonia level in the wastewater is sufficiently reduced by the treatment process so that the discharge of the treated wastewater does not cause a violation of dissolved oxygen standards, nor cause toxic conditions in the receiving stream. The numerical value of the NH₃-N limits is based on effluent values derived from the oxygen-based desktop stream modeling performed on 5/27/2002 or the values necessary to meet the toxicity-based standards in Reg. 2.512, whichever are more stringent.

pH

Limits are based on Reg. 2.504 and are necessary to protect designated use. The purpose of the pH limits is to ensure that the pH level in the wastewater is sufficiently reduced by the treatment process so that the discharge of the treated wastewater does not cause a violation of pH standards. Additionally; 40 CFR 133. 103(c) requires inclusion of pH in the permit. The WQSBL is the same as ELG. Therefore, WQSBL is superseded ELG limit.

Fecal Coliform Bacteria (FCB)

Limits are based on Reg. 2.507 and are necessary to protect “primary Contact” designated use. Fecal coliform bacteria can enter the receiving stream through direct discharge of waste from a sewage treatment system. The presence of fecal contamination is an indicator that a potential health risk exists for individuals exposed to this water and untreated organic matter that contains fecal coliform can be harmful to the environment. Discharge of untreated waste could reduce dissolved oxygen levels if discharged into rivers or waterways. This may reduce the oxygen level enough to kill fish and other aquatic life. Reduction of fecal coliform in wastewater may require the use of chlorine or other disinfectant chemicals and UV disinfection system. The facility has proposed to use UV disinfection system in lieu of chlorine.

Total Residual Chlorine (TRC)

The facility has proposed to use UV disinfection system in lieu of chlorine. Therefore, TRC limit has not been continued from the previous permit. The state construction permit [AR0041335C](#) has issued for this purpose. Per telephone conversation with the permittee the construction of a UV system will be completed prior to the effective of the renewal permit (11/1/2012) and all chlorine equipment will be removed completely. Until such time the permittee must report TRC until the effective date of the renewal permit. Removal of TRC limit will meet the requirements of 40 CFR 122.44(1)(2)(i)(A) and (B)(1).

Nutrients (Phosphorus and NO₃ + NO₂)

Inclusion of monitoring and reporting for nutrients (TP and NO₃+NO₂-N) is required in the permit based on Appendix D (D-12) of 1999 CPP in order to establish a database of point source loading of nutrients to the waters of the state and to protect designated use.

Chronic WET

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. Chronic WET reporting requirements are continued from the previous permit and are included in accordance with the CPP, which states that all major facilities are subject to WET testing. WET language in Part II has been revised to include sub-lethal requirements.

CBOD5 and TSS Reduction

In accordance with 40 CFR 133.102((a)(4) and (b)(3)The treatment works must obtain at least 85 percent removal of carbonaceous biochemical oxygen demand (five-day) and suspended solids (see Part II, Item 2). Percent removal is calculated using the following equation: (average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration.

Summary of the Permit Limits and Justification:

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
CBOD5	10	15	25	40	10	15	10	15
TSS	N/A	N/A	15	22.5	15	22.5	15	22.5
NH3-N								
(April-Oct)	2.2	5.6	N/A	N/A	2.2	5.6	2.2	5.6
(Nov-March)	4	6	N/A	N/A	4	6	4	6
DO	6.0 (Inst. Min.)		N/A		6.0 Min.	N/A	6.0 (Inst. Min.)	
FCB (col/100 ml)								
(Apr-Sept)	200	400	N/A	N/A	200	400	200	400
(Oct-Mar)	1000	2000	N/A	N/A	1000	2000	1000	2000
TP	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.		6-9 s.u.		6.0-9.0 s.u.	
SSO occurrences and volume	N/A		Report		Report		Report	

Parameter	Water Quality or Technology	Justification
CBOD5	Water Quality	Previous Permit, MultiSMP Model dated 5/27/2002
TSS	Technology	Previous permit, EPA Memo, MultiSMP Model dated 5/27/2002
NH3-N	Water Quality	Previous permit, Reg. 2.512 and MultiSMP Model dated 5/27/2002
D.O.	Water Quality	Reg. 2.505 and MultiSMP Model dated 5/27/2002
Fecal Coliform Bacteria	Water Quality	Previous permit, Reg. 2.507, 40 CFR 122.44(l)
Total Phosphorus	Technology	CPP, BPJ (40 CFR 123.25), 40 CFR 122.44(d)(1)(vi)
pH	Water Quality	Previous permit, Reg. 2.504, 40 CFR 122.44(l)
SSO	Technology	Previous permit, 40 CFR 122.41(e) and (l)(6)

B. Limits Calculations

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.

1. Mass limits:

The calculation of the loadings (lbs per day) uses a design flow of 12.31 MGD and the following equation:

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

Example: Monthly average for CBOD5:

$$\text{lbs/day} = 10 \text{ mg/l} \times 8.34 \text{ lbs/gal} \times 12.31 \text{ MGD} = 1026.65 \text{ say } 1027$$

2. 7-Day Average Limits:

The 7-Day Average limits for NH3-N (November-March) as well as CBOD5 and TSS are based on Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control.

$$\text{7-Day Average concentration limits} = \text{Monthly average limits} \times 1.5$$

$$\text{Example: 7-day average for CBOD5: } 10 \text{ mg/l} \times 1.5 = 15 \text{ mg/l}$$

The NH₃-N limits for the months of April through October are based on the requirements of Reg. 2.512.

The 7-Day Average limits for FCB are based on Reg. 2.507.

C. Permit Conditions

Conditions in Part II is self-explanatory and it is incorporated in the permit based on 40 CFR 122.41, 40 CFR 122.43, 40 CFR 122.62, 40 CFR 124.5, 40 CFR 133, 40 CFR 136, 40 CFR 403, 40 CFR 122.44(d), Appendix D of the Continuing Planning Process ([CPP](#)), and APCE&C Reg. No. 3 in order to provide and assure compliance with all applicable requirements of the CWA and regulations.

Conditions in Part III are based on 40 CFR 122.41.

Definitions in Part IV are self-explanatory and it has been included in the permit in order to provide and assure compliance with all applicable requirements of the CWA and regulations.

D. Anti-backsliding

This is a modified permit. In accordance with 40 CFR 122.62, only the portions of the permit which are the subject of the modification are open for comment at this time.

The permit is consistent with the requirements to meet Anti-backsliding provisions of the Clean Water Act (CWA), Section 402(o) [40 CFR 122.44(l)]. The final effluent limitations for reissuance permits must be as stringent as those in the previous permit, unless the less stringent limitations can be justified using exceptions listed in 40 CFR 122.44 (l)(2)(i). TRC limit has not been continued from the previous permit. The facility has proposed to use UV disinfection system in lieu of chlorine. The state construction permit AR0041335C has issued for this purpose. Per telephone conversation with the permittee the construction of the UV system will be completed prior to the effective of the renewal permit (11/1/2012) and all chlorine equipment will be removed completely. However, until such time the permittee must report TRC until the effective date of the renewal permit. Removal of TRC limit will meet the requirements of 40 CFR 122.44(l)(2)(i)(A) and (B)(1).

Items A and B of the Pretreatment portion of Part IB have been removed because the permittee submitted the required information.

The Total Phosphorus portion of Part IB has been removed. Item A of this portion required the evaluation of the facility's ability to meet a Total Phosphorus limit of 1 mg/l. This information was submitted. Item B required the submittal of a permit application for plant improvements needed to meet a Total Phosphorus limit of 1 mg/l. Item C

required the permittee to submit annual reports for the life of the permit showing a reduction in the Total Phosphorus levels and achieving compliance with a limit of 1 mg/l.

The removal of Items B and C does not constitute backsliding since the permit does not contain a final Total Phosphorus limit which must be complied with during the term of the permit. The permittee was not required to monitor for Total Phosphorus in the previous permit. Only three years of data, which the permittee had collected voluntarily prior to issuance of the current permit, was available when this permit was issued in 2012. Also, the current permit did not take the monitoring data from ARK0050 into account when placing the requirements in Part IB and Part II.10 of the permit.

E. 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 [\(CPP\)](#).

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)".

The following items were used in calculations:

Parameter	Value	Source
Flow = Q	12.3 MGD = 19 cfs	Application
7Q10	0 cfs	U.S.G.S.
TSS	8 mg/l	CPP, Attachment V
Hardness as CaCo3	26.475 mg/l	Station ARK0060
pH	6.87 s.u.	Station ARK0060

Note: The hardness used by ADEQ is usually the mean hardness for the ecoregion unless there is a representative dataset of site-specific hardness measurements. Attachment VI of the State of Arkansas Continuing Planning Process (CPP) states that the mean hardness is 81 mg/L for the Delta ecoregion. However, the mean value of hardness for ARK0060 is 25.475 mg/l. Measured [hardness values](#) were downloaded from the ADEQ web site for the two water quality stations that are located on upstream and downstream of the outfall. These criteria were calculated using the site-specific average hardness because the site-specific hardness values were considered more representative than the ecoregion default values.

ADEQ has determined from the submitted information that the discharge does not pose the reasonable potential ([PPS Evaluation](#)) to cause or contribute to an exceedance above a water quality standard.

14. **WHOLE EFFLUENT TOXICITY (WET).**

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:

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

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

$$\text{Critical dilution (CD)} = (\text{Qd}/(\text{Qd} + \text{Qb})) \times 100$$

$$\text{Qd} = \text{Design flow} = 12.3 \text{ MGD} = 19.0 \text{ cfs}$$

$$7\text{Q}10 = 0 \text{ Cfs}$$

$$\text{Qb} = \text{Background flow} = (0.25/0.67) \times 7\text{Q}10 = 0 \text{ cfs}$$

$$\text{Since background flow (7Q10) is 0 cfs then CD} = 100\%$$

Based on the information taken from DMR reports, a reasonable potential (RP) to exceed water quality standards for the State of Arkansas has not been found to exist. Therefore, WET limit is not required only monitoring and reporting.

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 based on the CPP. The low-flow effluent concentration (critical dilution) is defined as 100% 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).

15. SAMPLE TYPE AND FREQUENCY.

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

Requirements for sample type and sampling frequency for all pollutants with exception of TP have been based on the current discharge permit. The facility had reduction of the monitoring frequency in the previous permit; therefore, the facility is not eligible for another reduction. The monitoring frequencies for the TP and WET are based on best engineering judgment of the permit writer, taking into account the nature of the facility and the previous permit information that were submitted with the renewal application.

Parameter	Previous Permit		Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Flow	Daily	totalizing meter	Daily	totalizing meter
CBOD5	Once/week	24-hr composite	Once/week	24-hr composite
TSS	Once/week	24-hr composite	Once/week	24-hr composite
NH3-N	Once/week	24-hr composite	Once/week	24-hr composite
DO	Once/week	grab	Once/week	grab
FCB	Once/week	grab	Once/week	grab
TP	N/A	N/A	Once/month	grab
pH	once/week	grab	once/week	grab

16. STORMWATER REQUIREMENTS

This facility maintains a stormwater No-Exposure Certification tracking number ARR000254 under the Industrial Stormwater General Permit ARR000000. [40 CFR 122.42 and 40 CFR 122.26].

17. PERMIT COMPLIANCE SCHEDULE.

This is a modified permit. In accordance with 40 CFR 122.62, only the portions of the permit which are the subject of the modification are open for comment at this time.

Items A and B of the pretreatment portion of the Permit Compliance Schedule were removed since the permittee submitted the required document within the specified time frame. The Total Phosphorous portion of the Permit Compliance Schedule has been removed.

See Items #4 and #13.D of this Fact Sheet for additional information.

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 *draft* the *modified* permit:

- A. Application No. AR0041335 received 6/13/2014 with additional information received by 6/24/2014.
- B. APCEC Regulation No. 2.
- C. APCEC Regulation No. 6.
- D. 40 CFR Parts 122, 124, and 125.
- E. Discharge permit file AR0041335.
- F. Continuing Planning Process (CPP).
- G. ADEQ Monitoring data for ARK0060 and ARK0050.
- H. ADEQ Web site at www.adeg.state.ar.us
- I. Letter declining full review from Mike Tillman of EPA Region VI to Mo Shafii dated 11/5/2014

20. POINT OF CONTACT.

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