

Permit Number: AR0035602  
AFIN: 56-00047

**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 (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. § 1251 et seq.),

The permittee's mailing address is:

City of Trumann  
106 East Main Street  
Trumann, AR 72472

The permittee is authorized to discharge from a facility located as follows: 1/4 mile north of the intersection of State Highway 69 (East Speedway Road) and State Highway 198 (Stevens Landing Road) in Poinsett County, Arkansas.

Latitude: 35° 40' 57.07" N; Longitude: 90° 29' 38.91" W

to receiving waters named:

Ditch No. 60, thence to the St. Francis River in Segment 5A of the St. Francis River Basin.

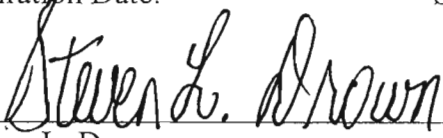
The outfall is located at the following coordinates:

Outfall 001: Latitude: 35° 41' 08.6" N; Longitude: 90° 28' 26.3" W

Discharge shall be in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, and IV hereof.

A Response to Comments is attached.

Issue Date: August 31, 2009  
Effective Date: October 1, 2009  
Minor Modification Issue Date: October 31, 2009  
Minor Modification Effective Date: November 1, 2009  
Expiration Date: September 30, 2014

  
\_\_\_\_\_  
Steven L. Drown  
Chief, Water Division  
Arkansas Department of Environmental Quality

**PART I  
PERMIT REQUIREMENTS**

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

During the period beginning on the effective date and lasting until one (1) year from the effective date, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below from a treatment system consisting of a 4-cell aerated (partial-mix) lagoon system with post-aeration and a design flow of 1.78 MGD.

<u><b>Effluent Characteristics</b></u>	<u><b>Discharge Limitations</b></u>			<u><b>Monitoring Requirements</b></u>	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
Flow	N/A	Report, MGD	Report, MGD (Daily Max.)	once/day	totalizing meter
Biochemical Oxygen Demand (BOD5)	445	30.0	45.0	three/week	6-hr composite
Total Suspended Solids (TSS)	1,336	90.0	135.0	three/week	6-hr composite
Dissolved Oxygen (DO)	N/A	2.0 (Inst. Minimum)		three/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100 ml)			
(April – September)	N/A	200	400	three/week	grab
(October – March)	N/A	1,000	2,000	three/week	grab
Total Phosphorus (TP)	N/A	Report	Report	once/month	grab
Nitrate + Nitrite (as Nitrogen)	N/A	Report	Report	once/month	grab
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	three/week	grab
Chronic WET Testing <sup>1</sup>	N/A	Report	Report	once/quarter	24-hr composite
<b><u>Pimephales promelas (Chronic)</u></b> Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC) TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation (Growth) TQP6C Growth (7-day NOEC) TPP6C		<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
<b><u>Ceriodaphnia dubia (Chronic)</u></b> 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

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

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

Samples taken in compliance with the monitoring requirements specified above shall be taken downstream from the final treatment unit and at the following monitoring coordinates: Latitude: 35° 41' 00.64" N; Longitude: 90° 29' 40.15" W.

**PART I  
PERMIT REQUIREMENTS**

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

During the period beginning one (1) year from 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 from a treatment system consisting of a 4-cell aerated (partial-mix) lagoon system with post-aeration and a design flow of 1.78 MGD.

<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.)	once/day	totalizing meter
Biochemical Oxygen Demand (BOD5)	445	30.0	45.0	three/week	6-hr composite
Total Suspended Solids (TSS)	1,336	90.0	135.0	three/week	6-hr composite
Dissolved Oxygen (DO)	N/A	5.0 (Inst. Minimum)		three/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100 ml)			
(April – September)	N/A	200	400	three/week	grab
(October – March)	N/A	1,000	2,000	three/week	grab
Total Phosphorus (TP)	N/A	Report	Report	once/month	grab
Nitrate + Nitrite (as Nitrogen)	N/A	Report	Report	once/month	grab
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	three/week	grab
Chronic WET Testing <sup>1</sup>	N/A	Report	Report	once/quarter	24-hr composite
<b><u>Pimephales promelas (Chronic)</u></b> Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC) TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation (Growth) TQP6C Growth (7-day NOEC) TPP6C		<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
<b><u>Ceriodaphnia dubia (Chronic)</u></b> 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

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

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

Samples taken in compliance with the monitoring requirements specified above shall be taken downstream from the final treatment unit and at the following monitoring coordinates: Latitude: 35° 41' 00.64" N; Longitude: 90° 29' 40.15" W.

**SECTION B. PERMIT COMPLIANCE**

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

1. The permittee shall comply with all interim limits on the permit's effective date.
2. The permittee shall submit progress reports addressing the progress towards attaining the final effluent limits for DO according to the following schedule:

<u>ACTIVITY</u>	<u>DUE DATE</u>
Progress Report	Six (6) months from the effective date
Achieve Final Limits	One (1) year from the effective date

Compliance with the final limits for DO is required one (1) year from the effective date of the permit. The permittee has the option to undertake any study deemed necessary to meet the final limitations during the interim period. Any additional treatment must be approved (and construction approval granted) prior to installation.

3. Compliance with Part II.11 (Freeboard Measurement) is required six (6) months from the permit's effective date.
4. Pretreatment Program Development Activities:
  - a. The following report (as described in Part II.8.b) must be submitted to the ADEQ by the corresponding due date: "Industrial User Survey" within two (2) months of the permit's effective date.
  - b. The following reports (as described in Part II.8.b) must be submitted to the ADEQ by the corresponding due date unless the ADEQ notifies the permittee otherwise:
    - (1) "Monitoring Program Design" within four (4) months of the permit's effective date,
    - (2) "Financial Resources Evaluation" within six (6) months of the permit's effective date,
    - (3) "Influent Pollutant Scan" within six (6) months of the permit's effective date,
    - (4) "Technically Based Local Limits" within nine (9) months of the permit's effective date,
    - (5) "Evaluation of Legal Authority" within ten (10) months of the permit's effective date, and
    - (6) "Pretreatment Program Submission" within twelve (12) months of the permit's effective date.

## PART II OTHER CONDITIONS

1. The operator of this wastewater treatment facility shall be licensed as at least a Class II Wastewater Operator by the State of Arkansas in accordance with Act 211 of 1971, Act 1103 of 1991, Act 556 of 1993, and APCEC Regulation No. 3, as amended.
2. For publicly owned treatment works (POTWs), the 30-day average percent removal for Biochemical Oxygen Demand (BOD5) 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.
3. For POTWs, the 30-day average percent removal for Total Suspended Solids (TSS) shall not be less than 65 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR Parts 133.102 and 133.105, as adopted by reference in APCEC Regulation No. 6.
4. Sludge is retained in the treatment lagoons. If it is removed, the sludge must be disposed of at a properly licensed facility.
5. The permittee shall report all overflows with the Discharge Monitoring Report (DMR) submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: the date, time, duration, location, estimated volume, and cause of overflow; observed environmental impacts from the overflow; action taken to address the overflow; and ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary). All overflows which endanger health or the environment shall be orally reported to this department (Enforcement Branch of the Water Division), within 24 hours from the time the permittee becomes aware of the circumstance. A written report of overflows which endanger health or the environment shall be provided within 5 days of the time the permittee becomes aware of the circumstance.
6. 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 if a Total Maximum Daily Load (TMDL) is established or revised for the water body that was not available at the time of the permit's issuance that would have justified the application of different conditions at the time.
7. 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 acceptable to the Director; 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 Assurance/Quality Control 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.

#### 8. Contributing Industries and Pretreatment Requirements

a. The following pollutants may not be introduced into the treatment facility:

- (1) Pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, waste streams with a closed cup flashpoint of less than 140° Fahrenheit or 60° Centigrade using the test methods specified in 40 CFR Part 261.21;
- (2) Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with a pH lower than 5.0, unless the works are specifically designed to accommodate such discharges;
- (3) Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in Interference<sup>1</sup> or Pass Through;<sup>2</sup>
- (4) Any pollutant, including oxygen demanding pollutants (BOD, etc.), released in a discharge at a flow rate and/or pollutant concentration which will cause Interference or Pass Through at the POTW;
- (5) Heat in amounts which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40° Centigrade (104° Fahrenheit) unless the Department, upon request of the POTW, approves the alternate temperature limit;
- (6) Petroleum oil, non-biodegradable cutting oil, or products of mineral origin in amounts that will cause Interference or Pass Through;

---

<sup>1</sup> For a definition of Interference, see Definition 37 in Part IV of this permit.

<sup>2</sup> For a definition of Pass Through, see Definition 38 in Part IV of this permit.

- (7) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and/or
  - (8) Any trucked or hauled pollutants, except at discharge points designated by the POTW.
- b. The permittee shall comply with the pretreatment requirements in 40 CFR Part 403 as specified in the following schedule of compliance. The final approvable package is due 12 months after the permit's effective date.

Pretreatment Schedule of Compliance:

<u>ACTIVITY NUMBER</u>	<u>ACTIVITY</u>	<u>DATE</u>
1	<p>Submit to the Department the results of an industrial user survey which consists of a qualitative analysis of pollutants being contributed by all industrial sources in its entire municipal system (including all treatment plants). The industrial users should be asked to provide information on the type and approximate quantity of pollutants discharged into the system. This information may be derived from knowledge of the facility's process, and should not require any sampling at the source.</p> <p>(Unless the Department notifies the permittee otherwise within 30 days after receipt of this survey, the permittee will be required to continue the program past Activity No. 1. If notified that a pretreatment program is not necessary, the permittee will submit to the Department an update of its industrial user survey, documenting changes in industrial flow and/or characteristics and new contributing industries when next reapplying for this NPDES permit.)</p>	2 months from the permit's effective date
2	<p>Submit to the Department a design of a sampling, inspection and reporting program which will implement the requirements of 40 CFR Parts 403.8 and 403.12, and in particular those requirements referenced in 40 CFR Parts 403.8(f)(1)(iv-v), 403.8(f)(2)(iv-vi), and 403.12(g-j and l-p).</p>	4 months from the permit's effective date
3	<p>Submit to the Department an evaluation of the financial programs, revenue sources, equipment and staffing, which will be employed to implement the pretreatment program [as required by 40 CFR Parts 403.8(f)(3) and 403.9(b)(3)].</p>	6 months from the permit's effective date

4	<p>Submit to the Department the results of an influent pollutant scan (a 24-hour composite sample) to determine all pollutants being contributed to the system. The type of scan to be performed is the basic priority pollutant scan of the 126 “priority pollutants” plus any other pollutants designated in the Arkansas Water Quality Standards. All sampling, analyses, and method detection limits must be done in accordance with 40 CFR Part 136. This scan will also serve as the initial scan necessary for developing technically based local limits (Activity 5 as follows).</p> <p>a) From the qualitative information supplied by the industrial users in Activity 1 and the quantitative information collected in the pollutant scan, the permittee shall determine which industrial users may be discharging pollutants which may affect the operation of the POTW(s) or pass through untreated.</p> <p>b) Sampling and analysis to quantify the pollutants discharged by the industrial users, identified in the investigation of (a) above, shall be completed.</p>	6 months from the permit’s effective date
5	<p>Submit to the Department an approvable technically based local limits submission package as required by 40 CFR Part 403.8(f)(4). Technically based local limits should be developed in accordance with <i>EPA Region 6 Technically Based Local Limits Development Guidance</i>.</p>	9 months from the permit’s effective date
6	<p>40 CFR Part 403.8(f)(1) requires POTWs to apply and enforce the requirements of Sections 307(b) and (c), and 402(b)(8) of the Act and any regulations implementing those sections. Submit to the Department:</p> <p>a) a statement from the city solicitor, a city official acting in a comparable capacity, or the city’s independent counsel, that the POTW has the authority to carry out the program;</p> <p>b) a copy of any statute, ordinance, regulation, contract, agreement, or other authority that will be relied on by the POTW to administer the program;</p> <p>c) a statement reflecting the endorsement of or approval by the local boards or bodies responsible for supervising and/or funding the program;</p>	10 months from the permit’s effective date



	<p>d) any additional documents required in multi-jurisdictional situations for administration of the program; and,</p> <p>e) an enforcement response plan that shall contain detailed procedures indicating how the POTW will investigate and respond to instances of industrial user noncompliance. The plan shall contain, at a minimum, the aspects defined at 40 CFR Part 403.8(f)(5).</p>	
7	<p>Submit to the Department an approvable pretreatment program (and removal credit approval, if desired and appropriate) as required by 40 CFR Part 403.9. The approvable pretreatment program shall include a compilation of all previously submitted pretreatment program activities as finally amended and supplemented (i.e., Activities 1–6).</p> <p>Upon notification by the Department of approvability of the submitted program, the permittee is required to submit an official request for program approval, including three (3) copies of the program deemed to be approvable.</p>	12 months from the permit's effective date

- c. If the permittee does not comply with any of the increments of the progress in the above schedule, the permittee shall submit to the Department within fourteen (14) days of the activity due date a report including, at a minimum, the date on which the required activity will be submitted, the reason for the delay, and the steps taken to return to the established schedule.
- d. Upon approval of a local pretreatment program by the Department, this permit will be modified, or, alternatively, revoked and reissued to incorporate that pretreatment program.
- e. The permittee may develop and submit an approvable pretreatment program at any time before the deadline established in Activity 7.
- f. The permittee may apply for authority to revise categorical pretreatment standards to reflect POTW removal of pollutants in accordance with the requirements of 40 CFR Part 403.7 at any time.
- g. The permittee shall require any indirect discharger to the treatment works to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Act, including any requirements established under 40 CFR Part 403.
- h. The permittee shall provide adequate notice to the Department 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.

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 such change in the quality or quantity of effluent to be discharged from the POTW.

## 9. Whole Effluent Toxicity Testing (7-Day Chronic NOEC Freshwater)

### a. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL:	001
CRITICAL DILUTION (%):	9%
EFFLUENT DILUTION SERIES (%):	4%, 5%, 7%, 9%, and 12%
TESTING FREQUENCY:	Quarterly
COMPOSITE SAMPLE TYPE:	Defined at Part I Section A
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.

- (2) 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.

- (3) This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

b. PERSISTENT 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 any 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:

(1) 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 d 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 e of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may 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 ONLY SUB-LETHAL EFFECTS HAVE BEEN DEMONSTRATED: If any two of the three additional tests demonstrates significant sub-lethal effects at 75% effluent or lower, the permittee shall initiate the Sub-Lethal Toxicity

Reduction Evaluation (TRE<sub>SL</sub>) requirements as specified in Item e 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 b(1)(i) are suspended upon submittal of the TRE Action Plan.

(2) Part I Testing Frequency of Monthly

The permittee shall initiate the Toxicity Reduction Evaluation (TRE) requirements as specified in Item e 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.

c. REQUIRED TOXICITY TESTING CONDITIONS

(1) 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; and 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 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.

## (2) 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 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 c(1) 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 d below.

## (3) 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 in-stream toxicity (fails to fulfill the test acceptance criteria of Item c(1)), 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 c(1) 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 d 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.

(4) Samples and Composites

- (i) The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item a above. Unless otherwise stated in this section, a composite sample for WET shall consist of 12 sub-samples 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 6° 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 d of this section.
- (vi) The permittee shall not allow the sample to be dechlorinated at the laboratory. At the time of sample collection the permittee shall measure the Total Residual Chlorine (TRC) in the effluent. The measured TRC concentration in each sample shall be included in the lab report submitted by the permittee.

d. REPORTING

- (1) 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.
- (2) 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.
- (3) 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 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.

e. TOXICITY REDUCTION EVALUATIONS (TREs)

TREs for lethal and sub-lethal effects are performed in a very similar manner. EPA Region 6 is currently addressing TREs as follows: a sub-lethal TRE (TRE<sub>SL</sub>) is triggered based on three sub-lethal test failures while a lethal effects TRE (TRE<sub>L</sub>) is triggered based on only two test failures for lethality. In addition, EPA Region 6 will consider the magnitude of toxicity and use flexibility when considering a TRE<sub>SL</sub> where there are no effects at effluent dilutions of less than 76% effluent.

- (1) Within ninety (90) days of confirming persistent toxicity, the permittee shall submit a 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 TRE 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 from 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.).
- (2) 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.
- (3) The permittee shall submit a quarterly TRE Activities Report, with the DMR in the months of January, April, July, and October containing information on TRE 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.
- (4) The permittee shall submit a Final Report on TRE 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.
- (5) 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 WET limits per federal regulations at 40 CFR Part 122.44(d)(1)(v).

f. MONITORING FREQUENCY REDUCTION

- (1) The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters or first twelve consecutive months (in accordance with Item a) 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).

- (2) CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in Item c(1) 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.
- (3) 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.

10. This permit requires the permittee to monitor and report the concentration of Total Phosphorus (TP) and Total Nitrate + Nitrite (as Nitrogen) on a periodic basis. Based on the results submitted, this permit may be reopened to include numerical limits for these pollutants pursuant to 40 CFR Part 122.62. Numerical limits, if any, will be determined in accordance with APCEC Regulation No. 2 and/or the CPP.
11. The permittee is required to maintain at least 2.0 feet of freeboard above the total volume required for normal operation plus storm surge capacity.
12. The permittee shall demonstrate compliance with Part II.11 by installing a graduated measuring device in the lagoon system so that the freeboard depth can be measured. A measurement must be taken and recorded at least once per week. The monitoring records shall be retained by the permittee pursuant to Part III.C.7. and must be made available to the ADEQ upon request.
13. After three (3) years of data are collected for Total Phosphorus (TP) and/or Total Nitrate plus Nitrite as Nitrogen ( $\text{NO}_3 + \text{NO}_2 - \text{N}$ ), the permittee may request a monitoring frequency reduction (e.g., from once per month to once per quarter) for these pollutants. This request must be made in writing and must be approved by the Department prior to taking place. If approved, the reduction in frequency will be made without a major permit modification.

## **PART III STANDARD CONDITIONS**

### **SECTION A – GENERAL CONDITIONS**

#### **1. Duty to Comply**

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

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

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

#### **3. Permit Actions**

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

- a. Violation of any terms or conditions of this permit; or
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
- c. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
- d. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.
- e. Failure of the permittee to comply with the provisions of APCEC Regulation No. 9 (permit fees) as required by Part III.A.10. herein.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

#### **4. Toxic Pollutants**

Notwithstanding Part III.A.3., if any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under APCEC Regulation No. 2, as amended, or Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitations on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standards or prohibition and the permittee so notified.

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

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

Except as provided in permit conditions on “Bypassing” (Part III.B.4.a.), and “Upsets” (Part III.B.5.b.), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state and federal statutes or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

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

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

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

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

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

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

**9. Severability**

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

**10. Permit Fees**

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

**SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS**

**1. Proper Operation and Maintenance**

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

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

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power for the treatment facility is reduced, is lost, or alternate power supply fails.

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

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

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

#### a. Bypass not exceeding limitation

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

#### b. Notice

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

#### c. Prohibition of bypass

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

### **5. Upset Conditions**

- a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Part III.B.5.b. of this section are met. No determination made during administrative

review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

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

## **6. Removed Substances**

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of waste waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the waters of the State. Written approval must be obtained from the ADEQ for land application only.

## **7. Power Failure**

The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failure either by means of alternate power sources, standby generators, or retention of inadequately treated effluent.

# **SECTION C – MONITORING AND RECORDS**

## **1. Representative Sampling**

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director. Intermittent discharges shall be monitored.

## **2. Flow Measurement**

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a



maximum deviation of less than +/- 10% from true discharge rates throughout the range of expected discharge volumes and shall be installed at the monitoring point of the discharge.

### **3. Monitoring Procedures**

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals frequent enough to insure accuracy of measurements and shall insure that both calibration and maintenance activities will be conducted. An adequate analytical quality control program, including the analysis of sufficient standards, spikes, and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory. At a minimum, spikes and duplicate samples are to be analyzed on 10% of the samples.

### **4. Penalties for Tampering**

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

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

Monitoring results must be reported on a Discharge Monitoring Report (DMR) form (EPA No. 3320-1 and other ADEQ-approved form). Permittees are required to use preprinted DMR forms provided by ADEQ, unless specific written authorization to use other reporting forms is obtained from ADEQ. Monitoring results obtained during the previous calendar month shall be summarized and reported on a DMR form postmarked no later than the 25<sup>th</sup> day of the month following the completed reporting period to begin on the effective date of the permit. Duplicate copies of DMR forms signed and certified as required by Part III.D.11. and all other reports required by Part III.D., shall be submitted to the Director at the following address:

Permits 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 three (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 and provide plans and specification to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility. Notice is required only when:

Any change in the facility discharge (including the introduction of any new source or significant discharge or significant changes in the quantity or quality of existing discharges of pollutants) must be reported to the permitting authority. In no case are any new connections, increased flows, 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. **DMRs 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 Branch of the ADEQ's Water Division.
- c. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Enforcement Branch of the ADEQ's Water Division.

## **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:
    - (i) 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
    - (ii) 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:
    - (i) The chief executive officer of the agency, or
    - (ii) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- b. All **reports** required by the permit and **other information** requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - (1) The authorization is made in writing by a person described above.

- (2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
  - (3) The written authorization is submitted to the Director.
- c. Certification. Any person signing a document under this section shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

## **12. Availability of Reports**

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

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

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties specified in Part III.A.2. and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

## PART IV DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act 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. **“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.
4. **“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.
5. **“Bypass”** means the intentional diversion of waste streams from any portion of a treatment facility.
6. **“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.  
*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.  
*Concentration Calculations:* For pollutants with limitations expressed in other units of measurement, determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the “daily discharge” determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during that sampling day by using the following formula: where C= daily concentration, F=daily flow and n=number of daily samples

$$\frac{C_1F_1 + C_2F_2 + \dots + C_nF_n}{F_1 + F_2 + \dots + F_n}$$

7. **“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) report the monthly average (see 30-day average below).
8. **“Daily Maximum”** discharge limitation means the highest allowable “daily discharge” during the calendar month. The 7-day average for FCB 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 Administrator of the U.S. Environmental Protection Agency and/or the Director of the ADEQ.

11. **“Grab sample”** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
12. **“Industrial User”** means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
13. **“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.
14. **“POTW”** means a Publicly Owned Treatment Works.
15. **“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.
16. **“APCEC”** means the Arkansas Pollution Control and Ecology Commission.
17. **“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.
18. **“7-day average”** discharge limitation, other than for FCB, is the highest allowable arithmetic mean of the values for all effluent samples collected during the calendar week. The 7-day average for FCB is the geometric mean of the values of all effluent samples collected during the calendar week in colonies/100 ml. The Discharge Monitoring Report (DMR) should report the highest 7-day average obtained during the calendar month. For reporting purposes, the 7-day average values should be reported as occurring in the month in which the Saturday of the calendar week falls in.
19. **“30-day average”**, other than for FCB, is the arithmetic mean of the daily values for all effluent samples collected during 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. The 30-day average for FCB is the geometric mean of the values for all effluent samples collected during a calendar month. For FCB, report the monthly average as a 30-day geometric mean in colonies per 100 ml.
20. **“24-hour composite sample”** consists of a minimum of 12 effluent portions collected at equal time intervals over the 24-hour period and combined proportional to flow or a sample collected at frequent intervals proportional to flow over the 24-hour period.
21. **“12-hour composite sample”** consists of 12 effluent portions, collected no closer together than one hour and composited according to flow or a sample collected at frequent intervals proportional to flow over the 12-hour period.
22. **“6-hour composite sample”** consists of six effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) and composited according to flow **or** a sample collected at frequent intervals proportional to flow over the 6-hour period.
23. **“3-hour composite sample”** consists of three effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) and composited according to flow **or** a sample collected at frequent intervals proportional to flow over the 3-hour period.



24. **“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.
25. **“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.
26. **“For Fecal Coliform Bacteria (FCB)”**, a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For FCB report the monthly average as a 30-day geometric mean in colonies per 100 ml.
27. **“Dissolved oxygen limit”**, shall be defined as follows:
- When limited in the permit as a minimum monthly average, shall mean the lowest acceptable monthly average value, determined by averaging all samples taken during the calendar month;
  - When limited in the permit as an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
28. **The term “MGD”** shall mean million gallons per day.
29. **The term “mg/l”** shall mean milligrams per liter or parts per million (ppm).
30. **The term “µg/l”** shall mean micrograms per liter or parts per billion (ppb).
31. **The term “cfs”** shall mean cubic feet per second.
32. **The term “ppm”** shall mean parts per million.
33. **The term “s.u.”** shall mean standard units.
34. **The term “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.
35. **Monitoring and Reporting:**  
When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is monthly or more frequently, the DMR shall be submitted by the 25<sup>th</sup> of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the DMR shall be submitted by the 25<sup>th</sup> of the month following the monitoring period end date.
- MONTHLY:**  
is defined as a calendar month or any portion of a calendar month for monitoring requirement frequency of once/month or more frequently.
- QUARTERLY:**  
(a) 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

- (b) 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.

**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.

**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.

36. **The term “Weekday”** means Monday – Friday.
37. Pursuant to 40 CFR Part 403.3(k) the term **Interference** means a Discharge which, alone or in conjunction with a discharge or discharges from other sources, both:
- (a) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
  - (b) Therefore is a cause of a violation of any requirement of the POTW’s NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued under (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) [including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA], the Clean Air Act, the Toxic Substances Control Act, and/or the Marine Protection, Research and Sanctuaries Act.
38. Pursuant to 40 CFR 403.3(p), the term **Pass Through** means a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

## Final Fact Sheet

This Fact Sheet is for information and justification of the permit limits only. Please note that it is not enforceable. This permitting decision is for the renewal of Permit Number AR0035602 for ADEQ Facility Identification Number (AFIN) 56-00047 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, AR 72118-5317

### 2. APPLICANT.

The applicant's mailing address is:

City of Trumann  
106 East Main Street  
Trumann, AR 72472

The facility is located approximately 1/4 mile north of the intersection of State Highway 69 (East Speedway Road) and State Highway 198 (Stevens Landing Road) in Trumann in Poinsett County, Arkansas.

### 3. PREPARED BY.

The permit was prepared by:

Chris Roberts, P.E.  
Staff Engineer  
Discharge Permits Section, Water Division  
(501) 683-5406  
E-mail: roberts@adeq.state.ar.us

### 4. PERMIT ACTIVITY.

Previous Permit Effective Date: 11/01/2003  
Previous Permit Expiration Date: 10/31/2008

The permittee submitted a permit renewal application on 5/29/2008. The discharge permit is being reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

DMR Review:

The Discharge Monitoring Reports (DMRs) from the previous permit cycle were reviewed as part of the permit renewal process. The following violations were noted from February 2006 through January 2009: one (1) for BOD5 (7-Day Average Concentration for December 2006), six (6) for Fecal Coliform Bacteria (FCB) (Monthly Averages from April through September 2007), and two Whole Effluent Toxicity (WET) violations. (The chronic pass/fail growth and the chronic coefficient of variation were not reported on the December 2007 DMR.)

In 2009, new baffle curtains were installed to increase the residence time by preventing the wastewater from bypassing treatment cells. At this time, no additional requirements are needed based on the DMR data.

Legal Order Review:

The facility is currently under Consent Administrative Order (CAO) LIS No. 08-133 because of the violations noted above, improper operation and maintenance, improper analytical controls and recordkeeping, and failures to report events required by the permit. Based on recent inspections by ADEQ staff, the permittee is making significant progress toward returning to compliance. The Enforcement Branch of ADEQ's Water Division will determine if and when CAO LIS No. 08-133 may be closed.

**5. FINANCIAL ASSURANCE.**

Pursuant to Arkansas Code Annotated (A.C.A.) § 8-4-203 and/or § 8-5-703, financial assurance is required before a permit may be issued for a "nonmunicipal domestic sewage treatment system serving two (2) or more individually owned, rented, or temporarily occupied lots or dwellings." The permittee, the City of Trumann, is a municipal entity. Therefore, financial assurance is not required.

**6. SIGNIFICANT CHANGES FROM THE PREVIOUSLY ISSUED PERMIT.**

The permittee is responsible for carefully reading the permit in detail and becoming familiar with all of the changes therein:

- a. The facility coordinates and outfall location were updated.
- b. The narrative location description has been clarified.
- c. One significant digit was added to the BOD5 and TSS concentration limits for reporting accuracy.
- d. Year-round DO limits have been added.
- e. Total Phosphorus monitoring has been added based on the CPP.
- f. Total Nitrate and Nitrite monitoring has been added based on the CPP.
- g. One significant digit has been added to the pH limits to comply with Reg. 2.504.
- h. Parts II, III, and IV have been updated.

- i. The minimum operator classification in Part II has been specified as Class II.
- j. Minimum TSS removal language has been added to Part II to clarify the minimum federal requirements.
- k. Sludge language has been updated in Part II because the permittee does not land apply biosolids.
- l. The pretreatment language in Part II has been updated.
- m. The WET language in Part II has been updated.
- n. The Critical Dilution has changed from 8% to 9% based on the new 7Q10.
- o. A reopener clause for TP and/or  $\text{NO}_3 + \text{NO}_2 - \text{N}$  has been added to Part II.
- p. Freeboard monitoring requirements were added to Part II to confirm adequate freeboard is maintained to prevent an accidental discharge from the lagoons.
- q. A condition has been added to Part II to allow the permittee to request less frequent monitoring for TP and  $\text{NO}_3 + \text{NO}_2 - \text{N}$  after three years of data are collected.

## 7. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

The outfall is located at the following coordinates based on a Google Earth estimate using the WGS84 datum set:

Latitude: 35° 41' 08.6" N; Longitude: 90° 28' 26.3" W

The receiving waters are named:

Ditch No. 60, thence to St. Francis River in Segment 5A of the St. Francis River Basin. The receiving stream in Reach # 014 of USGS Hydrologic Unit Code (H.U.C.) 8020203 is a Water of the State classified for primary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

## 8. 303(d) LIST AND ENDANGERED SPECIES CONSIDERATIONS.

### a. 303(d) List:

The St. Francis River (Reach # 014 of H.U.C. 8020203) is on the 303(d) List for DO, chlorides, and beryllium. The causes of the impairments are unknown. A year-round DO limit is being added. The facility does not chlorinate the treated effluent, and beryllium has not been detected. At this time, no additional permit actions are being taken because of the 303(d) List.

### 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 were made available to the USF&WS for their review.

*Potamilus capax*, a federally endangered freshwater mussel, has been found in Ditch No. 60 downstream from the permittee's discharge. Two relicts (dead shells) were found during a stream survey on July 1, 2003, but no live specimens have been documented since the late 1980s. The ditch is considered to be unsuitable for mussels, but it is possible that this species may be present.

The permit limits are protective of most species, and there are no proposed changes to the treated effluent (unless additional DO is needed to meet the new DO limits). Thus, ADEQ has concluded that issuance of this NPDES permit will have no effect on any endangered or candidate species or the critical habitat.

## 9. OUTFALL AND TREATMENT PROCESS DESCRIPTION.

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

- a. Design Flow: 1.78 MGD<sup>1</sup>
- b. Type of Treatment: 4-cell aerated (partial-mix) lagoon system with post-aeration
- c. Discharge Description: treated municipal wastewater
- d. Facility Status: This facility is classified as a major municipal since the facility's design flow is greater than 1.0 MGD.<sup>2</sup>

## 10. ACTIVITY.

Under the Standard Industrial Classification (SIC) codes of 9121 and 4952 and the North American Industry Classification System (NAICS) codes of 921120 and 221320, the applicant's activities are the operation of a municipal sewage treatment plant.

## 11. INDUSTRIAL WASTEWATER CONTRIBUTIONS.

From ADEQ's available information, the facility appears to receive process wastewater from Significant Industrial Users (SIUs). Based on this, requirements to develop a Pretreatment Program are deemed necessary at this time. The Department may waive this requirement after additional information is received and reviewed (i.e., Part II.8.b. Activity 1).

---

<sup>1</sup> From February 2006 through January 2009, the highest reported daily maximum flow rate was 2.098 MGD (April 2008), and the highest reported monthly average flow rate was 0.9876 MGD (also in April 2008).

<sup>2</sup> In the renewal application's cover letter, the permittee requested consideration as a minor facility because the "average daily discharge rate is consistently well below one million gallons per day and is not likely to reach or exceed this value within the next five years." This request is denied because the design flow rate is greater than 1.0 MGD, and the design flow rate is based on the system's design and not on the actual flow rate.

**12. SEWAGE SLUDGE PRACTICES.**

Sludge from this facility is retained in the treatment lagoons. During a site visit on March 17, 2009, the permittee's operator stated that the sludge blanket will be measured to determine if sludge removal is needed. If sludge will be removed, no notification to the ADEQ's Water Division is necessary if Part II.4 of the permit is followed.

**13. PERMIT CONDITIONS.**

The Arkansas Department of Environmental Quality has made a determination to issue a permit for the discharge described in the application. Permit requirements are based on federal regulations (40 CFR Parts 122, 124, and Subchapter N), the National Pretreatment Regulation in 40 CFR Part 403 and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et. seq.).

a. **Interim Effluent Limitations**

Outfall 001 – treated municipal wastewater

i. **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	N/A	Report, MGD	Report, MGD (Daily Max.)	once/day	totalizing meter
Biochemical Oxygen Demand (BOD5)	445	30.0	45.0	three/week	6-hr composite
Total Suspended Solids (TSS)	1,336	90.0	135.0	three/week	6-hr composite
Dissolved Oxygen (DO)	N/A	2.0 (Inst. Minimum)		three/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100 ml)			
(April – September)	N/A	200	400	three/week	grab
(October – March)	N/A	1,000	2,000	three/week	grab
Total Phosphorus (TP)	N/A	Report	Report	once/month	grab
Nitrate + Nitrite (as Nitrogen)	N/A	Report	Report	once/month	grab
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	three/week	grab
Chronic WET Testing	N/A	See Fact Sheet Item 15.		once/quarter	24-hr composite

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

b. **Final Effluent Limitations**

Outfall 001 – treated municipal wastewater

i. **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	N/A	Report, MGD	Report, MGD (Daily Max.)	once/day	totalizing meter
Biochemical Oxygen Demand (BOD5)	445	30.0	45.0	three/week	6-hr composite
Total Suspended Solids (TSS)	1,336	90.0	135.0	three/week	6-hr composite
Dissolved Oxygen (DO)	N/A	5.0 (Inst. Minimum)		three/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100 ml)			
(April – September)	N/A	200	400	three/week	grab
(October – March)	N/A	1,000	2,000	three/week	grab
Total Phosphorus (TP)	N/A	Report	Report	once/month	grab
Nitrate + Nitrite (as Nitrogen)	N/A	Report	Report	once/month	grab
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	three/week	grab
Chronic WET Testing	N/A	See Fact Sheet Item 15.		once/quarter	24-hr composite

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



**14. 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 (48 Federal Register 1413, April 1, 1983).

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

Following regulations promulgated at 40 CFR Part 122.44(1)(2)(ii), the permit limits are based on either technology-based effluent limits pursuant to 40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to 40 CFR Part 122.44(d), whichever are more stringent as follows:

Parameter	Water Quality-Based		Technology-Based/BPJ		Previous Permit		Final Permit Limit	
	Monthly Avg. mg/l	7-Day Avg. mg/l	Monthly Avg. mg/l	7-Day Avg. mg/l	Monthly Avg. mg/l	7-Day Avg. mg/l	Monthly Avg. mg/l	7-Day Avg. mg/l
BOD5	30.0	45.0	30	45	30	45	30.0	45.0
TSS	90.0	135.0	30	45	90	135	90.0*	135.0*
DO	5.0 (Inst. Min.)		N/A		N/A		5.0 (Inst. Min.)	
FCB (col/100 ml)								
(April – Sept.)	200	400	N/A	N/A	200	400	200	400
(Oct. – March)	1,000	2,000	N/A	N/A	1,000	2,000	1,000	2,000
TP	Report	Report	N/A	N/A	N/A	N/A	Report	Report
NO <sub>3</sub> + NO <sub>2</sub> – N	Report	Report	N/A	N/A	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.	

\* The previous TSS limits of 90 mg/l (Monthly Average) and 135 mg/l (7-Day Average) (with an additional significant digit) are being continued pursuant to 40 CFR Parts 133.101(f), 133.101(g), 133.103(c), and 133.105(b) and guidance from EPA Region 6 (i.e., a letter from Jack Ferguson, P.E., Chief, NPDES Permits Branch, EPA Region 6, to Marysia Jastrzebski, NPDES Program Manager, ADEQ, dated May 19, 1998). These limits are being continued with the understanding that proper operation and maintenance is occurring pursuant to 40 CFR Part 133.101(f) et. al.

Parameter	Water Quality or Technology	Justification
BOD5	Technology	40 CFR Part 133
TSS	Technology	40 CFR Part 133
DO	Water Quality	Reg. 2.505
FCB	Water Quality	Reg. 2.507
TP	Technology	Section 5.36 of the CPP
NO <sub>3</sub> + NO <sub>2</sub> – N	Technology	Section 5.37 of the CPP
pH	Water Quality	Reg. 2.504

a. **Anti-backsliding**

The permit is consistent with the requirements to meet Anti-backsliding provisions of the Clean Water Act (CWA), Section 402(o) [40 CFR Part 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 Part 122.44 (l)(2)(i). The permit maintains the requirements of the previous permit.

b. **Limits Calculations**

i. Mass Limits:

The calculation of the loadings (lbs per day) uses a design flow of 1.78 MGD and the following equation:

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

ii. 7-Day Average Concentration Limits:

$$\text{7-Day Average Concentration Limits} = \text{Monthly Average Concentration Limits} \times 1.5$$

iii. DO:

The minimum DO limit has been determined based on a MultiSMP modeling analysis dated 5/11/2009. The upstream 7Q10 for the St. Francis River at Lake City was used as the minimum background flow rate in Ditch No. 60 based on a statement from the General Manager for Poinsett County Drainage District No. 7 that the entire St. Francis River is routed through Ditch No. 60 during the low flow period. This was confirmed by an ADEQ field survey on June 30, 2003.

Because the entire St. Francis River flows through Ditch No. 60, the Water Quality Standard in the Ditch is 5.0 mg/l of DO year-round. It should be noted that this reach

of the River is on the 303(d) List for DO. If a Total Maximum Daily Load (TMDL) is finalized, the permit may be reopened and modified.

According to data on the U.S. Army Corps of Engineer's web site for the Memphis District, the river's level at Lake City is lowest from August through October. In the future, a flow measurement should be taken in Ditch No. 60 during the low flow period to confirm that the published 7Q10 for the St. Francis River is appropriate for Ditch No. 60.

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

The 208 Plan, developed by the ADEQ under provisions of Section 208 of the federal Clean Water Act (CWA), is a comprehensive program to work toward achieving federal water goals in Arkansas. The initial 208 Plan, adopted in 1979, provides for annual updates, but can be revised more often if necessary. The 208 Plan has been revised to add a year-round DO limit to the existing water quality limitations.

Year-Round: BOD5/TSS/DO = 30.0/90.0/5.0 mg/l  
Design Flow (Q): 1.78 MGD  
Background Flow of the Receiving Stream (7Q10): 112 cfs<sup>3</sup>

d. **Toxics Pollutants**

i. Post Third Round Policy and Strategy

Section 101 of the CWA states that "... it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited." To insure that the CWA's prohibitions on toxic discharges are met, EPA has issued a "Policy for the Development of Water Quality-Based Permit Limitations by Toxic Pollutants" (49 Federal Register 9016-9019, 3/9/84). In support of the national policy, Region 6 adopted the "Policy for Post Third Round Permitting" and the "Post Third Round Permit Implementation Strategy" on October 1, 1992. The Regional policy and strategy are designed to insure that no source will be allowed to discharge any wastewater which (1) results in in-stream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical State water quality standard resulting in non-conformance with the provisions of 40 CFR Part 122.44(d); (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

---

<sup>3</sup> "Low-Flow Characteristics and Regionalization of Low-Flow Characteristics for Selected Streams in Arkansas," USGS Scientific Investigations Report 2008-5065, p. 59 for USGS Station No. 07040450 near Lake City, Arkansas.

ii. Implementation

The State of Arkansas is currently implementing EPA's Post Third-Round Policy in conformance with the EPA Regional strategy. The 5-year discharge permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, or where there are no applicable technology-based limits, additional water quality-based effluent limitations and/or conditions are included in the discharge permits. State narrative and numerical water quality standards from APCEC Regulation No. 2 are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

iii. Priority Pollutant Scan (PPS)

In accordance with the regional policy ADEQ has reviewed and evaluated the effluent in evaluating the potential toxicity of each analyzed pollutant:

- (a) The results were evaluated and compared to EPA's Minimum Quantification Levels (MQLs) to determine the potential presence of a respective toxic pollutant. Those pollutants which are greater than or equal to the MQLs are determined to be reasonably present in the effluent and an evaluation of their potential toxicity is necessary.
- (b) Those pollutants with one datum shown as "non-detect" (ND), providing the level of detection is equal to or lower than MQL are determined to be not potentially present in the effluent and eliminated from further evaluation.
- (c) Those pollutants with a detectable value even if below the MQL are determined to be reasonably present in the effluent and an evaluation of their potential toxicity is necessary.
- (d) For those pollutants with multiple data values and all values are determined to be non-detect, therefore no further evaluation is necessary. However, where data set includes some detectable concentrations and some values as ND, one-half of the detection level is used for those values below the level of detection to calculate the geometric mean of the data set.

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 (i.e., APCEC Regulation No. 2) and with the aquatic toxicity, human health, and drinking water criteria obtained from the "Quality Criteria for Water, 1986 (Gold Book)." The following expression was used to calculate the pollutant in-stream waste concentration (IWC):

$$IWC = ((C_e \times Q_e) + (C_b \times Q_b)) / (Q_e + Q_b)$$

where:

IWC = in-stream concentration of pollutant after mixing with receiving stream ( $\mu\text{g/l}$ )

$C_e$  = pollutant concentration in effluent ( $\mu\text{g/l}$ )

$Q_e$  = effluent flow of facility (cfs)

$C_b$  = background concentration of pollutant in receiving stream ( $\mu\text{g/l}$ )

$Q_b$  = background flow of receiving stream (cfs)

The following values were used in the IWC calculations:

$C_e$  = varies with pollutant. A single value from the PPS submitted by the permittee as part of the discharge permit application or the geometric mean of a group of data points (less than 20 data points) is multiplied by a factor of 2.13. This is based on EPA Region 6's procedure [See Chapter 5 of the Continuing Planning Process (CPP).] to extrapolate limited data sets to better evaluate the potential toxicity for higher effluent concentrations to exceed water quality standards. This procedure employs a statistical approach which yields an estimate of a selected upper percentile value (the 95th percentile) of an effluent data set which would be expected to exceed 95% of effluent concentrations in a discharge. If 20 or more data points over the last two years are available, do not multiply by 2.13, but instead use the maximum value reported.

$Q_e$  = 1.78 MGD = 2.75 cfs

$C_b$  = 0  $\mu\text{g/l}$

$Q_b$  = (See below):

#### I. Aquatic Toxicity

Chronic Toxicity: Flow = 28 cfs, for comparison with chronic aquatic toxicity. This flow is 25 percent of the 7-day, 10-year low-flow (7Q10) for the receiving stream.

Acute Toxicity: Flow = 15 cfs, for comparison with acute aquatic toxicity. This flow is 13 percent of the 7Q10 for the receiving stream.

## II. Human Health Criteria

Flow = 336 cfs, for comparison with bioaccumulation criteria. This flow is the long term average (LTA) of the receiving stream which is calculated by multiplying the 7Q10 times three.

## III. Drinking Water

Flow = 112 cfs, for comparison with drinking water criteria. This flow is the 7Q10 for the receiving stream.

The following values for the St. Francis River were used to determine pollutant limits:

Hardness = 103 mg/l (from Section 5.24.1 of the CPP),

TSS = 18.0 mg/l (from Section 5.24.3 of the CPP), and

pH = 7.2 s.u. (average data from ADEQ Station FRA0008 from July 2002 through June 2007).

### iv. Water Quality Standards for Metals and Cyanide

Standards for chromium (VI), mercury, selenium, and cyanide are expressed as a function of the pollutant's water-effect ratio (WER), while standards for cadmium, chromium (III), copper, lead, nickel, silver, and zinc are expressed as a function of the pollutant's water-effect ratio, and as a function of hardness. The WER is assigned a value of 1.0 unless scientifically defensible study clearly demonstrates that a value less than 1.0 is necessary or a value greater than 1.0 is sufficient to fully protect the designated uses of the receiving stream from the toxic effects of the pollutant.

The WER approach compares bioavailability and toxicity of a specific pollutant in receiving water and in laboratory test water. It involves running toxicity tests for at least two species, measuring LC50 for the pollutant using the local receiving water collected from the site where the criterion is being implemented, and laboratory toxicity testing water made comparable to the site water in terms of chemical hardness. The ratio between site water and lab water LC50 is used to adjust the national acute and chronic criteria to site specific values.

### v. Conversion of Dissolved Metals Criteria for Aquatic Life to Total Recoverable Metal

Metals criteria established in Section 2.508 of APCEC Regulation No. 2 for aquatic life protection are based on dissolved metals concentrations and hardness values. However, Federal Regulations cited at 40 CFR Part 122.45(c) require that effluent limitations for metals in discharge permits be expressed as total recoverable. Therefore a dissolved to total recoverable metal conversion must be calculated. This

involves determining a linear partition coefficient for the metal of concern and using this coefficient to determine the fraction of metal dissolved so that the dissolved metal ambient criteria may be translated to a total effluent limit. The formula for converting dissolved metals to total recoverable metals for streams and lakes are provided in Section 5.25 of the CPP.

vi. Comparison of the submitted information with the water quality standards and criteria

The following pollutants were determined by the permittee to be present in the treated effluent. The results are based on one sample from the PPS collected on April 23, 2008.

Pollutant	Reported Concentration (µg/l)	Reported MQL (µg/l)	Expected MQL (µg/l)
Copper*	10	1	0.5
Nickel*	2.9	1	0.5
Zinc*	22	2	20

\*Total Recoverable

Based on the analytical sampling results submitted by the permittee, the ADEQ has determined that no Water Quality Standards or Gold Book criteria are exceeded. Therefore no permit action is necessary to maintain these standards or criteria. (See Attachment 1.)

## 15. WHOLE EFFLUENT TOXICITY (WET).

Section 101(a)(3) of the CWA 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 APCEC Regulation No. 6, to include conditions as necessary to achieve water quality standards as established under Section 303 of the CWA. 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."

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 October 1, 1992, and the EPA Region 6 Post-Third Round WET Testing Frequencies, revised March 13, 2000. WET testing is thereby required as a condition of this permit to assess potential toxicity. The WET testing procedures stipulated as a condition of this permit are as follows:

## TOXICITY TESTS

## FREQUENCY

Chronic WET

Once/quarter

Since the 7Q10 is greater than 100 cfs but the ratio of the sum of the 7Q10 plus the design flow rate divided by the design flow rate is less than 100 [i.e.,  $(7Q10+Q_d)/Q_d < 100$ ], chronic WET testing is required. The calculations for dilution used for chronic WET testing are as follows:

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

where:

$$\begin{aligned} Q_d &= \text{Design Flow} = 1.78 \text{ MGD} = 2.75 \text{ cfs} \\ 7Q10 &= 112 \text{ cfs} \\ Q_b &= \text{Background Flow} = 0.25 \times 7Q10 = 28 \text{ cfs} \\ \text{CD} &= [(2.75)/(2.75 + 28)] \times 100 = 9 \% \end{aligned}$$

- Toxicity tests shall be performed in accordance with protocols described in “Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,” EPA/600/4-91/002, July 1994. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are **4%, 5%, 7%, 9%, and 12%**. (See Chapter 6 of the CPP.) The low-flow effluent concentration (critical dilution) is defined as **9%** 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 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, DO, conductivity, total residual chlorine, and alkalinity shall be reported according to EPA/600/4-91/002, July 1994 and shall be submitted as an attachment to the DMR.

This permit may be reopened to require further WET testing studies, Toxicity Reduction Evaluation (TRE) and/or effluent limits if WET testing data shows toxicity in the permittee's discharge. Modification or revocation of this permit is subject to the provisions of 40 CFR Part 122.62, as adopted by reference in APCEC Regulation No. 6. Increased or intensified toxicity testing may also be required in accordance with Section 308 of the CWA and § 8-4-201 of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).



Permit Number: AR0035602 AFIN: 56-00047 Outfall Number: 001  
 Date of Review: 1/8/2009 Reviewer: M. Barnett  
 Facility Name: City of Trumann  
 Previous Dilution series: 3, 5, 6, 8, 11 Proposed Dilution Series: 4, 5, 7, 9, 12  
 Previous Critical Dilution: 8 Proposed Critical Dilution: 9  
 Previous TRE activities: None

**Frequency recommendation by species based on 2009 CPP Section 6.4:**

*Pimephales promelas* (Fathhead minnow): once/quarter  
*Ceriodaphnia dubia* (water flea): once/quarter

**TEST DATA SUMMARY**

TEST DATE	Vertebrate		Invertebrate	
	Lethal NOEC	Sub-Lethal NOEC	Lethal NOEC	Sub-Lethal NOEC
Mar-04	11	11	11	11
Jun-04	11	11	11	11
Dec-04	11	11	11	11
Mar-05	11	11	11	11
Jun-05	11	11	11	<3
Sep-05	11	11	11	11
Oct-05	11	11	11	3
Dec-05			11	11
Feb-06	11	11	11	11
Mar-06	11	11	11	11
Jun-06	11	11	11	11
Sep-06	11	11	11	<3
Dec-06	11	11	11	11
Mar-07	11	11	11	11
Mar-07			11	11
Mar-07			11	11
Jun-07	11	11	11	11
Sep-07	11	11	11	11
Dec-07	11	11	11	11
Mar-08	11	11	11	11
Jun-08	11	3	11	11
Dec-08	11	8	11	11

Failures are noted in bold text.

**REASONABLE POTENTIAL CALCULATIONS**

	Vertebrate Lethal	Vertebrate Sub-Lethal	Invertebrate Lethal	Invertebrate Sub-Lethal
Min NOEC Observed	11	3	11	2
TU at Min Observed	9.09	33.33	9.09	50.00
Count	19	19	22	22
Failure Count	0	1	0	3
Mean	9.091	10.546	9.091	13.912
Std. Dev.	0.000	5.573	0.000	12.768
CV	0	0.5	0	0.9
RPMF	1.1	1.3	1.1	1.4
Reasonable Potential	0.800	3.467	0.800	5.600

**Vertebrate Lethal** No Reasonable Potential exists. Permit requires WET monitoring, but no WET limit.  
**Vertebrate Sub-Lethal** Reasonable Potential exists, Permit requires WET monitoring.  
**Invertebrate Lethal** No Reasonable Potential exists. Permit requires WET monitoring, but no WET limit.  
**Invertebrate Sub-Lethal** Reasonable Potential exists, Permit requires WET monitoring.

**PERMIT ACTION**

**Notes:**

Although reasonable potential appears to exist for *P. promelas* sub-lethal, only one failure has been reported during the past three years, therefore WET limits are not required at this time.

Although reasonable potential appears to exist for *C. dubia* sub-lethal, only three failures have been reported, with only one during the past three years, therefore WET limits are not required at this time.

Denial of Frequency Reduction Request:

The application cover letter dated May 27, 2008, requested a reduction in the WET testing frequency from quarterly to annually based on the sampling history. The ADEQ is not authorized to grant this request. As explained above, EPA requires that the sampling frequency revert to at least quarterly at the time the permit is reissued. Please note that a monitoring frequency reduction may be requested from the ADEQ at a later date pursuant to Part II.9.f of the permit.

**16. SAMPLE TYPE AND FREQUENCY.**

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [40 CFR Part 122.48(b)] and to ensure compliance with permit limitations [40 CFR Part 122.44(i)(1)]. Requirements for sample type and sampling frequency have been based on the current discharge permit except DO, TP, and nitrate plus nitrite as nitrogen ( $\text{NO}_3 + \text{NO}_2 - \text{N}$ ).

The DO sampling frequency has been set as the same as for BOD5 sampling pursuant to Table 4-1 of the CPP. Grab samples are the sampling type for DO, TP, and  $\text{NO}_3 + \text{NO}_2 - \text{N}$  based on Table 4-1 of the CPP. The TP and  $\text{NO}_3 + \text{NO}_2 - \text{N}$  sampling must be at least once per quarter pursuant to Sections 5.36 and 5.37 of the CPP.<sup>4</sup> In order to collect a data set representing year-round operations, monthly sampling is required for the first three years. A condition has been added to Part II to allow the permittee to request a frequency reduction without requiring a permit modification.

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Flow	once/day	totalizing meter	once/day	totalizing meter
BOD5	three/week	6-hr composite	three/week	6-hr composite
TSS	three/week	6-hr composite	three/week	6-hr composite
DO	N/A	N/A	three/week	grab
FCB	three/week	grab	three/week	grab
TP	N/A	N/A	once/month	grab
$\text{NO}_3 + \text{NO}_2 - \text{N}$	N/A	N/A	once/month	grab
pH	three/week	grab	three/week	grab
Chronic WET Testing	once/quarter	24-hr composite	once/quarter	24-hr composite

<sup>4</sup> According to Table 4-1 of the CPP and the system's design flow rate, the minimum sampling frequency for these pollutants should be three times per week.

## 17. STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS.

The permittee maintains a current “No Exposure Certification” under NPDES Permit Tracking No. ARR000270. Therefore, stormwater requirements are not needed in this permit.

## 18. PERMIT COMPLIANCE.

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

- a. The permittee shall comply with all interim limits on the permit’s effective date.
- b. The permittee shall submit progress reports addressing the progress towards attaining the final effluent limits for DO according to the following schedule:

### ACTIVITY

### DUE DATE

Progress Report

Six (6) months from the effective date

Achieve Final Limits

One (1) year from the effective date

Compliance with the final limits for DO is required one (1) year from the effective date of the permit. The permittee has the option to undertake any study deemed necessary to meet the final limitations during the interim period. Any additional treatment must be approved (and construction approval granted) prior to installation.

- c. Compliance with Part II.11. (Freeboard Measurement) is required six (6) months from the permit’s effective date.
- d. Pretreatment Program Development Activities:
  - (i) The following report (as described in Part II.8.b) must be submitted to the ADEQ by the corresponding due date: “Industrial User Survey” within two (2) months of the permit’s effective date.
  - (ii) The following reports (as described in Part II.8.b) must be submitted to the ADEQ by the corresponding due date unless the ADEQ notifies the permittee otherwise:
    - (a) “Monitoring Program Design” within four (4) months of the permit’s effective date,
    - (b) “Financial Resources Evaluation” within six (6) months of the permit’s effective date,
    - (c) “Influent Pollutant Scan” within six (6) months of the permit’s effective date,
    - (d) “Technically Based Local Limits” within nine (9) months of the permit’s effective date,
    - (e) “Evaluation of Legal Authority” within ten (10) months of the permit’s effective date, and

- (f) "Pretreatment Program Submission" within twelve (12) months of the permit's effective date.

## 19. 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.

## 20. SOURCES.

The following sources were used to prepare the permit:

- a. Application No. AR0035602 received 5/29/2008.
- b. Arkansas Water Quality Management Plan (WQMP).
- c. APCEC Regulation No. 2.
- d. APCEC Regulation No. 3.
- e. APCEC Regulation No. 6.
- f. 40 CFR Parts 122, 125, 133, and 403.
- g. Discharge permit file AR0035602.
- h. Discharge Monitoring Reports (DMRs).
- i. "Arkansas Water Quality Inventory Report 2004 (305B)," ADEQ.
- j. "Low-Flow Characteristics and Regionalization of Low-Flow Characteristics for Selected Streams in Arkansas," USGS Scientific Investigations Report 2008-5065, p. 59 for USGS Station No. 07040450 near Lake City, Arkansas.
- k. Continuing Planning Process (CPP).
- l. Technical Support Document (TSD) for Water Quality-based Toxic Control.
- m. Letter from Jack Ferguson, P.E., Chief, NPDES Permits Branch, EPA Region 6, to Marysia Jastrzebski, NPDES Program Manager, ADEQ, dated 05/19/1998.
- n. Letter from Wayne Hinds, General Manager, Poinsett County Drainage District No.7, to Mo Shafii, NPDES Branch Manager, ADEQ, dated 05/28/2003.
- o. Memo from Chris Davidson, Water Resources Specialist, ADEQ, to Mo Shafii, NPDES Program Manager, ADEQ, dated 07/03/2003.
- p. Inspection Report dated 11/27/2007.
- q. CAO LIS No. 08-133.
- r. Site visit on 3/17/2009.
- s. E-mail from Chris Davidson, Endangered Species Coordinator, U. S. Fish & Wildlife Service, to Jim Wise, Technical Assistance Manager in the Water Quality Planning Branch, ADEQ, dated 05/11/2009.
- t. E-mail from Bill Posey, Malacologist, Arkansas Game & Fish Commission Nongame Aquatics Program, to Jim Wise, Technical Assistance Manager in the Water Quality Planning Branch, ADEQ, dated 05/13/2009.
- u. Letter from Mr. Scotty Jones, Manager of the Trumann Waterworks, to Steven L. Drown, Chief of the ADEQ's Water Division, dated 07/28/2009.

## **21. POINT OF CONTACT.**

For additional information, contact:

Chris Roberts, P.E.  
Permits Branch, Water Division  
Arkansas Department of Environmental Quality  
5301 Northshore Drive  
North Little Rock, Arkansas 72118-5317  
Telephone: (501) 683-5406



ARKANSAS  
Department of Environmental Quality

**RESPONSE TO COMMENTS  
FINAL PERMITTING DECISION**

Response to comments received on the subject draft permit, in accordance with regulations promulgated at 40 CFR Part 124.17, are as follows:

Permit No.: AR0035602  
Applicant: City of Trumann  
Prepared by: Chris Roberts, P.E.  
Public Notice Date: The draft permit was publicly noticed on July 14, 2009.  
Date Prepared: August 18, 2009

The following comments were received on the draft permit:

Letter from Mr. Scotty Jones, Manager of the Trumann Waterworks, to Steven L. Drown, Chief of the ADEQ's Water Division, dated July 28, 2009 (Issues # 1 – 2).

ISSUE # 1.

The Trumann Water and Sewer Commission has been dissolved. The City Council now manages the water and sewer systems, so the permittee is the City of Trumann.

RESPONSE # 1.

Staff acknowledges this comment. The permit and the Fact Sheet have been changed.

ISSUE # 2.

A brief history of the facility and the mussel studies done in the receiving stream were provided with the following questions. Has DEQ changed its position with respect to protection of the mussel population in the receiving stream? If so, why? What has changed that made it less important to protect mussels and more important to kill Fecal Coliform Bacteria (FCB)? Does DEQ have some evidence that the "abundant mussel population" of 1990 no longer exists?

(To protect the mussels), the facility was built without effluent disinfection at the direction of DEQ. Trumann cannot protect the indigenous mussel population and ensure compliance with the proposed FCB limits. Given that the Trumann plant is able to meet the FCB limits most of the time without disinfection, it seems reasonable to remove the FCB limits from the permit and

accept occasional exceedances of the proposed numerical FCB limits in order to protect the indigenous mussel population. Please remove the proposed FCB limits from the permit.

## RESPONSE # 2.

Staff appreciates the historical summary and the copy of the October 1, 1990, mussel survey report. A May 11, 2009, e-mail from Chris Davidson, Endangered Species Coordinator for the U. S. Fish & Wildlife Service, indicates that the area immediately downstream of the outfall was “choked with woody debris and generally unsuitable for mussels” during the last survey in 2003. According to the information available to the ADEQ, no living *Potamilus capax*, a federally endangered freshwater mussel, have been found in Ditch No. 60 near the permittee’s discharge, but it is possible that some may live there. (The last documented living specimen was collected several miles downstream in the late 1980’s.) ADEQ staff concur that chemical disinfection was rejected, and the historical records suggest this was due to potential impacts on this species that may or may not be present.

Permit limits are set at a level protective of most species. The draft permit was made available to both the U.S. Fish and Wildlife Service and the Arkansas Game and Fish Commission. Neither agency made any comments on the draft permit.

The permittee has had numerical FCB limits since November 1, 2006, and there has been no requirement for the permittee to chlorinate the treated effluent. According to Consent Administrative Order (CAO) LIS No. 08-133, inadequate operation and maintenance (O & M) (e.g., failing and detached baffle curtains) was a factor in the FCB failures in 2007.

New curtains were installed in early 2009. Proper O & M (including, but not limited to, sufficient residence time) should adequately treat the wastewater without requiring chemical (or ultraviolet) disinfection. There have been no documented FCB violations since September 2007.

If proper O & M is insufficient to prevent excessive FCB in the treated discharge, additional steps may be necessary (e.g., land application of the treated effluent, ultraviolet disinfection with lower Total Suspended Solids limits, chlorination with dechlorination, mechanical treatment, etc.). All alternatives should be considered if the FCB limits cannot be met. No changes to the permit are necessary at this time.

## OTHER ISSUES.

The draft permit stated that a sludge hauler licensed by the Arkansas Department of Health (ADH) would be needed to remove sludge from the lagoons. Further discussions with ADH have revealed that this is not a requirement for municipal treatment systems. Therefore, the sludge language in Part II and in the Fact Sheet has been changed.

Please note that treatment lagoons tend to fill (become shallow) due to the settling of the bacterial and algal cells formed during the decomposition of the sewage. Therefore, sludge containing the oxidized products needs to be periodically removed from the ponds in order to maintain enough volume to adequately treat the wastewater. This is required by Part III.B.1.a. of the permit. After removal, the sludge must be disposed of at a properly licensed facility.