

**AUTHORIZATION TO DISCHARGE 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.),

City of Sheridan  
P.O. Box 486  
Sheridan, AR 72150

is authorized to discharge from a facility located at 1800 Hwy 167 South, approximately 500 feet southeast of the cul-de-sac at the end of Gatzke Drive off Hwy 270 East, in Section 11, Township 5 South, Range 13 West in Grant County, Arkansas.

Latitude: 34° 18' 13.50"; Longitude: 92° 23' 21.20"

to receiving waters named:

Big Creek, thence to Hurricane Creek, thence to the Saline River, thence to the Ouachita River in Segment 2C of the Ouachita River Basin.

The outfall is located at the following coordinates:

Outfall 001: Latitude: 34° 17' 54"; Longitude: 92° 22' 42"


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.

Original Issue Date: January 31, 2005  
Original Effective Date: March 1, 2005

Modification Issue Date: July 31, 2008  
Modification Effective Date: August 1, 2008

Expiration Date: February 28, 2010

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

**PART I  
PERMIT REQUIREMENTS**

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

During the period beginning on the permit's effective date and lasting until the permit's expiration date, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

<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 (in MGD) <sup>1</sup>	N/A	Report	Report	continuous	totalizing meter
Upstream Flow in Big Creek (in MGD) <sup>1</sup>	N/A	Report	Report	continuous	meter
Minimum Upstream Flow in Big Creek before Discharge is Allowed (in MGD) <sup>2</sup>					
(January – February)	N/A	N/A	3.2 MGD Minimum	continuous	meter
(March – December)	N/A	N/A	6.5 MGD Minimum	continuous	meter
Flow as a Percentage of Upstream Flow <sup>3</sup>					
(January – February)	N/A	N/A	30% Maximum	continuous	calculate
(March – December)	N/A	N/A	20% Maximum	continuous	calculate
Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> )	N/A	30.0	45.0	three/month	3-hr composite
Total Suspended Solids (TSS)	N/A	90.0	135.0	three/month	3-hr composite
Ammonia Nitrogen (NH <sub>3</sub> -N)					
(January – February)	N/A	12.0	18.0	three/month	3-hr composite
(March, April, November, & December)	N/A	10.0	15.0	three/month	3-hr composite
(May – October)	N/A	4.0	6.0	three/month	3-hr composite
Dissolved Oxygen (DO) <sup>4</sup>					
(January – February)	N/A	7.0 (Instantaneous Min.)		three/month	grab
(March, April, November, & December)	N/A	6.0 (Instantaneous Min.)		three/month	grab
(May – October)	N/A	5.0 (Instantaneous Min.)		three/month	grab
Fecal Coliform Bacteria (FCB)		(colonies/100 ml)			
(April – September)	N/A	200	400	three/month	grab
(October – March)	N/A	1,000	2,000	three/month	grab
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 10.0 s.u.	three/month	grab

Total Recoverable Lead <sup>5</sup>	N/A	Report µg/l	Report µg/l	once/month	grab
Chronic Biomonitoring <sup>6</sup>	N/A	N/A	N/A	once/quarter	24-hr composite
<b><u>Pimephales promelas (Chronic)<sup>6</sup></u></b> Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC)TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation 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)<sup>6</sup></u></b> Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail Growth (7-day NOEC)TGP3B Survival (7-day NOEC) TOP3B Coefficient of Variation TQP3B Growth (7-day NOEC) TPP3B		<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter once/quarter once/quarter once/quarter once/quarter	24-hr composite 24-hr composite 24-hr composite 24-hr composite 24-hr composite

- 1 Report monthly average and daily maximum as MGD.
- 2 There shall be no discharge unless the upstream flow equals or exceeds the permitted minimum flow rate.
- 3 The discharge cannot exceed the maximum permitted percentage of the upstream flow rate.
- 4 See Item #27(b) of Part IV (Dissolved Oxygen Requirements).
- 5 See Condition No. 9 of Part III (Metal Requirements).
- 6 See Condition No. 8 of Part III (Biomonitoring Requirements).

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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. (Sheen means an iridescent appearance on the surface of the water.)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit except for the upstream flow measurement in Big Creek.

## **SECTION B. SCHEDULE OF COMPLIANCE**

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

Compliance with all conditions is required on the effective date of the permit.

The reports required by Part III Condition 10 are due to the Permits Branch of the ADEQ's Water Division no later than seven (7) months (file review) and thirteen (13) months (engineering study) after the modified permit's effective date.

## PART II 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; or for denial of a permit renewal application. **Any values reported in the required Discharge Monitoring Report 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 Condition II.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 II.A.3., if any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Regulation No. 2, as amended, (regulation establishing water quality standards for surface waters of the State of Arkansas) 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 (Arkansas Water Quality Standards), 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 II.B.4.a.), and “Upsets” (Part II.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 be 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 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 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 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 carry out 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 Part II.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 II.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 II.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 II.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 base permit effluent limitations if the requirements of Part II.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 II.D.6.; and
  - (4) The permittee complied with any remedial measures required by Part II.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.

n of expiring permits shall be governed by regulations  
). 6.

1 submitted to the Director shall be signed and certified

signed as follows:

ossible corporate officer. For the purpose of this section,  
cer means:

reasurer, or vice-president of the corporation in charge of  
ction, or any other person who performs similar policy or  
ons for the corporation: or

r more manufacturing, production, or operation facilities,  
is authorized to make management decisions which govern  
egulated facility including having the explicit or implicit  
capital investment recommendations, and initiating and  
ehensive measures to assure long term environmental  
nmental laws and regulations; the manager can ensure that  
are established or actions taken to gather complete and  
or permit application requirements; and where authority to  
en assigned or delegated to the manager in accordance with

le proprietorship: by a general partner or proprietor,

, Federal, or other public agency; by either a principal  
g elected official. For purposes of this section, a principal  
ral agency includes:

icer of the agency, or  
ficer having responsibility for the overall operations of a  
nit of the agency.

rmit and other information requested by the Director shall  
bed above or by a duly authorized representative of that

epresentative only if:

in writing by a person described above.

l either an individual or a position having responsibility for  
e regulated facility or activity, such as the position of plant  
:ll or a well field, superintendent, or position of equivalent  
authorized representative may thus be either a named  
l occupying a named position); and  
s submitted to the Director.

ning a document under this section shall make the following

rw that this document and all attachments were prepared  
ision in accordance with a system designed to assure that

approved under 40 CFR Part 136,  
The permittee shall calibrate and  
lytical instrumentation at intervals  
all insure that both calibration and  
alytical quality control program,  
duplicate samples to insure the  
ed by the permittee or designated  
samples are to be analyzed on 10%

es that any person who falsifies,  
ig device or method required to be  
id upon conviction thereof shall be  
fine of not more than ten thousand

ng Report (DMR) form (EPA No.  
orms provided by ADEQ, unless  
obtained from ADEQ. Monitoring  
mmarized and reported on a DMR  
ollowing the completed reporting  
cate copies of DMRs signed and  
required by Part II.D (Reporting  
ing address:

ng and/or analysis, the name and  
R.

required by this permit, using test  
in this permit, the results of this  
of the data submitted in the DMR.

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 ADEQ. 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 II.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 III**  
**OTHER CONDITIONS**

1. The operator of this wastewater treatment facility shall be licensed 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, the 30-day average percent removal for Carbonaceous Biochemical Oxygen Demand (CBOD) and Total Suspended Solids (TSS) shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR Part 133.102, as adopted by reference in APCEC Regulation No. 6.
3. Produced sludge shall be disposed of by land application only when meeting the following criteria:
  - a. Sewage sludge from treatment works treating domestic sewage (TWTDS) must meet the applicable provisions of 40 CFR Part 503; and
  - b. The sewage sludge has **not been** classified as a hazardous waste under state or federal regulations.
4. The permittee shall give at least 120 days prior notice to the Director of any change planned in the permittee's sludge disposal practice or land use applications, including types of crops grown (if applicable).
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.) Overflows which endanger health or the environment shall be orally reported to this department (Enforcement Section 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 water body, or a Total Maximum Daily Load (TMDL) is established or revised for the water body that were not available at the time of permit issuance that would have justified the application of different permit conditions at the time of permit issuance.

## 7. 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 publicly owned treatment works (POTW), including, but not limited to, waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees 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 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 (e.g., BOD), released in a discharge at a flow rate and/or pollutant concentration which will cause Pass Through or Interference with 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 deg. C (104 deg. F) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits;
  - (6) petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through;
  - (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;
  - (8) any trucked or hauled pollutants, except at discharge points designated by the POTW.
- b. 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.
- c. The permittee shall sample, analyze, and report the wastewater plant's influent (prior to any return activated sludge or other treatment mixing streams), the plant's effluent after final treatment, and sludge on a dry weight basis (If not generating nor land applying, please state. (If this is the case, the sludge analysis/reports will not be required.)). This shall be done once/month for Molybdenum, Selenium, and the parameters in Table III of 40 CFR Part 122 Appendix D using EPA approved methods in 40 CFR Part 136. This

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<sup>1</sup> See Part IV Item 38 for a definition of Interference.

<sup>2</sup> See Part IV Item 37 for a definition of Pass Through.

monitoring and reporting requirement shall be for a one (1) year period from the effective date of this modified permit.

The permittee shall sample and analyze representative domestic background wastewater for the same parameters as above once/two (2) months over this same period of time for a total of six (6) reports.

The reports shall be sent to the attention of the ADEQ Pretreatment Coordinator denoting samples as 24 hour composites (time or flow weighted) or grab when not applicable (Cyanide, Phenols, etc.) or deemed unfeasible. The following table includes the minimum quantification levels (MQLs) that shall be required of your ADEQ certified lab(s).

<b>METALS, PHENOLS, AND CYANIDE</b>	<b>REQUIRED MQL (<math>\mu\text{g/L}</math>)</b>
Antimony, Total Recoverable	60
Arsenic, Total Recoverable	0.5
Beryllium, Total Recoverable	0.5
Cadmium, Total Recoverable	0.5
Chromium, Total Recoverable	10
Chromium (6+), Dissolved	10
Copper, Total Recoverable	0.5
Lead, Total Recoverable	0.5
Mercury, Total Recoverable	0.005
Nickel, Total Recoverable	0.5
Selenium, Total Recoverable	5
Silver, Total Recoverable	0.5
Thallium, Total Recoverable	0.5
Zinc, Total Recoverable	20
Phenols, Total Recoverable	5
Cyanide, Total Recoverable	10

The results of these analyses should be summarized and reported after that twelve month period on the following table.

**MONITORING RESULTS (1) FOR THE ANNUAL PRETREATMENT REPORT**  
**REPORTING YEAR: \_\_\_\_\_, 20\_\_\_\_ TO \_\_\_\_\_, 20\_\_\_\_**  
**TREATMENT PLANT: City of \_\_\_\_\_ NPDES PERMIT No. AR00\_\_\_\_\_**  
**AVERAGE POTW FLOW: \_\_\_\_\_ MGD % IU FLOW: \_\_\_\_\_%**

METALS, CYANIDE and PHENOLS (Total)	MAHL mg/l (2)	Influent Dates Sampled (mg/l) Once/quarter				WQ level/ limit mg/l (2)	Effluent Dates Sampled (mg/l) Once/quarter				Laboratory Analysis (See Attachment PPS)	
											EPA Method Used (1)	Detection Level Achieved (µg/l)
Flow, MGD	N/A					N/A						
Antimony	N/A					N/A						
Arsenic						N/A						
Beryllium	N/A					N/A						
Cadmium												
Chromium												
Copper												
Lead												
Mercury												
Molybdenum						N/A						
Nickel												
Selenium												
Silver												
Thallium	N/A					N/A						
Zinc												
Phenols	N/A					N/A						
Cyanide												
(3)												

Total recoverable results must be reported for each constituent (except for flow).

- (1) It is advised that the influent and effluent samples are collected considering flow detention time through each plant. **Analytical MQLs should be used so that the data can also be used for Local Limits assessment and NPDES application purpose.**
- (2) This value was calculated during the development of TBLL based on State WQ Standards and implementation procedures.
- (3) Record the name of any pollutant [40 CFR Part 122, Appendix D, Table II and/or Table V] detected and the quantity detected.

MAHL – Maximum Allowable Headworks Level  
WQ – Water Quality

- d. 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 or 306 of the Act if it were directly discharging those pollutants; and
  - (2) any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.
  - (3) Any notice shall include information on (i) the quality and quantity of effluent to be introduced into the treatment works, and (ii) any anticipated impact of the change on the quality or quantity of effluent to be discharged from the POTW.

8. **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 OUTFALL:	001
CRITICAL DILUTION (%):	24% (January – February) 14% (March – December)
EFFLUENT DILUTION SERIES (%):	10-14-18-24-32 (January – February) 6-8-11-14-19 (March – December)
COMPOSITE SAMPLE TYPE:	Defined at Part I
TEST SPECIES/METHODS:	40 CFR Part 136

**Ceriodaphnia dubia** chronic static renewal survival and reproduction test, Method 1002.0, EPA/600/4-91/002 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/600/4-91/002, 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 defined as the greatest effluent dilution at and below which lethality 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.
  - (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.
  - (4) Test failure is defined as a demonstration of statistically significant sub-lethal or lethal effects to a test species at or below the effluent critical dilution.
- b. **PERSISTENT LETHALITY:** The requirements of this subsection apply only when a toxicity test demonstrates significant lethal effects at or below the critical dilution. Significant lethal effects are herein defined as a statistically significant difference at the 95% confidence level between the survival of the appropriate test organism in a specified effluent dilution and the control (0% effluent).

(1) Part I Testing Frequency Other Than Monthly

- i. The permittee shall conduct a total of two (2) additional tests for any species that demonstrates significant lethal effects at or below the critical dilution. The two additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional tests in lieu of routine toxicity testing. The full report shall be prepared for each test required by this section in accordance with procedures outlined in Item e of this section and submitted with the period DMR to the permitting authority for review.
- ii. If one or both of the two 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 g 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 persistent significant sub-lethal effects or intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests. Monthly retesting is not required if the permittee is performing a TRE.
- iii. If one or both of the two additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall henceforth increase the frequency of testing for this species to once per quarter for the life of the permit.
- iv. The provisions of Item b(1) are suspended upon submittal of a TRE Action Plan.

(2) Part I Testing Frequency of Monthly

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

- c. **SUB-LETHAL FAILURES:** If a statistically significant sub-lethal effect is demonstrated at or below the critical dilution during any quarterly test, the permittee shall conduct two additional tests. The additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional in lieu of routine toxicity testing.

If during the first four quarters, statistically significant sub-lethal effects are exhibited, quarterly testing will be required for that species until the effluent passes both the lethal and sub-lethal tests endpoints for the affected species, for four consecutive quarters. After passing four consecutive quarters for the affected species the permittee may request a reduction in testing frequency. Monthly retesting is not required if the permittee is performing a TRE.

d. **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. Sixty percent (60%) of the surviving control females must produce three broods.
- iv. 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.
- v. 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.

- vi. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or nonlethal 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.

Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

- vii. A percent minimum significant difference (PMSD) range of 13 – 47 for water flea reproduction.
- viii. 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/600/4-91/002 or the most recent update thereof.
- ii. For the Ceriodaphnia dubia reproduction test and the fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA/600/4-91/002 or the most recent update thereof.
- iii. If the conditions of Test Acceptability are met in Item d(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 an NOEC of not less than the critical dilution for the DMR reporting requirements found in Item e 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 instream toxicity (fails to fulfill the test acceptance criteria of Item d(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 d(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 e 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(1) above.
- 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 are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.
- iii. 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 degrees Centigrade during collection, shipping, and/or storage.
- iv. 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 collect 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 e of this section.

- v. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in Item a(1) above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.
- 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) of the effluent. The measured concentration of TRC for each sample shall be included in the lab report submitted by the permittee.

e. **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/600/4-91/002, 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 II.C.7. of this permit. The permittee shall submit full reports to the Department. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for 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 biomonitoring data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST survival results for each species during the reporting period. 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 ADEQ review.
- (3) The permittee shall submit the results of each valid toxicity test on a DMR for that reporting period in accordance with Part II.D.4. of this permit, as follows below. Submit retest information clearly marked as such with the following 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) If the NOEC for growth is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP6C.
- (C) Report the NOEC value for survival, Parameter No. TOP6C.
- (D) Report the NOEC value for growth, Parameter No. TPP6C.
- (E) Report the highest (critical dilution or control) Coefficient of Variation, 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) If the NOEC for reproduction is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP3B.
- (C) Report the NOEC value for survival, Parameter No. TOP3B.
- (D) Report the NOEC value for reproduction, Parameter No. TPP3B.
- (E) Report the higher (critical dilution or control) Coefficient of Variation, Parameter No. TQP3B.

f. **MONITORING FREQUENCY REDUCTION**

- (1) The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing for one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution without a major modification. 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 d(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 Department will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the Permit Compliance System section to update the permit reporting requirements.

- (3) This monitoring frequency reduction 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.

**g. TOXICITY REDUCTION EVALUATION (TRE)**

- (1) Within ninety (90) days of confirming lethality in the retests, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A 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 TRE Action Plan shall lead to the successful elimination of effluent toxicity at the critical dilution and include the following:

- i. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA-600/6-91/003) and "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (800) 553-6847, 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 Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:
- i. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
  - ii. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and
  - iii. any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution.
- (4) The permittee shall submit a Final Report on TRE Activities no later than twenty-eight (28) months from confirming lethality in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant lethality at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.

Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed



to capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).

9. If any individual analytical test result is less than the minimum quantification level (MQL) listed below, a value of zero (0) may be used for that individual result for the DMR calculations and reporting requirements. The permittee may use an EPA approved method other than what is specified in the table below provided the MQL for the new method is equal to or less than what has been specified.

Pollutant	MQL ( $\mu\text{g/l}$ )
Total Recoverable Lead	0.5

The permittee may develop a matrix specific method detection limit (MDL) in accordance with Appendix B of 40 CFR Part 136. For any pollutant for which the permittee determines a site specific MDL, the permittee shall send to ADEQ, NPDES Permits Branch, a report containing QA/QC documentation, analytical results, and calculations necessary to demonstrate that a site specific MDL was correctly calculated. A site specific MQL shall be determined in accordance with the following calculation:

$$\text{MQL} = 3.3 \times \text{MDL}$$

Upon written approval by the NPDES Permits Branch, the site specific MQL may be utilized by the permittee for all future DMR calculations and reporting requirements.

10. The permittee shall review its files to determine the original design basis (i.e., the design flow rate) of the permittee's wastewater treatment system. The permittee shall also initiate an engineering study to estimate the current design flow rate of the treatment system based on the dimensions, sludge depth, baffle placement, written operating procedures, and published engineering guidance. The file review shall be completed within six (6) months of the effective date of the modified permit, and the findings shall be reported to the Permits Branch of the ADEQ's Water Division within one (1) month thereafter. The engineering study shall be stamped by a Professional Engineer registered in Arkansas, completed within twelve (12) months of the effective date of the modified permit, and reported to the Permits Branch of the ADEQ's Water Division within one (1) month thereafter.

## 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 Fecal Coliform Bacteria (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 Arkansas Department of Environmental Quality.
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 storm water 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 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. The daily sampling intervals shall include the highest flow periods.
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.

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.
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 carelessness 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:
  - a. When limited in the permit as a monthly average minimum, shall mean the lowest acceptable monthly average value, determined by averaging all samples taken during the calendar month;
  - b. When limited in the permit as an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
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 Discharge Monitoring Report (DMR) shall be submitted by the 25<sup>th</sup> of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the DMR shall be submitted by the 25<sup>th</sup> of the month following the monitoring period end date.

**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. **Pass Through**, according to 40 CFR 403.3(p), means a Discharge which exits a 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).
38. **Interference**, according to 40 CFR Part 403.3(k), 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 the Marine Protection, Research, and Sanctuaries Act.

## Final Statement of Basis

This is the second notice for modification of NPDES Permit Number AR0034347 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 is:

City of Sheridan  
P.O. Box 486  
Sheridan, AR 72150

3. **PREPARED BY.**

The permit was prepared by:

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

4. **DATE PREPARED.**

The permit was prepared on July 21, 2008.

5. **PREVIOUS PERMIT ACTIVITY.**

Effective Date: March 1, 2005  
Modification Date: N/A  
Expiration Date: February 28, 2010

A modification application was received on April 20, 2007, and it requested that the final limits be amended based on a dissolved oxygen total maximum daily load (TMDL) analysis dated January 16, 2007. Based on the application, the approved TMDL, and other information available to the ADEQ, this NPDES permit is being modified as stated herein pursuant to the regulations promulgated at 40 CFR Part 122.62.

Public notice of the draft modified permit was made on January 23, 2008 (i.e., the “first draft modified permit”). This draft included final TSS limits from the previous permit that never went into effect. It has been decided that the Environmental Protection Agency (EPA) Region 6 policy of allowing pond systems to discharge up to 90 mg/l of TSS (on a monthly average) will be continued.<sup>1</sup> Therefore, the first draft modified permit was withdrawn.

Based on comments received from the permittee on the first draft modified permit, the proposed Total Phosphorus (TP) monitoring has been removed at this time. In the future, a TP limit may be imposed, and it will be the permittee’s responsibility to determine how to best meet the limit whether or not the permittee has collected TP discharge data.

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

The outfall is located at the following coordinates:

Latitude: 34° 17’ 54” Longitude: 92° 22’ 42”

The receiving waters named:

Big Creek, thence to Hurricane Creek, thence to the Saline River, thence to the Ouachita River in Segment 2C of the Ouachita River Basin. The receiving stream is a Water of the State classified for primary contact recreation, raw water source for public, industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

**7. 303(d) LIST AND ENDANGERED SPECIES CONSIDERATIONS.**

**a. 303(d) List**

The receiving stream is currently listed on the 303(d) List for not supporting aquatic life due to organic enrichment/low dissolved oxygen, siltation, and lead. A TMDL for dissolved oxygen dated January 16, 2007 was approved by EPA Region 6. The proposed limits in the TMDL are incorporated into this modification.

The source of the siltation is unknown, so no reduction in TSS limits is being imposed at this time. The approved 2004 303(d) List indicates the lead is coming from the City of Sheridan, so monitoring and reporting requirements have been added for total recoverable lead.

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<sup>1</sup> Letter from Jack Ferguson, P.E., Chief, NPDES Permits Branch, EPA Region 6, to Marysia Jastrzebski, NPDES Program Manager, ADEQ, dated May 19, 1998.



b. **Endangered Species**

No comments were received from the U.S. Fish and Wildlife Service (USF&WS). Therefore no permit action is needed. The draft modification permit and the Statement of Basis were sent to the USF&WS for their review.

8. **OUTFALL AND TREATMENT PROCESS DESCRIPTION.**

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

- a. Design Flow: 0.676 MGD
- b. Type of Treatment: 3-cell stabilization pond system followed by a holding pond utilizing a hydrograph controlled release
- c. Discharge Description: treated municipal wastewater

The maximum reported discharges from February 2002 through February 2007 were 1.61 MGD (Monthly Average in January 2007) and 6.11 MGD (7-Day Average in January 2006).

In some months, there was no reported discharge. Otherwise, the lowest reported discharge was 0.14 MGD (Monthly Average in July 2005) and 0.95 MGD (7-Day Average in January 2003).

9. **INDUSTRIAL WASTEWATER CONTRIBUTIONS.**

The permittee receives process wastewater from significant industrial users. However, the Department has made the decision based on several criteria that the POTW will not be required to develop an approved pretreatment program at this time. Standard boilerplate Pretreatment Prohibitions (40 CFR Part 403.5[b]) and additional monitoring/reporting requirements to determine the potential need for local limits per 40 CFR Part 403.5(c)(2) are deemed appropriate at this time. The additional monitoring/reporting requirements are being added based on the high discharge flow rates reported by the permittee and the receiving stream's inclusion on the 303(d) List for lead.

10. **SEWAGE SLUDGE PRACTICES.**

Sludge generated at this facility remains in the lagoons on site.

11. **PERMIT CONDITIONS.**

The Arkansas Department of Environmental Quality has made a determination to issue a modified permit for the discharge described in the application. Permit requirements are based on NPDES regulations (40 CFR Parts 122, 124, and Subchapter N), the National Pretreatment Regulation in 40 CFR 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.).

**Final Effluent Limitations**

Outfall 001 – treated municipal wastewater

**a. Conventional and/or Toxic Pollutants**

<b><u>Effluent Characteristics</u></b>	<b><u>Discharge Limitations</u></b>			<b><u>Monitoring Requirements</u></b>	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
Flow (in MGD)	N/A	Report	Report	continuous	totalizing meter
Upstream Flow in Big Creek (in MGD)	N/A	Report	Report	continuous	meter
Minimum Upstream Flow in Big Creek before Discharge is Allowed (in MGD)					
(January – February)	N/A	N/A	3.2 MGD Minimum	continuous	meter
(March – December)	N/A	N/A	6.5 MGD Minimum	continuous	meter
Flow as a Percentage of Upstream Flow					
(January – February)	N/A	N/A	30% Maximum	continuous	calculate
(March – December)	N/A	N/A	20% Maximum	continuous	calculate
Carbonaceous Biochemical Oxygen Demand (CBOD5)	N/A	30.0	45.0	three/month	3-hr composite
Total Suspended Solids (TSS)	N/A	90.0	135.0	three/month	3-hr composite
Ammonia Nitrogen (NH3-N)					
(January – February)	N/A	12.0	18.0	three/month	3-hr composite
(March, April, November, & December)	N/A	10.0	15.0	three/month	3-hr composite
(May – October)	N/A	4.0	6.0	three/month	3-hr composite
Dissolved Oxygen (DO)					
(January – February)	N/A	7.0 (Instantaneous Min.)		three/month	grab
(March, April, November, & December)	N/A	6.0 (Instantaneous Min.)		three/month	grab
(May – October)	N/A	5.0 (Instantaneous Min.)		three/month	grab
Fecal Coliform Bacteria (FCB)	(colonies/100 ml)				
(April – September)	N/A	200	400	three/month	grab
(October – March)	N/A	1,000	2,000	three/month	grab
pH	N/A	Minimum 6.0 s.u.	Maximum 10.0 s.u.	three/month	grab
Total Recoverable Lead	N/A	Report µg/l	Report µg/l	once/month	grab
Chronic Biomonitoring	N/A	See Section 12.h. below		once/quarter	24-hr composite

- b. **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**. (Sheen means an iridescent appearance on the surface of the water.)

12. **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 124.7 (48 FR 1413, April 1, 1983).

a. **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.

b. **Technology-Based Effluent Limitations and/or Conditions**

The permit must at least comply with 40 CFR Part 133 (Secondary Treatment Regulation) when applicable.

c. **State Water Quality Numerical Standards Based Limitations**

The basis for the final effluent limits for CBOD<sub>5</sub>, NH<sub>3</sub>-N, and DO is a TMDL for DO in Big Creek dated January 16, 2007. These limitations will be included in the updated Arkansas Water Quality Management Plan (WQMP). The concentration limits, minimum background flows, and maximum treated effluent flows were determined by the TMDL.

Fecal coliform bacteria limitations are for primary contact recreation since the receiving stream watershed is greater than ten square miles based on Chapter 5, Section 2.507 of APCEC Regulation No. 2, as amended. The final pH limits of 6.0 – 10.0 s.u. have been changed pursuant to 40 CFR 133.102(c) because no inorganic chemicals are added to the treatment system and no industrial discharger is causing the pH to exceed the range of 6.0 to 9.0 s.u.

The receiving stream is on the approved 2004 303(d) List for lead. Pursuant to 40 CFR Parts 122.62(a)(2) and 124.5 (as referenced by Part III Condition 6), monitoring requirements for Total Recoverable Lead have been added.

d. **Anti-backsliding**

The permit is consistent with the requirements to meet Anti-backsliding provisions of the Clean Water Act (CWA), Section 402(o) [40 CFR 122.44(l)], which state in part that final effluent limitations for reissuance permits must be as stringent as those in the previous permit, unless material and substantial alternations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitations.

The permit maintains the requirements of the previous permit with the exception of revised limitations for CBOD5 and the minimum flow percentage of the upstream flow rate. These are less stringent based on the approved TMDL, and less stringent limits are allowed pursuant to 40 CFR 122.44(l)(2)(i)(B)(1) when additional information becomes available that would have justified less stringent limits.

For TSS, the final limits in the previous permit never went into effect. Therefore, there has been no relaxation of the TSS limits, and no backsliding has occurred.

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

The 208 Plan, developed by the ADEQ under provisions of Section 208 of the federal Clean Water Act, 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 include the final permit limits:

January-February:	CBOD5/TSS/NH3-N/DO = 30/90/12/7 mg/l
March, April, Nov., & Dec.:	CBOD5/TSS/NH3-N/DO = 30/90/10/6 mg/l
May-October:	CBOD5/TSS/NH3-N/DO = 30/90/4/5 mg/l
Design Flow (Q):	0.676 MGD
Max. Flow as a Percentage of Upstream Flow:	30% (January through February) 20% (March through December)
Background Flow of the Receiving Stream (7Q10):	0 cfs (no discharge)
Min. Upstream Flow Prior to Discharge:	5 cfs (January through February) 10 cfs (March through December)

f. **TMDL Flow Recommendations**

The DO TMDL approved on 01/16/2007 recommended the permit limits in the following table. These have been incorporated into this modified permit.

	Minimum Upstream Flow		Effluent Flow as a Percentage of Upstream Flow
	(cfs)	(MGD)	(%)
January – February	5	3.2	30 (Maximum)
March – December	10	6.5	20 (Maximum)

**g. Final Limitations**

The following effluent limitations or "report" requirements were placed in the modified permit based on the more stringent of the technology-based, water quality-based or previous NPDES permit limitations:

Parameter	Water Quality-Based		Technology-Based/BPJ		Previous Final NPDES Permit		Final Modified Permit	
	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l
CBOD5	30.0*	45.0*	25	40	15	22.5	30.0*	45.0*
TSS	90.0 <sup>†</sup>	135.0 <sup>†</sup>	90 <sup>†</sup>	135 <sup>†</sup>	20	30	90.0 <sup>†</sup>	135.0 <sup>†</sup>
NH3-N								
(January – February)	12.0*	18.0*	N/A	N/A	6	9	12.0*	18.0*
(March, April, November, & December)	10.0*	15.0*	N/A	N/A	6	9	10.0*	15.0*
(May – October)	4.0	6.0	N/A	N/A	4	6	4.0	6.0
DO								
(January – February)	7.0* (Inst. Min.)		N/A		5.0 (Inst. Min.)		7.0* (Inst. Min.)	
(March, April, November, & December)	6.0* (Inst. Min.)		N/A		5.0 (Inst. Min.)		6.0* (Inst. Min.)	
(May – October)	5.0* (Inst. Min.)		N/A		5.0 (Inst. Min.)		5.0* (Inst. Min.)	
FCB (col/100 ml)								
(April – September)	200	400	N/A	N/A	200	400	200	400
(October – March)	1,000	2,000	N/A	N/A	1,000	2,000	1,000	2,000
pH	6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 10.0* <sup>‡</sup> s.u.	
Total Recoverable Lead	Report µg/l	Report µg/l	N/A	N/A	N/A	N/A	Report	Report

\* The previous permit limits are being changed to match the recommendations in the approved DO TMDL.

<sup>†</sup> The previous interim 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.

<sup>‡</sup> The allowable pH range is being expanded pursuant to 40 CFR Part 133.102(c).

h. **Biomonitoring**

Section 101(a)(3) of the Clean Water Act states that "..... it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited." In addition, ADEQ is required under 40 CFR Part 122.44(d)(1), adopted by reference in APCEC Regulation No. 6, to include conditions as necessary to achieve water quality standards as established under Section 303 of the Clean Water Act. Arkansas has established a narrative criteria which states "toxic materials shall not be present in receiving waters in such quantities as to be toxic to human, animal, plant or aquatic life or to interfere with the normal propagation, growth and survival of aquatic biota."

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

**TOXICITY TESTS**

**FREQUENCY**

Chronic Biomonitoring

Once/quarter

Requirements for measurement frequency are based on Appendix D of the CPP. Since the 7Q10 is less than 100 cfs (ft<sup>3</sup>/sec) and the dilution ratio is less than 100:1, chronic biomonitoring requirements will be included in the permit.

The calculations for dilution used for chronic biomonitoring are as follows:

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

$$Q_d = \text{Design flow} = 0.676 \text{ MGD} = 1.05 \text{ cfs}$$

$$7Q_{10} = 5 \text{ cfs (January - February) or } 10 \text{ cfs (March - December)}$$

$$Q_b = \text{Background flow} = 0.67 \times 7Q_{10} = 3.4 \text{ cfs or } 6.7 \text{ cfs}$$

$$CD = ((1.05) / (1.05 + 3.4)) \times 100 = 24\% \text{ (January - February)}$$

$$CD = ((1.05) / (1.05 + 6.7)) \times 100 = 14\% \text{ (March - December)}$$

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: **10%, 14%, 18%, 24%, and 32% (January - February); and 6%, 8%, 11%, 14%, and 19% (March -**

**December).** The low-flow effluent concentrations (Critical Dilution) are defined as 24% effluent (January – February), and 14% effluent (March – December).

The requirement for chronic biomonitoring 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 biomonitoring frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen conductivity, and alkalinity shall be reported according to EPA/600/4-91/002, July 1994 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

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

i. **Sample Type and Sampling Frequency**

Regulations promulgated at 40 CFR 122.44(i)(1) require permits to establish monitoring requirements which assure compliance with permit limitations. Requirements for sample type and sampling frequency have been based on the current NPDES permit except for flow, upstream flow, minimum upstream flow, flow percentage, and Total Recoverable Lead.

The facility's discharge valve is controlled by a process control system that automatically adjusts the discharge rate (through a butterfly valve) based on the upstream flow meter. Thus, the discharge flow and the upstream receiving stream flow are continuously measured by a meter. (The discharge flow is summed by a totalizing meter, and the upstream flow measurement is an instantaneous meter.) The flow as a percentage of upstream flow is a calculated value. These measurements are made continuously.

Monthly monitoring via grab samples has been added for Total Recoverable Lead. This sampling has been added to collect data about the discharge.

j. **Significant Changes from the Previously Issued Permit**

The permittee is responsible for carefully reading the permit in detail and becoming familiar with all of the changes therein. The following significant changes were made between the previous permit and the draft modified permit sent to public notice on January 23, 2008:

- i. Facility location latitude and longitude coordinates have been updated based on ADEQ field data.
- ii. The monitoring frequency and sampling type have been updated for flow, upstream flow, minimum upstream flow, and flow as a percentage of upstream flow.
- iii. The minimum upstream flow before discharge is allowed has been added.
- iv. The maximum amount of treated effluent allowed to be discharged when compared to the upstream flow rate has changed.
- v. The final concentration limits for CBOD5 and NH3-N have changed, and one significant digit has been added to the concentration limits.
- vi. One significant digit has been added to the final TSS concentration limits.
- vii. The final DO concentration limits have changed.
- viii. The final pH limits changed to 6.0 – 10.0 s.u.
- ix. TP monitoring has been added to collect data on the treated effluent.
- x. Lead monitoring has been added based on the approved 2004 303(d) List.
- xi. The final biomonitoring critical dilutions and dilution series have changed.
- xii. Minor typographical errors have been corrected.
- xiii. The pre-treatment requirements in Part III have been changed based on the high discharge flow rates and the lead in the receiving stream.
- xiv. The biomonitoring requirements in Part III have been updated.
- xv. The definitions in Part IV have been updated.

The following significant changes have been made between the draft modified permit sent to public notice on January 23, 2008 and the second draft permit sent to public notice on June 18, 2008:<sup>1</sup>

- i. The final TSS limits have been based on the interim limits in the previous permit, and one significant digit has been added to the concentration limits.
- ii. The proposed TP monitoring has been removed.
- iii. Part III Condition 10 has been added to determine the design flow capacity of the treatment system, and a compliance schedule has been added.

13. **SCHEDULE OF COMPLIANCE.**

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

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<sup>1</sup> The public notice was dated June 15, 2008, but it was published by the newspaper on June 18, 2008.



Compliance with all conditions is required on the effective date of the permit.

The reports required by Part III Condition 10 are due to the Permits Branch of the ADEQ's Water Division no later than seven (7) months (file review) and thirteen (13) months (engineering study) after the modified permit's effective date.

**14. OPERATION AND MONITORING.**

The applicant is at all times required to properly operate and maintain the treatment facility, to monitor the discharge on a regular basis, and to report the results monthly. The monitoring results will be available to the public.

**15. SOURCES.**

The following sources were used to prepare the modified permit:

- i. NPDES Permit No. AR0034347 modification application received April 20, 2007.
- ii. Arkansas Water Quality Management Plan (WQMP).
- iii. APCEC Regulation No. 2.
- iv. APCEC Regulation No. 6.
- v. 40 CFR Parts 122, 125, 133, and 403.
- vi. NPDES Permit No. AR0034347 file.
- vii. Discharge Monitoring Reports (DMRs).
- viii. "Arkansas Water Quality Inventory Report 2004 (305B)," ADEQ.
- ix. "Identification and Classification of Perennial Streams of Arkansas," Arkansas Geological Commission.
- x. 2004 303(d) List of Impaired Waterbodies in Arkansas.
- xi. Final "TMDL for Dissolved Oxygen for Big Creek near Sheridan, AR" dated January 16, 2007.
- xii. Letter from Jack Ferguson, P.E., Chief, NPDES Permits Branch, EPA Region 6, to Marysia Jastrzebski, NPDES Program Manager, ADEQ, dated May 19, 1998.
- xiii. Comment letter from Philip Massirer, P.E., FTN Associates Ltd., on behalf of the City of Sheridan to Chris Roberts, P.E., Permit Engineer, Water Division, ADEQ, dated February 15, 2008.

**16. NPDES 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.: AR0034347  
Applicant: City of Sheridan  
Prepared by: Chris Roberts, P.E.  
Public Notice Date: The draft modified permit was publicly noticed on June 18, 2008.  
Date Prepared: July 21, 2008

The following comments were received on the draft modified permit:

E-mail from Philip Massirer, P.E., Project Manager for FTN Associates Ltd., on behalf of the City of Sheridan to Chris Roberts, P.E., Staff Engineer, Individual Permits Section, Permits Branch, Water Division of the ADEQ dated July 8, 2008.

ISSUE #1

The last paragraph on Page 6 of the draft modified permit's Statement of Basis erroneously includes total phosphorus language from an earlier draft. Please omit this paragraph.

RESPONSE #1

Staff agrees, and the paragraph has been removed.