Permit Number: AR0020010
AFIN: 72-00781

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

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. § 1251 et seq.),

The applicant's mailing address is:

City of Fayetteville - Paul R. Noland Wastewater Treatment Plant
1400 North Fox Hunter Road
Fayetteville, AR 72701

is authorized to discharge treated municipal wastewater from a facility located as follows: from downtown Fayetteville north on Hwy 71B, then east on Hwy 45 to North Fox Hunter Road, then 1.7 miles on North Fox Hunter Road in Washington County, Arkansas.

Latitude: 36° 04' 50.6"; Longitude: 94° 05' 20.4"

to receiving waters named:

White River thence to Beaver Reservoir in Segment 4K of the White River Basin.

The outfall is located at the following coordinates:

Outfall 001: Latitude: 36° 05' 09.6"; Longitude: 94° 05' 04.7"

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

Response to Comments is attached.

Effective Date: March 1, 2013
Expiration Date: February 28, 2018

Steven L. Drown

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

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Issue Date

PART I
PERMIT REQUIREMENTS

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

During the period beginning on the effective date and lasting until no later than one month prior to the expiration date of the permit and in conjunction with Condition No. 10 of Part II, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	**Discharge Limitations**			**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Flow	N/A	Report, MGD	Report, MGD (7-Day Average)	Once/day	Totalizing meter
Overflows	Monthly Total SSOs (occurrences/month)			See Comments[3]	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Comments[3]	
Carbonaceous Biochemical Oxygen Demand (CBOD5)					
(April-May)	701	7.5	11.3	Three/week	Composite
(June-September)	467	5.0	7.5	Three/week	Composite
(October-November)	514	5.5	8.3	Three/week	Composite
(December-March)	1,962	21	31.5	Three/week	Composite
Total Suspended Solids (TSS)					
(April-November)	467	5.0	7.0	Three/week	Composite
(December-March)	1,401	15.0	22.0	Three/week	Composite
Ammonia Nitrogen (NH3-N)					
(April-May)	280	3.0	4.5	One/week	Composite
(June-September)	159	1.7	3.0	One/week	Composite
(October-November)	224	2.4	4.5	One/week	Composite
(December-March)	467	5.0	10.5	One/week	Composite
Dissolved Oxygen (DO)					
(April-May)	N/A	7.7 (Monthly Average Min)		Three/week	Grab
(June-September)	N/A	6.9 (Monthly Average Min)		Three/week	Grab
(October-November)	N/A	7.5 (Monthly Average Min)		Three/week	Grab
(December-March)	N/A	8.7 (Monthly Average Min)		Three/week	Grab

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(Apr-Sept)	N/A	200	400	Three/week	Grab
(Oct-Mar)	N/A	1000	2000	Three/week	Grab
Total Phosphorus (TP)	93.4	1.0	2.0	Three/week	Composite
Nitrate + Nitrite Nitrogen (NO3 + NO2-N)	Report	Report	Report	Once/month	Composite
Chlorides[1]	5,605	60	90	Once/month	Composite
Sulfates[1]	3,736	100	150	Once/month	Composite
Total Dissolved Solids[1]	41,100	440	660	Once/month	Composite
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	Three/week	Grab
Chronic WET Testing[2]	N/A	Report		Once/quarter	Composite
Pimephales promelas (Chronic)[2]		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C		Report (Pass=0/Fail=1)		Once/quarter	Composite
Pass/Fail Growth (7-day NOEC)TGP6C		Report (Pass=0/Fail=1)		Once/quarter	Composite
Survival (7-day NOEC) TOP6C		Report %		Once/quarter	Composite
Coefficient of Variation (Growth) TQP6C		Report %		Once/quarter	Composite
Growth (7-day NOEC) TPP6C		Report %		Once/quarter	Composite
Ceriodaphnia dubia (Chronic)[2]		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B		Report (Pass=0/Fail=1)		Once/quarter	Composite
Pass/Fail production (7-day NOEC)TGP3B		Report (Pass=0/Fail=1)		Once/quarter	Composite
Survival (7-day NOEC) TOP3B		Report %		Once/quarter	Composite
Coefficient of Variation (Reproduction) TQP3B		Report %		Once/quarter	Composite
Reproduction (7-day NOEC) TPP3B		Report %		Once/quarter	Composite

1 See Condition No. 10 of Part II
2 See Condition No. 8 of Part II (WET Testing Condition).

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

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after final treatment at the following monitoring coordinates:

Flow: at the effluent flume near Outfall 001
All other parameters: after oxygenation

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
(Oct-Mar)	N/A	1000	2000	Three/week	Grab
Total Phosphorus (TP)	93.4	1.0	2.0	Three/week	Composite
Nitrate + Nitrite Nitrogen (NO3 + NO2-N)	Report	Report	Report	Once/month	Composite
Chlorides[1]	1,868	20	30	Once/month	Composite
Sulfates[1]	1,868	20	30	Once/month	Composite
Total Dissolved Solids[1]	14,945	160	240	Once/month	Composite
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	Three/week	Grab
Chronic WET Testing[2]	N/A	Report		Once/quarter	Composite
Pimephales promelas (Chronic)[2]		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C		Report (Pass=0/Fail=1)		Once/quarter	Composite
Pass/Fail Growth (7-day NOEC)TGP6C		Report (Pass=0/Fail=1)		Once/quarter	Composite
Survival (7-day NOEC) TOP6C		Report %		Once/quarter	Composite
Coefficient of Variation (Growth) TQP6C		Report %		Once/quarter	Composite
Growth (7-day NOEC) TPP6C		Report %		Once/quarter	Composite
Ceriodaphnia dubia (Chronic)[2]		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B		Report (Pass=0/Fail=1)		Once/quarter	Composite
Pass/Fail production (7-day NOEC)TGP3B		Report (Pass=0/Fail=1)		Once/quarter	Composite
Survival (7-day NOEC) TOP3B		Report %		Once/quarter	Composite
Coefficient of Variation (Reproduction) TQP3B		Report %		Once/quarter	Composite
Reproduction (7-day NOEC) TPP3B		Report %		Once/quarter	Composite

1 See Condition No. 10 of Part II
2 See Condition No. 8 of Part II (WET Testing Condition).
3 See Condition No. 5 of Part II (SSO Condition). If there are no overflows during the entire month, report "zero" (0).

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

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after final treatment at the following monitoring coordinates:

Flow: at the effluent flume near Outfall 001
All other parameters: after oxygenation

PART I
PERMIT REQUIREMENTS

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

During the period beginning no later than one month prior to the expiration date of the permit and in conjunction with Condition No. 10 of Part II and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**			**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Flow	N/A	Report, MGD	Report, MGD (Daily Maximum)	Once/day	Totalizing meter
Overflows	Monthly Total SSOs (occurrences/month)			See Comments[3]	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Comments[3]	
Carbonaceous Biochemical Oxygen Demand (CBOD5)					
(April-May)	701	7.5	11.3	Three/week	Composite
(June-September)	467	5.0	7.5	Three/week	Composite
(October-November)	514	5.5	8.3	Three/week	Composite
(December-March)	1,962	21	31.5	Three/week	Composite
Total Suspended Solids (TSS)					
(April-November)	467	5.0	7.0	Three/week	Composite
(December-March)	1,401	15.0	22.0	Three/week	Composite
Ammonia Nitrogen (NH3-N)					
(April-May)	280	3.0	4.5	One/week	Composite
(June-September)	159	1.7	3.0	One/week	Composite
(October-November)	224	2.4	4.5	One/week	Composite
(December-March)	467	5.0	10.5	One/week	Composite
Dissolved Oxygen (DO)					
(April-May)	N/A	7.7 (Monthly Average Min)		Three/week	Grab
(June-September)	N/A	6.9 (Monthly Average Min)		Three/week	Grab
(October-November)	N/A	7.5 (Monthly Average Min)		Three/week	Grab
(December-March)	N/A	8.7 (Monthly Average Min)		Three/week	Grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(Apr-Sept)	N/A	200	400	Three/week	Grab

SECTION B. PERMIT COMPLIANCE

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

1. Compliance is required on the effective date of the permit.

2. The permittee shall submit the Ordinance revisions to ADEQ within twelve (12) months of the effective date of this permit and all other proposed Pretreatment Program modifications on dates to be determined by ADEQ.

   The permittee shall, within sixty (60) days of the effective date of this permit, (1) submit a WRITTEN CERTIFICATION that a technical evaluation has demonstrated that the existing technically based local limits (TBLL) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination, (2) submit a WRITTEN NOTIFICATION that a technical evaluation revising the current TBLL will be submitted within twelve (12) months of the effective date of this permit, OR (3) within sixty (60) days of the effective date of this permit, submit a WRITTEN NOTIFICATION that local limits are not necessary for any pollutant at this time.

   During the month of May the permittee shall submit an updated pretreatment program status report to the ADEQ containing the information described in Condition 7. d. of Part II.

PART II
OTHER CONDITIONS

1. The operator of this wastewater treatment facility shall be licensed as Class IV by the State of Arkansas in accordance with APCEC Regulation No. 3.

2. For publicly owned treatment works, the 30-day average percent removal for Carbonaceous Biochemical Oxygen Demand (CBOD5) and Total Suspended Solids shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR Part 133.102, as adopted by reference in APCEC Regulation No. 6.

3. In accordance with 40 CFR Parts 122.62 (a)(2) and 124.5, this permit may be reopened for modification or revocation and/or reissuance to require additional monitoring and/or effluent limitations when new information is received that actual or potential exceedance of State water quality criteria and/or narrative criteria are determined to be the result of the permittee's discharge(s) to a relevant water body or a Total Maximum Daily Load (TMDL) is established or revised for the water body that was not available at the time of the permit issuance that would have justified the application of different permit conditions at the time of permit issuance.

   In accordance with 40 CFR 122.62 (a)(2) and (3), this permit may be reopened and modified if water quality standards contained in Reg. 2 are amended as a result of the Use Attainability Analysis.

4. Other Specified Monitoring Requirements

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

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

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

5. Sanitary Sewer Overflow (SSO):

All SSOs are prohibited.

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

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

B. Immediate Reporting

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

C. Follow-Up Written Reports/email:

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

At a minimum, the report shall identify:

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

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

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

D. Reporting for All SSOs on DMR

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

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

7. CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

   a. The permittee shall operate an industrial pretreatment program in accordance with Section 402(b)(8) of the Clean Water Act, the General Pretreatment Regulations (40 CFR Part 403) and the approved POTW pretreatment program submitted by the permittee. The pretreatment program was approved on **April 26, 1984** and modified on **July 14, 1998**. The Sewer Use Ordinance and the Pretreatment Program have not been modified to come into compliance with the current 40 CFR 403 regulations. The permittee shall submit the Ordinance revisions to ADEQ within twelve (12) months of the effective date of this permit. The permittee shall submit all other necessary proposed modifications at dates to be determined by ADEQ. The POTW pretreatment program is hereby incorporated by reference and shall be implemented in a manner consistent with the following requirements:

      i. Industrial user information shall be updated at a frequency adequate to ensure that all IUs are properly characterized at all times;

      ii. The frequency and nature of industrial user compliance monitoring activities by the permittee shall be commensurate with the character, consistency and volume of waste. The permittee must inspect and sample the effluent from each Significant Industrial User in accordance with 40 CFR 403.8(f)(2)(v). This is in addition to any industrial self-monitoring activities;

      iii. The permittee shall enforce and obtain remedies for noncompliance by any industrial users with applicable pretreatment standards and requirements;

      iv. The permittee shall control through permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements. In the case of Industrial Users identified as significant under 40 CFR 403.3 (v), this control shall be achieved through control mechanisms, in accordance with 40 CFR 403.8(f)(1)(iii). Control mechanisms must be enforceable and contain, at a minimum, the following conditions:

         1. Statement of duration (in no case more than five years);

         2. Statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator;

3. Effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards, categorical Pretreatment Standards, local limits, and State and local law;

4. Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency, and sample type, based on the applicable general Pretreatment Standards in 40 CFR 403, categorical Pretreatment Standards, local limits, and State and local law;

5. Statement of applicable civil and criminal penalties for violation of Pretreatment Standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond federal deadlines; and Requirements to control slug discharges, if determined by the POTW to be necessary.

v. The permittee shall evaluate, whether each Significant Industrial User needs a plan or other action to control slug discharges, in accordance with 40 CFR 403.8(f)(2)(vi);

vi. The permittee shall provide adequate staff, equipment, and support capabilities to carry out all elements of the pretreatment program; and

vii. The approved program shall not be modified by the permittee without the prior approval of ADEQ.

b. The permittee shall establish and enforce specific limits to implement the provisions of 40 CFR Parts 403.5(a) and (b), as required by 40 CFR Part 403.5(c). POTWs may develop Best Management Practices (BMPs) to implement paragraphs 40 CFR 403.5 (c)(1) and (c)(2). Such BMPs shall be considered local limits and Pretreatment Standards. Each POTW with an approved pretreatment program shall continue to develop these limits as necessary and effectively enforce such limits.

The permittee shall submit, within sixty (60) days of the effective date of this permit, (1) a **WRITTEN CERTIFICATION** that a technical evaluation has demonstrated that the existing technically based local limits (TBLL) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination, (2) a **WRITTEN NOTIFICATION** that a technical evaluation revising the current TBLL will be submitted within 12 months of the effective date of this permit, OR (3) within sixty (60) days of the effective date of this permit, submit a WRITTEN NOTIFICATION that local limits are not necessary for any pollutant at this time.

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

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

   The influent and effluent samples collected shall be composite samples as defined in Part IV of this permit. Sampling and analytical procedures shall be in accordance with guidelines established in 40 CFR 136. Where composite samples are inappropriate, due to sampling, holding time, or analytical constraints, at least 4 grab samples, taken at equal intervals over a representative 24 hour period, shall be taken.

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

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

   i. An updated list of all significant industrial users and identify which Industrial Users are Non-Significant Categorical Industrial Users (NSCIUs) or Middle Tier CIUs. The list must also identify:

      A. Industrial Users subject to categorical Pretreatment Standards that are subject to reduced monitoring and reporting requirements under 40 CFR 403.12(e)(2) & (3),

      B. Industrial Users subject to the following categorical Pretreatment Standards [Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) (40 CFR Part 414), Petroleum Refining (40 CFR Part 419), and Pesticide Chemicals (40 CFR Part 455)] and for which the Control Authority has chosen to use the concentration-based standards rather than converting them to flow-based mass standards as allowed at 40 CFR 403.6(c)(6).

C. Categorical Industrial Users subject to concentration-based standards for which the Control Authority has chosen to convert the concentration-based standards to equivalent mass limits, as allowed at 40 CFR 403.6(c)(5).

D. Best Management Practices or Pollution Prevention alternatives required by a categorical Pretreatment Standard or as a local limit requirement that are implemented and documentation to demonstrate compliance, as required at 40 CFR 403 (b), (e) and (h).

ii. For each industrial user listed the following information shall be included:

A. Standard Industrial Classification (SIC) and NAICS code and categorical determination;

B. Control document status. Whether the user has an effective control document, and the date such document was last issued, reissued, or modified, (indicate which industrial users were added to the system (or newly identified) within the previous 12 months);

C. A summary of all monitoring activities performed within the previous 12 months. The following information shall be reported:

* total number of inspections performed;
* total number of sampling visits made;

D. Status of compliance with both effluent limitations and reporting requirements. Compliance status shall be defined as follows:

* Compliant (C) - no violations during the previous 12 month period;
* Non-compliant (NC) - one or more violations during the previous 12 months but does not meet the criteria for significantly noncompliant industrial users;
* Significant Noncompliance (SNC) - in accordance with requirements described in D. above; and

E. For significantly noncompliant industrial users, indicate the nature of the violations, the type and number of actions taken (notice of violation, administrative order, criminal or civil suit, fines or penalties collected, etc.) and current compliance status. If ANY industrial user was on a schedule to attain compliance with effluent limits, indicate the date the schedule was issued and the date compliance is to be attained;

iii. A list of all significant industrial users whose authorization to discharge was terminated or revoked during the preceding 12 month period and the reason for termination;

iv. A report on any interference, pass through, upset or POTW permit violations known

or suspected to be caused by industrial contributors and actions taken by the permittee in response;

v. The results of all influent and effluent analyses performed pursuant to paragraph (c) above;

vi. A copy of the newspaper publication of the significantly noncompliant industrial users giving the name of the newspaper and the date published;

vii. The information requested may be submitted in tabular form as per the example tables provided for your convenience (See Attachment A, B and C); and

viii. The monthly average water quality based effluent concentration necessary to meet the state water quality standards as developed in the approved technically based local limits.

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

i. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Act if it were directly discharging those pollutants; and

ii. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

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

8. Whole Effluent Toxicity Testing (7-Day Chronic NOES Freshwater)

1. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL(S):	001
REPORTED ON DMR AS FINAL OUTFALL:	{OUTFALL 001}
CRITICAL DILUTION (%):	97
EFFLUENT DILUTION SERIES (%):	31, 41, 55, 73, 97
TESTING FREQUENCY	once/quarter

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

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

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

b. The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.

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

2. PERSISTENT LETHAL and/or SUB-LETHAL EFFECTS

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

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

a. Part I Testing Frequency Other Than Monthly

i. The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant toxic effects at or below the critical dilution. The additional tests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.

ii. IF LETHAL EFFECTS HAVE BEEN DEMONSTRATED If any of the additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may also be required due to a demonstration of–intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests. A TRE required based on lethal effects should consider any sub-lethal effects as well.

iii. IF SUB-LETHAL EFFECTS ONLY HAVE BEEN DEMONSTRATED If any two of the three additional tests demonstrates significant sub-lethal effects at 75% effluent or lower, the permittee shall initiate the Sub-Lethal Toxicity Reduction Evaluation (TRE_{SL}) requirements as specified in Item 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required for failure to perform the required retests.

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

b. Part I Testing Frequency of Monthly

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

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

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

i. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.

ii. The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.

iii. 60% of the surviving control females must produce three broods. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.

iv. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test.

v. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or sub-lethal effects are exhibited for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test.

vi. If a test passes, yet the percent coefficient of variation between replicates is greater than 40% in the control (0% effluent) and/or in the critical dilution for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test, the test is determined to be invalid. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

vii. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.

viii. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for Ceriodaphnia dubia reproduction;

ix. A PMSD range of 12 - 30 for Fathead minnow growth.

b. Statistical Interpretation

i. For the Ceriodaphnia dubia survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA/821/R-02-013 or the most recent update thereof.

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

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

c. Dilution Water

i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for;

(A) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and

(B) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

(A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

(B) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 below; and

(D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above. Unless otherwise stated in this section, a composite sample for WET shall consist of a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.

ii. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples, on use, are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis.

iii. The permittee must collect all three flow-weighted composite samples within the monitoring period. Second and/or third composite samples shall not be collected into the next monitoring period; such tests will be determined to be invalid. Monitoring period definitions are listed in Part IV.

iv. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to between 0 and 6 degrees Centigrade during collection, shipping, and/or storage.

v. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 4 of this section.

vi. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in item 1.a. above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

vii. If chlorination is part of the treatment process, the permittee shall not allow the sample to be dechlorinated at the laboratory. At the time of sample collection the permittee shall measure the TRC of the effluent. The measured concentration of TRC for each sample shall be included in the lab report submitted by the permittee.

4. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA/821/R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.7 of this permit. The permittee shall submit full reports. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

b. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of WET test data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST lethal and sub-lethal effects results for each species during the reporting period. The full reports for all invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for Agency review.

c. The permittee shall submit the results of each valid toxicity test on the subsequent monthly DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. Pimephales promelas (Fathead minnow)

(A) If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP6C

(B) Report the NOEC value for survival, Parameter No. TOP6C

(C) Report the NOEC value for growth, Parameter No. TPP6C

(D) If the NOEC for growth is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP6C

(E) Report the highest (critical dilution or control) Coefficient of Variation for growth, Parameter No. TQP6C

ii. Ceriodaphnia dubia

(A) If the NOEC for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0'C for Parameter No. TLP3B
(B) Report the NOEC value for survival, Parameter No. TOP3B

(C) Report the NOEC value for reproduction, Parameter No. TPP3B

(D) If the NOEC for reproduction is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP3B

(E) Report the higher (critical dilution or control) Coefficient of Variation for reproduction, Parameter No. TQP3B

5. TOXICITY REDUCTION EVALUATIONS (TREs)

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

a. Within ninety (90) days of confirming persistent toxicity, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The goal of the TRE is to maximally reduce the toxic effects of effluent at the critical dilution and includes the following:

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

Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity'c (EPA/600/R-92/080) and 'Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/081), as appropriate.

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

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

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

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

iii. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and

iv. Project Organization (e.g., project staff, project manager, consulting services, etc.).

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

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

any data and/or substantiating documentation which identifies the pollutant(s) and/or

source(s) of effluent toxicity;

any studies/evaluations and results on the treatability of the facility's effluent toxicity; and

any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at the critical dilution.

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

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

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

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

6. MONITORING FREQUENCY REDUCTION

a. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters or first twelve consecutive months (in accordance with Item 1.a.) of testing for one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the Fathead minnow) and not less than twice per year for the more sensitive test species (usually the Ceriodaphnia dubia).

b. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item 3.a. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance System section to update the permit reporting requirements.

c. SUB-LETHAL OR SURVIVAL FAILURES - If any test fails the survival or sub-lethal endpoint at any time during the life of this permit, three monthly retests are required and the monitoring frequency for the affected test species shall be increased to once per quarter until the permit is re-issued. Monthly retesting is not required if the permittee is performing a TRE.

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

9. At the time of the permit application, the dewaterd sludge or biosolids "cake" was collected and transported to landfills for final disposal. On May 11, 2011, the City notified ADEQ of the following planned changes in the sludge disposal practices: land application of Class B biosolids to farm land in Galena, Kansas or other approved and permitted sites, and/or offering to sell or give away Class A biosolids when the thermal drying process is complete. In its May 13, 2011, letter the Department did not object to these additional methods of biosolids disposal. The permittee anticipates that the dried biosolids will meet the "Exceptional Quality" criteria as defined in 40 CFR 530.

10. The permittee shall achieve compliance with the effluent limitations for minerals in accordance with the following schedule:

1. Compliance with all Interim Effluent Limits is required on the effective date of the permit. Compliance with the Final Effluent Limits shall be required as specified in Paragraph 3 below.

2. On June 22, 2011, the Department approved a workplan submitted by the permittee titled "White River Use Attainability Analysis Study Plan" on April 8, 2011 and revised on May 25,2011 for the purpose of studying the affected receiving streams and establishing new or revised site-specific criteria for Chlorides, Sulfates, or TDS. The permittee shall complete the tasks in accordance with the approved workplan.

3. Unless this permit is modified upon the adoption of revised water quality standards for Chlorides, Sulfates or TDS, the effective date of the Final Effluent Limits for Chlorides, Sulfates or TDS shall be:

   a. two years after the Commission denies the initiation of or disapproves the permittee's third party rulemaking for site-specific mineral criteria;
   b. two years after the EPA issuance of a record of decision denying the site-specific mineral criteria;
   c. two years after a formal written determination by ADEQ that the permittee is not diligently pursuing the site-specific criteria development study/modification as detailed in the approved workplan or schedule; or
   d. one month prior to the expiration date of this permit.

Detailed Progress Reports shall be submitted to ADEQ every six months following the effective date of this permit and such reports shall continue to be submitted to ADEQ until this permit expires or is modified. These reports must demonstrate the permittee's progress towards compliance with the final effluent limits for Chlorides, Sulfates and TDS by the appropriate deadline established for permit compliance.

The reports shall be signed and submitted to the attention of:

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

PART III
STANDARD CONDITIONS

SECTION A – GENERAL CONDITIONS

1. Duty to Comply

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

2. Penalties for Violations of Permit Conditions

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

3. Permit Actions

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

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

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

4. Toxic Pollutants

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

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

5. Civil and Criminal Liability

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

6. Oil and Hazardous Substance Liability

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

7. State Laws

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

8. Property Rights

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

9. Severability

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

10. Applicable Federal, State or Local Requirements

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

11. Permit Fees

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

SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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

B. The permittee shall provide an adequate operating staff which is duly qualified to carryout operation, maintenance, and testing functions required to insure compliance with the conditions of this permit.

2. Need to Halt or Reduce not a Defense

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

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

3. Duty to Mitigate

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

4. Bypass of Treatment Facilities

A. Bypass not exceeding limitation

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

B. Notice

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

C. Prohibition of bypass

1. Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless:

(a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal or preventive maintenance; and
(c) The permittee submitted notices as required by Part III.B.4.b.

2. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in Part III.B.4.c.(1).

5. Upset Conditions

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

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

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

C. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of 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. The permittee shall give at least 180 days prior notice to the Director of any change planned in the permittee's solids, sludge ,filter backwash, other pollutants disposal practice or land use applications, including types of crops grown (if applicable). 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.

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.

Calculated Flow Measurement

For calculated flow measurements that are performed in accordance with either the permit requirements or a Department approved method (i.e., as allowed under Part II.4), the +/- 10% accuracy requirement described above is waived. This waiver is only applicable when the method used for calculation of the flow has been reviewed and approved by the Department.

3. Monitoring Procedures

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

4. Penalties for Tampering

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

5. Reporting of Monitoring Results

Monitoring results must be reported on a Discharge Monitoring Report (DMR) form provided by the Department or other form/method approved in writing by the Department (e.g., electronic submittal of DMR once approved). Monitoring results obtained during the previous monitoring period shall be summarized and reported on a DMR form postmarked

no later than the 25th day of the month or submitted electronically by 6:00 p.m. of the 25th (after NETDMR is approved), following the completed reporting period beginning on the effective date of the permit. When mailing the DMRs, duplicate copies of the forms signed and certified as required by Part III.D.11 and all other reports required by Part III.D, shall be submitted to the Director at the following address:

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

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

6. Additional Monitoring by the Permittee

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

7. Retention of Records

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

8. Record Contents

Records and monitoring information shall include:

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

9. Inspection and Entry

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

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

SECTION D – REPORTING REQUIREMENTS

1. Planned Changes

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

2. Anticipated Noncompliance

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

3. Transfers

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

4. Monitoring Reports

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

5. Permit Compliance

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any permit compliance of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

6. Twenty-four Hour Report

A. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the following information:
   1. a description of the noncompliance and its cause;
   2. the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
   3. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

B. The following shall be included as information which must be reported within 24 hours:
   1. Any unanticipated bypass which exceeds any effluent limitation in the permit;
   2. Any upset which exceeds any effluent limitation in the permit and
   3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part I of the permit to be reported within 24 hours to the Enforcement Section of the Water Division of the ADEQ.

C. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours to the Enforcement Section of the Water Division of the ADEQ.

7. Other Noncompliance

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

8. Changes in Discharge of Toxic Substances for Industrial Dischargers

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

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

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

9. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The

permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit. Information shall be submitted in the form, manner and time frame requested by the Director.

10. Duty to Reapply

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

11. Signatory Requirements

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

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

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
   (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
   (b) The manager of one or more manufacturing, production, or operation facilities, provided: the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
2. For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or
3. For a municipality, State, Federal, or other public agency, by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
   (a) The chief executive officer of the agency, or
   (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

B. All **reports** required by the permit and **other information** requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above.
2. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
3. The written authorization is submitted to the Director.

C. Certification. Any person signing a document under this section shall make the following certification:

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

12. Availability of Reports

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

13. Penalties for Falsification of Reports

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

14. Applicable Federal, State or Local Requirements

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

PART IV
DEFINITIONS

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

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

11. **"Department"** means the Arkansas Department of Environmental Quality (**ADEQ**).
12. **"Director"** means the Director of the Arkansas Department of Environmental Quality.
13. **"Dissolved oxygen limit"**, shall be defined as follows:

a. When limited in the permit as a minimum monthly average, shall mean the lowest acceptable monthly average value, determined by averaging all samples taken during the calendar month;
b. When limited in the permit as an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.

14. **"E-Coli"** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For E-Coli, report the monthly average as a 30-day geometric mean in colonies per 100 ml.
15. **"Fecal Coliform Bacteria (FCB)"**a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For Fecal Coliform Bacteria (FCB) report the monthly average as a 30-day geometric mean in colonies per 100 ml.
16. **"Grab sample"** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
17. **"Industrial User"** means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
18. **"Instantaneous 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.
19. **"Instantaneous Minimum"** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
20. **"Monthly average"** means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. For Fecal Coliform Bacteria (FCB) or E-Coli, report the monthly average.
21. **"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.
22. **"POTW"** means a Publicly Owned Treatment Works.
23. **"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.
24. **"Sewage sludge"** means the solids, residues, and precipitate separated from or created in sewage by the unit processes at a POTW. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and stormwater runoff that are discharged to or otherwise enter a POTW.

25. **"7-day average"** Also known as Average weekly. means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.
26. **"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.
27. **"Upset"** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. Any upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or careless of improper operations.
28. **"Visible sheen"** means the presence of a film or sheen upon or a discoloration of the surface of the discharge. A sheen can also be from a thin glistening layer of oil on the surface of the discharge.
29. **"MGD"** shall mean million gallons per day.
30. **"mg/l** "shall mean milligrams per liter or parts per million (ppm).
31. **"µg/l"** shall mean micrograms per liter or parts per billion (ppb).
32. **"cfs"** shall mean cubic feet per second.
33. **"ppm"** shall mean parts per million.
34. **"s.u."** shall mean standard units.
35. **"Weekday"** means Monday – Friday.
36. **Monitoring and Reporting:**
37. When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is monthly or more frequently, the Discharge Monitoring Report (DMR) shall be submitted by the 25th of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the DMR shall be submitted by the 25th of the month following the monitoring period end date.

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

B. **BI-MONTHLY:**
is defined as two (2) calendar months or any portion of 2 calendar months for monitoring requirement frequency of once/2 months or more frequently.

C. **QUARTERLY:**
1. is defined as a **fixed calendar quarter** or any part of the fixed calendar quarter for a non-seasonal effluent characteristic with a measurement frequency of once/quarter.

Fixed calendar quarters are: January through March, April through June, July through September, and October through December; or

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

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

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

Final Fact Sheet

This final Fact Sheet is for information and justification of the permit limits only. Please note that it is not enforceable. This final permitting decision is for renewal of the discharge Permit Number AR0020010 with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 72-00781 to discharge to Waters of the State.

1. **PERMITTING AUTHORITY.**

   The issuing office is:

   Arkansas Department of Environmental Quality
   5301 Northshore Drive
   North Little Rock, Arkansas 72118-5317

2. **APPLICANT.**

   The applicant's address is:

   City of Fayetteville - Paul R. Noland Wastewater Treatment Plant
   1400 North Fox Hunter Road
   Fayetteville, AR 72701

3. **PREPARED BY.**

   The permit was prepared by:

   Marysia Jastrzebski, P.E.
   Staff Engineer
   Discharge Permits Section, Water Division
   (870) 446-5939
   E-mail: marysia@adeq.state.ar.us

4. **PERMIT ACTIVITY.**

Previous Permit Effective Date:	06/01/2006
Previous Permit Modification Date:	03/10/2008
Previous Permit Expiration Date:	05/31/2011

   The permittee submitted a permit renewal application on 11/30/2010 and additional information on 12/21/2010, 12/30/2010, 05/25/2011, and 07/15/2011. The current discharge permit is being reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

DOCUMENT ABBREVIATIONS

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

BAT - best available technology economically achievable
BCT - best conventional pollutant control technology
BMP - best management plan
BOD_5 - five-day biochemical oxygen demand
BPJ - best professional judgment
BPT - best practicable control technology currently available
$CBOD_5$ - carbonaceous biochemical oxygen demand
CD - critical dilution
CFR - Code of Federal Regulations
cfs - cubic feet per second
COD - chemical oxygen demand
COE - United States Corp of Engineers
CPP - continuing planning process
CWA - Clean Water Act
DMR - discharge monitoring report
DO - dissolved oxygen
ELG - effluent limitation guidelines
EPA - United States Environmental Protection Agency
ESA - Endangered Species Act
FCB - fecal coliform bacteria
gpm - gallons per minute
MGD - million gallons per day
MQL - minimum quantification level
NAICS - North American Industry Classification System
NH3-N - ammonia nitrogen
$NO_3 + NO_2$-N - nitrate + nitrite nitrogen
NPDES - National Pollutant Discharge Elimination System
O&G - oil and grease
Reg. 2 - APCEC Regulation No. 2
Reg. 6 - APCEC Regulation No. 6
Reg. 8 - APCEC Regulation No. 8
Reg. 9 - APCEC Regulation No. 9
RP - reasonable potential
SIC - standard industrial classification
TDS - total dissolved solids
TMDL - total maximum daily load
TP - total phosphorus
TRC - total residual chlorine
TSS - total suspended solids
UAA - use attainability analysis
USFWS - United States Fish and Wildlife Service
WET - Whole effluent toxicity

WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

DMR Review:

The Discharge Monitoring Reports (DMR's) for the last three years were reviewed during the permit renewal process. No violations were found.

5. SIGNIFICANT CHANGES FROM THE PREVIOUSLY ISSUED PERMIT.

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

1. The coordinates of the facility location and Outfall 001 have been corrected.
2. The effluent limitations for Outfall 001(flow of 6.0 mgd) have been deleted.
3. Outfall 002 has been deleted.
4. The 7-Day Average effluent limitations for Ammonia Nitrogen for the months of June through September and December through March have been corrected.
5. The Monthly Average (mass only) effluent limitations for Ammonia Nitrogen for the months of October through November and December through March have been corrected.
6. A requirement for monitoring and reporting Nitrate + Nitrite Nitrogen has been included.
7. Interim effluent limitations for Chlorides, Sulfates, and Total Dissolved Solids have been included.
8. Final effluent limitations for Chlorides, Sulfates, and Total Dissolved Solids have been added.
9. A Special Condition No. 10 of Part II regarding Chlorides, Sulfates, and Total Dissolved Solids has been added.
10. The monitoring frequencies for all parameters except flow, CBOD5, and biomonitoring have been revised.
11. The sample type for CBOD5, TSS, NH3-N, Total Phosphorus, and Whole Effluent Toxicity testing has been changed from 24-hr composite to composite.
12. A narrative description of the sampling point has been included.
13. Condition 10 of Part III in the existing permit regarding the Transition Period has been deleted.
14. A list of treatment units has been included on Pages 1 and 3 of Part IA.
15. The dilution series and the crititical dilution for Whole Effluent Toxicity testing have been slightly revised.
16. Parts II, III, and IV have been revised.

6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

The outfall is located at the following coordinates based on the submitted application:

Latitude: 36° 05' 09.6" Longitude: 94° 05' 04.7"

The receiving waters named:

White River thence to Beaver Reservoir in Segment 4K of the White River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 11010001 and reach # 023 is a Water of the State classified for primary and secondary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

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

A. 303(d) List:

The receiving stream, White River in Reach 023, is listed on the 2008 303(d) list in Category 5a as impaired for Chlorides, Sulfates, and Total Dissolved Solids. Additionally, Reach 023 is listed on the 2008 303(d) list in Category 4a as impaired for Siltation/Turbidity. The source of the Siltation/Turbidity impairment is indicated as surface erosion.

Turbidity: "TMDLs for Turbidity for White River and West Fork White River, AR" was prepared by FTN Associates, Inc. for USEPA Region 6 in January 2006. In accordance with this TMDL "the wasteload allocations (WLA) for point source contributions were set to zero because TSS in these TMDLs was considered to represent inorganic suspended solids. The suspended solids discharged by point sources in the study area are assumed to consist primarily of organic solids rather than inorganic solids. Discharges of organic suspended solids from point sources are already addressed by ADEQ through their permitting of point sources to maintain water quality standards for dissolved oxygen. The WLAs to support these TMDLs will not require any changes to the permits concerning inorganic suspended solids." Therefore, no changes are required in the NPDES permit. The effluent limitations for Total Suspended Solids are continued from the previous permit.

Chlorides, Sulfates, and Total Dissolved Solids: White River in Reach 023 is listed on 2008 303(d) list in Category 5a as impaired for Chlorides, Sulfates, and Total Dissolved Solids with an unknown source causing the impairment. No TMDL is available at this time. Since the City of Fayetteville is one of the point source dischargers in the watershed, in accordance with 40 CFR 122.44(d)(1)(i) this permit must include effluent limitations for these parameters. Regulation 2 of the Arkansas Pollution Control and Ecology Commission (Commission) establishes the Water Quality Standards for Chlorides, Sulfates and Total Dissolved Solids (TDS) for all Waters within the State of Arkansas. Generally, these mineral standards are set on an Eco-region basis and are significantly below the Secondary Drinking Water Standards. Since the establishment of the mineral standards in 1991, many site-specific revisions to these standards have been proposed and approved. These revisions have demonstrated that in many cases the

minerals standards can be increased without an adverse effect on the designated uses. Site-specific criteria development and the rulemaking required to change the water quality standards can take many years to complete. Upon issuance of a new or modified permit containing effluent limits for Chlorides, Sulfates or TDS, facilities are generally given a maximum of three years to research, design and construct adequate treatment facilities to meet the permit limit(s) for minerals. Where preliminary evidence indicates that site-specific amendments to minerals criteria are appropriate, adequate time should be allowed to complete the study and adopt site-specific criteria before the permitted facility must research, design and construct costly treatment technology. The facility has opted to perform a Use Attainability Analysis (UAA) and may initiate third party rulemaking to revise the current water quality standards. On June 22, 2011, the Department considered the study plan titled "White River Use Attainability Analysis Study Plan" which was originally submitted by the permittee on April 8, 2011 and revised on May 25,2011 to be acceptable and adequate to begin the UAA. The permittee is currently developing the UAA and may request revision of water quality standards by initiating third party rulemaking. The permit may be reopened and modified if water quality standards in Reg. 2 are revised as a result of the UAA performed by the permittee.

From the effective date of the permit until no later than one month prior to the expiration date of this permit, the interim effluent limitations for Chlorides, Sulfates, and Total Dissolved Solids have been included based on the submitted "White River Use Attainability Analysis Study Plan". In accordance with Condition No. 10 of Part II, unless this permit is modified upon the adoption of revised water quality standards for Chlorides, Sulfates or TDS, the final permit limits will be effective as soon as possible but no later than one month prior to the expiration date of this permit.

B. **Endangered Species**:

No comments on the application were received from the U.S. Fish and Wildlife Service (USF&WS).

C. **Anti-Degradation**:

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

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

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

A. Design Flow: 12.6 MGD, flow of 11.2 MGD has been continued from the previous permit. Flow of 11.2 MGD is used to calculate all mass limitations and establish other permit conditions.

B. Type of Treatment: coarse screens, fine screens, grit chamber, advanced biological nutrient removal system utilizing anoxic and aerobic zones, alum precipitation (optional), secondary clarifiers, sand filters, UV disinfection units, and oxygenation (optional). Influent and effluent equalizations basins are used as needed.

C. Discharge Description: treated municipal wastewater

D. Facility Status: This facility is classified as a Major municipal since the design flow of the facility listed above is greater than 1.0 MGD.

E. Facility Construction: This permit does not authorize or approve the construction or modification of any part of the treatment system or facilities. Approval for such construction must be by permit issued under Reg. 6.202.

9. **ACTIVITY.**

Under the Standard Industrial Classification (SIC) code of 4952 or North American Industry Classification System (NAICS) code of 22132, the applicant's activities are the operation of a sewage treatment plant.

10. **INDUSTRIAL WASTEWATER CONTRIBUTIONS.**

The permittee receives wastewater from significant industrial users. The renewal application listed the following four non-categorical Significant Industrial Users and four Categorical Industrial Users:

Industrial Contributor	**Principal Product**	**Process Wastewater Flow**
Ayrshire Electronics, LLC	Assembled circuit boards	0.005 MGD
Custom Powder Coating Services, Inc.	Powder Coated Metal Parts	0.0005 MGD
Elkhart Products Corporation	Wrought Copper Fittings	0.0007 MGD
Hiland Dairy Company	Bottled Milk and Juice	0.039 MGD
Marshalltown Tools	Tools for Construction Industry	0.0018 MGD
Pinnacle Foods Corporation	Frozen Foods Specialties	0.624 MGD
Superior Industries International, Inc.	Aluminum Wheels	0.170 MGD
Tyson Foods, Inc.	Corn and Flour Tortillas, Meal Kits	0.279 MGD

Pretreatment requirements have been added to modify the permittee's Program to be current with the newly revised (10/05) Pretreatment Regulations under 40 CFR 403. Submittal of these modifications are due within twelve (12) months of the effective date of the permit.

11. SEWAGE SLUDGE PRACTICES.

At the time of the permit application, the dewatered sludge or biosolids "cake" was collected and transported to landfills for final disposal. On May 11, 2011, the City notified ADEQ of the following planned changes in the sludge disposal practices: land application of Class B biosolids to farm land in Galena, Kansas or other approved and permitted sites, and/or offering to sell or give away Class A biosolids when the thermal drying process is complete. In its May 13, 2011, letter the Department did not object to these additional methods of biosolids disposal. The permittee anticipated that the dried biosolids will meet the "Exceptional Quality" criteria as defined in 40 CFR 503.

12. PERMIT CONDITIONS.

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

A. Interim Effluent Limitations

Outfall 001-Treated municipal wastewater

1. Conventional and/or Toxic Pollutants

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Flow	N/A	Report, MGD	Report, MGD (Daily Maximum)	Once/day	Totalizing meter
Overflows	Monthly Total SSOs (occurrences/month)			See Part II, Condition 5	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Part II, Condition 5	
Carbonaceous Biochemical					

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Oxygen Demand (CBOD5)					
(April-May)	701	7.5	11.3	Three/week	Composite
(June-Sep)	467	5.0	7.5	Three/week	Composite
(Oct-Nov)	514	5.5	8.3	Three/week	Composite
(Dec-March)	1,962	21	31.5	Three/week	Composite
Total Suspended Solids (TSS)					
(April-Nov)	467	5.0	7.0	Three/week	Composite
(Dec-March)	1,401	15.0	22.0	Three/week	Composite
Ammonia Nitrogen (NH3-N)					
(April-May)	280	3.0	4.5	One/week	Composite
(June-Sep)	159	1.7	3.0	One/week	Composite
(Oct-Nov)	224	2.4	4.5	One/week	Composite
(Dec-March)	467	5.0	10.5	One/week	Composite
Dissolved Oxygen (DO)					
(April-May)	N/A	7.7 (Monthly Average Min)		Three/week	Grab
(June-Sep)	N/A	6.9(Monthly Average Min)		Three/week	Grab
(Oct-Nov)	N/A	7.5(Monthly Average Min)		Three/week	Grab
(Dec-March)	N/A	8.7 (Monthly Average Min)		Three/week	Grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(Apr-Sep)	N/A	200	400	Three/week	Grab
(Oct-Mar)	N/A	1000	2000	Three/week	Grab
Total Phosphorus (TP)	93.4	1.0	2.0	Three/week	Composite
Nitrate + Nitrite Nitrogen (NO3 + NO2-N)	Report	Report	Report	Once/month	Composite
Chlorides	5,605	60	90	Once/month	Composite
Sulfates	9,341	100	150	Once/month	Composite
Total Dissolved Solids	41,100	440	660	Once/month	Composite
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	Three/week	Grab
Chronic WET Testing	N/A	Report		Once/quarter	Composite

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

B. Final Effluent Limitations

Outfall 001-Treated municipal wastewater

1. Conventional and/or Toxic Pollutants

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Flow	N/A	Report, MGD	Report, MGD (Daily Maximum)	Once/day	Totalizing meter
Overflows	Monthly Total SSOs (occurrences/month)			See Part II, condition 5	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Part II, condition 5	
Carbonaceous Biochemical Oxygen Demand (CBOD5)					
(April-May)	701	7.5	11.3	Three/week	Composite
(June-Sep)	467	5.0	7.5	Three/week	Composite
(Oct-Nov)	514	5.5	8.3	Three/week	Composite
(Dec-March)	1,962	21	31.5	Three/week	Composite
Total Suspended Solids (TSS)					
(April-Nov)	467	5.0	7.0	Three/week	Composite
(Dec-March)	1,401	15.0	22.0	Three/week	Composite
Ammonia Nitrogen (NH3-N)					
(April-May)	280	3.0	4.5	One/week	Composite
(June-Sep)	159	1.7	3.0	One/week	Composite
(Oct-Nov)	224	2.4	4.5	One/week	Composite
(Dec-March)	467	5.0	10.5	One/week	Composite
Dissolved Oxygen (DO)					
(April-May)	N/A	7.7 (Monthly Average Min)		Three/week	Grab
(June-Sep)	N/A	6.9(Monthly Average Min)		Three/week	Grab
(Oct-Nov)	N/A	7.5(Monthly Average Min)		Three/week	Grab
(Dec-March)	N/A	8.7 (Monthly Average Min)		Three/week	Grab

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(Apr-Sep)	N/A	200	400	Three/week	Grab
(Oct-Mar)	N/A	1000	2000	Three/week	Grab
Total Phosphorus (TP)	93.4	1.0	2.0	Three/week	Composite
Nitrate + Nitrite Nitrogen (NO3 + NO2-N)	Report	Report	Report	Once/month	Composite
Chlorides	1,868	20	30	Once/month	Composite
Sulfates	1,868	20	30	Once/month	Composite
Total Dissolved Solids	14,945	160	240	Once/month	Composite
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	Three/week	Grab
Chronic WET Testing	N/A	Report		Once/quarter	Composite

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

13. BASIS FOR PERMIT CONDITIONS.

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

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

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

Parameter	Water Quality-Based		Technology-Based/BPJ		Previous NPDES Permit		Final 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								
(April-May)	7.5	11.3	25	40	7.5	11.3	7.5	11.3
(June-Sept)	5	7.5	25	40	5.0	7.5	5.0	7.5
(Oct-Nov)	5.5	8.3	25	40	5.5	8.3	5.5	8.3
(Dec-March)	21	31.5	25	40	21.0	31.5	21.0	31.5
TSS								
(April-Nov)	10	15	30	45	5.0	7.0	5.0	7.0
(Dec-March)	15	22	30	45	15.0	22.0	15.0	22.0
NH3-N								
(April-May)	3	4.5	N/A	N/A	3.0	4.5	3.0	4.5
(June-Sept)	1.7	3.0	N/A	N/A	1.7	4.2	1.7	3.0
(Oct-Nov)	2.4	4.5	N/A	N/A	2.4	4.5	2.4	4.5
(Dec-March)	5.0	10.5	N/A	N/A	5.0	12.6	5.0	10.5
DO								
(April-May)	7.7 (Min MA)		N/A		7.7 (Min MA)		7.7 (Min MA)	
(June-Sept)	6.9(Min MA)		N/A		6.9 (Min MA)		6.9 (Min MA)	
(Oct-Nov)	7.5(Min MA)		N/A		7.5 (Min MA)		7.5 (Min MA)	
(Dec-March)	8.7 (Min MA)		N/A		8.7 (Min MA)		8.7 (Min MA)	
Total Phosphorus	1.0	2.0	N/A	N/A	1.0	2.0	1.0	2.0
FCB (col/100ml)								
(Apr-Sept)	200	400	N/A	N/A	200	400	200	400
(Oct-Mar)	1000	2000	N/A	N/A	1000	2000	1000	2000
Nitrate + Nitrite Nitrogen	N/A	N/A	Report	Report	N/A	N/A	Report	Report
Chlorides	20	30	N/A	N/A	N/A	N/A	20	30
Sulfates	20	30	N/A	N/A	N/A	N/A	20	30

Parameter	Water Quality-Based		Technology-Based/BPJ		Previous NPDES Permit		Final 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
TDS	160	240	N/A	N/A	N/A	N/A	160	240
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	

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

Parameter	Water Quality or Technology	Justification
CBOD5	Water Quality	MultiSMP Model prepared in April 2004 by CH2MHill, Previous permit, 40 CFR 122. 44(l)
TSS	Water Quality	MultiSMP Model prepared in April 2004 by CH2MHill, Previous permit, 40 CFR 122. 44(l)
NH3-N*	Water Quality	Reg. 2.512(April and May) / MultiSMP Model prepared in April 2004 by CH2MHill(June-March), Previous permit, 40 CFR 122. 44(l)
DO	Water Quality	Reg. 2.505, Previous permit, 40 CFR 122. 44(l)
Fecal Coliform Bacteria	Water Quality	Reg. 2.507
Total Phosphorus	Water Quality	Previous Permit, 40 CFR 122.44(l), Reg. 2.509, Reg. 6.401(D)
Nitrate + Nitrite Nitrogen**	Technology	CPP
Chlorides***	Water Quality	Reg. 2.511
Sulfates***	Water Quality	Reg. 2.511
TDS***	Water Quality	Reg. 2.511
pH	Water Quality	Reg. 2.504

* Ammonia Nitrogen

The 7-Day Average effluent limitations for the months of June through September and December through March have been changed from 4.2 mg/l to 3 mg/l and from 12.6 mg/l to 10.5 mg/l, respectively. The previous permit incorrectly included site specific toxicity-based limits instead of more stringent site specific DO-based limits.
The final permit includes the corrected limits consistent with the 2006 Fact Sheet and 2006 Attachment No. 1.

The following table was included on Page 12 of the 2006 Fact Sheet for Outfall 001(flow of 11.2 MGD):

Month	Monthly Avg	7-Day Max
April-May	3.0	4.5
June-Sept	1.7	**3.0**
Oct-Nov	2.4	4.5
Dec-March	5.0	**10.5**

The following table comparing the applicable toxicity and DO-based NH3-N limits was included in the 2006 Attachment No. 1 for Outfall 001(flow of 11.2 MGD):

Months	DO based limit		Toxicity based limit		Permit limit	
	Monthly Average mg/l	7-day Average, mg/l	Monthly Average, mg/l	7-day Average, mg/l	Monthly Average, mg/l	7-day Average, mg/l
April-May	3	4.5	7.8	19.7	3	4.5
June-September	2	**3**	1.7	**4.2**	1.7	**3**
October-November	3	4.5	2.4	6.0	2.4	4.5
December-March	7	**10.5**	5	**12.6**	5	**10.5**

This previous error was discussed with the permittee during site visit on January 14, 2011. The permittee concurred that the corrected limits are appropriate.

Additionally, the 7 Day Average (mass only) effluent limitations for Ammonia Nitrogen for the months of October through November and December through March have been corrected using the following equation:

Mass loadings (lbs/day) = Concentration (mg/l) X Flow (MGD) X 8.34

These limits were calculated to be as follows:

For the months of October through November: 2.4 mg/l X 11.2 MGD X 8.34 = 224 lbs/day
For the months of December through March: 5.0 mg/l X 11.2 MGD X 8.34 = 467 lbs/day

** Nitrate and Nitrite Nitrogen

In order to establish a database of point source loadings of nutrients to waters of the state of Arkansas, a requirement for monitoring and reporting of this parameter has been included based on the CPP.

*** Chlorides, Sulfates, and Total Dissolved Solids(TDS)

The permittee discharges to the White River approximately 13 miles downstream from ADEQ's monitoring station WHI106 (White River at Durham) and approximately 5.4 miles upstream from ADEQ's monitoring station WHI0052 (White River at Goshen). The White River in Reach 023 is included in the 2008 303(d) list (also in 2006 and final 2010 lists) as impaired for Chlorides, Sulfates, and TDS. In accordance with 40 CFR

122.44(d)(1)(i), the water quality-based effluent limitations for these parameters must be included in the permit.

APPLICABLE STANDARDS

Stream Standard

As established in the Arkansas Water Quality Standards, Reg. 2.511, the stream mineral water quality standards (instream, after mixing) for the White River (Missouri line to headwaters, including Beaver Reservoir) based on Reg. 2.511 are:

Chlorides: 20 mg/l
Sulfates: 20 mg/l
Total Dissolved Solids: 160 mg/l

Secondary Drinking Water

Independent of the site specific water quality standards, Reg. 2.511 also states "In no case shall discharges cause concentrations in any waterbody to exceed 250, 250, 500 mg/l of chlorides, sulfates and total dissolved solids, respectively....". These water quality standards are EPA's Secondary Drinking Water Standards.

LIMITS DETERMINATION FOR MINERALS

Interim limitations

The interim effluent limitations have been established using the values proposed in the "White River Use Attainability Analysis Study Plan" as a monthly average.

The 7-Day Average effluent limitations will be 1.5 times greater than the monthly average.

Final Limitations

Since the receiving stream in Reach 023 is listed on the 2008 303(d) list as impaired for these parameters and in accordance with 40 CFR 122.44(d)(i) this discharge cannot contribute to the excursion above any State water quality standards. In order to ensure that the discharge does not contribute to the excursion above the water quality standards the effluent limitations must be equal to the existing standards. The following Monthly Average mass limitations have been calculated using a flow of 11.2 mgd, existing stream standards listed above, and the following equation:

Mass Limit (lbs/day) = Stream Standard (mg/l) X Flow (MGD) X 8.34

Chlorides: 20 mg/l X 11.2 MGD X 8.34 = 1,868 lbs/day
Sulfates: 20 mg/l X 11.2 MGD X 8.34 = 1,868 lbs/day
Total Dissolved Solids: 160 mg/l X 11.2 MGD X 8.34 = 14,945 lbs/day

Concentration limitations have been also included as per an e-mail dated July 14, 2011, from Mike Tillman, EPA Region 6 to John Bailey. Compliance with the final effluent limitations will be required as specified in Paragraph 3 of Condition No. 10 of Part II of the permit.

B. **Anti-backsliding**

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

The monitoring frequencies for Total Suspended Solids, Ammonia Nitrogen, Dissolved Oxygen, Fecal Coliform Bacteria, Total Phosphorus, and pH have been reduced using EPA's *Interim Guidance for Performance - Based Reductions of NPDES Permit Monitoring Frequencies*. This decrease in monitoring frequency does not constitute backsliding based on 40 CFR 122.44 (l)(2)(i)(B)(1) - information is available (DMR data for the months of November 2008 through October 2010) which was not available at the time of permit issuance.

C. **Limits Calculations**

1. Mass limits:

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

   The calculation of the loadings (lbs per day) uses a flow of 11.2 MGD and the following equation:

   lbs/day = Concentration (mg/l) X Flow (MGD) X 8.34

2. 7-Day Average Limits:

   The 7-Day Average limits for CBOD5, TSS, NH3-N, Total Phosphorus, Chlorides, Sulfates, and Total Dissolved Solids are based on Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control.

   7-Day Average limits = Monthly average limits X 1.5

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

3. Ammonia-Nitrogen (NH3-N):

   The water quality effluent limitations for Ammonia are based either on DO-based effluent limits or on toxicity-based standards, whichever are more stringent. The site specific toxicity-based and DO-based effluent limitations are based on the study performed by CH2MHill.

D. 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 change the effluent limitation for Total Phosphorus from 0.5 mg/l to 1.0 mg/l based on Reg. 2.509 and add that TSS is consistent with the 2006 "TMDLs for Turbidity for White River and West Fork White River, AR".

E. Priority Pollutant Scan (PPS)

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

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

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

The following items were used in calculations:

Parameter	Value	Source
Flow = Q	11.2 MGD = 17.3 cfs	Application
7Q10	0.8 cfs	U.S.G.S.
TSS	2.5 mg/l	CPP
Hardness as CaCo3	148 mg/l	CPP
pH	7.04 s.u.	

The following pollutants were reported above the required MQL:

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Nickel, Total	2.7	0.5
Zinc, Total	10.3	20
Bis(2-ethylexyl)phthalate	16.9	10
Cyanide*	22	10

* The originally submitted PPS listed Cyanide concentration of 22 µg/l. On December 30, 2010, the permittee submitted additional 30 historical datapoints for this parameter for the years of 2005 through 2010. Out of 30 datapoints, 28 showed concentrations below 5 µg/l, one was below MQL of 10 µg/l, and one was at 6 µg/l. Since all these reported values were below the required MQL of 10 µg/l, it is the engineering judgment of the permit writer that the originally reported value of 22 µg/l is an outlier, and that that Cyanide is not present in detectable levels in the effluent.

ADEQ has determined from the submitted information that the discharge does not pose the reasonable potential to cause or contribute to an exceedance above a water quality standard.

14. WHOLE EFFLUENT TOXICITY.

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

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

TOXICITY TESTS	**FREQUENCY**
Chronic WET	Once/quarter

Requirements for measurement frequency are based on the CPP.

Since 7Q10 is less than 100 cfs (ft^3/sec) and dilution ratio is less than 100:1, chronic WET testing requirements will be included in the permit.

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

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

Qd = Discharge flow= 11.2 MGD = 17.2 cfs
7Q10 = 0.8 cfs
Qb = Background flow = (0.67) X 7Q10 = 0.67 X 0.8 cfs = 0.53 cfs
CD = (17.2) / (17.2 +0.53) X 100 = 97 %

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 **31%, 41%, 55%, 73%, and 97%** (See the CPP). The low-flow effluent concentration (critical dilution) is defined as **97** % effluent. The requirement for chronic WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species, *Ceriodaphnia dubia* and the Fathead minnow (*Pimephales promelas*) are indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, 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 WET testing studies, Toxicity Reduction Evaluation (TRE) and/or effluent limits if WET testing data submitted to the Department shows toxicity in the permittee's discharge. Modification or revocation of this permit is subject to the provisions of 40 CFR 122.62, as adopted by reference in ADEQ Regulation No. 6. Increased or intensified toxicity testing may also be required in accordance with Section 308 of the Clean Water Act and Section 8-4-201 of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

Administrative Records

The following information summarized toxicity test submitted by the permittee during the term of the current permit at outfall **001**:

Permit Number:	AR0020010		AFIN:	72-00102	Outfall Number: 001
Date of Review:	12/29/2010		Reviewer:	M. Barnett	
Facility Name:	Paul R. Noland Wastewater Treatment Plant				
Previous Dilution series:	32, 42, 56, 75, 100	Proposed Dilution Series:		31, 41, 55, 73, 97	
Previous Critical Dilution	100	Proposed Critical Dilution:		97	
Previous TRE activities:	None				

Frequency recommendation by species

Pimephales promelas (Fathead minnow): once per quarter

Ceriodaphnia dubia (water flea): once per quarter

TEST DATA SUMMARY

	Vertebrate		Invertebrate	
TEST DATE	Lethal NOEC	Sub-Lethal NOEC	Lethal NOEC	Sub-Lethal NOEC
3/5/2006	100	100	100	100
6/4/2006	100	100	100	100
7/6/2006	100	100	100	100
12/4/2006	100	100	100	100
3/4/2007			100	100
3/4/2007	100	100	100	100
3/4/2007	100	100	**32**	**42**
6/4/2007	100	100	100	100
9/4/2007	100	100	100	100
12/4/2007	100	100	100	100
3/4/2008	100	100	100	100
6/4/2008	100	100	100	100
9/4/2008	100	100		
9/4/2008	100	100	100	100
12/4/2008	100	100		
12/4/2008	100	100	100	100
3/4/2009	100	100	100	100
6/4/2009	100	100	100	100
9/4/2009	100	100	100	100
12/31/2009	100	100	100	100
3/31/2010	100	100	100	100
6/30/2010	100	100	100	100
9/30/2010	100	100	100	100
12/31/2010	100	100	100	100

Failures are noted in BOLD

REASONABLE POTENTIAL CALCULATIONS

	Vertebrate Lethal	Vertebrate Sub-Lethal	Invertebrate Lethal	Invertebrate Sub-Lethal
Min NOEC Observed	100	100	32	42
TU at Min Observed	1.00	1.00	3.13	2.38
Count	23	23	22	22
Failure Count	0	0	1	1
Mean	1.000	1.000	1.097	1.063
Std. Dev.	0.000	0.000	0.453	0.294
CV	0	0	0.4	0.3
RPMF	#N/A	#N/A	1.2	1.2
Reasonable Potential	#N/A	#N/A	3.750	2.857
100/Critical dillution	1.031	1.031	1.031	1.031
Does Reasonable Potential Exist	#N/A	#N/A	Yes	Yes

PERMIT ACTION

P. promelas lethal - monitoring
P. promelas sub-lethal - monitoring
C. dubia lethal - monitoring
C. dubia sub-lethal - monitoring

Additional requirements (including WET Limits) rationale/comments concerning permitting:

Although reasonable potential appears to exist for *C. dubia* lethal and sub-lethal, only one failure has been reported, with none during the past three years, therefore lethal and sub-lethal WET limits are not required at this time.

There has been one *C. dubia* lethal and sub-lethal WET test below the critical dilution, there is insufficient evidence to support the inclusion of limits. Additional data is needed to confirm the necessity of limits; therefore they are not required at this time.

The inclusion of requirements for retests for both lethal and sub-lethal failures will provide sufficient documentation concerning the necessity for a TRE, and the potential for inclusion of WET limits if appropriate.

15. **SAMPLE TYPE AND FREQUENCY.**

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

Requirements for sample type and sampling frequency for flow, CBOD5 (frequency only), and biomonitoring have been based on the current discharge permit. Also, the sample types for flow, Dissolved Oxygen, Fecal Coliform Bacteria, and pH have been continued. Sample type for Carbonaceous Biochemical Oxygen Demand (5 day), Total Suspended Solids, Ammonia Nitrogen, and Whole Effluent Toxicity have been replaced with composite sampling to allow the flexibility in how samples are taken. Sample type and frequency for Nitrate and Nitrite Nitrogen, Chlorides, Sulfates, and Total Dissolved Solids are once per month. This frequency is assumed to be sufficient for these parameters.

The monitoring frequencies for Total Suspended Solids, Ammonia Nitrogen, Dissolved Oxygen, Fecal Coliform Bacteria, Total Phosphorus, and pH have been reduced using EPA's *Interim Guidance for Performance - Based Reductions of NPDES Permit Monitoring Frequencies*. This decrease in monitoring frequency does not constitute backsliding based on 40 CFR 122.44 (l)(2)(i)(B)(1) - information is available (DMR data for the months of November 2008 through October 2010) which was not available at the time of permit issuance.

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Flow	once/day	totalizing meter	once/day	totalizing meter
CBOD5	three/week	24-hr composite	three/week	composite
TSS	five/week	24-hr composite	three/week	composite

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
NH3-N	five/week	24-hr composite	one/week	composite
DO	five/week	grab	three/week	grab
FCB	five/week	grab	three/week	grab
TP	five/week	24-hr composite	three/week	composite
$NO_3 + NO_2$ - N	N/A	N/A	once/month	composite
Chlorides	N/A	N/A	once/month	composite
Sulfates	N/A	N/A	once/month	composite
TDS	N/A	N/A	once/month	composite
pH	five/week	grab	three/week	grab
Whole Effluent Toxicity Testing	once/quarter	24-composite	once/quarter	composite

16. **STORMWATER REQUIREMENTS**

In lieu of storm water pollution prevention plan requirements, the permittee submitted a No exposure certification for exclusion from NPDES Storm water permitting. The tracking permit No. ARR00C377 was assigned to this permittee.

17. **PERMIT COMPLIANCE.**

Compliance with all permit requirements is required in accordance with the schedule provided in Part IB and Condition 10 of Part II of the permit.

18. **MONITORING AND REPORTING.**

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

19. **SOURCES.**

The following sources were used to prepare the draft and final permits:

A. Application No. AR0020010 received 11/30/2010.
B. Arkansas Water Quality Management Plan (WQMP).
C. APCEC Regulation No. 2.
D. APCEC Regulation No. 3.
E. APCEC Regulation No. 6.

F. 40 CFR Parts 122, 125, 133 and 403.
G. Discharge permit file AR0020010.
H. Discharge Monitoring Reports (DMRs).
I. "Arkansas Water Quality Inventory Report 2008 (305B)", ADEQ.
J. "Identification and Classification of Perennial Streams of Arkansas", Arkansas Geological Commission.
K. Continuing Planning Process (CPP).
L. Technical Support Document For Water Quality-based Toxic Control.
M. Inspection Report dated January 18, 2011.
N. E-mails dated December 17, 2010, December 21, 2010, December 30, 2010, and February 8, 2011, from Duyen Tran to Marysia Jastrzebski.
O. E-mail dated January 3, 2010, from Alan Price to Marysia Jastrzebski.
P. E-mail dated January 3, 2010, from Jim Wise to Marysia Jastrzebski.
Q. Low-Flow Characteristics and Regionalization of Low-Flow Characteristics for Selected Streams in Arkansas" USGS Scientific Investigations Report 2008-5065.
R. E-mail dated January 6, 2011, from Mary Barnett to Marysia Jastrzebski.
S. E-mail dated January 3, 2011, from Rufus Torrence to Marysia Jastrzebski.
T. "TMDLs for Turbidity for White River and West Fork White River, AR" prepared for EPA Region VI by FTN Associates, LTD, Final January 5, 2006.
U. The revised "White River Use Attainability Analysis Study Plan" submitted on May 25, 2011.
V. Letter dated June 22, 2011, from Steve Drown to David Jurgens.
W. E-mail dated July 15, 2011, from David Jurgens to Marysia Jastrzebski.
X. E-mail dated July 14, 2011, from Mike Tillman to John Bailey.
Y. Site visit on January 14, 2011.
Z. Final " Site-Specific Minerals Criteria Development Implementation Strategy".
AA. E-mail dated 10/26/2012 from James Gately, President of the Association for Beaver Lake Environment to Marysia Jastrzebski.
BB. Letter dated 10/22/2012 from Lyle Godfrey, Arkansas Department of Health to Marysia Jastrzebski.
CC. E-mail dated 10/25/2012 from Colene Gaston, Beaver Water District to Marysia Jastrzebski.

20. POINT OF CONTACT.

For additional information, contact:

Marysia Jastrzebski, P.E.
Permits Branch, Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317
Telephone: (870) 446-5939

RESPONSE TO COMMENTS
FINAL PERMITTING DECISION

Response to comments received on the subject draft permit in accordance with regulations promulgated at 40 C.F.R. § 124.17 are as follows:

Permit No.: AR0020010

Applicant: City of Fayetteville
Paul R. Noland Wastewater Treatment Plant

Prepared by: Marysia Jastrzebski, P.E.

Public Notice Date: The draft permit was publicly noticed on or about 9/26/2012.

The following are responses to comments received regarding the draft permit number above and are developed in accordance with regulations promulgated at 40 C.F.R. § 124.17 and APC&EC Regulation No. 8, Administrative Procedures.

Introduction

The above permit was submitted for public comment on 9/26/2012. The public comment period ended on 11/26/2012. This document contains a summary of the comments that the ADEQ received during public comment period. A summary of the changes can be found on the last page of this document. There were several similar issues raised throughout the comments; those are grouped together, with one response from the ADEQ.

The following people or organizations sent comments to the ADEQ during the public notice period, which are reproduced verbatim below and followed by responses of ADEQ:

Commenter	Comment(s)
1. Beaver Water District ("BWD")	Comments #1 through #4
2. Association for Beaver Lake Environment ("ABLE")	Comment #1
3. Arkansas Department of Health ("ADH")	Comment #5

Comment #1 regarding proposed correction of Total Phosphorus limit in WQMP:

BWD:
"Comment 1 re Proposed Change to the WQMP regarding Total Phosphorus (TP): *BWD objects to ADEQ's proposal to change the effluent limitation for TP in the WQMP related to NPDES Permit No. AR0020010 for the Noland WWTP from 0.5 milligrams per liter (mg/L) to 1.0 mg/L. There is* ***no scientific, technical, or legal basis for changing the TP limit*** *in the WQMP to 1.0 mg/L.* ***ADEQ has provided no explanation*** *in the public notice documents for the proposed change other than that it is a "correction." On the other hand, there is ample scientific, technical, and legal justification for maintaining the 0.5 mg/L TP limit in the WQMP.*

Prior to 2005, the TP limit in the WQMP for the Noland WWTP Outfall 001, which discharges to the White River, was 1.0 mg/L with a maximum allowable discharge of 6.0 million gallons per day (MGD). In 2005, ADEQ proposed updates to the WQMP for the Noland WWTP that would have allowed the discharge from Outfall 001 to increase to 11.2 MGD while retaining the 1.0 mg/L TP limit. This would have allowed the monthly average loading of phosphorus to the White River to increase by eighty-seven percent (87%), from 50.0 pounds per day (lbs/day) to 93.4 lbs/day. Objections to these proposed changes to the WQMP were raised during the public notice and comment period and the public hearing that was held July 18, 2005. See, *e.g.,* letters dated April 15, 2005, and July 18, 2005, from BWD's Chief Executive Officer Alan Fortenberry to ADEQ's Doug Szenher, which are incorporated by reference herein.

In consideration of the public comments, ADEQ changed the TP limit in the WQMP for the Noland WWTP Outfall 001 to provide that: (1) when the maximum allowable discharge was 6.0 million gallons per day (MGD), the limit was 1.0 mg/L; and (2) when the maximum allowable discharge increased to 11.2 MGD, the limit was 0.5 mg/L. See ADEQ's September 15, 2005, "Responsiveness Summary to Comments Concerning Water Quality Management Plan Revisions for the City of Fayetteville's Noland Plant (Permit #AR00200100 [sic])" and the current Arkansas WQMP. These updates to the WQMP were certified by the Governor and approved by the U.S. Environmental Protection Agency (EPA).

There is ***no scientific, technical, or legal basis for changing the TP limit*** *in the WQMP back to 1.0 mg/L. Indeed,* ***ADEQ has provided no justification or explanation*** *in the public notice documents for the proposed change other than that it is a "correction."* The scientific, technical, and legal reasons for the 0.5 mg/L TP limit that existed in 2005 remain valid today (and are incorporated by reference herein), and the scientific and technical justifications for the 0.5 mg/L TP limit have only increased.

Current research has shown that the nutrients added to the White River from the Noland WWTP effluent are generally transported downstream with little to no uptake or transformation (Hufhines *et al.*, 2011). In essence, increasing the load of phosphorus from the Noland plant increases the load of phosphorus to Beaver Lake. Research also has continually demonstrated that the growth of algae in Beaver Lake is controlled by the availability of nutrients, particularly phosphorus and nitrogen, in the water column. As early as 1982, a study by Black and Veatch (B&V) commissioned by BWD concluded that phosphorus contributions from point and nonpoint sources in the Beaver Lake watershed had the greatest impact on the quality of water at the BWD intake (B&V Project 9848). In 1999, a study regarding the trophic status of Beaver Lake concluded that the chlorophyll-a (chl-a) concentration in the Lake responded to increases in nutrient loading, particularly Total Kjehldahl Nitrogen and Soluble Reactive Phosphorus (Haggard *et al.,* 1999). The United States Geologic Survey (USGS) completed a modeling study of Beaver Lake in 2006, which showed the response of chl-a in the Lake to increases in phosphorus or combined increases in phosphorus and nitrogen loads from the Lake's tributaries (Galloway and Green, 2006). Even more recently, a thesis was published at the University of Arkansas that looked at nutrient limitation directly in Beaver Lake using suspended periphytometers (Koller-Iriarte, 2007). Koller-Iriarte found that periphyton growth in the Lake responded to increases in nutrient concentration, specifically phosphorus or nitrogen. In

summary, the growth of algae in Beaver Lake responds to changes in nutrient concentration and to phosphorus most consistently.

At the BWD intake, Beaver Lake already has high concentrations of algae on some occasions. Taste and odor problems are experienced periodically at the water treatment plant as the result of the algal metabolites 2-Methylisoborneol (MIB) and Geosmin. Filter clogging algae also appear in the summer months, causing shortened filter runs and increasing the treatment and chemical costs for the production of potable water. In addition and also related to the nutrient levels in the Lake, BWD is seeing an increase in disinfection byproducts precursors in the water at our intake. When chlorinated, these precursors form disinfection byproducts (DBPs). DBPs are strictly regulated under the Safe Drinking Water Act, and more stringent DBP limits became effective this month. BWD is in the process of constructing new disinfection facilities in order to maintain compliance with the more stringent DBP regulations. The cost of these facilities and the cost for BWD and its customer cities to maintain compliance with the 2012 DBP standards is significant. It is, therefore, particularly important to BWD that the TP limit in the WQMP not be increased.

In 2006, ADEQ convened a workgroup for the purpose of establishing nutrient standards for Beaver Lake. FTN Associates, Ltd., was selected as the technical lead for the workgroup. FTN's report for the workgroup was completed in February 2008 (FTN 2008). The report recommends that the State of Arkansas establish a water quality standard for Beaver Lake for chlorophyll-a (chl-a) as a surrogate for phosphorus. The rational was that algae are the primary concern related to nutrients in the Lake and should be directly managed. The report also recognized that phosphorus contributed to the concentration of chl-a in the reservoir. The recommended in-lake standard was 8 micrograms per liter (or parts per billion (ppb)) chl-a measured as the geometric mean of samples taken during the growing season over the thalwag of the Lake at Hickory Creek.

Using data collected by the USGS during the years 2009 through 2012 and published on the USGS website, BWD calculated the geometric mean concentrations of chl-a for the growing seasons at the Hickory Creek sampling site. The geometric mean concentrations of chl-a ranged from 6.98 to 12.27 micrograms per liter. The recommended standard of 8 micrograms per liter was exceeded during two of the last four years. *These **facts** on the current concentration of chl-a in Beaver Lake and the nutrient-related issues already experienced by BWD at its intake and water treatment plant, along with the **supporting research** cited above, confirm that the 0.5 mg/LTP limit in the WQMP related to the Noland WWTP Outfall 001 must be retained and must not be increased.*

*Additional **technical support** for keeping the TP limit in the WQMP at 0.5 mg/L is that the discharge monitoring reports (DMRs) for the Noland WWTP show that it is well-able to meet the limit. As a **legal matter**, the 0.5 mg/L limit in the WQMP is supported by the Arkansas Pollution Control and Ecology Commission (APCEC) Regulation No. 2 (hereinafter referred to as "Reg. 2") at Reg. 2.402- Nuisance Species, Reg. 2.407 – Taste and Odor, and Reg. 2.509 – Nutrients. Furthermore, any increase in the 0.5 mg/L limit in the WQMP would be contrary to the Reg. 2 Antidegradation Policy at Reg. 2.201 and Reg 2.202 and the antidegradation and antibacksliding provisions of Sections 303 and 402 of the Clean Water Act (CWA), 33 U.S.C. §§ 1313 and 1342.*

References:

B &V, 1982. Water Quality Study of Beaver Lake, Arkansas. Black and Veatch, Inc., Project 9848. Kansas City, Mo.

FTN 2008. Beaver Lake site-specific water quality criteria development: recommended criteria. Prepared for the Graduate School, University of Arkansas. FTN Associates, Ltd. Project FTN No. 3055-021. Little Rock, AR.

Galloway, Joel M., and W. Reed Green. 2006. Application of a two-dimensional reservoir water-quality model of Beaver Lake, Arkansas, for the evaluation of simulated changes in input water quality, 2001 – 2003. United States Geological Survey. Scientific Investigations Report 2006-5302.

Haggard, B.E., T.P.A. Moore Jr., T.C. Daniels and D.R. Edwards. 1999. Trophic conditions and gradients of the headwater reaches of Beaver Lake, Arkansas. Proceedings of the Oklahoma Academy of Science. Vol 79.

Hufhines, Brad W., Kristofor R. Brye, Brian E. Haggard, Robert Morgan. 2011. Net nutrient uptake in the White River, Northwest Arkansas, downstream of a municipal wastewater treatment plant. Journal of Environmental Protection, 2011, Vol. 2.

Koller-Iriarte, Moncia. 2007. Trophic conditions and nutrient limitations in the headwaters of Beaver Lake, Arkansas, during a dry hydrologic year, 2005 – 2006. A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science, University of Arkansas. Fayetteville, Arkansas, Masters Abstracts International, Vol. 45, No. 04."

ABLE:
"Beaver Lake is the area's water source, economic engine for the region, and recreational focal point. Any increase in pollutants is an increased threat to any one of these important attributes of the region. This is certainly true for any point source discharge of effluent into the White River which is the largest source of inflow to Beaver Lake upstream. The Paul R. Noland Wastewater Plant is a major contributor of such point source pollution.

ABLE's comment is for ADEQ to maintain the .5 milligrams per liter total phosphorous for both interim and final effluent limitations and NOT increase it to 1.0 mg/L for the Fayetteville Noland plant. ABLE has found no scientific, technical, or legal basis for changing the total phosphorus limit in the AR Water Quality Management Plan to 1.0mg/L but there is such basis for maintaining it at .5 mg/L TP. After searching the public notice documents for justification for the proposed change, a change which would do harm to Beaver Lake over time, ADEQ has provided no explanation other than it being a "correction".This is hardly a justification for a decision that has such a long range impact!

Already ABLE receives numerous calls about taste and odor from our drinking water from Beaver Lake. The Noland Plant's effluent is generally transported downstream with little uptake or transformation, thereby, increasing the load of phosphorous in Beaver Lake. This, in turn, contributes to the growth of algae. Is ADEQ's "correction" to increase the bad taste and odor of drinking water from Beaver Lake, to a greater intensity and for a longer period of time?

Is ADEQ's "correction" to increase the cost of water treatment thereby increasing water cost for citizens and industry?

Is ADEQ's "correction" to increase the possibility of algae blooms that has had significant negative impacts on neighboring lakes like Grand Lake in Oklahoma including health risks?

In summary, the Association for Beaver Lake Environment strongly urges that ADEQ maintain the .5 mg/L limit and not increase it to 1.0 mg/L for the Fayetteville Paul R. Noland Wastewater Treatment Plant."

Response #1: The Department acknowledges this comment. In accordance with the 40 C.F.R. § 122.44, the effluent limitations in the NPDES permits are based on the technology-based effluent limits and standards and the water quality-based effluent limits and standards. In accordance with the 40 C.F.R. § 122.44(d)(2)(6), the water quality-based limits must be consistent with the requirements of a Water Quality Management Plan ("WQMP") approved by EPA.

By letter dated 6/23/2005, EPA approved updates to the WQMP which included the effluent limit for Total Phosphorus of 1 mg/l. The EPA letter can be found at the following link: http://www.adeq.state.ar.us/ftproot/Pub/WebDatabases/PermitsOnline/NPDES/LTR/AR0020010_EPA%20Approval%20208%20update_20050623.pdf.

Furthermore, ADEQ Director Marcus Devine, on behalf of Governor Huckabee, certified the same updates on 6/2/2005. This certification letter can be found at the following link: http://www.adeq.state.ar.us/ftproot/Pub/WebDatabases/PermitsOnline/NPDES/LTR/AR0020010_WQMP%20Governor%20Certification_20050602.pdf

The effluent limit for Total Phosphorus of 0.5 mg/l was never approved by EPA nor certified by the ADEQ Director (on behalf of the Governor); therefore, the Department must change the WQMP to correct the Total Phosphorus limit from 0.5 mg/l to 1 mg/l. The NPDES permit must be consistent with the approved and certified WQMP.

Comment #2 regarding the Interim and Final Effluent limitations for Total Phosphorus

BWD:
"Comment 2 re Interim and Final Effluent Limitations for TP in the 2012 Draft Permit: *BWD objects to the Draft Permit's interim and final effluent limitations for TP (see Page 2 of Part I.A and Page 4 of Part I.B. of the 2012 Draft Permit). The interim effluent limitations for TP are the same as the final effluent limitations: 1.0 mg/L as a Monthly Average; 2.0 mg/L as a 7-Day Average; and 93.4 lbs/day as a Monthly Average. These limits should be revised to comply with*

the current 0.5 mg/L TP limit in the WQMP for Outfall 001 at the permitted discharge of 11.2 MGD, as required by Section 208(e) of the CWA, 33 U.S.C. § 1288(e), and 40 C.F.R. §130.12(a). In addition to this legal requirement, the scientific, technical, and legal justifications for maintaining the 0.5 mg/L TP limit in the WQMP as set forth in Comment 1 above, which is incorporated by reference in this Comment 2, fully support interim and final effluent limitations for TP of 0.5 mg/L as a Monthly Average; 0.75 mg/L as a 7-Day Average; and 46.7 lbs/day as a Monthly Average.

After the WQMP for the Noland WWTP Outfall 001 was updated in 2005 with a TP limit of 0.5 mg/L at a discharge of up to 11.2 MGD, the City of Fayetteville and BWD entered into discussions regarding water quality issues in the White River watershed, including the quantity and quality of phosphorus discharges from the Noland WWTP. Because ADEQ was proposing a TP effluent limit of 0.5 mg/L at a discharge of up to 11.2 MGD for the City's next renewal NPDES permit, the City and BWD discussed a series of actions that would allow the City to retain the 1.0 mg/L TP limit in its then-effective August 1, 1995, NPDES permit. In essence, the City and BWD contemplated steps to achieve reductions of TP from nonpoint sources sufficient to offset the increased TP loading from the Noland WWTP that would be allowed by an increase in the volume of discharge from 6.0 MGD up to 11.2 MGD at 1.0 mg/L TP, while at the same time the City would optimize operation of the Noland WWTP to achieve an effluent discharge at or below 0.5 mg/L on an annual average basis.

In consideration of the ongoing discussions between the City and BWD, ADEQ issued a renewal Draft NPDES Permit No. AR0020010 on or about February 10, 2006 (hereinafter referred to as the "2006 Draft Permit") that included a TP limit of 1.0 mg/L at Outfall 001 (11.2 MGD) contingent upon execution of an agreement between the City and BWD by March 31, 2006. If ADEQ did not receive notification of such an agreement by March 31, 2006, then final effluent limitations for TP at Outfall 001 (11.2 MGD) of 0.5 mg/L as a Monthly Average; 0.75 mg/L as a 7-Day Average; and 46.7 lbs/day as a Monthly Average would become effective ninety days after the City's West Side WWTP became operational, or four years after the effective date of the final permit, whichever came first. See 2006 Draft Permit, Part IA at Page 3 and Part IA at Page 4, Footnote 3; 2006 Draft Permit, Part III at Page 18, Condition 11; and the Fact Sheet for the 2006 Draft Permit at Pages 12 and 13.

An Agreement between Beaver Water District and the City of Fayetteville for the Protection of the Beaver Lake Watershed (hereinafter referred to as the "2006 Agreement") was approved by the Fayetteville City Council on March 21, 2006, and signed by the Fayetteville Mayor and City Clerk and by the BWD Board President and Secretary. A copy of the Agreement is attached hereto and incorporated by reference herein. The agreement was effective for a period of five years, to generally coincide with the term of the 2006 final NPDES permit, although the City and BWD have continued to date to abide by the 2006 Agreement. With the issuance of the 2012 Draft permit on September 26, 2012, however, it is necessary for the City and BWD to either enter into a new agreement along the lines of the 2006 Agreement or for the City's renewal permit to revert to the effluent limitations for TP at Outfall 001 of 0.5 mg/L as a Monthly Average; 0.75 mg/L as a 7-Day Average; and 46.7 lbs/day as a Monthly Average as provided at 2006 Draft Permit, Page 18 of Part III, Condition 11.

Discussions between the City and BWD on a new agreement are underway, but until such an agreement is executed BWD must: (1) object to the 2012 Draft Permit's interim and final effluent limitations for TP at Page 2 of Part I.A and Page 4 of Part I.B; and (2) request that the final renewal permit contain TP limits of 0.5 mg/L as a Monthly Average; 0.75 mg/L as a 7-Day Average; and 46.7 lbs/day as a Monthly Average. *Again, the scientific, technical, and legal support for these more stringent limits is set forth in Comment 1 above and the more stringent limits are in compliance with the current WQMP and Section 208(e) of the CWA, 33 U.S.C. § 1288(e), and 40 C.F.R. §130.12(a).*

Response #2: The Department acknowledges this comment but notes that the draft permit proposed that the previous permit limitations be continued and the WQMP corrected to include the effluent limitation for Total Phosphorus of 1 mg/l. In accordance with Reg 2.509, wastewater treatment facilities with a design flow greater than three (3) and less than fifteen (15) mgd located within watersheds designated as nutrient surplus watersheds may include a Total Phosphorus effluent limitation of 1 mg/l. There is no other regulatory basis for inclusion of any other effluent limitation for Total Phosphorus. Any pending agreement between the City and BWD does not bind ADEQ as the permitting authority.

Comment #3 regarding the Interim Effluent Limitations for Chlorides, Sulfates, and TDS

BWD:
"Comment 3 re Interim Effluent Limitations for Chlorides, Sulfates, and Total Dissolved Solids (TDS) in the 2012 Draft Permit: *BWD objects to the Draft Permit's interim effluent limitations for Chlorides, Sulfates, and TDS (see 2012 Draft Permit, Page 2 of Part I.A and Page 19 of Part II, Condition No. 10).* The interim effluent limitations for Chlorides and Sulfates are 250 mg/L as a Monthly Average; 375 mg/L as a 7-Day Average; and 23,352 lbs/day as a Monthly Average. The interim effluent limitations for TDS are 500 mg/L as a Monthly Average; 750 mg/L as a 7-Day Average; and 46,704 lbs/day as a Monthly Average. Page 15 of the Fact Sheet for the 2012 Draft Permit states that, "In the absence of information, the interim effluent limitations have been calculated using EPA's Secondary Drinking Water Standards listed in Reg. 2.511(C) as a monthly average."

BWD and other drinking water utilities are subject to the Secondary Drinking Water Standards of 250 mg/L for Chlorides, 250 mg/L for Sulfates, and 500 mg/L for TDS. In order to meet these standards, the source water cannot already have concentrations of these minerals at levels approaching 250 mg/L for Chlorides, 250 mg/L for Sulfates, and 500 mg/L for TDS. Conventional drinking water processes use flocculants and coagulants that will add minerals to the treated water. If the raw water comes in at or near 250 mg/L for Chlorides, 250 mg/L for Sulfates, and 500 mg/L for TDS, the finished water will contain levels of these minerals that exceed the Secondary Drinking Water Standards. Therefore, BWD requests that the interim effluent limitations for Chlorides, Sulfates, and TDS be set so that: (1) the Monthly Average concentration and mass limits and the 7-Day Average concentration limit are all below 250 mg/L and 23,352 lbs/day for Chlorides and Sulfates; (2) the Monthly Average concentration and mass limits and the 7-Day Average concentration limit for TDS are all below 500 mg/L and 46,704 lbs/day; and (3) the discharges to the designated drinking water source do not cause, have the potential to cause, or

contribute to excursion by a drinking water supplier of the Secondary Drinking Water Standards for Chlorides, Sulfates, and TDS."

Response #3

The Department acknowledges this comment. Based on the Department's "*Site-Specific Minerals Criteria Development Implementation Strategy*" the interim effluent limitations should be set as low as possible given the current capabilities of the treatment facility or the Secondary Drinking Water Criteria, whichever is lower. The draft permit established the interim effluent limitations based on EPA's Secondary Drinking Water Standards listed in Reg. 2.511(C), as no actual monitoring data were available at that time. Since then the permittee submitted the "*White River Use Attainability Analysis – Fayetteville, Arkansas*" ("UAA") prepared for the City of Fayetteville by CH2MHill and FTN Associates. The UAA proposes the following site-specific water quality criteria: Chloride of 60 mg/l, Sulfate of 100 mg/l, and TDS of 440 mg/l. Based on the UAA's analysis of the effluent mineral concentrations, the existing wastewater treatment facility can meet the proposed site-specific water quality criteria, which are included as interim limitations in the final permit.

Issue #4 regarding Compliance Schedule for Chlorides, Sulfates, and TDS

BWD:
"Comment 4 re Compliance Schedule for Effluent Limitations for Chlorides, Sulfates, and TDS in the 2012 Draft Permit: *BWD objects to the compliance schedule regarding the effluent limitations for Chlorides, Sulfates, and TDS at Page 19 of Part II, Condition No. 10 of the 2012 Draft Permit.* Condition No. 10 of Part II also is referenced on Pages 1- 4 of Part IA of the 2012 Draft Permit. Numbered paragraph 3 of Condition No. 10 of Part II is written in a way that could be interpreted to delay the effective date of the final effluent limitations for chlorides, sulfates, and TDS until sometime after the expiration date of the permit. That would not be acceptable and would be contrary to Reg. 2.104, which provides that "compliance schedules may be included in NPDES permits at the time of renewal to require compliance with new water quality standards at the earliest practicable time; but not to exceed three years from effective date of permit [sic]." It also would be contrary to CWA § 301(b)(1)(C), 33 U.S.C. § 1311(b)(1)(C), and 40 C.F.R. §§ 122.4(a) and 122.44(d). ADEQ has adopted the regulations at 40 C.F.R. §§ 122.4(a) and 122.44(d), verbatim, pursuant to APCEC Regulation No. 6, Reg. 6.104(A)(3). See also, EPA Memorandum dated May 10, 2007, titled "Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits" from James A. Hanlon, Director of EPA's Office of Wastewater Management. A copy of the Memorandum is attached hereto and incorporated by reference herein.

At a minimum, BWD suggests that numbered paragraph 3 of Condition No. 10 of Part II be revised as follows: "Unless this permit is modified upon the adoption of revised water quality standards for Chlorides, Sulfates or TDS, the effective date of the Final Effluent Limits for Chlorides, Sulfates and TDS shall be the earliest of:" [Remainder of paragraph stays the same].

BWD also suggests that a revised Condition No. 10 of Part II be moved to Page 1 of Part IB at Section B, Permit Compliance. This section follows directly after the Part IA Final Effluent

Limitations and Monitoring Requirements and would seem to be the appropriate place for provisions related to the compliance schedule for the final effluent limitations for chlorides, sulfates, and TDS. As it stands now, Section B begins with the sentence that, "The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:," but then goes on to provide a schedule related to the Pretreatment Program."

Response #4

The Department acknowledges this comment, however, the intent of Condition No. 10 is not to replace the Schedule of Compliance. This approach is consistent with the Department's "*Site-Specific Minerals Criteria Development Implementation Strategy*".

Issue #5 regarding intakes for public water supply in Beaver Lake submitted by ADH

"A staff review has been made of the information received on the referenced project. The Engineering Section notes that while the outfalls are not located within a source water assessment area, they discharge into the White River upstream of four intakes for public water supply in Beaver Lake."

Response #5

The Department acknowledges this comment. The Department considered the location of public water supply intakes when drafting this permit. No changes to the permit are warranted.