Permit Number: AR0040177
AFIN: 60-01021

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

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

Little Rock Wastewater
Fourche Creek Wastewater Treatment Plant

is authorized to discharge treated municipal wastewater from a facility located as follows: 9500 Birdwood Drive, Little Rock, AR 72206, approximately 1.6 miles southeast of the Interstate 440 bridge over the Arkansas River, in Pulaski County, Arkansas. The applicant's mailing address is: 9500 Birdwood Drive, Little Rock, AR 72206.

Facility Coordinates: Latitude: 34° 41' 57.2"; Longitude: 92° 10' 5.4"

Receiving stream: Arkansas River in Segment 3C of the Arkansas River Basin.

The permitted outfall is located at the following coordinates:

Outfall 001: Latitude: 34° 41' 42.5"; Longitude: 92° 09' 7.4"

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

Response to Comments is attached.

Effective Date:	October 1, 2014
Minor Modification Effective Date:	October 17, 2014
Expiration Date:	September 30, 2019

Ellen Carpenter
Chief, Water Division
Arkansas Department of Environmental Quality

October 14, 2014
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 3 years after the effective date, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions and calculations.

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[1]	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Comments[1]	
Carbonaceous Biochemical Oxygen Demand (CBOD5)					
(May-October)	3336	25	40	three/week	composite
Biochemical Oxygen Demand (BOD5)					
(November – April)	4003	30	45	three/week	composite
Total Suspended Solids (TSS)	4003	30	45	three/week	composite
Ammonia-Nitrogen (NH3-N)					
(May-October)	Report	Report	Report	three/week	composite
Dissolved Oxygen (DO)	N/A	2.0, (Monthly Avg. Min.)		three/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(May-September)	N/A	200	400	two/week	grab
(October-April)	N/A	1000	2000	two/week	grab
Total Residual Chlorine (TRC)	N/A	1.5 mg/l (Inst. Max.)		three/week	grab
Total Phosphorus (TP)	Report	Report	Report	once/month	grab
Nitrate + Nitrite Nitrogen (NO3 + NO2-N)	Report	Report	Report	once/quarter	grab
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	two/week	grab
Chronic WET Testing[2]	N/A	Report		once/quarter[3]	composite
Pimephales promelas (Chronic)[2]		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C		Report (Pass=0/Fail=1)		once/quarter[3]	composite
Pass/Fail Growth (7-day NOEC)TGP6C		Report (Pass=0/Fail=1)		once/quarter[3]	composite
Survival (7-day NOEC) TOP6C		Report %		once/quarter[3]	composite
Coefficient of Variation (Growth) TQP6C		Report %		once/quarter[3]	composite
Growth (7-day NOEC) TPP6C		Report %		once/quarter[3]	composite
Ceriodaphnia dubia (Chronic)[2]		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B		Report (Pass=0/Fail=1)		once/quarter[3]	composite

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.		
Pass/Fail production (7-day NOEC)TGP3B		Report (Pass=0/Fail=1)		once/quarter[3]	composite
Survival (7-day NOEC) TOP3B		Report %		once/quarter[3]	composite
Coefficient of Variation (Reproduction) TQP3B		Report %		once/quarter[3]	composite
Reproduction (7-day NOEC) TPP3B		Report %		once/quarter[3]	composite

1 See Condition No. 6 of Part II (SSO Condition). If there are no overflows during the entire month, report "zero" (0).
2 See Condition No. 9 of Part II (WET Testing Condition).
3 Testing quarters for WET for Outfall 001 are defined as January-March, April-June, July-September, and October-December.

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.

Effluent samples for all parameters except for TRC and WET are taken after the chlorine contact basin at the old chlorine storage building just prior to entering 72" effluent pipeline to Arkansas River at the following coordinates: Latitude: 34° 41' 51.1", Longitude: 92° 09' 56.5".

Effluent samples for TRC and WET shall be taken at the final sluice gate on the 72" effluent pipeline to Arkansas River located adjacent to the south sludge holding lagoon at the following coordinates: Latitude: 34° 41' 43.2", Longitude: 92° 09' 26.9"

PART I
PERMIT REQUIREMENTS

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

During the period beginning 3 years after the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001 (Ammonia-based). Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions and calculations.

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[1]	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Comments[1]	
Carbonaceous Biochemical Oxygen Demand (CBOD5)					
(May – October)	3336	25	40	three/week	composite
Biochemical Oxygen Demand (BOD5)					
(November – April)	4003	30	45	three/week	composite
Total Suspended Solids (TSS)	4003	30	45	three/week	composite
Ammonia-Nitrogen (NH3-N)					
(May-October)	1601	12.0	22.5	three/week	composite
Dissolved Oxygen (DO)	N/A	2.0, (Monthly Avg. Min.)		three/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(May-September)	N/A	200	400	two/week	grab
(October-April)	N/A	1000	2000	two/week	grab
Total Residual Chlorine (TRC)	N/A	1.5 mg/l (Inst. Max.)		three/week	grab
Total Phosphorus (TP)	Report	Report	Report	once/month	grab
Nitrate + Nitrite Nitrogen (NO3 + NO2-N)	Report	Report	Report	once/quarter	grab
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	two/week	grab
Chronic WET Testing[2]	N/A	Report		once/quarter[3]	composite
Pimephales promelas (Chronic)[2]		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C		Report (Pass=0/Fail=1)		once/quarter[3]	composite
Pass/Fail Growth (7-day NOEC)TGP6C		Report (Pass=0/Fail=1)		once/quarter[3]	composite
Survival (7-day NOEC) TOP6C		Report %		once/quarter[3]	composite
Coefficient of Variation (Growth) TQP6C		Report %		once/quarter[3]	composite
Growth (7-day NOEC) TPP6C		Report %		once/quarter[3]	composite
Ceriodaphnia dubia (Chronic)[2]		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B		Report (Pass=0/Fail=1)		once/quarter[3]	composite

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.		
Pass/Fail production (7-day NOEC)TGP3B		Report (Pass=0/Fail=1)		once/quarter[3]	composite
Survival (7-day NOEC) TOP3B		Report %		once/quarter[3]	composite
Coefficient of Variation (Reproduction) TQP3B		Report %		once/quarter[3]	composite
Reproduction (7-day NOEC) TPP3B		Report %		once/quarter[3]	composite

1 See Condition No. 6 of Part II (SSO Condition). If there are no overflows during the entire month, report "zero" (0).
2 See Condition No. 9 of Part II.
3 Testing quarters for WET for Outfall 001 (Ammonia-based) are defined as January-March, April-June, July-September, and October-December.

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.

Effluent samples for all parameters except for TRC and WET are taken after the chlorine contact basin at the old chlorine storage building just prior to entering 72" effluent pipeline to Arkansas River at the following coordinates: Latitude: 34° 41' 51.1", Longitude: 92° 09' 56.5".

Effluent samples for TRC and WET shall be taken at the final sluice gate on the 72" effluent pipeline to Arkansas River located adjacent to the south sludge holding lagoon at the following coordinates: Latitude: 34° 41' 43.2", Longitude: 92° 09' 26.9"

PART I
PERMIT REQUIREMENTS

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

During the period beginning 3 years after the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001 (WET-based). Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions and calculations.

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[1]	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Comments[1]	
Biochemical Oxygen Demand (BOD5)	4003	30	45	three/week	composite
Total Suspended Solids (TSS)	4003	30	45	three/week	composite
Ammonia-Nitrogen (NH3-N)					
(May-October)	Report	Report	Report	three/week	composite
Dissolved Oxygen (DO)	N/A	2.0, (Monthly Avg. Min.)		three/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(May-September)	N/A	200	400	two/week	grab
(October-April)	N/A	1000	2000	two/week	grab
Total Residual Chlorine (TRC)	N/A	1.5 mg/l (Inst. Max.)		three/week	grab
Total Phosphorus (TP)	Report	Report	Report	once/month	grab
Nitrate + Nitrite Nitrogen (NO3 + NO2-N)	Report	Report	Report	once/quarter	grab
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	two/week	grab
Chronic WET Testing (November-April)[3]	N/A	Report		once/quarter[5]	composite
Whole Effluent Toxicity[2,4] (7-day NOEC) 22414 (May-October)	Daily Average Minimum not < 11%		7-day Minimum not < 11%	once/quarter[5]	composite
Pimephales promelas (Chronic)[3]	7-Day Average				
Pass/Fail Lethality (7-day NOEC) TLP6C	Report (Pass=0/Fail=1)			once/quarter[5]	composite
Pass/Fail Growth (7-day NOEC)TGP6C	Report (Pass=0/Fail=1)			once/quarter[5]	composite
Survival (7-day NOEC) TOP6C	Report %			once/quarter[5]	composite
Coefficient of Variation (Growth) TQP6C	Report %			once/quarter[5]	composite
Growth (7-day NOEC) TPP6C	Report %			once/quarter[5]	composite
Ceriodaphnia dubia (Chronic)[3]	7-Day Average				
Pass/Fail Lethality (7-day NOEC) TLP3B	Report (Pass=0/Fail=1)			once/quarter[5]	composite
Pass/Fail production (7-day NOEC)TGP3B	Report (Pass=0/Fail=1)			once/quarter[5]	composite
Survival (7-day NOEC) TOP3B	Report %			once/quarter[5]	composite
Coefficient of Variation (Reproduction) TQP3B	Report %			once/quarter[5]	composite
Reproduction (7-day NOEC) TPP3B	Report %			once/quarter[5]	composite

1 See Condition No. 6 of Part II (SSO Condition). If there are no overflows during the entire month, report "zero" (0).
2 See Condition No. 10 of Part II (WET limit condition applicable May-October).
3 See Condition No. 9 of Part II (WET testing condition applicable November-April).
4 Whole Effluent Toxicity limit for lethal and sub-lethal endpoints for May-October only.
5 Testing quarters for WET for Outfall 001 (WET-based) are defined as May-July, August-October, November-January, and February-April.

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.

Effluent samples for all parameters except for TRC and WET are taken after the chlorine contact basin at the old chlorine storage building just prior to entering 72" effluent pipeline to Arkansas River at the following coordinates: Latitude: 34° 41' 51.1", Longitude: 92° 09' 56.5".

Effluent samples for TRC and WET shall be taken at the final sluice gate on the 72" effluent pipeline to Arkansas River located adjacent to the south sludge holding lagoon at the following coordinates: Latitude: 34° 41' 43.2", Longitude: 92° 09' 26.9"

SECTION B. PERMIT COMPLIANCE

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

a. Compliance with the Interim Effluent Limits listed on Page 1 of Part IA is required on the effective date of the permit.
b. Compliance with the Final Effluent Limits for Outfall 001 (Ammonia-based) or Outfall 001 (WET-based) is required in accordance with the following schedule:

Compliance Schedule		
Report	Due Date	Minimum Information Required in Report
Report No. 1	18 months after effective date	EVALUATION OF CURRENT TREATMENT SYSTEM • Evaluation of the ability of the current treatment system, as configured, to comply with the final NH3-N or WET limits on a consistent basis. • If this evaluation concludes that the final limits for NH3-N or WET are currently being achieved on a consistent basis, Report No. 3 will be the only remaining report required and Report No. 3 shall include a written statement signed by the responsible official which includes the certification statement required by Part III.D.12 of this permit indicating that the final limits are expected to be met on a consistent basis. • If this evaluation concludes that the final limits for NH3-N or WET cannot be achieved on a consistent basis, all remaining reports in this schedule shall be submitted.
Report No. 2	24 months after effective date	EVALUATE/SELECT OPERATIONAL CHANGES AND/OR TREATMENT AND SUBMIT APPLICATION FOR CONSTRUCTION PERMIT • Selected operational changes and/or treatment option • Application for a construction permit, if necessary, for installation of the selected treatment option.
Report No. 3	34 months after effective date	CHOOSE OUTFALL 001 (Ammonia-based) OR OUTFALL 001 (WET-based) • Select the outfall that facility will use for all future discharge monitoring reports (DMRs). Following submittal of this report, ADEQ will remove the outfall and associated permit requirements which the permittee does not select through a minor permit modification. If the permittee does not select an outfall by the due date of this report, both NH3-N and WET limits shall be met until such time as the facility selects the outfall and associated permit requirements in writing to be used for DMRs.
Report No. 4	36 months after effective date	COMPLY WITH FINAL LIMITS • A written statement signed by the responsible official which includes the certification statement required by Part III.D.12 of this permit indicating indicating that the treatment system operational changes (if any) and/or upgrades (if any) were completed and are expected to comply with the final limits on a consistent basis.

All progress reports required by this compliance schedule shall be submitted to the Department within the time period specified in Part III.D.5 of the permit (no later than 14 days following each compliance schedule due date listed in above table). Progress reports shall be submitted to the following address:

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

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), Biochemical Oxygen Demand (BOD5), and Total Suspended Solids (TSS) shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR Part 133.102, as adopted by reference in APCEC Regulation No. 6. The permittee must monitor the influent and effluent CBOD5, BOD5, and TSS at least once per year and calculate the percent removal to ensure compliance with the required 85 percent removal for each parameter. This information must be maintained on site and provided to Department personnel upon request.

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

4. Other Specified Monitoring Requirements

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

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

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

5. Sewage Sludge Practices:

All primary and waste-activated sludge from all three LRW plants is ultimately processed at the Fourche Creek facility. The sludge generated at the Fourche Creek Treatment Facility is combined with transferred sludge from the Adams Field Treatment Facility, where it is then processed through four (4) circular gravity thickeners, six (6) primary anaerobic digesters, and two (2) secondary anaerobic digesters. A portion of the sludge from the circular gravity thickeners is further thickened by a gravity belt thickener before being sent to the primary anaerobic digesters. Sludge from the anaerobic digesters is further thickened in sludge holding lagoons. The water from the sludge holding lagoons is decanted and recycled back to the Fourche Creek Treatment Facility process.

The sludge is removed from the lagoons as needed and land applied on permitted site(s). Sludge that meets Exceptional Quality (EQ) status may be land applied on unpermitted site(s) provided that all of the following conditions are met [A.C.A. 8-4-203 and A.C.A. 8-4-216]:

A. The permittee shall provide the certification of EQ classification prior to application on unpermitted site(s).
B. The permittee shall submit for ADEQ approval the location of the proposed application site at least 30 days in advance of the desired application date.

6. Sanitary Sewer Overflow (SSO) Reporting Requirements:

All SSOs are prohibited.

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

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

B. Immediate Reporting

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

The 24-hour report shall identify:

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

C. Follow-Up Written Reports/email:

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

At a minimum, the report shall identify:

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

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

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

D. Reporting for All SSOs on DMR

At the end of the month, report in your DMR the total number of separate SSOs and the total volume of the SSOs from all locations within the facility's service basin that occurred during the month in question. For counting SSO occurrences, each location within the facility's service basin where there is an overflow, spill, release, or diversion of wastewater at a given time is counted as one occurrence. For example, if at a given time overflows occur from a manhole at one location and from a damaged pipe at another location then you should record two occurrences.

7. 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.

8. Contributing Industries and Pretreatment Requirements

a. The permittee shall operate an industrial Pretreatment Program in accordance with Section 402(b)(8) of the Clean Water Act, the General Pretreatment Regulations (40 CFR Part 403) and the approved POTW Pretreatment Program submitted by the permittee. The Pretreatment Program was approved on 11/1/82, revised, submitted and approved on 9/10/87, 4/6/99, and again on 4/1/08. The POTW Pretreatment Program is hereby incorporated by reference and shall be implemented in a manner consistent with the following requirements:

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

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

(3) The permittee shall enforce and obtain remedies for noncompliance by any industrial users with applicable pretreatment standards and requirements;

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

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

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

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

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

e. Statement of applicable civil and criminal penalties for violation of Pretreatment Standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond federal deadlines; and

f. Requirements to control slug discharges, if determined by the POTW to be necessary.

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

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

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

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

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 quarterly (January - March, April - June, July - September and October - December). 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 (quarterly) on both the influent and the effluent.

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

A “composite sample” is a mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing a minimum of 4

effluent portions collected at equal time intervals (but not closer than one hour apart) during operational hours, within the 24-hour period, and combined proportional to flow or a sample collected at more frequent intervals proportional to flow over the 24-hour period.

The laboratory results must be posted on the influent-effluent chart shown on the following pages. This chart must be submitted each year during the month of March with the annual report required by NPDES permit tracking number AR0021806 (Adams Field).

d. The permittee shall provide adequate notice to the Department of the following:

(1) any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 or 306 of the Act if it were directly discharging those pollutants; and

(2) any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

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

MONITORING RESULTS FOR THE ANNUAL PRETREATMENT REPORT
REPORTING YEAR: _____, 20___ TO _____, 20
TREATMENT PLANT : _____ NPDES PERMIT #AR00_ ____
AVERAGE POTW FLOW: ____MGD %IU FLOW: ____%

METALS, CYANIDE and PHENOLS (Total)	MAHL ug/l (2)	INFLUENT DATES SAMPLED (ug/l) Once/quarter				WQ level/ limit ug/l (2)	EFFLUENT DATES SAMPLED (ug/l) Once/quarter				LABORATORY ANALYSIS		
											EPA MQL (µg/l) (1)	EPA Method Used (1)	Detection Level Achieved (µg/l)
Antimony	N/A					N/A					60		
Cadmium											0.5		
Copper											0.5		
Lead											0.5		
Mercury											.005		
Nickel											0.5		
Selenium											5		
Silver											0.5		
Zinc											20		
Chromium											10		
Cyanide											10		
Arsenic											0.5		
Molybdenum						N/A					--		
Phenols	N/A					N/A					5		
Beryllium											0.5		
Thallium	N/A					N/A					0.5		
Flow, MGD	N/A					N/A							

(3)													

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

(2) This value was calculated during the development of TBLL based on State WQ criteria, EPA guidance and ADEQ Pretreatment staff Excel spreadsheets.

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

MAHL - Maximum Allowable Headworks Level

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

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

1. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL(S):	Outfall 001 and 001 (Ammonia-based)
REPORTED ON DMR AS FINAL OUTFALL:	Outfall 001 and 001 (Ammonia-based)
CRITICAL DILUTION (%):	11
EFFLUENT DILUTION SERIES (%):	5, 8, 11, 15, 25
TESTING FREQUENCY:	Once/quarter[1]
COMPOSITE SAMPLE TYPE:	Defined in PART IA
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.

[1] Testing quarters for Outfall 001/ 001 (Ammonia-based) are defined as calendar quarters (January-March, April-June, July-September, and October-December.

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 duration of the current 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

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

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

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

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

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

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

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

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

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

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

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

b. Statistical Interpretation

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

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

iii. If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report

a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

c. Dilution Water

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

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

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

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

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

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

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

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

d. Samples and Composites

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

ii. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples, on use, are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis. In a previous permit cycle, the permittee submitted four years of data for whole effluent toxicity tests which were performed when diquat dibromide was used in the sewer lines for root removal. This data was sufficient to conclude that no toxic effects were exhibited in the whole effluent toxicity tests. Therefore, the requirement for collecting effluent samples while using diquat dibromide for root removal was waived in the previous permit and this waiver is being continued in this permit.

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'ɕ 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' (EPA/600/R-92/080) and 'Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/081), as appropriate.

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

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

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

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

of equal portions of the individual composite samples, for the chemical specific analysis;

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

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

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

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

1. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

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

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

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.

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. If all of the following conditions are met, the permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing (in accordance with Item 1.a.) after the expiration date of the previous permit, for one or both test species.

   i. A WET testing reduction was granted during the previous permit cycle; and

   ii. The permittee reverted to quarterly testing upon the expiration date of the previous permit; and

   iii. The issuance of the renewed permit was not delayed by any fault of the permittee; and

   iv. No lethal or sublethal effects are demonstrated at or below the critical dilution for the first four consecutive quarters of testing.

   If any of the above conditions are not met, the permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing (in accordance with Item 1.a.) after the renewal permit is issued, for one or both test species.

   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.

10. WHOLE EFFLUENT TOXICITY LIMITS (7-DAY CHRONIC NOEC FRESHWATER)

NOTE: WET limits only apply during May-October and apply only if permittee chooses not to have an NH3-N effluent limit.

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 (WET-based)
REPORTED ON DMR AS FINAL OUTFALL:	001 (WET-based)
CRITICAL DILUTION (%):	11
EFFLUENT DILUTION SERIES (%):	5, 8, 11, 15, 25
LETHAL LIMIT	11% (May-October)
SUB-LETHAL LIMIT	11% (May-October)
COMPLIANCE SCHEDULE	Yes
TESTING FREQUENCY	Once/quarter[2]
COMPOSITE SAMPLE TYPE:	Defined at PART IA
TEST SPECIES/METHODS:	40 CFR Part 136

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

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

[2] Testing quarters for Outfall 001 (WET-based) are defined as May-July, August-October, November-January, and February-April.

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. The conditions of this item are effective beginning with the effective date of the WET limit. When the testing frequency stated above is less than monthly and the effluent fails the lethal or sub-lethal endpoint at or below the required limit specified in Item 1.a., the permittee shall be considered in violation of this permit limit and the frequency for the affected species will increase to monthly until such time compliance with the No Observed Effect Concentration (NOEC) effluent limitation is demonstrated for a period of three consecutive months, at which time the permittee may return to the testing frequency stated in PART I of this permit. During the period the permittee is out of compliance, test results shall be reported on the DMR for that reporting period. 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.

d. If under a TRE, the permittee may conduct quarterly testing as a minimum monitoring requirement for the organism(s) under investigation for the duration of the TRE. Upon completion of the TRE, monitoring will revert back to the conditions specified in Item 1.c.

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

2. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

Non-ideal concentration-response relationships will occasionally be encountered in toxicity testing. In the event the results from a specific toxicity test yield a non-ideal concentration-response relationship, the permittee shall submit the toxicity report to ADEQ and request a technical review prior to initiating a retest. The goal of the technical review is to properly interpret non-ideal patterns and to reduce the number of false positives and unnecessary retests. At the conclusion of the technical

review, ADEQ will advise the permittee on any follow up toxicity retest(s) that may be required. However, if an ideal response-relationship is indicated in the results the Department may require the permittee to conduct additional testing.

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

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

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

iii. 60% of the surviving control females must produce three broods.

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

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

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

vii. 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.

viii. 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%.

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

x. 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 where the receiving stream is classified as intermittent or where the receiving stream has no flow 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 2.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 2.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 3.a 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 must collect all three flow-weighted composite samples within the monitoring period. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis. In a previous permit cycle, the permittee submitted four years of data for whole effluent toxicity tests which were performed when diquat dibromide was used in the sewer lines for root removal. This data was sufficient to conclude that no toxic effects were exhibited in the whole effluent toxicity tests. Therefore, the requirement for collecting effluent samples while using diquat dibromide for root removal was waived in the previous permit and this waiver is being continued in this permit.

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

iv. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum

number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must 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 3 of this section

v. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in Item 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.

vi. 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.

3. 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. The permittee shall report the Whole Effluent Toxicity values for the 30-Day Average Minimum and the 7-Day Minimum under Parameter No. 22414 on the DMR for that reporting period in accordance with PART III.D.4 of this permit.

If more than one valid test for a species was performed during the reporting period, the test NOECs will be averaged arithmetically and reported as the DAILY AVERAGE MINIMUM NOEC for that reporting period.

If more than one species is tested during the reporting period (in accordance with item 1.a.), the permittee shall report the lowest 30-Day Average Minimum NOEC and the lowest 7-Day Minimum NOEC for Whole Effluent Toxicity.

A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit. 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 the valid toxicity test on the DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. Pimephales promelas (Fathead minnow)

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

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

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

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

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

ii. Ceriodaphnia dubia

A. If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP3B

B. Report the NOEC value for survival, Parameter No. TOP3B

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

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

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

4. TOXICITY REDUCTION EVALUATIONS (TREs)

These TRE conditions apply only during Nov-Apr for Outfall 001 (WET-based).

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:

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

Evaluation: Characterization of Chronically Toxic Effluents, Phase I' (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/080) and 'Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/081), as appropriate.

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

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

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

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

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

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

d. 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.

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

1. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

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

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

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.

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).

PART III
STANDARD CONDITIONS

SECTION A – GENERAL CONDITIONS

1. Duty to Comply

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

2. Penalties for Violations of Permit Conditions

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

3. Permit Actions

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

A. Violation of any terms or conditions of this permit; or
B. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
D. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.
E. Failure of the permittee to comply with the provisions of APCEC Regulation No. 9 (Permit fees) as required by Part III.A.11 herein.

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

4. Toxic Pollutants

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

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

5. Civil and Criminal Liability

Except as provided in permit conditions for "Bypass of Treatment Facilities" (Part III.B.4), and "Upset" (Part III.B.5), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state and federal 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 (Ark. Code Ann. § 8-4-101 et seq.).

6. Oil and Hazardous Substance Liability

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

7. State Laws

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

8. Property Rights

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

9. Severability

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

10. Applicable Federal, State or Local Requirements

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

11. Permit Fees

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

SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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

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

2. Need to Halt or Reduce not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the

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

3. Duty to Mitigate

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

4. Bypass of Treatment Facilities

A. Bypass not exceeding limitation

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

B. Notice

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

C. Prohibition of bypass

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

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

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

5. Upset Conditions

A. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Part III.B.5.b of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

B. Conditions necessary for demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the permittee can identify the specific cause(s) of the upset;
2. The permitted facility was at the time being properly operated.
3. The permittee submitted notice of the upset as required by Part III.D.6; and
4. The permittee complied with any remedial measures required by Part III.B.3.

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

6. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State. The Permittee must comply with all applicable state and federal regulations governing the disposal of sludge, including but not limited to 40 CFR Part 503, 40 CFR Part 257, and 40 CFR Part 258.

Any changes to the permittee's disposal practices described in Part II of the permit will require at least 180 days prior notice to the Director to allow time for additional permitting. Please note that the 180 day notification requirement may be waived if additional permitting is not required for the change.

7. Power Failure

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

SECTION C – MONITORING AND RECORDS

1. Representative Sampling

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

2. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than +/- 10% from true discharge rates throughout the range of expected discharge volumes and shall be installed at the monitoring point of the discharge.

Calculated Flow Measurement

For calculated flow measurements that are performed in accordance with either the permit requirements or a Department approved method (i.e., as allowed under Part II.3), the +/- 10% accuracy requirement described above is waived. This waiver is only applicable when the method used for calculation of the flow has been reviewed and approved by the Department.

3. Monitoring Procedures

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

4. Penalties for Tampering

The Arkansas Water and Air Pollution Control Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof

shall be subject to imprisonment for not more than one (1) year or a fine of not more than ten thousand dollars ($10,000) or by both such fine and imprisonment.

5. Reporting of Monitoring Results

Monitoring results must be reported on a Discharge Monitoring Report (DMR) form provided by the Department or other form/method approved in writing by the Department (e.g., electronic submittal of DMR once approved). Monitoring results obtained during the previous monitoring period shall be summarized and reported on a DMR form postmarked no later than the 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 to the Director as soon as possible but no later than 180 days prior to any planned physical alterations or additions to the permitted facility [40 CFR 122.41(l)]. Notice is required only when:

A. The alteration or addition to a permitted facility may meet one of the criteria for new sources at 40 CFR 122.29(b); or

B. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants subject to effluent limitations in the permit, or to the notification requirements under 40 CFR 122.42(b).

2. Anticipated Noncompliance

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

3. Transfers

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

4. Monitoring Reports

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

5. Compliance Schedule

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

6. Twenty-four Hour Report

A. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the following information:

1. A description of the noncompliance and its cause;
2. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
3. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

B. The following shall be included as information which must be reported within 24 hours:

1. Any unanticipated bypass which exceeds any effluent limitation in the permit;
2. Any upset which exceeds any effluent limitation in the permit and

3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part I of the permit to be reported within 24 hours to the Enforcement Section of the Water Division of the ADEQ.

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

7. Other Noncompliance

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

8. Changes in Discharge of Toxic Substances for Industrial Dischargers

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

A. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 CFR Part 122.42(a)(1); or
B. That any activity has occurred or will occur which would result in any discharge on a non-routine or infrequent basis of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 CFR Part 122.42(a)(2).

9. Duty to Provide Information

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

10. Duty to Reapply

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

11. Signatory Requirements

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

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

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

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

2. For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or

3. For a municipality, State, Federal, or other public agency, by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

   (a) The chief executive officer of the agency, or
   (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

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

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

3. The written authorization is submitted to the Director.

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

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

12. Availability of Reports

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

13. Penalties for Falsification of Reports

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

PART IV
DEFINITIONS

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

1. **"Act"** means the Clean Water Act, Public Law 95-217 (33.U.S.C. 1251 et seq.) as amended.
2. **"Administrator"** means the Administrator of the U.S. Environmental Protection Agency.
3. **"APCEC"** means the Arkansas Pollution Control and Ecology Commission.
4. **"Applicable effluent standards and limitations"** means all State and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards of performance, toxic effluent standards and prohibitions, and pretreatment standards.
5. **"Applicable water quality standards"** means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303(a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under (APCEC) Regulation No. 2, as amended.
6. **"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, calculate the monthly average as a geometric mean of all effluent samples collected during a calendar month in colonies per 100 mL.
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. For Fecal Coliform Bacteria (FCB) or E-Coli, calculate the 7-day average as a geometric mean of all effluent samples collected during a calendar week in colonies per 100 mL.
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.

Fact Sheet

This 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 AR0040177 with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 60-01021 to discharge to Waters of the State.

1. **PERMITTING AUTHORITY.**

The issuing office is:

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

2. **APPLICANT.**

The applicant's mailing address and physical address is:

Little Rock Wastewater – Fourche Creek WWTP
9500 Birdwood Drive
Little Rock, AR 72206

3. **PREPARED BY.**

The permit was prepared by:

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4. **PERMIT ACTIVITY.**

Previous Permit Effective Date:	5/1/2008
Previous Permit Modification Date:	5/1/2010
Previous Permit Expiration Date:	3/31/2013

The permittee submitted a permit renewal application on 10/26/2012. The discharge permit is being reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

On 11/30/2009 a State Construction Permit was issued for the construction of a new circular secondary clarifier, new activated sludge pump stations, a new scum pump station, new

chlorination and dechlorination system, and modification of final effluent weir structure. The design flow of the treatment plant remained unchanged with this project.

On 11/12/2010, Little Rock Wastewater submitted an application for a State Construction Permit for a project involving co-digestion of industrial process wastewater from a food manufacturing plant known as Sage V Foods (SVF) in the anaerobic digesters to reduce the organic load placed on the aeration basins. This "Co-Digestion" project involved the conversion of an existing rectangular clarifier structure which was abandoned from a previous rotating biological contact (RBC) treatment process, to function as an equalization basin for receiving the industrial process wastewater from SVF. ADEQ subsequently determined in a letter dated 12/3/2010 that the scope of this project did not require a construction permit, and authorized the installation of the project related items which included new pumps, yard piping, caustic feed system for optimum digestion of the SVF wastewater, and installing a boiler for maintaining optimum temperature in the anaerobic digesters. This process wastewater is digested in the primary and secondary anaerobic sludge digesters then pumped to the sludge holding lagoons then either land applied or recycled back to primary clarifiers. This renewal permit fact sheet adds the phrase "equalization and treatment of high strength wastewater in sludge digesters (co-digestion)" to the description of the treatment process.

On 5/20/2011, Little Rock Wastewater notified ADEQ that one of the primary sludge digesters was taken out of service for structural deficiency issues. Due to this loss of digestion capacity, LRW requested approval to use a polymer to increase settling of suspended solids in the secondary clarifiers during the time period of digester repair. A contractor was selected for digester rehabilitation and this repair work was completed in late 2012 by Hawkins-Weir Engineers, Inc. ADEQ approved the request for temporary use of polymer injection by letter dated 6/7/2011. In the renewal application received 10/26/2012, LRW requested that the polymer injection to the secondary clarifiers be included in the permit as a permanent supplement to the treatment process for use during periods of high MLSS concentrations, non-filamentous bulking sludge, or extreme hydraulic conditions to improve settling performance in the secondary clarifiers. This renewal permit fact sheet adds the phrase "polymer injection (as needed)" to the description of the treatment process.

DOCUMENT ABBREVIATIONS

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

BAT - best available technology economically achievable
BCT - best conventional pollutant control technology
BMP - best management practices
BOD_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
USF&WS - United States Fish and Wildlife Service
WET - Whole effluent toxicity
WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

DMR Review:

The Discharge Monitoring Reports (DMR's) for the last three years (March 2010 to March 2013) were reviewed during the permit renewal process. There was one violation for TSS (June 2010) noted during the review of this DMR data.

Legal Order Review:

Little Rock Wastewater (LRW) is currently under Consent Administrative Order LIS No. 06-037-001 which was originally ordered on 3/13/2007 and amended on 9/26/2011. This CAO requires LRW to achieve compliance with the maintenance and operation of the wastewater collection system, as it applies to capacity related overflows by 12/31/2018.

Site Visits/Inspections

The most recent inspection at this facility was performed on 5/3/2012 which identified three items that required corrective action. The facility submitted a letter containing the corrective actions on 5/24/2012. The corrective actions were deemed adequate on 5/29/2012.

6. SIGNIFICANT CHANGES FROM THE PREVIOUSLY ISSUED PERMIT.

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

1. The Monthly Total number of Sanitary Sewer Overflows (SSOs) and the Monthly Total Volume of SSOs must be reported on the Discharge Monitoring Reports.
2. A requirement to monitor the influent for BOD5, CBOD5, and TSS at least once per year and determine removal efficiency for each parameter has been added to the current Condition No. 2 of Part II to demonstrate compliance with 40 CFR 133.102.
3. The critical flow (7Q10) of Arkansas River changed from 891 cfs to 819 cfs based on new USGS published value for USGS Station 07263450 at Murray Dam.
4. Monitoring and reporting requirements for Total Phosphorus and Nitrate+Nitrite Nitrogen were added in accordance with the Nutrient Implementation Plan in the CPP.
5. A new definition of composite sample for BOD5, CBOD5, and TSS is included in Part IV.
6. A new definition of composite sample for Whole Effluent Toxicity testing is included in Part II.
7. The facility coordinates were revised to more accurate values based on the application.
8. Technology-based BOD5 limits were replaced with technology-based CBOD5 limits for May-October based on secondary treatment regulations and the addition of the toxicity-based NH3-N limit.
9. Toxicity-based NH3-N limits and WET limits were added for May-October based on Reg. 2.512 with option to choose the applicable outfall requirements within specified compliance schedule.
10. A three year compliance schedule was included for the new NH3-N limits or new WET limits, whichever the permittee chooses.
11. This permit no longer provides coverage for stormwater runoff.
12. The critical dilution and dilution series for WET testing has changed based on the revised 7Q10 of the receiving stream.
13. Monitoring frequency for TRC and DO was reduced from once/day to three/week based on data reported and EPA memorandum entitled “Interim Guidance for Performance-Based Reductions of NPDES Permit Monitoring Frequencies”.

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

The outfall is located at the following coordinates based on application and confirmed with Google Earth using WGS84 map datum:

Latitude: 34° 41' 42.5" Longitude: 92° 09' 7.4"

The receiving waters named:

Arkansas River in Segment 3C of the Arkansas River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 11110207 and reach # 008 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.

8. **303(d) LIST, ENDANGERED SPECIES, AND ANTI-DEGRADATION CONSIDERATIONS.**

A. 303(d) List:

Reach 001 of the Arkansas River is listed on the 2008 303(d) list for impairment of the drinking water designated use due to Beryllium. This facility discharges to Reach 008, which is over 50 river miles upstream of the impaired segment. In addition, the priority pollutant scan submitted with the application shows that Beryllium concentrations are non-detectable in the discharge. Therefore, the permit writer concluded that no further permitting action is needed concerning Beryllium.

B. **Endangered Species**:

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

C. **Anti-Degradation**:

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

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

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

A. Design Flow: 16 MGD

B. Type of Treatment: screening, grit removal, primary clarification, activated sludge, polymer injection (as needed), secondary clarification, chlorine disinfection, sulfur dioxide dechlorination, and equalization/treatment of high strength wastewater from Sage Foods in sludge digesters (co-digestion).

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.

10. **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.

11. **INDUSTRIAL WASTEWATER CONTRIBUTIONS.**

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

12. **SEWAGE SLUDGE PRACTICES.**

All primary and waste-activated sludge from all three LRW plants is ultimately processed at the Fourche Creek facility. The sludge generated at the Fourche Creek Treatment Facility is combined with transferred sludge from the Adams Field Treatment Facility, where it is then processed through four (4) circular gravity thickeners, six (6) primary anaerobic digesters, and two (2) secondary anaerobic digesters. A portion of the sludge from the circular gravity thickeners is further thickened by a gravity belt thickener before being sent to the primary anaerobic digesters. Sludge from the anaerobic digesters is further thickened in sludge holding lagoons. The water from the sludge holding lagoons is decanted and recycled back to the Fourche Creek Treatment Facility process.

The sludge is removed from the lagoons as needed and land applied on permitted site(s). Sludge that meets Exceptional Quality (EQ) status may be land applied on unpermitted

site(s) provided that all of the following conditions are met [A.C.A. 8-4-203 and A.C.A. 8-4-216]:

A. The permittee shall provide the certification of EQ classification prior to application on unpermitted site(s).
B. The permittee shall submit for ADEQ approval the location of the proposed application site at least 30 days in advance of the desired application date.

13. **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 (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 Max.)	once/day	totalizing meter
Overflows	Monthly Total SSOs (occurrences/month)			See Condition 6 of Part II	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Condition 6 of Part II	
Carbonaceous Biochemical Oxygen Demand (CBOD5)					
(May-October)	3336	25	40	three/week	composite
Biochemical Oxygen Demand (BOD5)					
(November-April)	4003	30	45	three/week	composite
Total Suspended Solids (TSS)	4003	30	45	three/week	composite
Ammonia-Nitrogen (NH3-N)					
(May-October)	Report	Report	Report	three/week	composite
Dissolved Oxygen (DO)	N/A	2.0 (Monthly Avg. Min.)		three/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100 ml)			
(May-September)	N/A	200	400	two/week	grab
(October-April)	N/A	1000	2000	two/week	grab
Total Residual Chlorine (TRC)	N/A	1.5 mg/l (Inst. Max.)		three/week	grab
Total Phosphorus (TP)	Report	Report	Report	once/month	grab
Nitrate + Nitrite Nitrogen (NO3+NO2-N)	Report	Report	Report	once/quarter	grab
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	two/week	composite
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 (Ammonia-based) - 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 Max.)	once/day	totalizing meter
Overflows	Monthly Total SSOs (occurrences/month)			See Condition 6 of Part II	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Condition 6 of Part II	
Carbonaceous Biochemical Oxygen Demand (CBOD5)					
(May – October)	3336	25	40	three/week	composite
Biochemical Oxygen Demand (BOD5)					
(November-April)	4003	30	45	three/week	composite
Total Suspended Solids (TSS)	4003	30	45	three/week	composite
Ammonia-Nitrogen (NH3-N)					
(May-October)	1601	12.0	22.5	three/week	composite
Dissolved Oxygen (DO)	N/A	2.0 (Monthly Avg. Min.)		three/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100 ml)			
(May-September)	N/A	200	400	two/week	grab
(October-April)	N/A	1000	2000	two/week	grab
Total Residual Chlorine (TRC)	N/A	1.5 mg/l (Inst. Max.)		three/week	grab
Total Phosphorus (TP)	Report	Report	Report	once/month	grab
Nitrate + Nitrite Nitrogen (NO3+NO2-N)	Report	Report	Report	once/quarter	grab
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	two/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).

C. **Final Effluent Limitations**

Outfall 001 (WET-based) - 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 Max.)	once/day	totalizing meter
Overflows	Monthly Total SSOs (occurrences/month)			See Condition 6 of Part II	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Condition 6 of Part II	
Biochemical Oxygen Demand (BOD5)	4003	30	45	three/week	composite
Total Suspended Solids (TSS)	4003	30	45	three/week	composite
Ammonia-Nitrogen (NH3-N)					
(May-October)	Report	Report	Report	three/week	composite
Dissolved Oxygen (DO)	N/A	2.0 (Monthly Avg. Min.)		three/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100 ml)			
(May-September)	N/A	200	400	two/week	grab
(October-April)	N/A	1000	2000	two/week	grab
Total Residual Chlorine (TRC)	N/A	1.5 mg/l (Inst. Max.)		three/week	grab
Total Phosphorus (TP)	Report	Report	Report	once/month	grab
Nitrate + Nitrite Nitrogen (NO3+NO2-N)	Report	Report	Report	once/quarter	grab
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	two/week	grab
Chronic WET Limit (May-October)	N/A	Daily Average Minimum not < 11%	7-day Minimum not < 11%	once/quarter	composite
Chronic WET Testing (November-April)	N/A	Report		once/quarter	composite

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

14. **BASIS FOR PERMIT CONDITIONS**.

The following is an explanation of the derivation of the conditions of the 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 Permit		Permit Limit	
	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l
CBOD5 (May-October)	25*	N/A	25	40	N/A	N/A	25	40
BOD5 (November-April)	30*	45	30	45	30	45	30	45
TSS	N/A	N/A	30	45	30	45	30	45
NH3-N (May-October)	12.0**	22.5	N/A	N/A	N/A	N/A	12.0	22.5
DO	2.0 (Monthly Avg. Min.)		N/A		2.0 (Monthly Avg. Min.)		2.0 (Monthly Avg. Min.)	
FCB (col/100 ml)								
(Apr-Sept)	200	400	N/A	N/A	200	400	200	400
(Oct-Mar)	1000	2000	N/A	N/A	1000	2000	1000	2000
TRC (Inst. Max)	1.5 mg/l***		N/A		1.5 mg/l***		1.5 mg/l***	
TP	N/A	N/A	Report	Report	N/A	N/A	Report	Report
$NO_3 + NO_2$ - N	N/A	N/A	Report	Report	N/A	N/A	Report	Report
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	
WET Limit**** (May-October)	Not < 11%		N/A		N/A		Not < 11%	

*Technology-based limit for CBOD5/BOD5 was modeled on 10/24/2013 to verify compliance with instream dissolved oxygen standards.
**Water quality-based NH3-N limit is based on toxicity standards in Reg. 2.512.
***Effluent limit for TRC based on a previous study, see Section 14 of this Fact Sheet for additional information.
****WET limit would not apply if permittee chooses NH3-N toxicity-based limit.

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

Parameter	Water Quality or Technology	Justification
CBOD5 (May-October)	Technology*	CBOD5 limits have replaced the BOD5 limits in the critical season (May-October) since an ammonia limit is necessary to comply with ammonia toxicity standards in the receiving stream during the critical season. When an ammonia limit is included to measure the nitrogenous oxygen demand of the wastewater, it is appropriate to include CBOD5 instead of BOD5 limits in order to determine only the carbonaceous oxygen demand of the wastewater because the nitrogenous demand is gauged separately with the ammonia sample. The numerical value of the CBOD5 limits are based on 40 CFR 133.102(a) and was verified to meet water quality by MultiSMP modeling dated 10/24/2013.
BOD5 (November-April)	Technology*	BOD5 limits for November – April are continued from the previous permit and are included to ensure proper operation of the treatment system in removing oxygen demanding organic matter from the wastewater. The numerical value of the limit is based on 40 CFR 133.102(a) and was verified to meet water quality by MultiSMP modeling dated 10/24/2013.
TSS	Technology	TSS limits are included to ensure proper operation of the primary and secondary clarifiers to allow for proper settling of suspended solids. The numerical value of the permit limit is based on 40 CFR 133.102(b).
NH3-N (May-October)	Water Quality	Ammonia-Nitrogen limits are included to ensure proper operation of the treatment system in removing nitrogenous oxygen demand from the wastewater to acceptable levels to prevent ammonia toxicity in the receiving stream. The numerical value of the limit in the critical season (May-October) was determined using the toxicity standards in Reg. 2.512. The toxicity-based ammonia limits were compared with the oxygen-based ammonia limits from the MultiSMP modeling analysis, and the more stringent limit was included in the permit. An ammonia-nitrogen limit is not necessary in the primary season since a BOD5 limit applies during the primary season, which includes both the nitrogenous and carbonaceous portions of the oxygen demand of the wastewater sample. See

Parameter	Water Quality or Technology	Justification
		part 13.C.1 of this fact sheet for the ammonia toxicity calculations.
DO	Water Quality	DO limit is continued from previous permit and is consistent with the inputs used in the MultiSMP modeling dated 10/24/2013 to verify compliance with dissolved oxygen water quality standards specified in Reg. 2.505.
TRC	Water Quality	The TRC limit is included based on the water quality management plan (WQMP) to ensure that the chlorine dosing system and dechlorination system is properly operated. The numerical value of the limit was derived from a previous site specific study dated August 2007 performed by the permittee in accordance with the terms of a Permit Appeal Resolution entered in Docket No. 02-008-P. See Part 15 of this Fact Sheet.
Fecal Coliform Bacteria	Water Quality	FCB limits are continued from previous permit to ensure proper operation of the disinfection system. The numerical value of the limits are based on Reg. 2.507.
Total Phosphorus	Technology	In accordance with the Nutrient Control Implementation Plan in Appendix D of the CPP, monitoring and reporting is being required in order to gather a data base of nutrient loading from all major municipal point source discharges.
Nitrate + Nitrite Nitrogen	Technology	In accordance with the Nutrient Control Implementation Plan in Appendix D of the CPP, monitoring and reporting is being required in order to gather a data base of nutrient loading from all major municipal point source discharges.
pH	Technology	pH limits are being continued from the previous permit and are based on 40 CFR 133.102(c).
WET Limit	Water Quality	WET limit would apply only if the permittee chooses not to accept the toxicity-based ammonia limit. In this case, a WET limit would be necessary during critical season (May-October) to ensure that the effluent is not causing toxic conditions in the receiving stream at the edge of the mixing zone in the absence of an NH3-N toxicity numerical limit.

*Technology-based limits were modeled to verify compliance with dissolved oxygen water quality standards.

B. **Anti-backsliding**

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

The limits in the final permit are as stringent or more stringent than the limits in the previous permit. New NH3-N limits were added for critical season and BOD5 limits were replaced with CBOD5 limits during critical season.

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 design flow of 16 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 BOD5 and CBOD5 are based on 40 CFR 133.102(a).
   The 7-Day Average limit for TSS is based on 40 CFR 133.102(b).
   The 7-Day Average limits for FCB are based on Reg. 2.507.

   The 7-Day Average limit for NH3-N (May-October) is based on Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control using the following equation and the monthly average oxygen-based NH3-N from the MultiSMP Model dated 10/24/2013:

   7-Day Average oxygen-based limit = Monthly Average oxygen-based limit X 1.5

3. Ammonia-Nitrogen (NH3-N):

   NOTE: This permit allows the permittee to choose WET limits instead of NH3-N limits. The information in this section shows the derivation of the NH3-N limits.

   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 toxicity-based effluent limitations are based on Reg. 2.512 and are calculated using the procedure in an ADEQ Interoffice Memorandum from Mo Shafii to NPDES Permit Engineers dated 3/28/2005 as follows using the following mass balance equation:

(1) $(Cu \times Qu) + (Ce \times Qe) = (Cd \times Qd)$

Rearranging to solve for Ce yields the following equation:

(2) $Ce = [(Cd \times Qd) - (Cu \times Qu)] / Qe$

May-October

Qu = upstream critical flow of receiving stream (7Q10) = (819 cfs)(0.25) = 204.75 cfs
Qe = effluent design flow = 16 MGD = 24.72 cfs
Qd = Qu + Qe = 229.47 cfs
Cu = upstream concentration = 0.006 mg/L, based on geometric mean of 2011-2012 values recorded at ADEQ monitoring station ARK0029 at Murray Dam.
Ce = effluent concentration necessary to meet standards (determined with calculation)
Cd = downstream concentration = Chronic Ammonia toxicity criterion = 1.3 mg/L (30 day average) and 3.2 mg/L (7-day average) @ 32°C and pH = 7.6 (from Attachment 2 in memo referenced above)

Using equation (2), toxicity-based concentration limits (Ce) are computed as follows:

30 day average Ce = [(1.3 x 229.47) – (0.006 x 204.75)] / 24.72 = 12.0 mg/L (May-Oct)
7-day average Ce = [(3.2 x 229.47) – (0.006 x 204.75)] / 24.72 = 29.7 mg/L (May-Oct)

November - March

Qu = upstream critical flow of receiving stream (Nov 7Q10) = (1570 cfs)(0.25) = 392.5 cfs
Qe = effluent design flow = 16 MGD = 24.72 cfs
Qd = Qu + Qe = 417.22 cfs
Cu = upstream concentration = 0.006 mg/L, based on geometric mean of 2011-2012 values recorded at ADEQ monitoring station ARK0029 at Murray Dam.
Ce = effluent concentration necessary to meet standards (determined with calculation)
Cd = downstream concentration = Chronic Ammonia toxicity criterion = 4.1 mg/L (30 day average) and 10.3 mg/L (7-day average) @ 14°C and pH = 7.6 (from Attachment 2 in memo referenced above)

Using equation (2), toxicity-based concentration limits (Ce) are computed as follows:

30 day average Ce = [(4.1 x 417.22) – (0.006 x 360)] / 24.72 = 69.1 mg/L (Nov-Mar)
7-day average Ce = [(10.3 x 417.22) – (0.006 x 360)] / 24.72 = 173.7 mg/L (Nov-Mar)

April

Qu = upstream critical flow of receiving stream (Nov 7Q10) = (1570 cfs)(0.25) = 392.5 cfs
Qe = effluent design flow = 16 MGD = 24.72 cfs
Qd = Qu + Qe = 417.22 cfs
Cu = upstream concentration = 0.006 mg/L, based on geometric mean of 2011-2012 values recorded at ADEQ monitoring station ARK0029 at Murray Dam.

Ce = effluent concentration necessary to meet standards (determined with calculation)
Cd = downstream concentration = Chronic Ammonia toxicity criterion = 1.3 mg/L (30 day average) and 3.2 mg/L (7-day average) @ 32°C and pH = 7.6 (from Attachment 2 in memo referenced above)

Using equation (2), toxicity-based concentration limits (Ce) are computed as follows:

30 day average Ce = [(1.3 x 417.22) – (0.006 x 360)] / 24.72 = 21.8 mg/L (April)
7-day average Ce = [(3.2 x 417.22) – (0.006 x 360)] / 24.72 = 53.9 mg/L (April)

The above calculated ammonia toxicity limits for each season are compared with the oxygen-based ammonia limits from the MultiSMP Model dated 10/24/2013, and the more stringent limits of the two values are included in the permit for the monthly average and 7-day average. This comparison is tabulated as follows:

Comparision of Oxygen-based NH3-N limits vs. Toxicity-based NH3-N limits						
	Oxygen-based (mg/L)		Toxicity-based (mg/L)		Most Stringent (mg/L)	
	Monthly Avg	7-Day Avg	Monthly Avg	7-Day Avg	Monthly Avg	7-Day Avg
May-Oct	15	22.5	12.0	29.7	12.0	22.5
Nov-Mar	15	22.5	69.1	173.7	15*	22.5*
April	15	22.5	21.8	53.9	15*	22.5*

*If the most stringent monthly average is determined to be 15 mg/l or greater, ammonia limits are not normally included in the permit. Alternatively, in these cases normally only a BOD5 limit is included in the permit which measures both the carbonaceous and nitrogenous portions of the oxygen-demanding organic level in the effluent. In this particular permit, an ammonia limit for May-October was deemed necessary to meet toxicity-based standards, but ammonia limit for November-April was deemed unnecessary since the most stringent value necessary to meet both toxicity-based and oxygen-based standards was 15 mg/L.

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

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

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

Under Federal Regulation 40 CFR Part 122.44(d), as adopted by Regulation No. 6, if a discharge poses the reasonable potential to cause or contribute to an exceedance above a water quality standard, the permit must contain an effluent limitation for that pollutant. Effluent limitations for the toxicants listed below have been derived in a manner consistent with the

Technical Support Document (TSD) for Water Quality-based Toxics Control (EPA, March 1991), the CPP, and 40 CFR Part 122.45(c).

The following items were used in calculations:

Parameter	Value	Source
Effluent Flow = Q	16 MGD = 24.72 cfs	Application
7Q10	819 cfs	U.S.G.S.
TSS	10.5 mg/l	CPP
Hardness as CaCo3	125 mg/l	CPP
pH	7.93 s.u.	Average from pH data collected at ARK0029 from January 2011 to December 2012

The following pollutants were reported above the required MQL:

Pollutant	Concentration Reported, µg/l[3]	MQL, µg/l
Total Antimony	179	60
Total Arsenic	4.18	0.5
Total Chromium	35	10
Total Copper	6.9	0.5
Total Lead	3	0.5
Total Mercury	0.01061	0.005
Total Nickel	27	0.5
Total Zinc	120	20
Total Phenols	30	5
Total Cyanide	16	10

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. This evaluation and background concentrations used in this evaluation can be viewed on the ADEQ website at the following link:

http://www.adeq.state.ar.us/ftproot/Pub/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0040177_priority%20pollutant%20scan%20evaluation_20130723.pdf

15. **TOTAL RESIDUAL CHLORINE (TRC) REQUIREMENTS.**

[3] Reported concentrations listed in this table are the highest value reported between the PPS Form and Form 2A submitted with the renewal application.

The TRC limitation is based on a site specific study performed by the permittee and submitted to ADEQ on 8/8/2007 in accordance with the terms of the Permit Appeal Resolution (PAR) entered in Docket No. 02-008-P and filed on 9/8/2003. The final TRC limit became effective on 3/1/2009. This compliance date was set in accordance with the PAR which set the effective date of the final TRC limit to be 3 years after the effective date of the substituted permit (3/1/2004) and the First Amendment to the PAR filed on 1/25/2006, which extended the effective date of the final TRC effluent limit by 2 years.

For the Little Rock – Fourche Creek facility, there is 4,500 feet between the chlorine contact chamber and the actual discharge in the Arkansas River. A portion of the TRC will dissipate in the pipe between the exit of the chlorine contact chamber and the river, which is the chlorine demand. A TRC study concluded that the average 15-minute chlorine demand in the river was 0.59 mg/l and the average 25-minute (travel time in the pipeline from the facility to the river at peak flow) chlorine demand in the effluent pipeline was 0.41 mg/l. The total chlorine demand was used to calculate a TRC limit that would take into consideration the chlorine demand in the pipe and the river.

The results of the study calculates a monthly average TRC permit limit of 1.03 (Table 2 of the study). This limit accounts for the TRC demand in the pipeline to the river and the mixing zone in the river. However, from a practical standpoint, because TRC is a fast acting toxicant, the monthly average limit is not practical for protecting the water quality. Therefore, this calculated monthly average limit was converted to an instantaneous maximum limit using a multiplier of 1.46 from Table 5-3 of the Technical Support Document. The resulting TRC instantaneous limitation then becomes:

Monthly Average TRC limit = Chlorine demand in pipe to river + Chlorine demand in river
Monthly Average TRC limit = 0.59 mg/l + 0.41 mg/l
Monthly Average TRC limit = 1.03 mg/l

TRC limit included in permit = 1.03 mg/l x 1.46 = 1.5 mg/l (Instantaneous Maximum)

16. **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*

*Testing quarters for Outfall 001 (Ammonia-based) are defined as January-March, April-June, July-September, and October-December if permittee selects to comply with NH3-N limits instead of WET limits.

Requirements for measurement frequency are based on the CPP.

Since the dilution ratio is less than 100:1 (7Q10:design flow = 819 cfs/24.72 cfs = 33:1), 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 = Design flow = 16 MGD = 24.72 cfs
7Q10 = 819 cfs
Qb = Background flow = (0.25) X 7Q10 = 204.75 cfs
CD = (24.72) / (24.72 + 204.75) X 100 = 11%

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 5**%,** 8**%,** 11**%,** 15**%,** and 25%. The CPP recommends a 6% dilution in this series, but was replaced with a 25% dilution based on a request from the permittee in order to increase the potential to identify toxicity at higher effluent portions so that appropriate action can be taken to reduce toxicity before it occurs at or below critical dilution. The low-flow effluent concentration (critical dilution) is defined as 11% effluent. The requirement for chronic WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species, *Ceriodaphnia dubia* and the Fathead minnow (*Pimephales promelas*) are representative of organisms indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen conductivity, and alkalinity shall be reported according to EPA-821-R-02-013, October 2002 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

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

Administrative Records

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

Permit Number:	AR0040177	AFIN:	60-00409	Outfall Number:	001
Date of Review:	5/14/2013	Reviewer:	M. Barnett		
Facility Name:	Little Rock Wastewater – Fourche Creek				
Previous Dilution series:	3, 5, 10, 15, 20	Proposed Dilution Series:	5,8,11,15,25		
Previous Critical Dilution:	10	Proposed Critical Dilution:	11		
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	Sub-Lethal	Lethal	Sub-Lethal
	NOEC	NOEC	NOEC	NOEC
9/6/2007	20	20	20	20
12/6/2007	20	20	20	20
3/6/2008	20	20	20	20
6/6/2008	20	20	20	20
9/6/2008	20	20	20	20
12/6/2008	20	20	20	20
3/6/2009	20	20	20	20
6/6/2009	20	20	20	20
12/31/2009	20	20	20	20
6/30/2010	20	20	20	20
12/31/2010	20	20	20	20
6/30/2011	20	20	20	20
12/31/2011	20	20	20	20
3/31/2012	20	20	20	20

REASONABLE POTENTIAL CALCULATIONS

	Vertebrate Lethal	**Vertebrate Sub-Lethal**	**Invertebrate Lethal**	**Invertebrate Sub-Lethal**
Min NOEC Observed	20	20	20	20
TU at Min Observed	5.00	5.00	5.00	5.00
Count	14	14	14	14
Failure Count	0	0	0	0
Mean	5.000	5.000	5.000	5.000
Std. Dev.	0.000	0.000	0.000	0.000
CV	0	0	0	0
RPMF	0	0	0	0
Reasonable Potential	0.000	0.000	0.000	0.000
100/Critical dilution	9.091	9.091	9.091	9.091
Does Reasonable Potential Exist	No	No	No	No

PERMIT ACTION

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

17. WHOLE EFFLUENT TOXICITY LIMITS

NOTE: This section only applies if the permittee chooses a WET limit instead of the Ammonia limits.

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....." To ensure that the CWA's prohibitions for toxics are met, EPA has issued a "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants (49 FR 9016-9019, 3/9/84)." In support of the national policy, Region 6 adopted the "Policy for Post Third Round NPDES Permitting" and the "Post Third Round NPDES Permit Implementation Strategy" on October 1, 1992. 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.

The Regional policy and strategy are designed to ensure that no source will be allowed to discharge any wastewater which (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical State Water Quality Standard (WQS) resulting in non-conformance with the provisions of 40 CFR Part 122.44(d); (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

Whole effluent toxicity (WET) testing has been established for assessing and protecting against impacts upon water quality and designated uses caused by the aggregate toxic effect of the discharge of pollutants. The stipulated test species, which are appropriate to measure whole effluent toxicity, are consistent with the requirements of the State Water Quality Standards. The WET testing frequency has been established to reflect the likelihood of ambient toxicity and 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.

Implementation

Arkansas has established a narrative water quality standard under the authority of Section 303 of the CWA 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."

Ammonia toxicity calculations conducted by ADEQ has shown potential instream ammonia concentrations at the edge of the mixing zone higher than the ammonia toxicity water quality standards given in Reg. 2.512, using an effluent value of 15 mg/L, at the instream critical dilution calculated at critical flow conditions. The critical season in this evaluation is defined as May-October. In lieu of an NH3-N toxicity limit during the critical season, the permittee has the option to accept both monthly average and 7-day minimum effluent limitations for lethality and sub-lethality during the critical season following regulations promulgated by 40 CFR 122.44(d)(1)(v).

If the permittee chooses WET limits in lieu of NH3-N limits, these effluent limitations for lethality and sub-lethality (7-day NOEC) will be applied at outfall 01B during May-October beginning three years after the effective date of the permit. If the permittee chooses a WET limit, the testing quarters in which the WET limit would apply are defined as May-July and August-October. The quarters for the report only WET testing would be November-January and February-April, for a total of 4 tests during each 12 month period.

For the first three years after effective date of the permit, the permit requires monitoring and reporting only for lethality and sub-lethality with no limitations being established. The daily average lethality and sub-lethality (7-day NOEC) and 7-day minimum lethality and sub-lethality (7-day NOEC) value shall not be less than 11% (Critical Dilution) effluent for outfall 01B. The WET limit testing procedures stipulated as a condition of this permit (if the permittee chooses WET limits instead of NH3-N limits) are as follows:

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

*Testing quarters are defined in above paragraph and in Part IA of the permit if permittee selects to comply with WET limits instead of NH3-N limits.

Requirements for measurement frequency are based on the CPP.

Since the dilution ratio is less than 100:1 (7Q10:design flow = 819 cfs/24.72 cfs = 33:1), 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 = Design flow = 16 MGD = 24.72 cfs
7Q10 = 819 cfs
Qb = Background flow = (0.25) X 7Q10 = 204.75 cfs
CD = (24.72) / (24.72 + 204.75) X 100 = 11%

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 5**%,** 8**%,** 11**%,** 15**%,** and 25%. The CPP recommends a 6% dilution in this series, but was replaced with a 25% dilution based on a request from the permittee in order to increase the potential to identify toxicity at higher effluent portions so that appropriate action can be taken to reduce toxicity before it occurs at or below critical dilution. The low-flow effluent concentration (critical dilution) is defined as 11% effluent. The requirement for chronic WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species, *Ceriodaphnia dubia* and the Fathead minnow (*Pimephales promelas*) are representative of organisms indigenous to the

geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen conductivity, and alkalinity shall be reported according to EPA-821-R-02-013, October 2002 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

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

18. **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)].

Sampling type and frequency for Effluent Flow, FCB, and pH have been based on the previous permit. Sample frequency for FCB and pH were previously reduced in last permit term.

Sampling frequency for BOD5 and TSS has been based on the previous discharge permit, while the sample type changed from 24-hr composite to composite as defined in Part IV of the permit. Sample frequency for these parameters were previously reduced in last permit term.

Sampling frequency and type for CBOD5 was set equal to BOD5 since CBOD5 is replacing BOD5 sampling requirement during critical season.

Sampling frequency and type for NH3-N was set equal to CBOD5 since these two parameters are both related to the oxygen demand of the effluent.

Sample type for DO and TRC are continued from previous permit. Sample frequency for these parameters were reduced based on an evaluation of the past two years of data reported at the request of the permittee. EPA's "Interim "Interim Guidance for Performance-Based Reductions of NPDES Permit Monitoring Frequencies" was used for this evaluation.

Sampling type for TP and NO3+NO2-N was specified as grab samples since these nutrients are not expected to significantly fluctuate in the effluent during the course of the day. Sample frequency was set at the same frequency as the frequency agreed upon in a Permit Appeal Resolution for the permittee's Adams Field facility.

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 (May-Oct)	n/a	n/a	three/week	composite*
BOD5 (Nov-Apr)	three/week	24-hr composite	three/week	composite*
TSS	three/week	24-hr composite	three/week	composite*
NH3-N (May-Oct)	n/a	n/a	three/week	composite
DO	once/day	grab	three/week	grab
FCB	two/week	grab	two/week	grab
TRC	once/day	grab	three/week	grab
TP	n/a	n/a	once/month	grab
$NO_3 + NO_2$ - N	n/a	n/a	once/quarter	grab
pH	two/week	grab	two/week	grab
WET Testing	once/quarter	24-hr composite	once/quarter	composite**

*See definition of composite sample in Part IV.
**See definition of composite sample for WET in Part II.9.

19. **STORMWATER REQUIREMENTS**

The facility was notified in a letter dated 7/25/2013 that this individual discharge permit will no longer cover discharges of stormwater runoff from the facility. The letter instructed the facility to submit a Notice of Intent for the Industrial General Permit for Stormwater (IGP) within 30 days. Alternatively, the facility may apply for a No Exposure Exclusion if the facility can certify all conditions of No Exposure. The SWPPP language in this permit has been replaced with BMP language.

20. **PERMIT COMPLIANCE.**

A schedule of compliance was included for the new NH3-N limits with the option of accepting a Whole Effluent Toxicity limit instead of NH3-N limits. In the application, the facility reported 14 samples for NH3-N which were taken over approximately a 3 year time period with an average of 9.54 mg/l and a maximum of 17.6 mg/l. Based on this limited data and the time period intervals between samples, it is difficult to determine if consistent compliance with new NH3-N limits will be achieved on a daily basis until more frequent sampling required by

the permit is collected. Therefore, a three year schedule of compliance was included to give the facility the opportunity to gather more frequent data, properly evaluate the current treatment system, evaluate any necessary operational changes, and construct any necessary treatment option deemed necessary to meet the final NH3-N or WET limits on a consistent basis.

A schedule of compliance for the new CBOD5 limits was not included based on a review of the DMR data for BOD5 during the previous five years. This review of reported effluent BOD5 values indicates that the BOD5 concentrations have been consistently lower than the new CBOD5 limits. Based on the fact that CBOD5 results should always be lower than BOD5 results in the five day laboratory test for a given wastewater sample since the CBOD5 test measures only the carbonaceous oxygen demand and BOD5 test measures both the carbonaceous and nitrogenous oxygen demand, the previous 5 years of BOD5 data reported indicates that compliance with the new CBOD5 limit is currently being achieved. For these reasons, a compliance schedule for COD5 is not needed.

21. **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.

22. **SOURCES.**

The following sources were used to draft the permit:

A. Application No. AR0040177 received 10/26/2012.
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 AR0040177.
H. Discharge Monitoring Reports (DMRs) 2008-2013.
I. "Arkansas' List of Impaired Waterbodies" (2008 303D list), ADEQ.
J. "Low Flow Characteristics and Regionalization of Low Flow Characteristics for Selected Streams in Arkansas", Scientific Investigations Report 2008-5065, USGS 2008.
K. Continuing Planning Process (CPP).
L. Site specific TRC study performed in August 2007.
M. Inspection Report dated 5/3/2012.
N. Consent Administrative Order LIS No. 06-037-001 which was ordered on 9/6/2011.
O. BOD5 data collected at ADEQ Station ARK0029 from 2003 to 2005 compiled on 10/23/2013.
P. NH3-N, arsenic, copper, lead, nickel, zinc, phenols, cyanide, antimony, cadmium, chromium and pH data collected at ADEQ Station ARK0029 from 2011 to 2012.
Q. Email dated 6/20/2013 from USCOE concerning minimum navigation channel dimensions of Arkansas River.
R. MultiSMP Modeling analysis dated 10/24/2013.
S. ADEQ Memo dated 3/28/2005 concerning ammonia toxicity-based limits.

T. Co-Digestion Project plans prepared by Camp Dresser & McKee, dated November 2010.
U. Letter dated 12/3/2010 from ADEQ to LRW concerning co-digestion project.
V. Letter dated 3/28/2011 from ADEQ to LRW concerning liquid polymer use.
W. Letter dated 5/20/2011 from LRW to ADEQ concerning dry polymer use.
X. Letter dated 6/7/2011 from ADEQ to LRW concerning dry polymer use.
Y. Letter dated 12/15/2011 from LRW to ADEQ concerning primary digester No. 3 restoration update.
Z. Letter dated 7/25/2013 from ADEQ to LRW concerning stormwater coverage.
AA. Phone conversation followed by email on 8/14/2013 from Shane Byrum (ADEQ) to Walter Collins (LRW) concerning proposed new NH3-N limits and option to accept WET limits in lieu of NH3-N toxicity limits.
BB. Site visit conducted on 11/5/2013 and associated report prepared on 11/6/2013 and revised on 11/13/2013 to correct DO sample location to old chlorine storage building instead of at the final sluice gate. (The original site visit report was revised and corrected following a phone conversation with Stan Suel approximately a week after site visit confirming that DO was sampled at the old chlorine storage building).
CC. Email dated 11/7/2013 from ADEQ to LRW concerning WET limits or NH3-N limits option.
DD. Memorandum dated 4/19/1996 from Robert Perciasepe (EPA) to Regional Administrators entitled, "Interim Guidance for Performance-Based Reductions of NPDES Permit Monitoring Frequencies".
EE. Priority Pollutant Scan Evaluation dated 7/23/2013.
FF. Letter dated 3/17/2014 from Walter B. Collins, P.E. (LRW) to ADEQ Director containing comments on draft renewal permit public noticed on 2/13/2014.
GG. Letter dated 5/6/2014 from Walter B. Collins, P.E. (LRW) to ADEQ Director withdrawing comment number 2.5 in 3/17/2014 comment letter.

23. POINT OF CONTACT.

For additional information, contact:

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RESPONSE TO COMMENTS
FINAL PERMITTING DECISION

Permit No.: AR0040177

Applicant: Little Rock Wastewater – Fourche Creek WWTP

Prepared by: Shane Byrum

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

Introduction

The above permit was submitted for public comment on February 13, 2014. The public comment period ended on March 17, 2014.

This document contains a summary of the comments that the ADEQ received during the public comment period. A summary of the changes to the NPDES Permit can be found on the last page of this document.

The following people or organizations sent comments to the ADEQ during the public notice. A total of fourteen (14) comments were raised by Little Rock Wastewater (LRW).

	Commenter	Number of Comments Raised
1.	Little Rock Wastewater	14

Comment 1 The draft permit provides that during the first three years of the permit cycle LRW must monitor and report on ammonia-nitrogen (NH3-N) concentrations in the final effluent during the months of May through October. The draft permit also provides that at the end of the first three years LRW must choose either to have an ammonia-based limit or a WET-based limit during the months of May through October for the remainder of the permit cycle. LRW appreciates the opportunity the Department has afforded LRW to choose between an ammonia-based limit and a WET-based limit. However, it is unclear to LRW whether ADEQ intends this choice to be an irrevocable selection.

Since the ammonia-based limit and the WET-based limit are offered as equally adequate protections for the same environmental endpoint, there would seem to be no reason why the choice of one or the other should be permanent and irrevocable. If ADEQ agrees, LRW requests that language be added to the permit that would make it clear the choice made at the end of the first three years of the permit cycle is not irrevocable, and that a change to the other alternative would not be precluded on anti-backsliding grounds.

LRW can appreciate that ADEQ may wish to limit the time and manner in which the choice between ammonia-based and WET-based limits can be made or changed in order to avoid administrative confusion. But there should be a number of ways in which the opportunity to revisit the choice can be preserved without impairing the Department's ability to oversee compliance. For example, the opportunity to revisit the choice could be limited to permit renewal and applications for permit modification.

Preservation of the opportunity to revisit the choice between ammonia-based and WET-based limits is important to LRW because the factors involved in making the choice will change over time. For example, LRW currently has a stong history of WET test results for the Fourche Creek WWTP, but it has very limited data on ammonia-nitrogen concentrations in its effluent. Over time, however, LRW will gain a stronger understanding of the treatment plant's ability to meet an ammonia-nitrogen limit during the critical months. Furthermore, since sludge generated at the Adams Field WWTP is pumped to the Fourche Creek WWTP and introduced into the treatment train, changes at the Adams Field WWTP could change the competing considerations regarding ammonia-based and WET-based limits at Fourche Creek WWTP.

In light of these circumstances, LRW asks ADEQ to add language to the permit which makes it clear the initial choice between ammonia-based and WET-based limits is not irrevocable and can be revisited by applying for a permit modification or at permit renewal. In this connection, LRW offers the following language for the Department's consideration:

"The choice between ammonia-based and WET-based limits contemplated in Part I, Section A of this Permit shall not be deemed irrevocable. The permittee may change its selection either by way of application for permit modification or at permit renewal. The alternative limits in question provide substantially identical

protection for the same environmental endpoint and a change in the selection of these two limits shall not constitute backsliding."

LRW asks that the proposed language or substantially similar language be added as a footnote in Part I, Section A of the permit and at appropriate places in paragraphs 6 and 13 in the Fact Sheet.

Response: ADEQ acknowledges this decision will be based on many factors that can potentially change over time after the initial permit limits are chosen. However, facilities may apply for permit modifications at any time during the permit term. Nothing in the final permit prohibits LRW from applying for a permit modification at any time or requesting a change in the permit at time of permit renewal. ADEQ will evaluate any request for a permit modification at the time of the requested change.

Because LRW will always be entitled to request a permit modification, it is unnecessary to place LRW's proposed language in the permit. The Department will review any information available at the time of any proposed permit modification in the future and make a determination at that time. Adequate information, including but not limited to effluent ammonia data and/or WET testing results, which would likely be used to make any future determination of whether cause exists to change from a WET limit to Ammonia limit, or vice-versa, does not currently exist. For this reason, the Department is unable to make any determination at this time concerning whether switching from WET limit to Ammonia limit, or vice-versa, would be considered an acceptable modification or whether this change would constitute backsliding or not. The Department will review any permit modification request at the time of submittal to determine if the proposed modification would comply with backsliding provisions in 40 CFR 122.44(l).

The Department does not fully understand what was meant by LRW's statement that the ammonia limit and WET limit provide equally adequate protection for the same environmental endpoint. In the case of an effluent failing to comply with a whole effluent toxicity limit, with the cause determined to be a pollutant other than ammonia, it would not be feasible to suggest or assume that an ammonia limit would be effective at controlling toxicity issues caused by a different toxicant.

Comment 2 Page 1 of Part IB, Report No. 1 of Compliance Schedule, Bullet No. 2, states the following:

"If this evaluation concludes that the final limits for NH3-N or WET are currently being achieved on a consistent basis, Report No. 3 will be the only remaining report required and shall include a certification that the final limits will be met on a consistent basis."

LRW is uncertain whether the term "certification" is intended to have some special legal weight or meaning. LRW suggests that the phrase "a certification that" be revised to read "a statement whether LRW believes". If ADEQ feels it is important to keep the term "certification" in the permit, then LRW requests that the Department provide an explanation of what is meant by the term that is not adequately expressed by the word "statement" or some similar term.

Response: The Department's intended meaning of the word "certification" was a written statement signed by the responsible official in accordance with Part III.D.11 and Part III.D.12 which indicates whether final limits are expected to be met based on the evaluation of the current treatment system. Accordingly, ADEQ agrees to revise the compliance schedule language as indicated below for clarification:

Compliance Schedule		
Report	Due Date	Minimum Information Required in Report
Report No. 1	18 months after effective date	EVALUATION OF CURRENT TREATMENT SYSTEM • Evaluation of the ability of the current treatment system, as configured, to comply with the final NH3-N or WET limits on a consistent basis. • If this evaluation concludes that the final limits for NH3-N or WET are currently being achieved on a consistent basis, Report No. 3 will be the only remaining report required and shall include a ~~certification that~~ **written statement signed by the responsible official which includes the certification statement required by Part III.D.12 of this permit indicating that the** the final limits **are expected to be** ~~will be~~ met on a consistent basis. • If this evaluation concludes that the final limits for NH3-N or WET cannot be achieved on a consistent basis, all remaining reports in this schedule shall be submitted.
Report No. 2	24 months after effective date	EVALUATE/SELECT OPERATIONAL CHANGES AND/OR TREATMENT AND SUBMIT APPLICATION FOR CONSTRUCTION PERMIT • Selected operational changes and/or treatment option • Application for a construction permit, if necessary, for installation of the selected treatment option.
Report No. 3	34 months after effective date	CHOOSE OUTFALL 001 (Ammonia-based) OR OUTFALL 001 (WET-based) • Select the outfall that facility will use for all future discharge monitoring reports (DMRs). Following submittal of this report, ADEQ

		will remove the outfall and associated permit requirements which the permittee does not select through a minor permit modification. If the permittee does not select an outfall by the due date of this report, both NH3-N and WET limits shall be met until such time as the facility selects the outfall and associated permit requirements in writing to be used for DMRs.
Report No. 4	36 months after effective date	COMPLY WITH FINAL LIMITS • ~~Certification~~ **A written statement signed by the responsible official which includes the certification statement required by Part III.D.12 of this permit indicating** that the treatment system operational changes (if any) and/or upgrades (if any) were completed and **are expected to** ~~will~~ comply with the final limits on a consistent basis.

Comment 3 LRW requested the following additions (shown in **bold/underlined font**) to the second sentence in Part II.5 of the permit:

> "The sludge generated at the Fourche Creek Treatment Facility is combined with transferred sludge from the Adams Field Treatment Facility**,** where it is **then** processed through four (4) circular gravity thickeners, six (6) primary anaerobic digesters, and two (2) secondary anaerobic digesters."

Response: ADEQ agrees to revise the sentence as shown above to clarify that the circular gravity thickeners and sludge digesters are located at the Fourche Creek WWTP, not the Adams Field WWTP.

Comment 4 The last sentence of Part II.5 in the draft permit reads as follows:

Sludge that meets Exceptional Quality (EQ) status may be land applied on unpermitted site(s) provided that all of the following conditions are met [A.C.A. 8-4-203 and A.C.A. 8-4-216]:

A. The permittee shall provide the certification of EQ classification.
B. The permittee shall provide the location of the proposed application site.
C. Items A and B are submitted to ADEQ at least 60 days in advance of desired application date for ADEQ review.
D. Written approval has been obtained from ADEQ.

LRW commented that the conditions listed in A through D may jeopardize the bidding and/or beneficial reuse process for this soil amendment material. LRW requested the conditions be changed to read:

Sludge that meets Exceptional Quality (EQ) status may be land applied on unpermitted site(s) provided that all of the following conditions are met [A.C.A. 8-4-203 and A.C.A. 8-4-216]:

A. The permittee shall provide the certification of EQ classification prior to application on unpermitted site(s).
B. The permittee shall submit for ADEQ approval the location of the proposed application site at least 30 days in advance of the desired application date.

Response: The Department agrees to change the conditions as requested to provide LRW more flexibility on the land application bidding process and land application site selection. Please note that the purpose for submitting the proposed application site in advance is to ensure that the site is appropriate to prevent runoff of the biosolids to waters of the state.

Comment 5 LRW requested to add the language shown in **bold/underlined font** to Part II.6.D in the draft permit and delete the words indicated in strikeout font as follows:

"Reporting for All SSOs on DMR

At the end of the month, report in your DMR the total number of separate SSOs and the total volume of the SSOs from all locations **within the facility's service basin** ~~on your system~~ that occurred during the month in question. For counting SSO occurrences, each location **within the facility's service basin** ~~on the sanitary sewer system~~ where there is an overflow, spill, release, or diversion of wastewater at a given time is counted as one occurrence. For example, if at a given time overflows occur from a manhole at one location and from a damaged pipe at another location then you should record two occurrences."

This revised language will reflect SSO occurrences within the Fourche Creek sewershed and eliminate duplication of reporting across the entire collection system for all three permitted facilities.

Response: The Department agrees to make the revisions as indicated above since each of the three LRW facilities serve a dedicated drainage basin, or sewershed, within the city. This reporting requirement applies to the portion of the collection system associated with that particular individual permitted facility, not the entire collection system for LRW. For example, if an SSO occurs on the portion of the collection system associated with or served by the Fourche Creek WWTP, then this SSO would only have to be reported on the DMR for the Fourche Creek WWTP. In other words, the specific drainage basin or sewershed within which an SSO occurs would determine which DMR to report the SSO under.

Comment 6 LRW requested to add the language shown as follows in **bold/underlined font** to the second sentence in Part II.8.a.(4):

"The permittee shall control through permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements. In the case of Industrial Users identified as significant under 40 CFR 403.3 (v), this control shall be achieved through individual **or general** control mechanisms, in accordance with

40 CFR 403.8(f)(1)(iii). Control mechanisms must be enforceable and contain, at a minimum, the following conditions:"

By reinstating the word "general", LRW will retain options with permitting industrial users in accordance to regulations.

Response: The Department agrees to make the revisions as indicated above since LRW included this optional provision in their approved streamlining modifications to their Pretreatment Ordinance approved and incorporated into the NPDES permit on 4/1/2008.

Comment 7 LRW requested to add the language shown as follows in **bold/underlined font** to the first sentence in Part II.8.a.(4)d:

"Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored **(including the process for seeking a waiver for a pollutant neither present nor expected to be present in the discharge in accordance with §403.12(e)(2), or a specific waiver for a pollutant in the case of an individual control mechanism)**, sampling location, sampling frequency, and sample type, based on the applicable general Pretreatment Standards in 40 CFR 403, categorical Pretreatment Standards, local limits, and State and local law;"

Response: The Department does not agree to make the revisions as indicated above since LRW did not adopt this optional provision in their approved streamlining modifications to their Pretreatment Ordinance approved and incorporated into the NPDES permit on 4/1/2008.

LRW chose to withdraw this comment in a letter dated 5/6/2014 signed by Walter Collins, Director of Operations. LRW stated in this letter that after reviewing EPA's Pretreatment Streamlining Rule Fact Sheet 6, LRW now agrees that a Pretreatment Program Modification must be submitted and approved by ADEQ before such waiver options are allowed. This letter also stated that LRW does not wish to adopt this waiver option at this time due to increased regulatory oversight required by control authorities to implement this waiver option. LRW states in the 5/6/2014 letter that they now agree with the language in the draft permit in Part II.8.a.(4)(d). Therefore, since LRW did not adopt the legal authority to implement the optional streamlining provisions in 40 CFR 403.12(e)(2), and now agrees with the language in the draft permit, this condition will remain unchanged in the final permit.

Comment 8 LRW requested to add the language shown as follows in bold/underlined font to the first sentence of the last paragraph in Part II.8.c:

"The laboratory results must be posted on the influent-effluent chart shown **on the following pages** ~~below~~. This chart must be submitted each year during the month of March with the annual report required by NPDES permit tracking number AR0021806 (Adams Ficld).

Response: The Department agrees to make the revision as indicated above since the influent-effluent chart begins on the next page of the permit.

Comment 9 LRW requested that the dilution series for WET testing in Part II.9.1.a. and for WET Limits in Part II.10.1.a. be revised from 5-6-8-11-15 to 5-8-11-15-25. LRW understands that the dilution series in draft permit was determined using the CPP, but LRW does not see that the value of a 6% dilution greatly differs from the 5% dilution. There is a benefit both economically and environmentally by adding an effluent dilution with more effluent hence the request for the 25% dilution. Adding addition volumes of effluent has always been available to the client, however it increases the testing fee charged by the contract lab. Identifying toxicity at the dilutions with greater effluent sample provides the potential to identify and control the souce of toxicity before toxic affects occur at the critical dilution or lower dilutions with less effluent in the sample.

Response: The Department agrees to remove the 6% dilution and add a 25% dilution to the dilution series to provide a better chance to identify potential toxicity issues at dilutions with greater effluent portions before toxic effects occur at the critical dilution or lower dilutions. The revised dilution series will be 5%, 8%, 11%, 15%, 25%. The critical dilution will remain at 11% effluent. This revised dilution series still conforms to recommended dilution series in the EPA document entitled, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", Fourth Edition, October 2002. Section 8.11.3 of this document states, "In cases where the objective of the test is to estimate the degree of toxicity of the receiving water, a multi-concentration test is performed by preparing dilutions of the receiving water, using a ≥ 0.5 dilution series, with a suitable control water. The revised dilution of 25% effluent represents a 0.6 dilution series compared to the next lowest dilution of 15%. Therefore, since $0.6 \geq 0.5$, this revised effluent dilution of 25% and the remaining effluent dilution concentrations in the series conforms with EPA recommendations.

Comment 10 The previous NPDES permit included the following statement in the Test Acceptance section of the WET testing conditions in Part II.9.3.a.:

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

LRW requests that this language be included in the new NPDES permit in Part II.9 (WET testing conditions) and also in Part II.10 (WET Limit conditions). Retests are costly, therefore it would be beneficial to LRW to be able to have ADEQ review the report for a ruling on whether a retest is required if a non-ideal concentration-response failure is observed.

Response: The Department agrees to include the above paragraph in Part II.9.3.a. and in Part II.10.2.a. The Department routinely reviews non-ideal concentration-response toxicity tests for other facilities to determine if retests are required.

Comment 11 In the previous permit cycle, LRW provided ADEQ with sufficient historical data showing the root control chemical, diquat dibromide, did not affect the whole effluent toxicity tests. The previous permit removed the requirement for collecting effluent samples while using diquat dibromide for root control. When necessary, LRW continues to use the diquat dibromide for root control, and is requesting that the requirement to collect effluent samples while using diquat dibromide also be waived in the new permit.

Response: The Department agrees to continue the following language in Part II.9.3.d.ii and Part II.10.2.d.ii of the new permit which waives the requirement to collect effluent samples for WET testing during episodes of diquat dibromide usage for root control. The use of this biocide for root control in the sewer lines has not caused any toxic effects in the effluent as indicated in the historical WET testing results.

"In a previous permit cycle, the permittee submitted four years of data for whole effluent toxicity tests which were performed when diquat dibromide was used in the sewer lines for root removal. This data was sufficient to conclude that no toxic effects were exhibited in the whole effluent toxicity tests. Therefore, the requirement for collecting effluent samples while using diquat dibromide for root removal was waived in the previous permit and this waiver is being continued in this permit."

Comment 12 LRW requested Item 12 of Fact Sheet (Sewage Sludge Practices) to match the language requested in comments 3 and 4.

Response: ADEQ agrees to include the requested language in Item 12 of Fact Sheet to be consistent with the permit. See response to Comments 3 and 4.

Comment 13 LRW stated that on Page 8, 9, and 10 of Fact Sheet, the monitoring requirements for Overflows and Overflow Volume should reference Condition 6 of Part II instead of Condition 5 of Part II.

Response: ADEQ agrees. The incorrect reference to the SSO requirements in Part II will be corrected.

Comment 14 LRW stated that Item 22.A and 22.G of Fact Sheet references an incorrect permit number AR0020303 and should reference permit number AR0040177.

Response: ADEQ agrees. The reference to the permit number in source list in Fact Sheet will be corrected.

Summary of Changes to the permit				
Part	Draft Permit	Final Permit	Reason	Comment #
IA	LRW requested that the permit provide that the choice between Ammonia limits and Whole Effluent Toxicity limits is not to be deemed irrevocable.	No change made to final permit.	No information on effluent ammonia and/or WET testing results exist at this time to justify whether or not it would be appropriate to switch from WET limits to Ammonia limits, or vice-versa after the initial choice is made. There are no prohibitions in the permit that prevents LRW from applying for a permit modification or requesting a change in the permit at time of permit renewal.	1
IB	Schedule of Compliance required "a certification that the final limits will be met on a consistent basis" to be submitted.	This phrase was changed to "a written statement signed by the responsible official which includes the certification statement required by Part III.D.12 of this permit indicating that the the final limits are expected to be met on a consistent basis."	To clarify the Department's intent of the required statement.	2
II.5	The sludge generated at the Fourche Creek Treatment Facility is combined with transferred sludge from the Adams Field Treatment Facility where it is processed through four (4) circular gravity thickeners, six (6) primary anaerobic digesters, and two (2) secondary anaerobic digesters.	The sludge generated at the Fourche Creek Treatment Facility is combined with transferred sludge from the Adams Field Treatment Facility**,** where it is **then** processed through four (4) circular gravity thickeners, six (6) primary anaerobic digesters, and two (2) secondary anaerobic digesters.	Addition of word "then" clarifies that the four circular gravity thickeners and eight anaerobic sludge digesters are located at the Fourche Creek WWTP, not the Adams Field WWTP.	3
Item 12 of Fact Sheet				12
II.5	Sludge that meets Exceptional Quality (EQ) status may be land applied on unpermitted site(s) provided that all of the following conditions are met [A.C.A. 8-4-203 and A.C.A. 8-4-216]: A. The permittee shall provide the certification of EQ classification. B. The permittee shall provide the location of the proposed application site. C. Items A and B are submitted to ADEQ at least 60 days in advance of desired application date for ADEQ review. D. Written approval has been obtained from ADEQ.	Sludge that meets Exceptional Quality (EQ) status may be land applied on unpermitted site(s) provided that all of the following conditions are met [A.C.A. 8-4-203 and A.C.A. 8-4-216]: A. The permittee shall provide the certification of EQ classification prior to application on unpermitted site(s). B. The permittee shall submit for ADEQ approval the location of the proposed application site at least 30 days in advance of the desired application date.	To provide LRW more flexibility on the land application bidding process and land application site selection.	4

II.6.D	At the end of the month, report in your DMR the total number of separate SSOs and the total volume of the SSOs from all locations **on your system** that occurred during the month in question. For counting SSO occurences each location **on the sanitary sewer system** where there is an overflow, spill, release, or diversion of wastewater at a given time is counted as one occurrence"	The following changes were made to this sentence: "At the end of the month, report in your DMR the total number of separate SSOs and the total volume of the SSOs from all locations **within the facility's service basin** ~~on your system~~ that occurred during the month in question. For counting SSO occurences each location **within the facility's service basin** ~~on the sanitary sewer system~~ where there is an overflow, spill, release, or diversion of wastewater at a given time is counted as one occurrence"	To prevent duplicate reporting of the same SSO on multiple permits.	5
II.8.a.(4)	"The permittee shall control through permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements. In the case of Industrial Users identified as significant under 40 CFR 403.3 (v), this control shall be achieved through individual 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:"	The following changes were made to this paragraph: "The permittee shall control through permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements. In the case of Industrial Users identified as significant under 40 CFR 403.3 (v), this control shall be achieved through individual **or general** control mechanisms, in accordance with 40 CFR 403.8(f)(1)(iii). Control mechanisms must be enforceable and contain, at a minimum, the following conditions:"	Option to use individual or general control mechanisms was included in the modification to LRW Pretreatment Ordinance approved on 4/1/2008.	6
II.8.a.(4)d	"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"	No changes to this condition are being made in the final permit.	Comment requesting additional language to be added to this condition to allow monitoring waiver options for industrial users was withdrawn by LRW in letter dated 5/6/2014. LRW stated in this letter that they agree with ADEQ that a Pretreatment Program Modification would be required to be submitted and approved before such waiver options are allowed.	7

II.8.c	The laboratory results must be posted on the influent-effluent chart shown below. This chart must be submitted each year during the month of March with the annual report required by NPDES permit tracking number AR0021806 (Adams Ficld).	The following changes were made to this sentence: "The laboratory results must be posted on the influent-effluent chart shown **on the following pages** ~~below~~. This chart must be submitted each year during the month of March with the annual report required by NPDES permit tracking number AR0021806 (Adams Ficld)."	Chart is located on next page of the permit.	8
II.9.1.a II.10.1.a	Dilution series for WET was 5-6-8-11-15 with critical dilution being 11%.	Dilution series for WET revised to 5-8-11-15-25 with critical dilution being 11%.	Previous permit had similar dilution series which provides potential to identify and control source of toxicity before toxic effects occur at or below critical dilution.	9
II.9.3.a II.10.2.a	Draft permit did not contain language which was included in previous permit.	The following language was added to final permit: "Non-ideal concentration-response relationships will occasionally be encountered in toxicity testing. In the event the results from a specific toxicity test yield a non-ideal concentration-response relationship, the permittee shall submit the toxicity report to ADEQ and request a technical review prior to initiating a retest. The goal of the technical review is to properly interpret non-ideal patterns and to reduce the number of false positives and unnecessary retests. At the conclusion of the technical review, ADEQ will advise the permittee on any follow up toxicity retest(s) that may be required. However, if an ideal response-relationship is indicated in the results the Department may require the permittee to conduct additional testing."	To reduce unnecessary retests when non-ideal response relationships occur. This language was in previous permit.	10
II.9.3.d.ii II.10.2.d.ii	Draft permit did not contain language which was included in previous permit.	The following paragraph was added to final permit: "The permittee has submitted four years of data for whole effluent toxicity tests performed when diquat dibromide was used in the sewer lines for root removal. This data was sufficient to conclude that no toxic effects were exhibited in the whole effluent toxicity tests. Therefore, the requirement for collecting effluent samples while using diquat dibromide for root removal is waived in this permit."	Historical WET testing during episodes of root control biocide usage showed no effects. This waiver is being continued from previous permit.	11

Section 13 of Fact Sheet	Tables in draft fact sheet incorrectly referenced the Monitoring Requirements for Overflows and Overflow Volume as “Condition 5 of Part II”	Reference was corrected to “Condition 6 of Part II”	Correction of referenced condition number.	13
Section 22 of Fact Sheet	Source list in draft fact sheet referenced incorrect permit number in Item 22.A and 22.G.	Item 22.A and 22.G of Fact Sheet were corrected.	Correction of referenced permit number.	14