



A R K A N S A S
Department of Environmental Quality

JUL 11 2019

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (9489 0090 0027 6060 6353 18)

Jake Rice III, PE, Manager
City Water and Light Plant of the City of Jonesboro (CWL)
Westside Wastewater Treatment Plant
400 East Monroe Avenue
Jonesboro, AR 72403

Re: Individual NPDES Discharge Permit Number AR0037907 and State Construction Permit Number AR0037907C, AFIN 16-00152

Dear Mr. Rice:

Enclosed are the public notice, a copy of the draft permits, and the Fact Sheet that the Arkansas Department of Environmental Quality has prepared in accordance with Regulation 8, *Administrative Procedures*.

In accordance with Reg. 8.207, the enclosed public notice will be or has been published by ADEQ in a newspaper of general circulation of your facility for one (1) day only. An invoice for the cost of publishing the public notice and proof of publication will be sent to you by the advertising newspaper. The permittee must send proof of publication and proof of payment to the address at the bottom of this letter as soon as possible but no later than thirty (30) days from the above date. Until this Department receives proof of publication of the public notice and payment of all permit fees, no further action will be taken on the issuance of your permits.

For a list of changes to the discharge permit, please see Section 5 of the enclosed Fact Sheet. Comments on the draft permits must be received at ADEQ prior to the close of the public comment period as described in the enclosed public notice. Once final permits are issued by the Director and become effective, the permittee must comply with all terms and conditions of the permits, or be subject to enforcement actions for any instances of noncompliance during the duration of the permits. Consequently, it is imperative that you, as the applicant, thoroughly review the enclosed documentation for accuracy, applicability, and your ability to comply with all conditions therein.

Should you have any questions concerning any part of the draft permits, please contact the Arkansas Department of Environmental Quality, NPDES Branch, at (501) 682-0623.

Sincerely,

Robert E. Blanz, Ph.D., P.E.
Associate Director, Office of Water Quality

RB:sb

Enclosure

**PUBLIC NOTICE OF DRAFT MODIFICATION PERMIT NUMBER AR0037907 AND
DRAFT STATE CONSTRUCTION PERMIT NUMBER AR0037907C AND 208 PLAN
AFIN 16-00152**

In accordance with Ark. Code Ann. § 8-4-203(e), the Arkansas Department of Environmental Quality (ADEQ), Office of Water Quality, gives the following notice:

City Water and Light Plant of the City of Jonesboro (CWL) - Westside Wastewater Treatment Plant operates a facility located as follows: 1605 Willett Road, Jonesboro, AR 72401 in Craighead County. The facility discharges treated municipal wastewater into an unnamed tributary, thence to Big Creek, thence to Bayou DeView, thence to the Cache River, thence to the White River in Segment 4B of the White River Basin. CWL – Westside Wastewater Treatment Plant submitted an application on December 20, 2018, with additional information received January 2, 2019, for the modification of NPDES Permit No. AR0037907 and issuance of State Construction Permit No. AR0037907C. The application has been reviewed by the ADEQ's Office of Water Quality and has received tentative approval subject to the terms of this notice.

The proposed permit modification and construction will include the installation of peracetic acid (PAA) disinfection with no change in design flow. The existing treatment system is bar screening, grit removal, primary sedimentation, first and second stage trickling filters, secondary sedimentation, chlorination, dechlorination, and re-aeration with 3.0 MGD design flow.

The 208 Plan, developed by the ADEQ under provisions of Section 208 of the federal Clean Water Act, is a comprehensive program to work toward achieving federal water goals in Arkansas. The initial 208 Plan, adopted in 1979, provides for annual updates, but can be revised more often if necessary. An update to the 208 Plan has been proposed to add an instantaneous maximum PAA limit of 1.0 mg/L to the existing water quality limitations. This change has also been incorporated into the draft discharge permit.

Citizens wishing to examine or obtain copies of the permit application, the draft permitting decision, the Fact Sheet, or the 208 Plan may do so at the ADEQ headquarters located at 5301 Northshore Drive, North Little Rock, AR 72118-5317. To request a copy of one or more of the documents, please call (501) 682-0623. For those with Internet access, a copy of the proposed draft permits as well as the publication date may be found on the ADEQ's website at: https://www.adeq.state.ar.us/water/permits/drafts_pn.aspx.

Comments on the draft construction permit and modification permit will be accepted in accordance with APC&EC Regulation No. 8.208. ADEQ's contact person for submitting written comments on the draft permits or 208 Plan, or requesting a public hearing on the draft permits or the proposed changes to the 208 Plan, is Shane Byrum, at the above address and telephone number or by email at Water-Draft-Permit-Comment@adeq.state.ar.us.

The period for submitting comments on the draft permits or 208 Plan, and for requesting a public hearing, shall begin on the date of publication of the public notice and end at 4:30 P.M. (Central Time) on the 30th day after the publication date. If the last day of the comment period is a Saturday, Sunday, or legal holiday, the public comment period shall expire on the next day that is not a Saturday, Sunday, or legal holiday. For information regarding the actual publication date along with the actual date and time the comment period will end, please contact Shane Byrum, at the above address and telephone number or by email at Water-Draft-Permit-Comment@adeq.state.ar.us. Public notice, comments, and hearings will be conducted in accordance with APC&EC Regulation Nos. 6.104(A)(5) [40 CFR Parts 124.10 through 124.12 by reference] and 8.207 through 8.210 (Administrative Procedures). All persons, including the permittee, who wish to comment on ADEQ's draft permitting decision must submit written comments to ADEQ, along with their name and mailing address. A Public Hearing will be held when ADEQ finds a significant degree of public interest. After the public comment period, ADEQ will issue a final permitting decision. ADEQ will notify the applicant and each person who has submitted written comments, or requested notice of the final permitting decision. Any interested person who has submitted comments may appeal a final decision by ADEQ in accordance with the APC&EC Regulation No. 8.

**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.),

City Water and Light of the City of Jonesboro (CWL)
Westside Wastewater Treatment Plant

is authorized to discharge treated municipal wastewater from a facility located as follows: 1605 Willett Road, Jonesboro, AR 72401 in Craighead County. The applicant's mailing address is: 400 East Monroe Avenue, PO Box 1289, Jonesboro, AR 72403.

Facility Coordinates: Latitude: 35° 51' 35" N; Longitude: 90° 43' 53" W

Receiving stream: unnamed tributary, thence to Big Creek, thence to Bayou DeView, thence to the Cache River, thence to the White River in Segment 4B of the White River Basin.

The permitted outfall is located at the following coordinates:

Outfall 001: Latitude: 35° 51' 32" N; Longitude: 90° 44' 04" W

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

Original Effective Date: October 1, 2016
Major Modification Effective Date:
Expiration Date: September 30, 2021

Robert E. Blanz, Ph.D., P.E.
Associate Director, Office of Water Quality
Arkansas Department of Environmental Quality

Major Modification Issue Date

**PART I
PERMIT REQUIREMENTS**

SECTION A.1 INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - treated municipal wastewater.

During the period beginning on the original effective date (October 1, 2016), and lasting until expiration 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.

The following limits are only applicable when using chlorine disinfection.

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
Flow	N/A	Report, MGD	Report, MGD (Daily 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)	375.3	15	22.5	once/week	composite
Total Suspended Solids (TSS)	500.4	20	30	once/week	composite
Ammonia Nitrogen (NH3-N)	100.1	4	6	once/week	composite
Dissolved Oxygen (DO)	N/A	5.0 (Inst. Min.)		once/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
	N/A	1000	2000	three/week	grab
Total Residual Chlorine (TRC) ²					
(Interim) ³	N/A	<0.1 (Inst. Max.) ⁴		once/week	grab
(Final) ³	N/A	0.011 (Inst. Max.)		once/week	grab
Chlorides	N/A	Report	Report	once/quarter	composite
Total Dissolved Solids	N/A	Report	Report	once/quarter	composite
Arsenic, Total Recoverable ⁴	N/A	Report	Report	once/quarter	composite
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/week	grab

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
Whole Effluent Toxicity limits for <i>P. promelas</i> 51714 (7-day NOEC) ⁶	N/A	Lethality Not < 100%		once/quarter	composite
Whole Effluent Toxicity limits for <i>C. dubia</i> 51710 (7-day NOEC) ⁶					
(Interim) ³	N/A	Lethality Not < 100%		once/quarter	composite
(Final) ³	N/A	Lethality Not < 100% Sub-Lethality Not < 80%		once/quarter	composite
<u>Pimephales promelas (Chronic)</u> ⁶ Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC) TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation (Growth) TQP6C Growth (7-day NOEC) TPP6C	N/A	<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter once/quarter once/quarter once/quarter once/quarter	composite composite composite composite composite
<u>Ceriodaphnia dubia (Chronic)</u> ⁶ Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail production (7-day NOEC) TGP3B Survival (7-day NOEC) TOP3B Coefficient of Variation (Reproduction) TQP3B Reproduction (7-day NOEC) TPP3B		<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter once/quarter once/quarter once/quarter	composite composite composite composite

1. See Condition No. 5 of Part II (SSO Condition). If there are no overflows during the entire month, report "zero" (0).
2. TRC must be measured using any approved test method established in 40 CFR Part 136 capable of meeting a minimum quantification level (MQL) of 0.033 mg/l or lower. If TRC is not reportable at the required MQL (i.e., lab result is "ND"), report "0" on the Discharge Monitoring Report (DMR). Report the concentration if TRC is quantifiable and measured in the sample at or above this or an alternatively approved MQL.
3. The Interim limits are effective for 3 years after the original effective date, at which time the Final limits become effective.
4. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. TRC shall be measured within fifteen (15) minutes of sampling.
5. Monitoring and reporting for Total Recoverable Arsenic is only required for one year from the effective date of the permit. See Condition No. 9 of Part II (Metals Condition).
6. See Condition No. 10 of Part II (WET Limit Condition).

Oil, grease, or petrochemical substances shall not be present in receiving waters to the extent that they produce globules or other residue or any visible, colored film on the surface or coat the banks and/or bottoms of the waterbody or adversely affect any of the associated biota. There shall be no visible sheen as defined in Part IV of this permit.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after final aeration, prior to the receiving stream. Flow may be measured just before the disinfection unit and after all other treatment units.

SECTION A.2 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - treated municipal wastewater.

During the period beginning on the major modification effective date, and lasting until expiration 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.

The following limits are only applicable when using peracetic acid (PAA) disinfection.

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lbs/day, else specified)	Concentration (mg/l, else 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)	375.3	15	22.5	once/week	composite
Total Suspended Solids (TSS)	500.4	20	30	once/week	composite
Ammonia Nitrogen (NH3-N)	100.1	4	6	once/week	composite
Dissolved Oxygen (DO)	N/A	5.0 (Inst. Min.)		once/week	grab
Fecal Coliform Bacteria (FCB)	(colonies/100ml)				
	N/A	1000	2000	three/week	grab
Chlorides	N/A	Report	Report	once/quarter	composite
Total Dissolved Solids	N/A	Report	Report	once/quarter	composite
Residual Peracetic Acid (PAA) ³	N/A	1.0 (Inst. Max.) ^{2,3}		three/week	grab ³
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/week	grab

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lbs/day, else specified)	Concentration (mg/l, else specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
Whole Effluent Toxicity limits for <i>P. promelas</i> 51714 (7-day NOEC) ⁴	N/A	<u>Lethality</u> Not < 100%		once/quarter	composite
Whole Effluent Toxicity limits for <i>C. dubia</i> 51710 (7-day NOEC) ⁴					
(Interim) ⁵	N/A	<u>Lethality</u> Not < 100%		once/quarter	composite
(Final) ⁵	N/A	<u>Lethality</u> Not < 100% <u>Sub-Lethality</u> Not < 80%		once/quarter	composite
<u>Pimephales promelas (Chronic)</u> ⁴ Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC)TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation (Growth) TQP6C Growth (7-day NOEC) TPP6C		<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter once/quarter once/quarter once/quarter once/quarter	composite composite composite composite composite
<u>Ceriodaphnia dubia (Chronic)</u> ⁴ Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail Production (7-day NOEC)TGP3B Survival (7-day NOEC) TOP3B Coefficient of Variation (Reproduction) TQP3B Reproduction (7-day NOEC) TPP3B		<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter once/quarter once/quarter once/quarter once/quarter	composite composite composite composite composite

1. See Part II.5 (SSO Condition). If there are no overflows during the entire month, report "zero" (0).
2. The effluent limitation for PAA is the instantaneous maximum and cannot be averaged for reporting purposes. PAA shall be measured within fifteen (15) minutes of sampling.
3. See Part II.11.C for acceptable test methods for PAA.
4. See Part II.10 (WET Limit Condition).
5. The Interim limits are effective for 3 years after the original effective date, at which time the Final limits become effective.

Oil, grease, or petrochemical substances shall not be present in receiving waters to the extent that they produce globules or other residue or any visible, colored film on the surface or coat the banks and/or bottoms of the waterbody or adversely affect any of the associated biota. There shall be no visible sheen as defined in Part IV of this permit.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after final aeration, prior to the receiving stream. Flow may be measured just before the disinfection unit and after all other treatment units.

SECTION B. PERMIT COMPLIANCE SCHEDULE

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

1. Compliance with the interim limits is required on the effective date of the permit.
2. Compliance with the Final Effluent Limitations for Total Residual Chlorine (TRC) and *C. dubia* sub-lethal WET limits is required three years after the original effective date of the permit (*October 1, 2016*). The permittee shall submit progress reports addressing the progress towards attaining the Final Effluent Limitations for TRC and *C. dubia* sub-lethal WET limits according to the following schedule:

<u>ACTIVITY</u>	<u>DUE DATE</u>
Progress Report ^{1,2}	One (1) year from original effective date
Progress Report ^{1,3}	Two (2) years from original effective date
Achieve Final Compliance ^{1,4}	Three (3) years from original effective date

All progress reports must be submitted to the Department either via email to water-enforcement-report@adeq.state.ar.us, or via mail to the following address:

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

1. If the permittee is already in compliance with the final permit limits, only documentation demonstrating compliance with the final limit will be required for the progress report.
2. If the permittee is not in compliance with the Final Limitations following one (1) year of sampling, the initial Progress Report must detail how the permittee plans to come into compliance with the TRC and *C. dubia* sub-lethal WET limits within the remaining 2 years of the Interim period. Options must be provided that were considered along with which option* was selected. Any Best Management Practices (BMPs) that have been instituted to reduce the toxic effects in the influent must also be discussed. If a study will be performed, a milestone schedule for the study must be provided.
 - * The permittee has the option to undertake any study deemed necessary to meet the final limitations during the interim period. Any additional treatment (including chemical addition) must be approved and construction approval granted prior to final installation.
3. The second Progress Report must contain an update on the status of the chosen option from the initial Progress Report. If the facility is not meeting any of the milestones provided in the initial Progress Report, the facility must update the milestone schedule to show how the final limits will be met by the deadline.
4. A final Progress Report must be submitted no later than 30 days following the final compliance date and include a certification that the final effluent limits were met on the effective date and that the limits are still being met.

PART II OTHER CONDITIONS

1. The operator of this wastewater treatment facility shall be licensed as Class IV by the State of Arkansas in accordance with APCEC Regulation No. 3.
2. For publicly owned treatment works, the 30-day average percent removal for Carbonaceous Biochemical Oxygen Demand (CBOD5) and Total Suspended Solids (TSS) shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR Part 133.102, as adopted by reference in APCEC Regulation No. 6.
3. 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 IA 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 Office of Water Quality 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.
- All associated devices are installed, calibrated, and maintained to insure the accuracy of the measurements and are consistent with the accepted capability of that type of device. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

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

5. Sanitary Sewer Overflow (SSO) Reporting Requirements:

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.

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. 24-hour Reporting

Overflows that endanger health or the environment shall be orally reported to the Enforcement Branch of the Office of Water Quality by telephone **(501-682-0638)** or by email, waterenfssso@adeq.state.ar.us within 24 hours from the time the permittee becomes aware of the circumstance. At a minimum, the following information shall be reported:

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

C. 5-day Follow-Up Written web Reporting:

A web written report of overflows shall be provided to ADEQ within 5 days of the 24 hours oral report.

A 5-day follow-up written report can be filled-in or downloaded from the ADEQ /Office of Water Quality/Enforcement Branch Web page at

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

D. 24 -hour and 5 days reporting:

24- hour reporting can be filled-in or downloaded from the ADEQ /Office of Water Quality/Enforcement Branch Web page at address above if all information are available and 5 days reporting is not required.

E. Reporting for All SSOs on DMR

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

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

7. CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

- a. The permittee shall operate an industrial pretreatment program in accordance with Section 402(b)(8) of the Clean Water Act, the General Pretreatment Regulations (40 CFR Part 403) and the approved POTW pretreatment program submitted by the permittee. The pretreatment program was approved on November 1, 1983, modified on May 11, 1999 and once again modified on May 16, 2013 to be compliant with the Streamlining revisions to the Federal Pretreatment Regulations in 40 CFR 403. 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 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 4 times/year (quarterly). 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 consisting of at least 12 aliquots collected at approximately equal intervals over a representative 24 hour period and composited according to flow. Sampling and analytical procedures shall be in accordance with guidelines established in 40 CFR 136. Where composite samples are inappropriate, due to sampling, holding time, or analytical constraints, at least 4 grab samples, taken at equal intervals over a representative 24-hour period shall be taken.

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

Note: For permittees with multiple NPDES permits, only one (1) updated pretreatment program status report ("Annual Report") is required. The annual report shall reference the Tracking NPDES permit number AR0043401 covered for the permittee's approved Pretreatment Program.

In addition, by 4:30 pm (if electronically submitted) OR postmarked on or before the last business day in the month of December the permittee shall submit an updated pretreatment program status report to the ADEQ containing the following information:

1. An updated list of all significant industrial users. The list must also identify:
 - (a) Industrial Users subject to the following categorical Pretreatment Standards [Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) (40 CFR Part 414), Petroleum Refining (40 CFR Part 419), and Pesticide Chemicals (40 CFR Part 455)] and for which the Control Authority has chosen to use the concentration-based standards rather than converting them to flow-based mass standards as allowed at 40 CFR 403.6(c)(6).
 - (b) Categorical Industrial Users subject to concentration-based standards for which the Control Authority has chosen to convert the concentration-based standards to equivalent mass limits, as allowed at 40 CFR 403.6(c)(5).
 - (c) Best Management Practices or Pollution Prevention alternatives required by a categorical Pretreatment Standard or as a local limit requirement that are implemented and documentation to demonstrate compliance, as required at 40 CFR 403 (b), (e) and (h).
2. For each industrial user listed the following information shall be included:
 - (a) Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) code and categorical determination;
 - (b) Control document status. Whether the user has an effective control document, and the date such document was last issued, reissued, or modified, (indicate which industrial users were added to the system (or newly identified) within the previous 12 months);
 - (c) A summary of all monitoring activities performed within the previous 12 months. The following information shall be reported:
 - total number of inspections performed;
 - total number of sampling visits made;
 - (d) Status of compliance with both effluent limitations and reporting requirements. Compliance status shall be defined as follows:
 - Compliant (C) - no violations during the previous 12 month period;
 - Non-compliant (NC) - one or more violations during the previous 12 months, but does not meet the criteria for significantly noncompliant industrial users;
 - Significant Noncompliance (SNC) - in accordance with requirements described in d. above;and

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

- (1) A list of all significant industrial users whose authorization to discharge was terminated or revoked during the preceding 12 month period and the reason for termination;
- (2) A report on any interference, pass through, upset or POTW permit violations known or suspected to be caused by industrial contributors and actions taken by the permittee in response;
- (3) The results of all influent and effluent analyses performed pursuant to paragraph c. above;
- (4) An influent/effluent summary chart containing the monthly average water quality based effluent concentration demonstrating compliance with permit limits or the water quality levels not to exceed as developed in the permittee's approved technically based local limits document.
- (5) The information requested may be submitted in tabular form as per the example tables provided for your convenience (See Attachments A, B and C); and
- (6) A copy of the newspaper publication of the significantly noncompliant industrial users giving the name of the newspaper and the date published;

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

- (1) Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Act if it were directly discharging those pollutants; and
- (2) Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

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

8. Sludge is treated by the following: gravity thickening, lime stabilization and dewatering. The biosolids are then land applied in accordance with the terms of the no discharge permit 5105-W.

9. The permittee may use any EPA approved method based on 40 CFR Part 136 provided the MQL for the chosen method is equal to or less than what has been specified in the chart below:

Pollutant	MQL (µg/l)
Arsenic, Total Recoverable	0.5

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

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

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

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

A. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL(S):	001
REPORTED ON DMR AS FINAL OUTFALL:	001
CRITICAL DILUTION (%):	100%
EFFLUENT DILUTION SERIES (%):	32%, 42%, 56%, 80%, & 100%
LETHAL LIMIT (<i>P. promelas</i> & <i>C. dubia</i>):	100%
SUB-LETHAL LIMIT (<i>C. dubia</i>):	80%
COMPLIANCE SCHEDULE: SUB-LETHAL	Yes
TESTING FREQUENCY:	once/quarter
COMPOSITE SAMPLE TYPE:	Defined at PART I
TEST SPECIES/METHODS:	40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof. This test should be terminated when 60% of

the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

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

- ii. 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.
- iii. 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 endpoint at or below the required limit specified in Item A.i., 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.
- iv. 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 A.i.
- v. This permit may be reopened to require chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

B. PERSISTENT SUB-LETHAL EFFECTS*

The requirements of this subsection apply to those parameters without WET Limits, only when a toxicity test demonstrates significant 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 G, 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

* This section does not apply to *C. dubia* after the sub-lethal limits become effective.

frequency of testing for that species is automatically increased to once per quarter for the life of the permit. In addition:

i. Part I Testing Frequency Other Than Monthly

- a. The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant toxic effects at or below the critical dilution. The additional tests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with procedures outlined in Item D of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.
- b. 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 E of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may also be required for failure to perform the required retests.
- c. The provisions of Item B.i.a are suspended upon submittal of the TRE Action Plan.

ii. Part I Testing Frequency of Monthly

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

C. REQUIRED TOXICITY TESTING CONDITIONS

i. Test Acceptance

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

- a. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- b. The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.
- c. 60% of the surviving control females must produce three broods.
- d. 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.

- e. 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.
 - f. 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.
 - g. 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.
 - h. 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%.
 - i. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for Ceriodaphnia dubia reproduction;
 - j. A PMSD range of 12 - 30 for Fathead minnow growth.
- ii. Statistical Interpretation
- a. 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.
 - b. 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.
 - c. If the conditions of Test Acceptability are met in Item C.i above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item D below.
- iii. Dilution Water
- a. 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.

- b. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item C.i, 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:
 - (1) a synthetic dilution water control which fulfills the test acceptance requirements of Item C.i was run concurrently with the receiving water control;
 - (2) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);
 - (3) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item D.i below; and
 - (4) 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.

iv. Samples and Composites

- a. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item A.i 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.
- b. 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.
- c. 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.
- d. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration

and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item D of this section.

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

D. REPORTING

- i. 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.
- ii. The permittee shall report the Whole Effluent Toxicity values for the 30-Day Average Minimum and the 7-Day Minimum under Parameter No. 51710 and 51714 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 A.i.), 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.

- iii. 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.

a. Pimephales promelas (Fathead minnow)

- (1) 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
- (2) Report the NOEC value for survival, Parameter No. TOP6C
- (3) Report the NOEC value for growth, Parameter No. TPP6C
- (4) If the NOEC for growth is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP6C
- (5) Report the highest (critical dilution or control) Coefficient of Variation for growth, Parameter No. TQP6C
- (6) Report the NOEC value for survival, Limit Parameter No. 51714.

b. Ceriodaphnia dubia

- (1) If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP3B
- (2) Report the NOEC value for survival, Parameter No. TOP3B
- (3) Report the NOEC value for reproduction, Parameter No. TPP3B
- (4) If the NOEC for reproduction is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP3B
- (5) Report the higher (critical dilution or control) Coefficient of Variation for reproduction, Parameter No. TQP3B
- (6) Prior to the sub-lethal limit effective date, report the NOEC value for survival, Limit Parameter No. 51710.
- (7) Once the sub-lethal limit is effective, report the lowest NOEC value for survival or reproduction, Limit Parameter No. 51710.

E. TOXICITY REDUCTION EVALUATIONS (TREs)

TREs for lethal and sub-lethal effects are performed in a very similar manner. EPA Region 6 is currently addressing TREs as follows: a sub-lethal TRE (TRE_{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.

- i. 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:
 - a. **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

- b. **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;
- c. 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;
- d. **Quality Assurance Plan** (e.g., QA/QC implementation, corrective actions, etc.); and

- e. Project Organization (e.g., project staff, project manager, consulting services, etc.).
- ii. 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.
- iii. 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:
 - a. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
 - b. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and
 - c. 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.
- iv. 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.
- v. 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).

F. TOXICITY RE-OPENER

- i. If the TRE has identified the source of toxicity and led to the successful elimination of effluent toxicity at the critical dilution, the WET final effluent limits may be replaced by monitoring and reporting only requirement thru a major permit modification. Otherwise, the permittee must comply with the final WET effluent limits.
- ii. If the TRE has not led to the successful elimination of effluent toxicity at the critical dilution, but has identified a causal parameter, the WET final effluent limit may be replaced by monitoring and reporting only requirement thru a major permit modification, with the addition of a limit for the causal parameter.

(Note: A modified permit must be effective prior to the effective date of the WET limits.)

G. MONITORING FREQUENCY REDUCTION (applicable to *P. promelas* only)

This section does not apply to any species for which the permit establishes whole effluent toxicity (WET) limits. For the first five years after the effective date of a WET limit, the minimum monitoring frequency for the affected species is once per quarter or once per month (in accordance with Item A.i.).

- i. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters or first twelve consecutive months (in accordance with Item A.i.) of testing for a test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than twice per year.
- ii. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item C.i. 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.
- iii. 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.
- iv. This monitoring frequency reduction applies only until the expiration date of this permit, at which time the monitoring frequency for both test species reverts to once per quarter until the permit is re-issued.

11. Transition Period From Chlorine to PAA Disinfection

City Water and Light of the City of Jonesboro is installing PAA disinfection and removing chlorine disinfection/dechlorination. This will result in the removal of TRC requirements and the addition of residual PAA requirements.

- A. Beginning on the effective date of the modified permit, the permittee must submit a Discharge Monitoring Report (DMR) for each permitted disinfection byproduct (i.e., TRC and PAA) on a monthly basis. The DMR for PAA can be marked and submitted as “No Discharge”, until such time as the new equipment is operational. The permittee must continue to submit the two (2) monthly DMRs until the report required in paragraph B below is received.
- B. The permittee must notify the ADEQ within 30 days of when the new PAA equipment has been installed and is operating. The submittal required by Condition 3 of State Construction Permit No. AR0037907C will fulfill this requirement.
- C. Analysis of PAA residual shall be performed using any of the following methods:
 - 1. CHEMetrics Kit K-7904 (DPD Visual Method)
 - 2. CHEMetrics Kit K-7913 (DPD Instrumental Method)
 - 3. Hach Method 10297 (DPD Instrumental Method)

Use of any other test method for PAA will require prior Department approval.

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.
- B. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.
- C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- 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 statutes or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

6. **Oil and Hazardous Substance Liability**

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

7. **State Laws**

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

8. **Property Rights**

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

9. **Severability**

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

10. **Applicable Federal, State, or Local Requirements**

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 requirements 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

“Bypass” means the intentional diversion of waste streams from any portion of a treatment facility, as defined at 40 CFR 122.41(m)(1)(i).

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.
 - (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.
 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

- A. 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.
- B. 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.4), the +/- 10% accuracy requirement described above is waived. This waiver is only applicable when the method used for calculation of the flow has been reviewed and approved by the Department.

3. Monitoring Procedures

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

4. Penalties for Tampering

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

5. Reporting of Monitoring Results

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

previous monitoring period shall be summarized and reported on a DMR form postmarked no later than the 25th day of the month or submitted electronically by 6:00 p.m. of the 25th, 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
Office of Water Quality
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 individual(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.
- 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.
- 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).
- 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.
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.
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 Office of Water Quality 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 Office of Water Quality 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 the permittee 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).

- 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.
 - (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.
 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.
 - (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).
 3. The written authorization is submitted to the Director.
- C. Certification. Any person signing a document under this section shall make the following certification:
- “I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

12. Availability of Reports

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

13. Penalties for Falsification of Reports

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

14. Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

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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”** means the intentional diversion of waste streams from any portion of a treatment facility, as defined at 40 CFR 122.41(m)(1)(i).
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.
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 7-Day Average as the geometric mean of all “daily discharges” within a calendar week, and the Monthly Average as the geometric mean of all “daily discharges” within a calendar month, 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 FCB, report the 7-Day Average as the geometric mean of all “daily discharges” within a calendar week, and the Monthly Average as the geometric mean of all “daily discharges” within a calendar month, 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 flow measurement”** means the flow measured during the minimum time required for the flow-measuring device or method to produce a result in that instance. To the extent practical, instantaneous flow measurements coincide with the collection of any grab samples required for the same sampling period so that together the samples and flow are representative of the discharge during that sampling period.
19. **“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.
20. **“Instantaneous Minimum”** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
21. **“Monthly Average”** means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month. For Fecal Coliform Bacteria (FCB) or E-Coli, report the Monthly Average as the geometric mean of all “daily discharges” within a calendar month (see Part IV.14 and IV.15 above, respectively).
22. **“Monitoring and Reporting”**
When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is monthly or more frequently, the Discharge Monitoring Report (DMR) shall be submitted by the 25th of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the DMR shall be submitted by the 25th of the month following the monitoring period end date.
- A. **MONTHLY:**
is defined as a calendar month or any portion of a calendar month for monitoring requirement frequency of once/month or more frequently.
- B. **BI-MONTHLY:**
is defined as two (2) calendar months or any portion of 2 calendar months for monitoring requirement frequency of once/2 months or more frequently.

C. QUARTERLY:

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

D. SEMI-ANNUAL:

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

E. ANNUAL or YEARLY:

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

23. **“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.
24. **“POTW”** means Publicly Owned Treatment Works; a treatment works (see Part IV.29 below) which is owned by a state or municipality.
25. **“Reduction of CBOD5/BOD5 and TSS in mg/l Formula”**:
$$[(\text{Influent} - \text{Effluent}) / \text{Influent}] \times 100$$
26. **“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.
27. **“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.
28. **“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.
29. **“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.

30. **Units of Measure:**

“**MGD**” shall mean million gallons per day.

“**mg/l**” shall mean milligrams per liter or parts per million (ppm).

“**µg/l**” shall mean micrograms per liter or parts per billion (ppb).

“**cfs**” shall mean cubic feet per second.

“**ppm**” shall mean parts per million.

“**s.u.**” shall mean standard units.

31. “**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 or improper operations.

32. “**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.

33. “**Weekday**” means Monday – Friday.

Fact Sheet

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

This is a modified permit. Only the modified portions of the permit are open for comment at this time. This Fact Sheet is for information and justification of the permit *requirements* only. Please note that it is not enforceable. This permitting decision is for *modification* of the discharge Permit Number AR0037907 *and issuance of State Construction Permit Number AR0037907C* with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 16-00152 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 is:

City Water and Light of the City of Jonesboro (CWL)
Westside Wastewater Treatment Plant
400 East Monroe Avenue
PO Box 1289
Jonesboro, AR 72403

The facility address is:

City Water and Light of the City of Jonesboro (CWL)
Westside Wastewater Treatment Plant
1605 Willett Road
Jonesboro, AR 72401

3. PREPARED BY.

The *modified permit and state construction permit* were prepared by:

Alex Kreps, P.E.
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(501) 682-0619
E-mail: kreps@adeq.state.ar.us

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4. PERMIT ACTIVITY.

Previous Permit Effective Date: July 1, 2011
Previous Permit Minor Modification Date: August 1, 2013
Previous Permit Expiration Date: June 30, 2016

The permittee submitted a permit renewal application on December 22, 2015, with additional information received February 9, 2016 and March 22, 2016. The current discharge permit is being reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

The permittee submitted a state construction permit and permit modification application on December 20, 2018, with additional information received January 2, 2019, for the replacement of chlorine disinfection/dechlorination with peracetic acid (PAA) disinfection. It is proposed that the current discharge permit be modified for the remainder of the 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

DOCUMENT ABBREVIATIONS

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

BAT - best available technology economically achievable
BCT - best conventional pollutant control technology
BMP - best management practice
BOD₅ - five-day biochemical oxygen demand
BPJ - best professional judgment
BPT - best practicable control technology currently available
CBOD₅ - carbonaceous biochemical oxygen demand
CD - critical dilution
CFR - Code of Federal Regulations
cfs - cubic feet per second
COD - chemical oxygen demand
COE - United States Corp of Engineers
CPP - continuing planning process
CWA - Clean Water Act
DMR - discharge monitoring report
DO - dissolved oxygen
ELG - effluent limitation guidelines
EPA - United States Environmental Protection Agency
ESA - Endangered Species Act
FCB - fecal coliform bacteria
gpm - gallons per minute
MGD - million gallons per day
MQL - minimum quantification level
NAICS - North American Industry Classification System

NH₃-N - ammonia nitrogen
NO₃ + NO₂-N - nitrate + nitrite nitrogen
NPDES - National Pollutant Discharge Elimination System
O&G - oil and grease
Reg. 2 - APCEC Regulation No. 2
Reg. 6 - APCEC Regulation No. 6
Reg. 8 - APCEC Regulation No. 8
Reg. 9 - APCEC Regulation No. 9
RP - reasonable potential
SIC - standard industrial classification
TDS - total dissolved solids
TMDL - total maximum daily load
TP - total phosphorus
TRC - total residual chlorine
TSS - total suspended solids
UAA - use attainability analysis
USF&WS - United States Fish and Wildlife Service
USGS – United States Geological Survey
WET - Whole effluent toxicity
WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

Compliance and Enforcement History:

Compliance and Enforcement History for this facility can be reviewed by using the following web link:

https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0037907_Compliance%20Review_20160113.pdf

5. SIGNIFICANT CHANGES FROM THE PREVIOUSLY ISSUED PERMIT.

Modification of the permit has resulted in the following changes from the previous permit:

- 1. The limit tables in Part IA have been updated. Part IA.1 includes TRC requirements exclusively and Part IA.2 includes PAA requirements exclusively. The applicability of the tables in Part IA is outlined in Part II.11, Transition Period. See Sections 12.A of this Fact Sheet for further information.*
- 2. Part IA.1 now includes interim and final limits for both TRC and chronic WET for C. dubia.*
- 3. Part IA.2 now includes interim and final chronic WET limits for C. dubia, and a limit for PAA.*
- 4. The footnotes in Part IA were updated for accuracy.*
- 5. Part IB, Permit Compliance Schedule, was numbered for clarity.*

6. *Part II.11, Transition Period, was added regarding the implementation of PAA disinfection.*

6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

The outfall is located at the following coordinates based on Google Earth using (WGS84):

Latitude: 35° 51' 32" N; Longitude: 90° 44' 04" W

The receiving waters named:

an unnamed tributary, thence to Big Creek, thence to Bayou DeView, thence to the Cache River, thence to the White River in Segment 4B of the White River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 08020302 and reach #009 is a Water of the State classified for secondary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

7. 303(d) LIST, TOTAL MAXIMUM DAILY LOADS, ENDANGERED SPECIES, AND ANTI-DEGRADATION CONSIDERATIONS.

A. 303(d) List

This facility has a discharge to a water body that is not on the State's currently approved 303(d) list of impaired waterbodies (2008). However, according to the list, the following water quality criteria or designated uses are not being met in Bayou DeView (reach #009, about 1 mile downstream): TDS, Chlorides, and Aluminum in category 5a.

The previous permit had monitoring and reporting for TDS, Chlorides, and Total Recoverable Aluminum. Using the DMR data for the facility from the previous five years, ADEQ has determined that the existing effluent quality does not exceed the water quality standards for Total Recoverable Aluminum at the end-of-pipe (point-of-discharge), and therefore the facility does not show reasonable potential to cause or contribute to violation of water quality standards. As a result, the monitoring and reporting requirements for Total Recoverable Aluminum from the previous permit have been removed. See Section 12.A of this Fact Sheet for more information. The monitoring and reporting requirements for TDS and Chlorides have been continued from the previous permit.

Additionally, Reach #007 of Bayou DeView (about 15 miles downstream) is listed for Lead in category 5d due to Agriculture. Category 5d includes waters which need data verification to confirm use impairment (additional sampling, biological assessment) before a TMDL or other corrective action(s) is scheduled. Due to the listed source of the impairment, the distance of the impairment from the outfall, and the category of the listing, no additional permit action is necessary regarding Lead.

It should be noted that a reopener clause is established in Part II of the permit, which allows the permit to be modified, if necessary, to conform with effluent limitations established for this facility as part of a Total Maximum Daily Load (TMDL), or pollutant specific limits if a more specific 303(d) list is approved.

B. Applicable Total Maximum Daily Loads (TMDLs)

Bayou DeView is included in “TMDLs for Turbidity for Bayou DeView and Cache River, AR” dated January 6, 2006. It states, “The wasteload allocations (WLAs) for point source contributions were set to zero because TSS in these TMDLs was considered to represent inorganic suspended solids (i.e., soil and sediment particles from erosion or sediment resuspension). The suspended solids discharged by point sources in the study area are assumed to consist primarily of organic solids rather than inorganic solids. Discharges of organic suspended solids from point sources are already addressed by ADEQ through their permitting of point sources to maintain water quality standards for dissolved oxygen.” Since the permit already has Technology-based limitations for TSS and a minimum Water Quality-based limitation for DO, no additional permit action is necessary regarding Turbidity.

C. Endangered Species

No comments on the application were received from the USF&WS. The draft permit and Fact Sheet will be sent to the USF&WS for their review.

D. Anti-Degradation

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

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

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

A. Design Flow: 3.0 MGD

B. Type of Treatment: bar screen, grit removal, primary sedimentation, first and second stage trickling filters, secondary sedimentation, chlorination, dechlorination, and re-aeration

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: *The construction permit is your authority to modify the wastewater treatment system in accordance with the permit application and plans and specifications which were received on December 20, 2018, with additional information received January 2, 2019. The issuance of the construction permit and conditions are based on the Arkansas Water and Air Pollution Control Act (Arkansas Code Annotated §8-4-101 et seq. and Arkansas Code Annotated §8-4-201 et seq.), Arkansas Pollution Control and Ecology Commission (APC&EC) Regulation No. 6.202, NPDES Discharge permit AR0037907, and 40 CFR 122.26.*

Specific conditions of the construction permit, and their sources, are listed as follows:

Conditions 1, 2, 3, 4, 5, 6, 7, 11, and 12 are self-explanatory. Conditions 8, 9, and 10 are based on the submitted application and Plans and Specifications.

9. ACTIVITY.

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

10. INDUSTRIAL WASTEWATER CONTRIBUTIONS.

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

11. SEWAGE SLUDGE PRACTICES.

Sludge is treated by the following: gravity thickening, lime stabilization and dewatering. It is then land applied in accordance with the terms of the no discharge permit 5105-W.

12. DEVELOPMENT AND BASIS FOR PERMIT CONDITIONS.

The Arkansas Department of Environmental Quality has determined to issue a renewal 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.). All of the information contained in the application, including all of the submitted effluent testing data, was reviewed to determine the need for effluent limits and other permit requirements.

The following is an explanation of the derivation of the conditions of the renewal 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 renewal 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
CBOD ₅	15	22.5	25	40	15	22.5	15	22.5
TSS	N/A	N/A	30	45	20	30	20	30
NH ₃ -N	4	6	N/A	N/A	4	6	4	6
DO	5.0 (Inst. Min.)		N/A		5.0 (Inst. Min.)		5.0 (Inst. Min.)	
FCB (col/100 ml)	1000	2000	N/A	N/A	1000	2000	1000	2000
TRC (Inst. Max)	0.011 mg/l		<0.033 mg/l		<0.1 mg/l		0.011 mg/l	
Chlorides	N/A	N/A	Report	Report	Report	Report	Report	Report
TDS	N/A	N/A	Report	Report	Report	Report	Report	Report
Arsenic, Total Recoverable	N/A	N/A	Report	Report	N/A	N/A	Report	Report
<i>Residual PAA</i>	<i>N/A</i>	<i>N/A</i>	<i>1.0 (Inst. Max.)</i>		<i>N/A</i>	<i>N/A</i>	<i>1.0 (Inst. Max.)</i>	
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	

A. Justification for Limitations and Conditions of the Renewal Permit

Parameter	Water Quality or Technology	Justification
CBOD ₅	Water Quality	MultiSMP Model dated March 15, 2010 (and reviewed April 12, 2016), CWA § 402(o), and previous permit
TSS	Technology	40 CFR 122.44(l) and Previous Permit
NH ₃ -N	Water Quality	Reg. 2.512, MultiSMP Model dated March 15, 2010 (and reviewed April 12, 2016), CWA § 402(o), and previous permit
DO	Water Quality	Reg. 2.505, MultiSMP Model dated March 15, 2010 (and reviewed April 12, 2016), CWA § 402(o), and previous permit
FCB	Water Quality	Reg. 2.507, CWA § 402(o), and previous permit

Parameter	Water Quality or Technology	Justification
TRC ¹	Water Quality	Reg. 2.409
Chlorides	Report Only	2008 303(d) list and previous permit
TDS	Report Only	2008 303(d) list and previous permit
Arsenic, Total Recoverable ²	Report Only	Appendix D of the CPP
Residual PAA ³	Technology	Jonesboro CWL Pilot Plant study results, engineering judgement, and VigorOx® WWT II FIFRA Label
pH	Water Quality	Reg. 2.504, CWA § 402(o), and previous permit

*As part of the major modification of the discharge permit, Part IA was reorganized for simplicity. Previously, Part IA.1 and IA.2 were for interim and final limits, respectively. With this draft, Part IA.1 reflects the interim and final limits for TRC, and Part IA.2 reflects final limits for PAA. The interim and final limits for *C. dubia* chronic WET are expressed in both Part IA.1 and Part IA.2. Reports for Part IA.2 shall be reported as NODI – 9, conditional monitoring not required this period, until Part II.11.B of the discharge permit is satisfied.*

It should be noted that monitoring and reporting of Total Phosphorus, Nitrate + Nitrite Nitrogen, and Total Recoverable Aluminum has been removed from the permit. See below for information about each of these parameters:

Nutrients

The 2000 CPP requires that all Major facilities monitor and report for Total Phosphorus and Nitrate + Nitrite Nitrogen in order to establish a data base of point source loadings of nutrients to Waters of the State. This facility had been monitoring and reporting monthly for Total Phosphorus and Nitrate + Nitrite Nitrogen during the previous permit cycle. The previous monitoring for nutrients has provided sufficient data for the facility in regards to Phosphorus and Nitrate + Nitrite Nitrogen nutrients. Therefore, Phosphorus and Nitrate + Nitrite Nitrogen monitoring and reporting has been removed from the permit, and limits will not be established at this time.

Total Recoverable Aluminum

The facility had also been monitoring and reporting for Total Recoverable Aluminum during the previous permit cycle in response to the impairments of the receiving stream listed on the 2008 303(d) list. The sample frequency for Total Recoverable Aluminum was once/year, yielding five data points at the time of renewal. In accordance with the Toxic Control Implementation Procedure from Appendix D of the 2000 CPP, the geometric mean was determined to be 52.2 µg/l. EPA considers Total Recoverable Aluminum concentrations higher than 87 µg/l (Acute Criteria) and 750 µg/l (Chronic Criteria) to be toxic to aquatic organisms. Since the receiving stream for the discharge

has a critical low flow of 0 cfs, the criteria must be met at the end of pipe. Since the Aluminum concentration in the discharge is less than the applicable criteria, the facility does not show reasonable potential to violate Aluminum water quality standards. Therefore, Total Recoverable Aluminum monitoring and reporting has been removed from the permit, and limits will not be established at this time. The evaluation can be reviewed by using the following web link:

https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0037907_RP%20Analysis%20for%20Aluminum_20160120.pdf

It should be noted that a reopener clause is established in Part II of the permit, which allows the permit to be modified, if necessary, to conform with effluent limitations established for this facility as part of a Total Maximum Daily Load (TMDL), or pollutant specific limits if a more specific 303(d) list is approved.

¹ Total Residual Chlorine (TRC)

The previous permit had a limit of <0.1 mg/l (Inst. Max.) for TRC based on the Minimum Quantification Level (MQL) of 0.1 mg/l, which was based on the CPP. The MQL for TRC has since been revised to 0.033 mg/l in accordance with the EPA Memo, "Region 6 Minimum Quantification Level Guidance" dated February 8, 2008. However, EPA considers concentrations at the edge of the mixing zone higher than 0.011 mg/l (Chronic Criteria) to be toxic to aquatic organisms. Since the facility discharges to a stream with a critical low flow of 0 cfs, the criteria must be met at the end of pipe. As a result, the effluent limitation for TRC has been lowered to 0.011 mg/l (Inst. Max.).

The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. To demonstrate compliance with the TRC limit, the permittee must determine the effluent concentration by using any EPA approved test method established in 40 CFR Part 136 capable of meeting a detection level of 0.033 mg/l or lower. If TRC is not detected at the required detection level (i.e., lab result is "ND"), the permittee may report a value of "0" on the Discharge Monitoring Report (DMR) thereby demonstrating compliance with the limit of 0.011 mg/l.

A three (3) year schedule of compliance has been included in the permit for the more stringent TRC limit. See Part I.B of the permit and Section 16 of this Fact Sheet for more information.

This modification is to incorporate the replacement of chlorine disinfection with PAA disinfection. As such, when Department approval is issued, after receipt of a Notice of Completion of Construction for the installation of PAA disinfection, TRC requirements will be deemed inactive in accordance with Part II.11 of the permit.

² Total Recoverable Arsenic

Monitoring and reporting for Total Recoverable Arsenic for one year has been included in the renewal permit based on Appendix D, Part IV – Chemical Specific Standards and Criteria, Section E – Protection of Human Health Criteria of the Discharge Permit, Toxic Control Implementation Procedure of the CPP. See Section 12(F)(2) below for more information.

³ Residual PAA

This modification is for the addition of peracetic acid (PAA) disinfection in lieu of chlorine disinfection and dechlorination. The facility conducted a pilot study from February 2018 to July 2018 wherein they replaced chlorine disinfection and dechlorination with PAA disinfection. The results of the study supported the use of PAA as the facility's disinfection method. There were no permit exceedances including chronic WET testing.

An instantaneous maximum limitation was determined from the EPA's FIFRA label for VigorOx® WWT II, the PAA solution chosen by the permittee in the application. That label provides a maximum amount of PAA that can be discharged based on the dilution factor (DF) of the receiving stream. If the DF is greater than or equal to 12, the maximum amount is 0.09DF (mg/L); and if the DF is less than 12, the maximum amount is 1.0 mg/L. The receiving stream has a 7Q10 flow of 0 cfs, and the DF is calculated by the following equation provided in EPA's FIFRA label:

$$DF = [\text{effluent discharge} + \text{receiving stream } 7Q10] / \text{effluent discharge}$$

$$DF = [4.65 \text{ cfs} + 0 \text{ cfs}] / 4.65 \text{ cfs}$$

$$DF = 1.0$$

Therefore, since the calculated DF is less than 12, an instantaneous maximum PAA limit of 1.0 mg/L has been added in Part IA.2 of the permit. Based on the results of the Pilot Study included in the application, the permittee is capable of meeting a residual PAA limit of 1.0 mg/L (Inst. Max.). Therefore, no schedule of compliance has been included for the residual PAA limit.

B. Anti-backsliding

The renewal 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 CWA 402(o)(2), CWA 303(d)(4), or 40 CFR 122.44 (l)(2)(i).

The renewal permit meets or exceeds the requirements of the previous permit.

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 3.0 MGD and the following equation:

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

2. 7-Day Average Limits:

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

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

The 7-Day Average limit for FCB is based on Reg. 2.507.

D. **Ammonia-Nitrogen (NH₃-N)**

The water quality effluent limitations for Ammonia are based either on DO-based effluent limits or on toxicity-based standards, whichever are more stringent. The toxicity-based effluent limitations based on Reg. 2.512 are not included in the permit. WET limits are included in lieu of NH₃-N toxicity limits. The evaluation can be reviewed by using the following web link:

https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0037907_WQMP%20Summary%20Sheet_20160413.pdf

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

The 208 Plan, developed by the ADEQ under provisions of Section 208 of the federal Clean Water Act, is a comprehensive program to work toward achieving federal water goals in Arkansas. The initial 208 Plan, adopted in 1979, provides for annual updates, but can be revised more often if necessary. *An instantaneous maximum PAA limit of 1.0 mg/L is being added to the 208 Plan with this permit modification. This 208 Plan update will be public noticed with the draft modification permit.*

F. 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
Discharge Flow = Q	3 MGD = 4.64 cfs	Application
Critical flow, 7Q10	0 cfs	USGS
TSS	8 mg/l	CPP, Attachment V
Hardness as CaCo3	81 mg/l	CPP, Attachment VI
pH	7.14 s.u.	DMR data
Cb, Upstream Concentration	0, µg/l	Assumed ¹
Qb background flow, Mixing zone flow for chronic toxicity	0.67	Reg. 2.508 and CPP-Appendix D
Qb background flow, ZID flow for acute toxicity	0.33	Reg. 2.508 and CPP-Appendix D

¹ Upstream data for the parameters was not available for use in the calculations. However, since the receiving stream has a critical low flow (7Q10) of 0 cfs, it is negligible to assume an upstream concentration since the water quality criteria must be met at the end of pipe for the PPS evaluation.

The following pollutants were reported above detection levels:

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Arsenic, Total Recoverable	3.87	0.5
Copper, Total Recoverable	9.6	0.5
Mercury, Total Recoverable ¹	0.0068	0.0005
Nickel, Total Recoverable	2.43	0.5

Pollutant	Concentration Reported, $\mu\text{g/l}$	MQL, $\mu\text{g/l}$
Zinc, Total Recoverable	26.3	20
Chlorpyrifos ²	0.070	0.07

¹ Total recoverable mercury data was not submitted with the PPS at the time of application, since the permittee had recently performed mercury source mitigation and was in the process of re-characterizing the mercury content of the effluent. Instead, twenty (20) data points for total recoverable mercury were submitted by the permittee on March 16, 2016. The highest reported value of these data points was used for the PPS evaluation, in accordance with the “Toxic Control Implementation Procedure” in Appendix D of the CPP.

² Human Health criteria have not yet been established for Chlorpyrifos. Therefore, an evaluation for Chlorpyrifos was only performed for Acute and Chronic toxicity.

Instream Waste Concentrations (IWCs) were calculated in the manner described in Appendix D of the CPP and compared to the applicable Criteria. The following tables summarize the results of the analysis. The complete evaluation can be viewed on the Department’s website at the following hyperlink:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0037907_PPS_20160125.pdf

1. Aquatic Toxicity Evaluation

a. Acute Criteria Evaluation

Pollutant	Concentration Reported (C_e) $\mu\text{g/l}$	$C_e \times 2.13^1$, $\mu\text{g/l}$	Instream Waste Concentration (IWC)	Criteria ²	Reasonable Potential (Yes/No)
			Acute, $\mu\text{g/l}$	Acute, $\mu\text{g/l}$	
Arsenic ³ , Total Recoverable	3.87	8.24	8.24	190	No
Copper, Total Recoverable	9.6	20.45	20.45	61.24	No
Mercury, Total Recoverable	0.0068	0.0068 ⁴	0.0068	2.04	No
Nickel, Total Recoverable	2.43	5.18	5.18	4011.86	No
Zinc, Total Recoverable	26.3	56.02	56.02	488.20	No
Chlorpyrifos	0.070	0.15	0.15	0.083	Yes

¹ Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.

² Criteria are from Reg. 2.508 unless otherwise specified.

³ From “Quality Criteria for Water 1986” (Gold Book).

⁴ Since twenty (20) data points were available, the factor of 2.13 was not used for total recoverable mercury.

b. Chronic Criteria Evaluation

Pollutant	Concentration Reported (C_e) $\mu\text{g/l}$	$C_e \times 2.13^1$	Instream Waste Concentration (IWC)	Criteria ²	Reasonable Potential (Yes/No)
			Chronic, $\mu\text{g/l}$	Chronic, $\mu\text{g/l}$	
Arsenic ³ , Total Recoverable	3.87	8.24	8.24	190	No
Copper, Total Recoverable	9.6	20.45	20.45	40.06	No
Mercury, Total Recoverable	0.0068	0.0068 ⁴	0.0068	0.012	No
Nickel, Total Recoverable	2.43	5.18	5.18	445.55	No
Zinc, Total Recoverable	26.3	56.02	56.02	445.80	No
Chlorpyrifos	0.070	0.15	0.15	0.041	Yes

¹ Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.

² Criteria are from Reg. 2.508 unless otherwise specified.

³ From "Quality Criteria for Water 1986" (Gold Book).

⁴ Since twenty (20) data points were available, the factor of 2.13 was not used for total recoverable mercury.

As can be seen in the tables above, the calculated IWC for Chlorpyrifos is higher than Reg. 2 Water Quality Criterion. In response to this exceedance, the permittee submitted four additional data points for Chlorpyrifos that were sampled between January 20, 2016 and February 25, 2016. All four samples were below detection level. Using the procedures from the "Toxic Control Implementation Procedure" of the CPP, one half of the detection level was used for the non-detected samples. From the statistical analysis of the data, it was found that the Chlorpyrifos result of 0.070 $\mu\text{g/l}$ was considered an outlier. As a result, the discharge does not show reasonable potential to violate water quality standards for Chlorpyrifos. Therefore, no further permit action is necessary. The analysis can be reviewed by using the following web link:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0037907_Percentile%20and%20Outlier%20Calculations%20for%20Chlorpyrifos_20160209.pdf

2. Human Health (Bioaccumulation) Evaluation

Pollutant	Concentration Reported (C_e) μg/l	$C_e \times 2.13^1$	Instream Waste Concentration (IWC)	Criteria ²	Reasonable Potential (Yes/No)
Arsenic ⁴ , Total Recoverable	3.87	8.24	8.24	1.4	Yes
Copper ³ , Total Recoverable	9.6	20.45	20.45	1000 ⁵	No
Mercury ³ , Total Recoverable	0.0068	0.0068 ⁶	0.0068	0.144	No
Nickel ³ , Total Recoverable	2.43	5.18	5.18	632	No
Zinc ³ , Total Recoverable	26.3	56.02	56.02	5000 ⁵	No

¹ Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.

² Criteria are from Reg. 2.508 unless otherwise specified.

³ From "Quality Criteria for Water 1986" (Gold Book).

⁴ Adapted from "National Recommended Water Quality Criteria: 2002 – Human Health Criteria Calculation Matrix", EPA. The respective WQC from the noted reference are Consumption of Organism Only values. The values from the reference are for a lifetime risk factor of 10^{-6} . These values have been multiplied by 10 to correspond to human health criteria lifetime risk factor of 10^{-5} as stated in Reg. 2.508.

⁵ Estimate based on available organoleptic data for controlling undesirable taste and odor quality of ambient water and has no demonstrated relationship to potential adverse human health effects.

⁶ Since twenty (20) data points were available, the factor of 2.13 was not used for total recoverable mercury.

As can be seen in the table above, the calculated IWC for Arsenic is higher than the EPA Water Quality Criterion. A.C.A. § 8-4-216 authorizes the Department to require the submission of any information relevant to meeting the requirements of the Arkansas Water and Air Pollution Control Act. A requirement to monitor and report for Arsenic once per quarter for one year has been added to the permit so that, in the event that a WQS for Arsenic is added to Reg. 2.508, data will be available to perform a reasonable potential analysis. This is in accordance with the procedure in Appendix D of the CPP (Appendix D, Part IV – Chemical Specific Standards and Criteria, Section E – Protection of Human Health Criteria of the Discharge Permit, Toxic Control Implementation Procedure).

The CPP requires that for all pollutants for which there are no applicable state water standards, IWCs are to be compared with the EPA Human Health Criteria (fish consumption only). If dilution calculations show that the in-stream concentration exceeds these criteria, the permit will require the permittee to monitor and report for the pollutant of concern once per quarter for one year only. A reopener clause has been included in the permit (see Part II.3) to provide permit limits if state water quality standards are developed for the applicable pollutants, and the data shows that there is a reasonable potential for the discharge to violate those water quality standards.

13. 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....." 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, March 9, 1984)." 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."

Whole effluent toxicity testing conducted by the permittee has shown potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body, at the appropriate instream critical dilution. Pursuant to 40 CFR 122.44(d)(1)(v), ADEQ has determined from the permittee's self-reporting that the discharge from this facility does have the reasonable potential to cause, or contribute to an instream excursion above the narrative standard within the applicable State Water Quality Standards, in violation of Section 101(a)(3) of the Clean Water Act. Therefore, the renewal permit must establish both monthly average and 7-day minimum effluent limitations for lethality following Regulations promulgated by 40 CFR 122.44(d)(1)(v). These effluent limitations for lethality (7-day NOEC) are applied at outfall 001 on the effective date of the permit. The daily average lethality (7-day NOEC) and 7-day minimum lethality (7-day NOEC) value shall not be less than 100% (Critical Dilution) effluent for outfall 001.

WET testing of the effluent is thereby required as a condition of this permit to assess potential toxicity. The WET testing procedures stipulated as a condition of this permit are as follows:

TOXICITY TESTS

Chronic WET

FREQUENCY

Once/quarter

Requirements for measurement frequency are based on the CPP.

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

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

Critical dilution (CD) = $(Q_d / (Q_d + Q_b)) \times 100$

Q_d = Design flow or Average flow = 3.0 MGD = 4.6 cfs

7Q10 = 0 cfs

Q_b = Background flow = $(0.67) \times 7Q10 = 0$ cfs

CD = $(4.6) / (4.6 + 0) \times 100 = 100\%$

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 32%, 42%, 56%, 80%, and 100% (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 100% effluent. The requirement for chronic WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species, *Ceriodaphnia dubia* and the Fathead minnow (*Pimephales promelas*) are representative of organisms indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

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

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 APC&EC 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 summarizes toxicity tests submitted by the permittee during the term of the current permit at Outfall 001:

Permit Number:	AR0037907	AFIN:	16-00152	Outfall Number:	001
Date of Review:	2/12/2016	Reviewer:	M. Barnett		
Facility Name:	City Water and Light of the City of Jonesboro				
Previous Dilution series:	32, 42, 56, 75, 100	Proposed Dilution Series:	32, 42, 56, 80, 100		
Previous Critical Dilution:	100	Proposed Critical Dilution:	100		
Previous TRE activities:	TRE January 2012 to March 2014				
Frequency recommendation by species					
<i>Pimephales promelas</i> (Fathead minnow):	once per quarter				
<i>Ceriodaphnia dubia</i> (water flea):	once per quarter				
TEST DATA SUMMARY					
TEST DATE	Vertebrate (<i>Pimephales promelas</i>)		Invertebrate (<i>Ceriodaphnia dubia</i>)		
	Lethal NOEC	Sub-Lethal NOEC	Lethal NOEC	Sub-Lethal NOEC	
3/31/2011	100	100	100	100	100 Lab A
6/30/2011	100	100	100	100	100 Lab A
9/30/2011	100	100	32	32	32 Lab A
10/31/2011			42	42	42 Lab A
11/30/2011	100	100	0	0	0 Lab A
12/31/2011			100	100	100 Lab A
1/31/2012	100	100	100	100	100 Lab A
2/28/2012			100	100	100 Lab A
4/30/2012	100	100	100	100	100 Lab A
7/30/2012	100	100	0	0	0 Lab A
7/30/2012	100	100	100	100	100 Lab B
10/31/2012	100	100	100	100	100 Lab A
10/31/2012	100	100	100	100	100 Lab B
12/31/2012	100	100	100	100	100
12/31/2012	100	100	100	100	100 Lab B
2/28/2013	100	100	100	100	100 Lab A
2/28/2013	100	100	100	100	100 Lab B
4/30/2013	100	100	100	100	100 Lab A
4/30/2013	100	100	100	100	100 Lab B
11/30/2013	100	100	100	100	100 Lab A
11/30/2013	100	100	100	100	100 Lab B
1/31/2014	100	100	100	100	100 Lab A
1/31/2014	100	100	100	100	100 Lab B
5/31/2014	100	100	75	75	75 Lab A
5/31/2014	100	100	100	100	100 Lab B
6/30/2014			100	100	100 Lab A
6/30/2014			100	100	100 Lab B
7/30/2014			100	100	100 Lab A
8/30/2014			100	100	100 Lab A
12/31/2014	100	100	100	100	100 Lab A
2/28/2015	100	100			Lab A
3/31/2015			100	100	100 Lab B
6/30/2015	100	100	100	100	100 Lab A
9/30/2015	100	100	100	100	100 Lab A
12/31/2015	100	100	100	100	100 Lab A
Failures noted in BOLD					

REASONABLE POTENTIAL CALCULATIONS				
	Vertebrate Lethal	Vertebrate Sub-lethal	Invertebrate Lethal	Invertebrate Sub-Lethal
Min NOEC Observed	100	100	31	31
TU at Min Observed	1.00	1.00	3.23	3.23
Count	27	27	34	34
Failure Count	0	0	5	5
Mean	1.000	1.000	1.244	1.244
Std. Dev.	0.000	0.000	0.661	0.661
CV	0	0	0.5	0.5
RPMF	0	0	1.3	1.3
Reasonable Potential	0.000	0.000	4.194	4.194
100/Critical dilution	1.000	1.000	1.000	1.000
Does Reasonable Potential Exist	No	No	Yes	Yes
PERMIT ACTION				
<i>P. promelas</i> lethal - Limit 100% 51714 <i>P. promelas</i> sub-lethal - monitoring <i>C. dubia</i> lethal - Limit 100% 51710 <i>C. dubia</i> sub-lethal - Limit 80% - 3 year compliance schedule 51710				

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

P. promelas lethal limits are being carried forward from the previous permit.

Reasonable potential exists for *C. dubia* lethality and sub-lethality. *C. dubia* lethal limits will remain. Permit will include a 3 year compliance schedule for the *C. dubia* sub-lethal limits.

The permittee shall submit progress reports addressing the progress towards attaining the final effluent limits for *C. dubia* sub-lethality according to the following schedule:

ACTIVITY	DUE DATE
Progress Report	One (1) year from effective date
Progress Report	Two (2) years from effective date
Achieve Final Limits	Three (3) years from effective date

Compliance with final limits for *C. dubia* sub-lethal limits is required three (3) years from the effective date of the permit.

The TRE conclusions stated in the Final report date March 4, 2014 stated:

Episodes of toxicity were infrequent. TIE procedures were able to reasonably eliminate the following potential causes of toxicity:

- Divalent cationic metals such as copper, lead, cadmium, nickel, and zinc;
- Non-polar organic compounds (including organic solvents and pyrethroid/organophosphate pesticides);
- Oxidizers such as chlorine, chloramines, and permanganate;
- Particulates > 1 µm;

- Volatile compounds;
- Ionic stress due to high dissolved minerals; and
- Ammonia.

Although the TIE results were consistent with toxicity due to ionic surfactants or polymers, the results are not definitive. Accordingly, no specific control mechanism for removing or reducing toxicity could be identified, and no corrective action schedule is provided herein.

14. STORMWATER REQUIREMENTS.

The federal regulations at 40 CFR 122.26(b)(14)(ix) require major municipal dischargers to have NPDES permit coverage for stormwater discharges from the facility. These requirements include the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) to control the quality of stormwater discharges from the facility. In lieu of the development of a SWPPP, the facility may obtain a “No Exposure” Exclusion in accordance with 40 CFR 122.26(g) if several conditions can be certified. This facility was issued stormwater permit coverage under NPDES Tracking number ARR000629.

15. SAMPLE TYPE AND FREQUENCY.

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

Requirements for sample type and sampling frequency have been based on the current discharge permit. The requirements for sample type and frequency for Total Recoverable Arsenic are based on 40 CFR 122.21(g)(7) and Appendix D of the CPP, respectively.

The sample type for residual PAA has been based on best engineering judgement. Currently, 40 CFR Part 136 does not include PAA. Therefore, the Department has approved the use of the testing method used in the Pilot Study as detailed in the modification application, i.e. CHEMetrics Kit K-7904 (DPD Visual Method). The Department has also approved CHEMetrics Kit K-7913 (DPD Instrumental Method) and Hach Method 10297 (DPD Instrumental Method). Any change to these testing methods for PAA will require Department approval. The frequency of sample for residual PAA mirrors that of FCB since their levels in the effluent are correlative.

Parameter	Previous Permit		Renewal Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Flow	once/day	totalizing meter	once/day	totalizing meter
CBOD5	one/week	composite	one/week	composite
TSS	one/week	composite	one/week	composite

Parameter	Previous Permit		Renewal Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
NH3-N	one/week	composite	one/week	composite
DO	one/week	grab	one/week	grab
FCB	three/week	grab	three/week	grab
TRC	one/week	grab	<i>N/A</i>	<i>N/A</i>
Chlorides	once/quarter	composite	once/quarter	composite
TDS	once/quarter	composite	once/quarter	composite
Arsenic, Total Recoverable ¹	<i>N/A</i>	<i>N/A</i>	once/quarter	composite
<i>Residual PAA</i>	<i>N/A</i>	<i>N/A</i>	<i>three/week</i>	<i>grab</i>
pH	one/week	grab	one/week	grab

¹ Monitoring and reporting for Total Recoverable Arsenic is only required for one year following the effective date of the permit.

16. PERMIT COMPLIANCE SCHEDULE.

A Schedule of Compliance has been included in this permit for the more stringent TRC limit and the sub-lethal WET limits for *C. dubia*. Compliance with all permit requirements is required in accordance with the schedule provided in Part IB of the permit. The Department has chosen to exercise its discretion provided for in Reg. 2 to allow a three-year Schedule of Compliance for the new TRC limit and sub-lethal WET limits for *C. dubia*. The more stringent TRC limit was included in the permit based on the revised MQL for TRC. The new sub-lethal WET limits for *C. dubia* were added to the permit due to demonstrated reasonable potential for sub-lethal toxicity. The three-year Schedule of Compliance has been included in order to allow the permittee to first determine if further action is necessary in order to consistently meet the TRC limit and/or sub-lethal limits and, if necessary, take steps to come into compliance with the new limits. Progress reports must be submitted in accordance with the schedule provided in Part IB.2 of the permit.

Part IB was numbered for clarity.

17. 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.

18. SOURCES.

The following sources were used to draft the modification and construction permits.

- A. *Modification and construction application for discharge permit number AR0037907 and State Construction permit number AR0037907C received December 20, 2018, with additional information received January 2, 2019.*
- B. *APC&EC Regs. 2, 3, 6, 8 and 9.*
- C. *40 CFR Part 122.*
- D. [Page 19 of Fact Sheet for Missouri Individual Permit No. MO-0093513.](#)
- E. [EPA VigorOx® WWT II FIFRA Label, amended January 29, 2015.](#)
- F. [Arkansas Department of Health no comment letter dated January 11, 2019.](#)

19. POINT OF CONTACT.

For additional information, contact:

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