Permit Number: AR0033880
AFIN: 26-00145

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 of Hot Springs
Regional Wastewater Treatment Plant

is authorized to discharge treated municipal wastewater from a facility located as follows: 320 Davidson Drive, Hot Springs, AR 71901, in Garland County.

Facility Coordinates: Latitude: 34° 27’ 1.49” N; Longitude: 93° 01’ 2.93” W

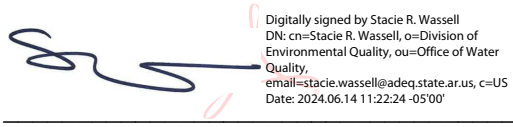
Receiving stream: Lake Catherine, an impoundment of the Ouachita River in Segment 2F of the Ouachita River Basin.

The permitted outfall is located at the following coordinates:

Outfall 001: Latitude: 34° 26’ 35” N; Longitude: 93° 00’ 35” 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.

Effective Date: July 1, 2024
Expiration Date: June 30, 2029



Stacie R. Wassell
Associate Director, Office of Water Quality
Arkansas Department of Energy and Environment
Division of Environmental Quality

June 14, 2024
Issue Date

PART I
PERMIT REQUIREMENTS

TIER I – Design Flow = 12 MGD[4]

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

During the period beginning on the effective date and lasting three years, 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.

Effluent Characteristics	**Discharge Limitations**			**Monitoring Requirements**	
	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 Max.)	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 ($CBOD_5$)	1000.8	10	15	once/day	composite
Total Suspended Solids (TSS)	1501.2	15.0	22.5	once/day	composite
Ammonia Nitrogen (NH_3-N)					
(April)	360.3	3.6	8.9	once/day	composite
(May – October)	360.3	3.6	7.5	once/day	composite
(November – March)	1000.8	10.0	15	once/day	composite
Dissolved Oxygen (DO)	N/A	5.0 (Inst. Min.)		once/day	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(May – September)	N/A	200	400	once/day	grab
(October – April)	N/A	1000	2000	once/day	grab
Total Phosphorus (TP)	100.1	Report	Report	once/day	grab
Nitrate + Nitrite Nitrogen ($NO_3 + NO_2$-N)	Report	Report	Report	once/month	grab
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Chronic WET Testing[2]					
***Pimephales promelas* (Chronic)**[2]		7-Day Minimum			
Pass/Fail Lethality (7-day NOEC) TLP6C		Report (Pass=0/Fail=1)		once/quarter	composite
Pass/Fail Growth (7-day NOEC) TGP6C		Report (Pass=0/Fail=1)		once/quarter	composite
Survival (7-day NOEC) TOP6C		Report %		once/quarter	composite
Coefficient of Variation (Growth) TQP6C		Report %		once/quarter	composite
Growth (7-day NOEC) TPP6C		Report %		once/quarter	composite
Pass/Fail Retest 1 (7-day NOEC) 22418		Report (Pass=0/Fail=1)		once/month[3]	composite
Pass/Fail Retest 2 (7-day NOEC) 22419		Report (Pass=0/Fail=1)		once/month[3]	composite
Pass/Fail Retest 3 (7-day NOEC) 51444		Report (Pass=0/Fail=1)		once/month[3]	composite

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, else specified)	Concentration (mg/l, else specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
***Ceriodaphnia dubia* (Chronic)**[2]		7-Day Minimum			
Pass/Fail Lethality (7-day NOEC) TLP3B		Report (Pass=0/Fail=1)		once/quarter	composite
Pass/Fail Reproduction (7-day NOEC) TGP3B		Report (Pass=0/Fail=1)		once/quarter	composite
Survival (7-day NOEC) TOP3B		Report %		once/quarter	composite
Coefficient of Variation (Reproduction) TQP3B		Report %		once/quarter	composite
Reproduction (7-day NOEC) TPP3B		Report %		once/quarter	composite
Pass/Fail Retest 1 (7-day NOEC) 22415		Report (Pass=0/Fail=1)		once/month[3]	composite
Pass/Fail Retest 2 (7-day NOEC) 22416		Report (Pass=0/Fail=1)		once/month[3]	composite
Pass/Fail Retest 3 (7-day NOEC) 51443		Report (Pass=0/Fail=1)		once/month[3]	composite

1 See Part II.5 (SSO Condition). If there are no overflows during the entire month, report "zero" (0).
2 See Part II.10 (WET Testing Condition).
3 CONDITIONAL REPORTING: Use only if conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution). If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one routine toxicity test. If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under retest parameters (reported on a quarterly DMR). This condition applies to *P. promelas* and *C. dubia*.
4 See Part II.12 (Transition 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 the final treatment unit and prior to entering the receiving stream.

PART I
PERMIT REQUIREMENTS

TIER I – Design Flow = 12 MGD[6]

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

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

Effluent Characteristics	**Discharge Limitations**			**Monitoring Requirements**	
	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 Max.)	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 ($CBOD_5$)	1000.8	10	15	once/day	composite
Total Suspended Solids (TSS)	1501.2	15.0	22.5	once/day	composite
Ammonia Nitrogen (NH_3-N)					
(April)	360.3	3.6	8.9	once/day	composite
(May – October)	360.3	3.6	7.5	once/day	composite
(November – March)	1000.8	10.0	15	once/day	composite
Dissolved Oxygen (DO)	N/A	5.0 (Inst. Min.)		once/day	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(May – September)	N/A	200	400	once/day	grab
(October – April)	N/A	1000	2000	once/day	grab
Total Phosphorus (TP)	100.1	Report	Report	once/day	grab
Nitrate + Nitrite Nitrogen ($NO_3 + NO_2$-N)	Report	Report	Report	once/month	grab
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
P. promelas Chronic WET Limit[5] (lethal and sub-lethal) 51710		7-Day Minimum Not < 41%		once/quarter	composite
***Pimephales promelas* (Chronic)**[4, 5] 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		7-Day Minimum 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
Chronic WET Testing[2]					

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, else specified)	Concentration (mg/l, else specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
***Ceriodaphnia dubia* (Chronic)**[2, 3]		7-Day Minimum			
Pass/Fail Lethality (7-day NOEC) TLP3B		Report (Pass=0/Fail=1)		once/quarter	composite
Pass/Fail Reproduction (7-day NOEC) TGP3B		Report (Pass=0/Fail=1)		once/quarter	composite
Survival (7-day NOEC) TOP3B		Report %		once/quarter	composite
Coefficient of Variation (Reproduction) TQP3B		Report %		once/quarter	composite
Reproduction (7-day NOEC) TPP3B		Report %		once/quarter	composite
Pass/Fail Retest 1 (7-day NOEC) 22415		Report (Pass=0/Fail=1)		once/month[3]	composite
Pass/Fail Retest 2 (7-day NOEC) 22416		Report (Pass=0/Fail=1)		once/month[3]	composite
Pass/Fail Retest 3 (7-day NOEC) 51443		Report (Pass=0/Fail=1)		once/month[3]	composite

1 See Part II.5 (SSO Condition). If there are no overflows during the entire month, report "zero" (0).
2 See Part II.10 (WET Testing Condition).
3 CONDITIONAL REPORTING: Use only if conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution). If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one routine toxicity test. If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under retest parameters (reported on a quarterly DMR). This condition applies to *C. dubia*.
4 As per Part II.11 (WET Limits Condition), the permittee shall submit the results of the valid monthly increased frequency toxicity tests on the Unscheduled DMRs (51714, TLP6C, TOP6C, TPP6C, TGP6C, TQP6C). This condition applies to *P. promelas*.
5 See Part II.11 (WET Limits Condition).
6 See Part II.12 (Transition 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 the final treatment unit and prior to entering the receiving stream.

PART I
PERMIT REQUIREMENTS

TIER II – Design Flow = 16 MGD[4]

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

During the period beginning on the effective date and lasting three years, 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.

Effluent Characteristics	**Discharge Limitations**			**Monitoring Requirements**	
	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 Max.)	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 ($CBOD_5$)	1,334.4	10	15	once/day	composite
Total Suspended Solids (TSS)	2,001.6	15.0	22.5	once/day	composite
Ammonia Nitrogen (NH_3-N)					
(April)	680.5	5.1	12.6	once/day	composite
(May – October)	680.5	5.1	7.7	once/day	composite
(November – March)	1,334.4	10.0	15.0	once/day	composite
Dissolved Oxygen (DO)					
(May – October)	N/A	6.0 (Inst. Min.)		once/day	grab
(November – April)	N/A	5.0 (Inst. Min.)		once/day	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(May – September)	N/A	200	400	once/day	grab
(October – April)	N/A	1000	2000	once/day	grab
Total Phosphorus (TP)	93.4	0.7 (12-month rolling avg.)[5]	1.4	once/day	grab
Nitrate + Nitrite Nitrogen ($NO_3 + NO_2$-N)	Report	Report	Report	once/month	grab
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Chronic WET Testing[2]					
***Pimephales promelas* (Chronic)[2]**		7-Day Minimum			
Pass/Fail Lethality (7-day NOEC) TLP6C		Report (Pass=0/Fail=1)		once/quarter	composite
Pass/Fail Growth (7-day NOEC) TGP6C		Report (Pass=0/Fail=1)		once/quarter	composite
Survival (7-day NOEC) TOP6C		Report %		once/quarter	composite
Coefficient of Variation (Growth) TQP6C		Report %		once/quarter	composite
Growth (7-day NOEC) TPP6C		Report %		once/quarter	composite
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Pass/Fail Retest 2 (7-day NOEC) 22419		Report (Pass=0/Fail=1)		once/month[3]	composite
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Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, else specified)	Concentration (mg/l, else specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
***Ceriodaphnia dubia* (Chronic)**[2]		7-Day Minimum			
Pass/Fail Lethality (7-day NOEC) TLP3B		Report (Pass=0/Fail=1)		once/quarter	composite
Pass/Fail Reproduction (7-day NOEC) TGP3B		Report (Pass=0/Fail=1)		once/quarter	composite
Survival (7-day NOEC) TOP3B		Report %		once/quarter	composite
Coefficient of Variation (Reproduction) TQP3B		Report %		once/quarter	composite
Reproduction (7-day NOEC) TPP3B		Report %		once/quarter	composite
Pass/Fail Retest 1 (7-day NOEC) 22415		Report (Pass=0/Fail=1)		once/month[3]	composite
Pass/Fail Retest 2 (7-day NOEC) 22416		Report (Pass=0/Fail=1)		once/month[3]	composite
Pass/Fail Retest 3 (7-day NOEC) 51443		Report (Pass=0/Fail=1)		once/month[3]	composite

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4 See Part II.12 (Transition Condition).
5 See Part II.13 (Rolling Average Formula).

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 the final treatment unit and prior to entering the receiving stream.

PART I
PERMIT REQUIREMENTS

TIER II – Design Flow = 16 MGD[6]

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

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

Effluent Characteristics	**Discharge Limitations**			**Monitoring Requirements**	
	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 Max.)	once/day	totalizing meter
Overflows	monthly total SSOs (occurrences/month)			see comments[1]	
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Total Suspended Solids (TSS)	2,001.6	15.0	22.5	once/day	composite
Ammonia Nitrogen (NH_3-N)					
(April)	680.5	5.1	12.6	once/day	composite
(May – October)	680.5	5.1	7.7	once/day	composite
(November – March)	1,334.4	10.0	15.0	once/day	composite
Dissolved Oxygen (DO)					
(May – October)	N/A	6.0 (Inst. Min.)		once/day	grab
(November – April)	N/A	5.0 (Inst. Min.)		once/day	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(May – September)	N/A	200	400	once/day	grab
(October – April)	N/A	1000	2000	once/day	grab
Total Phosphorus (TP)	93.4	0.7 (12-month rolling avg.)[7]	1.4	once/day	grab
Nitrate + Nitrite Nitrogen ($NO_3 + NO_2$-N)	Report	Report	Report	once/month	grab
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
P. promelas Chronic WET Limit[5] (lethal and sub-lethal)		7-Day Minimum Not < 41%		once/quarter	composite
***Pimephales promelas* (Chronic)**[4, 5]		7-Day Minimum			
Pass/Fail Lethality (7-day NOEC) TLP6C		Report (Pass=0/Fail=1)		once/quarter	composite
Pass/Fail Growth (7-day NOEC) TGP6C		Report (Pass=0/Fail=1)		once/quarter	composite
Survival (7-day NOEC) TOP6C		Report %		once/quarter	composite
Coefficient of Variation (Growth) TQP6C		Report %		once/quarter	composite
Growth (7-day NOEC) TPP6C		Report %		once/quarter	composite
Chronic WET Testing[2]					

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, else specified)	Concentration (mg/l, else specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
***Ceriodaphnia dubia* (Chronic)**[2, 3]		7-Day Minimum			
Pass/Fail Lethality (7-day NOEC) TLP3B		Report (Pass=0/Fail=1)		once/quarter	composite
Pass/Fail Reproduction (7-day NOEC) TGP3B		Report (Pass=0/Fail=1)		once/quarter	composite
Survival (7-day NOEC) TOP3B		Report %		once/quarter	composite
Coefficient of Variation (Reproduction) TQP3B		Report %		once/quarter	composite
Reproduction (7-day NOEC) TPP3B		Report %		once/quarter	composite
Pass/Fail Retest 1 (7-day NOEC) 22415		Report (Pass=0/Fail=1)		once/month[3]	composite
Pass/Fail Retest 2 (7-day NOEC) 22416		Report (Pass=0/Fail=1)		once/month[3]	composite
Pass/Fail Retest 3 (7-day NOEC) 51443		Report (Pass=0/Fail=1)		once/month[3]	composite

1 See Part II.5 (SSO Condition). If there are no overflows during the entire month, report "zero" (0).
2 See Part II.10 (WET Testing Condition).
3 CONDITIONAL REPORTING: Use only if conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution). If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one routine toxicity test. If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under retest parameters (reported on a quarterly DMR). This condition applies to *C. dubia*.
4 As per Part II.11 (WET Limits Condition), the permittee shall submit the results of the valid monthly increased frequency toxicity tests on the Unscheduled DMRs (51714, TLP6C, TOP6C, TPP6C, TGP6C, TQP6C . This condition applies to *P. promelas*.
5 See Part II.11 (WET Limits Condition).
6 See Part II.12 (Transition Condition).
7 See Part II.13 (Rolling Average Formula).

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 the final treatment unit and prior to entering the receiving stream.

SECTION B. PERMIT COMPLIANCE SCHEDULE

1. Compliance with the Final WET Limitations for *P. promelas* is required three years after the effective date of the permit. The permittee shall submit progress reports addressing the progress towards attaining the Final WET Limitations for the aforementioned parameter according to the following schedule:

ACTIVITY	**DUE DATE**
Progress Report[1, 2]	One (1) year from effective date
Progress Report[1, 3]	Two (2) years from effective date
Achieve Final Compliance[1, 4]	Three (3) years from effective date

All progress reports must be submitted to the Division at the following address:

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

Information can also be submitted electronically via email at water-enforcement-report@adeq.state.ar.us.

[1] If the permittee is already in compliance with a Final Effluent Limitation, only a certification of compliance with the final limit will be required for the progress reports for that parameter.

[2] If the permittee is not in compliance with the Final WET Limitation, the progress report must detail how the permittee plans to come into compliance with the final limits within the remaining 2 years of the interim period. The progress report must list the options that were considered and justification for the chosen option must be included. Any Best Management Practices (BMPs) that have been instituted to reduce the concentration 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 (including any necessary construction permits) prior to installation.

[3] If the permittee is not in compliance with the Final WET Limitation, 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 limit was met on the effective date and that the limits are still being met.

2. Pursuant to 40 C.F.R. § 122.44(j)(2)(ii), the permittee shall submit either of the following items within sixty (60) days of the effective date of this permit:

   A. A **WRITTEN CERTIFICATION** that a technical evaluation has demonstrated that the existing technically based local limits (TBLLs) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination.

   B. A **WRITTEN NOTIFICATION** that a technical evaluation revising the current TBLLs will be submitted within twelve (12) months of the effective date of this permit.

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 APC&EC Rule 3.

2. For publicly owned treatment works, the 30-day average percent removal for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$) and Total Suspended Solids (TSS) shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 C.F.R. § 133.102, as adopted by reference in APC&EC Rule 6.

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

4. Other Specified Monitoring Requirements

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

   - The monitoring and analytical instruments are consistent with accepted scientific practices.
   - The requests shall be submitted in writing to the Permits Branch of the Office of Water Quality of the DEQ for use of the alternate method or instrument.
   - The method and/or instrument is in compliance with 40 C.F.R. Part 136 or approved in accordance with 40 C.F.R. § 136.5.
   - All associated devices are installed, calibrated, and maintained to ensure the accuracy of the measurements and are consistent with the accepted capability of that type of device. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Assurance/Quality Control (QA/QC) 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. DEQ must be notified in writing and the permittee must receive written approval from DEQ if the permittee decides to return to the original permit monitoring requirements.

5. Sanitary Sewer Overflow (SSO) Reporting Requirements:

   All Sanitary Sewer Overflows 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:

When an SSO is detected – no matter how small – it must be reported within 24 hours of its discovery to DEQ's Water Quality Enforcement by using the online form in paragraph C below (the preferred method), by phone at (501) 682-0624, or by email at ssoadeq@adeq.state.ar.us.

This initial 24-hour report should include the following information:

1. Permit Number
2. Location of overflow (manhole number or street address)
3. The receiving water (if applicable)
4. Cause of overflow (if known)
5. Estimated volume of overflow so far
6. Total duration of the overflow

C. 5-Day Follow-Up Written Web Reporting:

A written report of overflows shall be provided to DEQ within 5 days of the 24-hour report. A follow-up written report (5-day report) can be filled-in and submitted on the DEQ Office of Water Quality/Enforcement Branch Web page at:

https://www.adeq.state.ar.us/water/enforcement/sso/submit.aspx?type=s

D. 24-Hour and 5-Day Reporting:

If the 24-hour report submitted includes all of the information requested in the 5-day report described in Paragraph C above, then a follow-up 5-day report 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.7, 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 (CWA), the General Pretreatment Regulations (40 C.F.R. Part 403) and the approved POTW pretreatment program submitted by the permittee. The pretreatment program was originally approved on September 30, 1988, modified on February 25, 2002, and once again modified and approved on August 8, 2012, to be compliant with the October 2005 Streamlining revisions to the Federal Pretreatment Regulations in 40 C.F.R. Part 403. The POTW pretreatment program is hereby incorporated by reference and shall be implemented in a manner consistent with the following requirements:

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

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

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

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

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

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

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

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

The permittee shall submit, within sixty (60) days of the effective date of this permit, (1) a **WRITTEN CERTIFICATION** that a technical evaluation has demonstrated that the existing technically based local limits (TBLLs) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination, or (2) a **WRITTEN NOTIFICATION** that a technical evaluation revising the current TBLLs will be submitted within 12 months of the effective date of this permit.

All specific prohibitions or limits developed under this requirement are deemed to be conditions of this permit. The specific prohibitions set out in 40 C.F.R. 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 C.F.R. Part 122 Appendix D (NPDES Application Testing Requirements) Table II at least once per year and the toxic pollutants in Table III at least four (4) times per 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 of 40 C.F.R. Part 122 Appendix D, 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 four (4) times per year

(quarterly) on both the influent and the effluent.

i. Composite Method

a. Influent and effluent operational data shall be obtained through composite samples, as defined in Part IV of the permit, except where composite sampling is not an appropriate technique.

b. Effluent sample collection need not be delayed to compensate for hydraulic detention unless the POTW elects to include detention time compensation or unless DEQ requires detention time compensation. DEQ may require that each effluent sample is taken approximately one detention time later than the corresponding influent sample when failure to do so would result in an unrepresentative portrayal of actual POTW operation. The detention period should be based on a 24-hour average daily flow value. The average daily flow should in turn be based on the average of the daily flows during the same month of the previous year.

ii. Grab Method

a. If composite sampling is not an appropriate technique, grab samples, as defined in Part IV of the permit, shall be taken to obtain influent and effluent operational data. The collection of influent grab samples should precede the collection of effluent samples by approximately one detention period except that where the detention period is greater than 24 hours such staggering of the sample collection may not be necessary or appropriate. The detention period should be based on a 24-hour average daily flow value. The average daily flow should in turn be based upon the average of the daily flows during the same month of the previous year. Grab sampling should be employed where the pollutants being evaluated are those, such as cyanide and phenol, which may not be held for an extended period because of biological, chemical or physical interaction which take place after sample collection and affect the results.

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 C.F.R. 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 January 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 AR0033880 for the permittee's approved Pretreatment Program.

In addition, by 4:30 P.M. Central Time (if electronically submitted) OR postmarked on or before the last business day in the month of January the permittee shall submit an updated pretreatment program status report to the DEQ containing the following information:

i. An updated list of all significant industrial users. The list must identify:

   a. Industrial Users classified as Non-Significant Categorical Industrial User (NSCIUs) or Middle Tier CIUs.

   b. Industrial Users subject to categorical Pretreatment Standards that are subject to reduced monitoring and reporting requirements under 40 C.F.R. §§ 403.12(e)(2) and (3).

   c. Industrial Users subject to the categorical Pretreatment Standards of the following Point Source Categories: Organic Chemicals, Plastics, and Synthetic Fibers [40 C.F.R. Part 414], Petroleum Refining [40 C.F.R. Part 419], and Pesticide Chemicals [40 C.F.R. 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 C.F.R. § 403.6(c)(6).

   d. 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 C.F.R. § 403.6(c)(5).

   e. General Control Mechanisms used for similar groups of SIUs along with the substantially similar types of operations and the types of wastes that are the same, for each separate General Control Mechanism, as allowed at 40 C.F.R. § 403.8(f)(1)(iii).

   f. 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 C.F.R. §§ 403.12(b), (e), and (h).

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

   a. Standard Industrial Classification (SIC) code, North American Industry Classification System (NAICS) code and categorical determination;

   b. Control document status, i.e., whether the user has an effective control document and the date such document was last issued, reissued, or modified. Additionally, 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:

i. total number of inspections performed;

ii. total number of sampling visits made;

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

i. Compliant (C) – no violations during the previous 12 month period;

ii. Non-compliant (NC) – one or more violations during the previous 12 months but does not meet the criteria for significantly noncompliant industrial users;

iii. Significant Noncompliance (SNC) – in accordance with requirements described in Item D above; and

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

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

iv. A report on any interference, pass through, upset or POTW permit violations known or suspected to be caused by industrial contributors and actions taken by the permittee in response;

v. The results of all influent and effluent analyses performed pursuant to Item C above;

vi. 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;

vii. The information requested may be submitted in tabular form as per the example tables provided on DEQ's website for your convenience (See https://www.adeq.state.ar.us/water/permits/npdes/pretreatment/); and

viii. 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:

i. Any new introduction of pollutants into the treatment works from an indirect discharger that would be subject to Sections 301 and 306 of the CWA if it were directly

discharging those pollutants; and

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

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

8. Reserved.

9. Monitoring Frequency Reduction

With the exception of whole effluent toxicity testing (WET) requirements, the permittee may request a one-time monitoring frequency reduction for pollutants listed in Part I, Section A, *Effluent Limitations and Monitoring Requirements*. Any request for a monitoring frequency reduction must be submitted in writing to DEQ, and signed by the Responsible Official, in accordance with Part III.D.11.A of the permit.

The following requirements must be met before a review of the monitoring frequency reduction request will be performed:

A. Compliance with the permit limits for at least the last two (2) years for the pollutants for which a request has been made for a monitoring frequency reduction;

B. No operational or design changes have been made to the facility for at least the last two (2) years (or during period of review, if greater than two (2) years), and are not anticipated for the remaining term of this permit.

If the above conditions are met, a detailed review of the DMR data will be performed for the pollutants for which a monitoring frequency reduction has been requested. Compliance with the limits does not guarantee a monitoring frequency reduction will be granted. Data must show that the average concentration of the pollutants in the discharge are less than 75% of the permit limits for a monitoring frequency reduction to be granted.

If a monitoring frequency reduction is granted, the frequency can be reduced by no more than half the rate of the corresponding frequency listed in Part I, Section A, *Effluent Limitations and Monitoring Frequencies*. For example, a monitoring frequency of 4 per month will not be reduced to less than 2 per month. Additionally, the frequency will be no less frequent than monthly.

10. WHOLE EFFLUENT TOXICITY TESTING (7 DAY CHRONIC NOEC)

THIS CONDITION APPLIES TO *C. dubia* FOR THE LIFE OF THE PERMIT AND TO *P. promelas* BEGINNING ON THE EFFECTIVE DATE OF THE PERMIT AND LASTING FOR THREE YEARS.

It is unlawful and a violation of this permit for a permittee or his designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed unless specific authority has been granted by EPA Region 6 or the State NPDES permitting authority (DEQ).

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	001
Reported On DMR As Final Outfall	001
Critical Dilution (%)	41
Effluent Dilution Series (%)	17, 23, 31, 41, 55
Testing Frequency:	Once/Quarter
Sample Type	"Composite Sample (defined in Paragraph B.iii)"
Test Species/Methods:	40 C.F.R. § 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof.

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.

ii. The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity 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. This permit may be reopened to require WET limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

B. REQUIRED TEST ACCEPTABILITY CRITERIA AND TEST CONDITIONS

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:

Condition/Criteria	***Ceriodaphnia dubia***	***Pimephales promelas***
Test Duration	Until 60% or more of surviving control females have 3 broods (max 8 days)	7 days
# of replicates per concentration	10	5
# of organisms per replicate	1	8
# of organisms per concentration	10	40 (minimum)
# of test concentrations per effluent	5 and a control	5 and a control
Sample Holding Time *	36 hours for first use	36 hours for first use
Sampling Requirement *	Minimum of 3 samples	Minimum of 3 samples
Test Acceptability Criteria	≥80% survival of all control organisms.	≥80% survival of all control organisms.
	Mean of 15 or more neonates per surviving control female.	Mean dry weight per surviving organism in control must be ≥0.25mg.
	60% of surviving control females must produce 3 broods.	
Coefficient of Variation **	40% or less, unless significant effects are exhibited.	40% or less unless significant effects are exhibited.
Percent Minimum Significant Difference (PMSD range) for Sub-lethal Endpoint **	13 – 47	12 - 30

* 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 and the minimum number of effluent portions are waived during that sampling period. However, the permittee must collect an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent, and must meet the holding time between collection and first use of the sample. When possible, the effluent samples used for the toxicity tests shall be collected on separate 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 C of this section.

** Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%, or a PMSD value greater than the higher value on the range provided.

i. Statistical Interpretation

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 the appropriate method manual listed in Part II or the most recent update thereof.

ii. 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 for:

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

(2) toxicity tests conducted on effluent discharges where no receiving water is available 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), 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 was run concurrently with the receiving water control;

(2) the test indicating receiving water toxicity has been carried out to completion;

(3) the permittee includes all test results indicating receiving water toxicity with the full report and information required; 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.

iii. Samples and Composites

a. The permittee shall collect a minimum of three samples (flow-weighted composite if possible) from the outfall(s).

b. The permittee shall collect a second and third sample (composite samples if possible) for use during the 24-hour renewal of each dilution concentration for each test. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours for first use of the sample. 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 0-6 degrees Centigrade during collection, shipping, and/or storage. A holding time up to 72 hours is allowed upon notification to DEQ of the need for additional holding time.

c. The permittee must collect the composite samples such that the effluent samples are representative of the discharge duration, and of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.

C. REPORTING

i. The permittee shall prepare a full report of the results of all tests conducted pursuant to this part in accordance with the Report Preparation Section of the most current publication of the method manual, for every valid or invalid toxicity test initiated, whether carried to completion or not. The permittee shall retain each full report and submit them to the Agency. 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. A valid test for each species must be reported during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. One set of biomonitoring data for each species is to be recorded on the DMR for each reporting period. Additional results are reported under the retest codes below.

iii. The permittee shall submit the results of each valid toxicity test on the subsequent DMR for that reporting period as follows below. Submit retest information clearly marked as such with the subsequent DMR. Only results of valid tests are to be reported on the DMR.

Reporting Requirement	**Parameter STORET CODE**	
	Ceriodaphnia dubia	*Pimephales promelas*
Enter a "1" if the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, otherwise enter a "0."	TLP3B	TLP6C
Report the NOEC value for survival	TOP3B	TOP6C

Reporting Requirement	Parameter STORET CODE	
	Ceriodaphnia dubia	*Pimephales promelas*
Enter a "1" if the NOEC for growth or reproduction is less than the critical dilution, otherwise enter a "0."	TGP3B	TGP6C
Report the NOEC value for growth or reproduction	TPP3B	TPP6C
Report the highest (critical dilution or control) Coefficient of Variation	TQP3B	TQP6C

* If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period).

iv. DMR parameters

Report the following parameters on the DMR:

Scheduled DMR: TLP6C, TOP6C, TPP6C, TGP6C, TQP6C, 22418, 22419, 51444, TLP3B, TOP3B, TPP3B, TGP3B, TQP3B, 22415, 22416, and 51443.

D. MONITORING FREQUENCY REDUCTION

i. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters 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 once per six months.

ii. Certification - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria above. In addition, the permittee must provide a list with each test performed including test initiation date, species, and NOECs. 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 compliance section to update the permit reporting requirements.

iii. Failures - If any test demonstrates lethal or sub-lethal effects at or below the critical dilution at any time during the life of this permit, three monthly retests are required. If a frequency reduction had been granted, the monitoring frequency for the affected test species reverts to once per quarter until the permit is re-issued.

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.

v. For administratively continued facilities where permit renewal was held up by no fault of the permittee, the following language regarding WET testing frequency reduction

applies after permit renewal:

The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing after the expiration date of the previous permit, for one or both test species, provided that all of the following conditions are met:

a. The permittee tested quarterly upon the expiration date of that permit, and

b. The issuance of the renewed permit was not delayed by any fault of the permittee, and

c. No lethal or sub-lethal effects are demonstrated at or below the critical dilution for the first four consecutive quarters of testing after the expiration date of the previous permit.

E. PERSISTENT TOXICITY

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal and/or sub-lethal effects at or below the critical dilution. Significant toxic effects, are herein defined as a statistically significant difference at the 95% confidence level between the survival, growth or reproduction of the appropriate test organism in a specified effluent dilution and the control (0% effluent). If the initial WET test conducted fails, the permittee will conduct three consecutively monthly retests. The purpose of retests 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.

i. Retest

The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant effects at or below the critical dilution. The three 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 the reporting requirements previously outlined and submitted to the Agency.

ii. Requirement to Initiate a Toxicity Reduction Evaluation

If persistent lethality is demonstrated by failure of one or more retests, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Part F of this section. If persistent sub-lethality is demonstrated by failure of two or more retests, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements. The permittee shall notify DEQ in writing within 5 days of notification of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest for lethal TREs or second failed retest for sub-lethal TREs. A TRE may also be required due to a demonstration of intermittent effects at or below the critical

dilution, or for failure to perform the required retests.

F. TOXICITY REDUCTION EVALUATION (TRE)

EPA Region 6 is currently addressing TREs as follows: A TRE is triggered following three sub-lethal test failures (a failure followed by two retest failures) or two test failures with lethal effects (a failure followed by one retest failure).

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

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, a Toxicity Identification Evaluation (TIE) and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Identification Evaluations to characterize the nature of the constituents causing toxicity, 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) 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.

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; 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 toxicity was demonstrated within 24 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;

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

d. 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.

iii. The permittee shall submit a quarterly TRE Activities Report to DEQ 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.

d. Any results and interpretation of any chemical specific analysis, and for any characterization, identification, and confirmation tests performed during the quarter.

e. Any changes to the initial TRE plan and schedule that are believed necessary.

iv. Finalizing a TRE

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

A TRE may be stopped if there is no toxicity at the critical dilution for a period of 12 consecutive months (with at least monthly testing) following confirmation of toxicity in the retests. The permittee would submit a final report to DEQ at that time.

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 C.F.R. § 122.44(d)(1)(v).

11. WHOLE EFFLUENT TOXICITY LIMITS (7 DAY CHRONIC NOEC)

This condition applies to *P. promelas* only beginning three years from the effective date of the permit.

It is unlawful and a violation of this permit for a permittee or his designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed unless specific authority has been granted by EPA Region 6 or the State NPDES permitting authority (DEQ).

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 (%)	41
Effluent Dilution Series (%)	17, 23, 31, 41, 55
Chronic Limit - Lethality	not < 41%
Chronic Limit - Sub-Lethal	not < 41%
Schedule Of Compliance	Yes
Testing Frequency:	Once/Quarter
Sample Type	"Composite Sample (defined in Part IV)"
Test Species/Methods:	40 C.F.R. § 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof.

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.

ii. The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity 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. This permit may be reopened to require chemical specific effluent limits, additional testing, a Toxicity Reduction Evaluation, and/or other appropriate actions to address toxicity.

iv. The conditions of this item are effective beginning with the effective date of the WET limit. When the effluent fails the lethal or sub-lethal endpoint at or below the critical dilution, the permittee shall be considered in violation of this permit limit and the frequency for the affected species will increase to monthly until 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. The purpose of the increased frequency for WET testing after a violation 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.

B. REQUIRED TEST CONDITIONS AND TEST ACCEPTABILITY CRITERIA

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:

Condition/Criteria	***Ceriodaphnia dubia***	***Pimephales promelas***
Test Duration	Until 60% or more of surviving control females have 3 broods (max 8 days)	7 days
# of replicates per concentration	10	5
# of organisms per replicate	1	8
# of organisms per concentration	10	40 (minimum)
# of test concentrations per effluent	5 and a control	5 and a control
Sample Holding Time *	36 hours for first use	36 hours for first use
Sampling Requirement *	Minimum of 3 samples	Minimum of 3 samples
Test Acceptability Criteria	≥80% survival of all control organisms.	≥80% survival of all control organisms.
	Mean of 15 or more neonates per surviving control female.	Mean dry weight per surviving organism in control must be ≥0.25mg.

Condition/Criteria	***Ceriodaphnia dubia***	***Pimephales promelas***
	60% of surviving control females must produce 3 broods.	
Coefficient of Variation **	40% or less, unless significant effects are exhibited.	40% or less unless significant effects are exhibited.
Percent Minimum Significant Difference (PMSD range) for Sub-lethal Endpoint **	13 – 47	12 – 30

* 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 and the minimum number of effluent portions are waived during that sampling period. However, the permittee must collect an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent, and must meet the holding time between collection and first use of the sample. When possible, the effluent samples used for the toxicity tests shall be collected on separate 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 C of this section.

** Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%, or a PMSD value greater than the higher value on the range provided.

i. Statistical Interpretation

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 the appropriate method manual listed in Part II or the most recent update thereof.

ii. 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 for:

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

(2) toxicity tests conducted on effluent discharges where no receiving water is available 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), 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 was run concurrently with the receiving water control;

(2) the test indicating receiving water toxicity has been carried out to completion;

(3) the permittee includes all test results indicating receiving water toxicity with the full report and information required; 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.

iii. Samples and Composites

a. The permittee shall collect a minimum of three samples (flow-weighted composite if possible) from the outfall(s).

b. The permittee shall collect a second and third sample (composite samples if possible) for use during the 24-hour renewal of each dilution concentration for each test. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours for first use of the sample. 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 0-6 degrees Centigrade during collection, shipping, and/or storage. A holding time up to 72 hours is allowed upon notification to DEQ of the need for additional holding time.

c. The permittee must collect the composite samples such that the effluent samples are representative of the discharge duration, and of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.

C. REPORTING

i. The permittee shall prepare a full report of the results of all tests conducted pursuant to this part in accordance with the Report Preparation Section of the most current publication of the method manual, for every valid or invalid toxicity test initiated, whether carried to completion or not. The permittee shall retain each full report and submit them upon the specific request of the Agency. 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. A valid test for each species must be reported during each reporting period specified in PART I of this permit. One set of biomonitoring data for each species is to be recorded on the DMR for each reporting period. Additional results are reported on Unscheduled DMRs.

iii. The permittee shall submit the results of each valid toxicity test on the DMR for that reporting period in accordance with PART I of this permit, as follows below. Submit increased frequency test information clearly marked as such with Unscheduled DMR. Only results of valid tests are to be reported on the DMR.

Reporting Requirement	**Parameter STORET CODE**	
	Ceriodaphnia dubia	*Pimephales promelas*
Enter a "1" if the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, otherwise enter a "0."	TLP3B	TLP6C
Report the NOEC value for survival	TOP3B	TOP6C
Enter a "1" if the NOEC for growth or reproduction is less than the critical dilution, otherwise enter a "0."	TGP3B	TGP6C
Report the NOEC value for growth or reproduction	TPP3B	TPP6C
Report the highest (critical dilution or control) Coefficient of Variation	TQP3B	TQP6C
Report the lowest NOEC value (survival, reproduction, or growth) LIMIT CODE	51710	51714
The permittee shall submit the results of the monthly increased frequency toxicity tests on the Unscheduled DMRs.		

iv. DMR parameters

Report the following parameters on the DMR:

Scheduled DMR: TLP6C, TOP6C, TPP6C, TGP6C, TQP6C, 51714, TLP3B, TOP3B, TPP3B, TGP3B, TQP3B, 51710.

Unscheduled DMR: TLP6C, TOP6C, TPP6C, TGP6C, TQP6C, 51714, TLP3B, TOP3B, TPP3B, TGP3B, TQP3B, 51710.

D. MONITORING FREQUENCY REDUCTION

i. The permittee may apply for a testing frequency reduction upon the successful completion of the first twelve consecutive quarters 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 once per six months.

ii. Certification - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria above. In addition, the permittee must provide a list with each test performed including test initiation date, species, and NOECs. 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 compliance section to update the permit reporting requirements.

iii. Failures - If any test demonstrates lethal or sub-lethal effects at or below the critical dilution at any time during the life of this permit, three monthly retests are required. If a frequency reduction had been granted, the monitoring frequency for the affected test species reverts to once per quarter until the permit is re-issued.

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.

v. For administratively continued facilities where permit renewal was held up by no fault of the permittee, the following language regarding WET testing frequency reduction applies after permit renewal:

The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing after the expiration date of the previous permit, for one or both test species, provided that all of the following conditions are met:

a. The permittee tested quarterly upon the expiration date of that permit, and

b. The issuance of the renewed permit was not delayed by any fault of the permittee, and

c. No lethal or sub-lethal effects are demonstrated at or below the critical dilution for the first four consecutive quarters of testing after the expiration date of the previous permit.

12. Transition Condition

The facility is modifying the wastewater treatment system which will increase the design flow from 12 MGD to 16 MGD. The construction will add a new influent screw pump, an additional oxidation ditch (with anaerobic, anoxic, and aerobic treatment zones), an additional alum feed system, a supplemental carbon feed system, an additional return activated sludge (RAS)

division box, additional RAS pumps, an additional UV treatment train, and associated piping and controls.

A. Beginning on the effective date of the permit, the permittee must submit a Discharge Monitoring Report (DMR) for each permitted design flow (i.e., Tier I and Tier II on a monthly basis. The DMRs for the 16 MGD (Tier II) can be marked "No Discharge," until such time as the modifications have occurred and operation of the modified equipment has begun. The permittee must continue to submit three (3) monthly DMRs until the report required in Part II.8.C below is received.

B. The permittee must notify the Office of Water Quality (OWQ) when construction is complete, in accordance with Part 3 of State Construction Permit AR0033880C.

Once the facility modification is complete, and discharge at the new design flow has begun, the facility may request removal of the limitations and requirements in Part I Section A1 of the permit through a minor modification.

13. Total Phosphorus Twelve-Month Rolling Average Compliance Calculations

Compliance with the twelve-month rolling average concentration limitation for TP shall be calculated as follows:

Step 1: Determine the mass of TP discharged (lbs) for an individual month by multiplying the average of all concentration values (mg/l) measured in that month, times the total flow volume (Million Gallons, MG) for the month, times the conversion factor of 8.34. The following equation illustrates this calculation:

Monthly mass (lbs) = (Monthly avg conc., mg/l) × (Total monthly flow in MG) × 8.34

Step 2: The monthly mass determined using the above equation for each month shall be summed for the most recent twelve (12) months and inserted into the numerator of the following equation to determine the twelve-month average concentration:

$$\text{12-month average concentration (mg/l)} = \frac{\text{Total lbs (sum of most recent 12 months)}}{\text{Total flow in MG (most recent 12 months)} \times 8.34}$$

This twelve-month average concentration shall be reported on a 12-month rolling basis on each monthly DMR, which will represent the previous 12-month period. The compliance calculation shall be performed each month after substituting data from the most recent month for the oldest month. A calculated twelve-month average concentration exceeding the twelve-month average concentration limitation will be considered equivalent to a violation of a monthly average concentration.

14. Peak Flow Operations with Parallel Treatment

"Peak flow conditions" is defined as a period of time when the secondary flow (i.e., wastewater that has passed through screening, grit removal, activated sludge, and secondary clarification) exceeds 20 MGD. During peak flow conditions, operation of additional parallel treatment is authorized under this permit as provided by 40 C.F.R. § 122.41 (m)(2), provided that the following conditions are met:

A. The permittee shall maintain records of parallel treatment operation on site and make available to the Division upon request. These records shall include, at a minimum, the following information:

i. Date and time of the start and end of each episode of parallel treatment;
ii. Total flow volume through the parallel treatment for each episode of parallel treatment;
iii. Observations of environmental impacts to receiving stream, if any, caused during parallel treatment operation.

B. The permittee shall establish and maintain a web page accessible to the public that will include the minimum information required in Item A above. The permittee must update this web page within 5 days of the conclusion of each episode of parallel treatment operations.

C. During each calendar week (Sunday through Saturday), at least one of the required effluent samples for $CBOD_5$, Ammonia Nitrogen, TSS, FCB, and pH shall be taken during an episode of parallel treatment operations if the facility operates the parallel treatment during that calendar week. All effluent sample results must be included in the calculation of the monthly average and 7-day average values reported on the DMRs.

15. Dual-Use Filtration System

A. Average Flow Operation

When the Dual-Use Filtration System is not being used for Parallel Treatment, effluent from the final clarifiers may optionally be routed through the Dual-Use Filtration System prior to disinfection.

B. Parallel Treatment Operation

The Dual-Use Filtration System shall be used for Parallel Treatment during Peak Flow Operations with Parallel Treatment in accordance with Part II.14 of this permit.

16. Wet Weather Peak Flow Conditions

The bypassing of both secondary and parallel treatment for instantaneous flows in excess of 48 MGD as an anticipated bypass is allowed under the following conditions:

A. The permittee must notify the Division within 24 hours (1 business day) of the bypass. This notification may be made in the same manner the permittee is currently using to file other required 24 hour notice reports.

B. The permittee must sample the blended effluent for compliance with permit limits in accordance with the limits and sampling frequencies set forth in Part IA of this permit.

C. The permittee must submit a written report to the Division within five days of stopping the bypass. This report shall include, at a minimum, the following information:

   i. Dates and times of the bypass;
   ii. Total flow, amount of flow which bypassed both the secondary and parallel treatment operations, and amount of flow routed through the secondary and parallel treatment operations; and
   iii. Observations of environmental impacts, if any, caused by the bypass.

D. The permittee shall establish and maintain a web page accessible to the public that will include the minimum information required in Item C above. The permittee must update this web page within 24 hours of filing the written report with the Division.

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 APC&EC Rule 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 APC&EC Rule 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 APC&EC Rule 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, state, or local requirement, 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 APC&EC Rule 9 (Rule 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 C.F.R. §§ 122.64 and 124.5(d), as adopted in APC&EC Rule 6 and the provisions of APC&EC Rule 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 ensure 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 C.F.R. § 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 periods of equipment downtime or preventive maintenance; and
(c) The permittee submitted notices as required by Part III.B.4.B.

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

5. **Upset Conditions**

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

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

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

1. An upset occurred and that the permittee can identify the specific cause(s) of the upset.
2. The permitted facility was at the time being properly operated.
3. The permittee submitted notice of the upset as required by Part III.D.6.
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 C.F.R. Parts 257, 258, and 503.

B. Any changes to the permittee's disposal practices described in the Fact Sheet, as derived from the permit application, 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 ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure 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 Division approved method (i.e., as allowed in the *Other Specified Monitoring Requirements* condition under Part II), 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 Division.

3. **Monitoring Procedures**

Monitoring must be conducted according to test procedures approved under 40 C.F.R. 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 ensure accuracy of measurements and shall ensure 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 ensure 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**

40 C.F.R. § 127.11(a)(1) and 40 C.F.R. § 127.16(a) require that monitoring reports must be reported on a Discharge Monitoring Reports (DMR) and filed electronically. Signatory Authorities must initially request access for a NetDMR account. Once a NetDMR account is established, access to electronic filing should use the following link https://cdx.epa.gov. Permittees who are unable to file electronically may request a waiver from the Director in accordance with 40 C.F.R. § 127.15. Monitoring results obtained during the previous monitoring period shall be summarized and reported on a DMR dated and submitted no later

than the 25th day of the month, following the completed reporting period beginning on the effective date of the permit.

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 C.F.R. 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 C.F.R. § 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 C.F.R. § 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 which are subject neither to effluent limitations in the permit, nor to the notification requirements under 40 C.F.R. § 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**

Please be aware that the notifications can be sent by email to water-enforcement-report@adeq.state.ar.us or at 501-682-0624 for immediate reporting:

A. The permittee shall report any noncompliance which may endanger health or the environment within 24 hours from the time the permittee becomes aware of the

circumstances to the Enforcement Branch of the Office of Water Quality of DEQ. 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 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.

C. The Director may waive the written report on a case-by-case basis if the notification has been received within 24 hours to the Enforcement Branch of the Office of Water Quality of the DEQ.

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 including Existing Manufacturing, Commercial, Mining, and Silvicultural Dischargers**

The Director shall be notified 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 including those listed in 40 C.F.R. § 401.15 which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 C.F.R. § 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 including those listed in 40 C.F.R. § 401.15 which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 C.F.R. § 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 implemented through procedures outlined by APC&EC Rule 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 C.F.R. Part 2 and APC&EC Rule 6, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division 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 Water and Air 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.

PART IV
DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act and 40 C.F.R. § 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. **"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. The 7-Day Average for Fecal Coliform Bacteria (FCB) or E-Coli is the geometric mean of the "daily discharges" of all effluent samples collected during a calendar week in colonies per 100 ml.
2. **"Act"** means the Clean Water Act, Public Law 95-217 (33.U.S.C. 1251 et seq.) as amended.
3. **"Administrator"** means the Administrator of the U.S. Environmental Protection Agency.
4. **"APC&EC"** means the Arkansas Pollution Control and Ecology Commission.
5. **"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.
6. **"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 (APC&EC) Rule 2, as amended.
7. **"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.
8. **"Bypass"** means the intentional diversion of waste streams from any portion of a treatment facility, as defined at 40 C.F.R. § 122.41(m)(1)(i).
9. **"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.
10. **"CV"** means coefficient of variation.
11. **"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.

12. **"Daily Maximum"** discharge limitation means the highest allowable "daily discharge" during the calendar month.
13. **"Director"** means the Director of the Division of Environmental Quality.
14. **"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.
15. **"Division"** means the Division of Environmental Quality (**DEQ**).
16. **"*E. coli*"** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For *E. coli*, report the Daily Maximum as the highest "daily discharge" during the calendar month and the Monthly Average as the geometric mean of all "daily discharges" within a calendar month, in colonies per 100 ml.
17. **"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 Daily Maximum as the highest "daily discharge" during the calendar month and the Monthly Average as the geometric mean of all "daily discharges" within a calendar month, in colonies per 100 ml.
18. **"Grab sample"** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
19. **"Industrial User"** means a nondomestic discharger, as identified in 40 C.F.R. Part 403, introducing pollutants to a publicly owned treatment works (POTW).
20. **"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.
21. **"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.
22. **"Instantaneous Minimum"** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
23. **"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.
   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.

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.

24. **"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.
25. **"National Pollutant Discharge Elimination System (NPDES)"** 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.
26. "**NOEC**" means No Observed Effect Concentration.
27. **"PMSD"** means Percent Minimum Significant Difference.
28. **"POTW"** means Publicly Owned Treatment Works;
29. **"Reduction of $CBOD_5$/BOD_5 and TSS in mg/l Formula"**
    [(Influent – Effluent) / Influent] × 100
30. **"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.
31. **"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.
32. **"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.

33. **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.
34. **"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.
35. **"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.
36. **"Week"** means a calendar week, consisting of the 7-day period of Sunday through Saturday.
37. **"Weekday"** means Monday – Friday.

Final Fact Sheet

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 the renewal of discharge Permit Number AR0033880 with Arkansas Department of Energy and Environment – Division of Environmental Quality (DEQ) Arkansas Facility Identification Number (AFIN) 26-00145 to discharge to Waters of the State.

1. PERMITTING AUTHORITY

The issuing office is:

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

2. APPLICANT

The applicant's mailing and facility address is:

City of Hot Springs - Regional Wastewater Treatment Plant
320 Davidson Drive
Hot Springs, AR 71901

3. PREPARED BY

The permit was prepared by:

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Engineer, P.E.
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4. PERMIT ACTIVITY

Previous Permit Effective Date:	September 1, 2018
Previous Permit Expiration Date:	August 31, 2023

The permittee submitted a permit renewal application on September 21, 2022, with all additional information received by October 21, 2022. The previous discharge permit is being reissued for a 5-year term in accordance with regulations promulgated at 40 C.F.R. § 122.46(a).

DOCUMENT ABBREVIATIONS

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

APC&EC - Arkansas Pollution Control and Ecology Commission
BAT - best available technology economically achievable

BCT - best conventional pollutant control technology
BMP - best management practice
BOD_5 - five-day biochemical oxygen demand
BPJ - best professional judgment
BPT - best practicable control technology currently available
$CBOD_5$ - carbonaceous biochemical oxygen demand
CD - critical dilution
C.F.R. - 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
NH_3-N - ammonia nitrogen
$NO_3 + NO_2$-N - nitrate + nitrite nitrogen
NPDES - National Pollutant Discharge Elimination System
O&G - oil and grease
Rule 2 - APC&EC Rule 2
Rule 6 - APC&EC Rule 6
Rule 8 - APC&EC Rule 8
Rule 9 - APC&EC Rule 9
RP - reasonable potential
SIC - standard industrial classification
SSO - sanitary sewer overflow
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:

The compliance and enforcement history for this facility can be reviewed by using the following web link:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0033880_Enforcement%20Review_20230123.pdf

5. SIGNIFICANT CHANGES FROM THE PREVIOUSLY ISSUED PERMIT

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

1. The Twenty-four Hour Report condition in Part III.D.6 has been revised.
2. The Changes in Discharge of Toxic Substances for Industrial Dischargers condition in Part III.D.8 has been revised.
3. Decimal places have changed based on the OWQ's updated rounding policy.
4. The permittee has proposed several changes to the WWTP to be made under State Construction Permit No. AR0033880C. This will result in the design flow increasing from 12 MGD to 16 MGD. A set of limits for each design flow as well as the necessary transition conditions have been included in the permit.
5. Lethal and sub-lethal WET limits for *P. promelas* have been added to the permit along with a schedule of compliance. See Item No. 13 of this Fact Sheet for additional information.
6. The Total Phosphorus limits have changed due to the new design flow. See Item No. 12 of this Fact Sheet for additional information.
7. Conditions for parallel treatment, use of the side-stream cloth filtration system, and wet weather peak flow have been added to Part II of the permit.

6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION

The outfall is located at the following coordinates based on the previous permit, and confirmed with Google Earth using WGS84:

Latitude: 34° 26' 35" N; Longitude: 93° 00' 35" W

The receiving waters named:

Lake Catherine, an impoundment of the Ouachita River, in Segment 2F of the Ouachita River Basin. The receiving stream with Assessment Unit AR_08040101_4050 is a Water of the State classified for primary and secondary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies; propagation of desirable species of fish and other aquatic life; and other compatible uses.

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

A. 303(d) List

The receiving stream is not listed on the 2018 303(d) list. Therefore, no permit action is needed.

B. Applicable Total Maximum Daily Load (TMDL) Reports

There are no applicable TMDLs for the receiving stream.

C. Endangered Species

No comments on the application were received from the USF&WS. The draft permit and Fact Sheet were 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 Rule 2.

8. OUTFALL, TREATMENT PROCESS DESCRIPTION, AND FACILITY CONSTRUCTION

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

A. Design Flow: Tier I – 12 MGD
Tier II – 16 MGD

B. Type of Treatment:

Tier I - screening, grit chamber, primary clarification, activated sludge, secondary clarification, cloth filtration system, UV disinfection, anaerobic sludge digestion, and sludge gravity thickeners.

Tier II – screening, grit chamber, primary clarification, activated sludge, secondary clarification, side stream cloth filtration (optional), parallel treatment for peak flow operations, and UV disinfection.

C. Discharge Description: treated municipal wastewater

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

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

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 currently conditioned by anaerobic digestion and gravity thickening and then used for composting. After the modifications described in State Construction Permit No. AR0033880C, the anaerobic digester and gravity thickeners will be decommissioned. The Waste Activated Sludge will be conveyed directly to the existing dewatering process. The dewatered solids will be composted and distributed in accordance with Permit No. 0306-SC-R1 or another permit which allows for the activity.

12. DEVELOPMENT AND BASIS FOR PERMIT CONDITIONS

The Division of Environmental Quality has determined to issue a permit for the discharge described in the application. Permit requirements are based on federal regulations (40 C.F.R. Parts 122, 124, and Subchapter N), the National Pretreatment Regulation in 40 C.F.R. Part 403 and rules 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 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 C.F.R. § 124.7.

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

Following regulations promulgated at 40 C.F.R. § 122.44, the permit limits are based on either technology-based effluent limits pursuant to 40 C.F.R. § 122.44(a) or on State water quality standards and requirements pursuant to 40 C.F.R. § 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
TIER I								
$CBOD_5$	10	15	30	45	10	15	10	15
TSS	15.0	22.5	30	45	15	22.5	15.0	22.5
NH_3-N								
(April)	3.6	8.9	N/A	N/A	3.6	8.9	3.6	8.9
(May – October)	3.6	8.9	N/A	N/A	3.6	7.5	3.6	7.5
(November – March)	10.0	15.0	N/A	N/A	10	15	10.0	15.0
DO	5.0 (Inst. Min.)		N/A		5.0 (Inst. Min.)		5.0 (Inst. Min.)	
FCB (col/100 ml)								
(May – September)	200	400	N/A	N/A	200	400	200	400
(October – April)	1000	2000	N/A	N/A	1000	2000	1000	2000
TP	N/A	N/A	100.1 lbs/day	N/A	100.1 lbs/day	N/A	100.1 lbs/day	N/A
$NO_3 + NO_2$ - N	N/A	N/A	Report	Report	Report	Report	Report	Report
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	
TIER II								
$CBOD_5$	10	15	30	45	N/A	N/A	10	15
TSS	15.0	22.5	30	45	N/A	N/A	15.0	22.5
NH_3-N								
(April)	5.1	12.6	N/A	N/A	N/A	N/A	5.1	12.6
(May – October)	5.1	7.7	N/A	N/A	N/A	N/A	5.1	7.7
(November – March)	10.0	15.0	N/A	N/A	N/A	N/A	10.0	15.0
DO								
(May – September)	6.0 (Inst. Min.)		N/A		N/A		6.0 (Inst. Min.)	
(October – April)	5.0 (Inst. Min.)		N/A		N/A		5.0 (Inst. Min.)	
FCB (col/100 ml)								
(May – September)	200	400	N/A	N/A	N/A	N/A	200	400
(October – April)	1000	2000	N/A	N/A	N/A	N/A	1000	2000
TP	N/A	N/A	0.7	1.4	N/A	N/A	0.7	1.4
$NO_3 + NO_2$ - N	N/A	N/A	Report	Report	N/A	N/A	Report	Report
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		N/A		6.0-9.0 s.u.	

A. **<u>Justification for Limitations and Conditions of the Permit</u>**

Parameter	Water Quality or Technology	Justification
$CBOD_5$	Water Quality	Rule 6.401(C)(2), CWA § 402(o), and previous permit

Parameter	Water Quality or Technology	Justification
TSS	Water Quality	Rule 6.401(C)(2), CWA § 402(o), and previous permit
NH_3-N	Water Quality	Rule 2.512, CWA § 402(o), and previous permit
DO	Water Quality	Rule 2.505, CWA § 402(o), and previous permit
FCB	Water Quality	Rule 2.507, CWA § 402(o), and previous permit
TP	Technology	TP Report submitted by permittee, 40 C.F.R. § 122.44(l), and previous permit
$NO_3 + NO_2 – N$	Technology	CPP (Appendix D. page D-9), CWA § 402(o), and previous permit
pH	Water Quality	Rule 2.504, CWA § 402(o), and previous permit

Rule 2.509 was evaluated - the discharge location is not in a nutrient surplus area or into a waterbody impaired due to nutrients. The concentration on which the Total Phosphorus loading limit is based has been decreased to 0.7 mg/l on a 12-month rolling average due to the increase in design flow. A copy of the calculations may be found using the following link.

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0033880_WQMP%20Summary_20231017.pdf

Based on the water quality model and Rule 2 requirements, all other concentration limits were found to still be protective of the water quality of the receiving stream so no additional changes to the concentration limits are necessary.

The Nitrates/Nitrites levels reported on the DMRs for the time period of October 2020 through December 2023 were all under 12 mg/l. As seen in the following calculations, the IWC is below the standard of 10 mg/l so no further permit action is necessary.

IWC = (Effluent Concentration * CDF) + BC

IWC = Instream Waste Concentration
CDF (Chronic Dilution Factor) = 0.0331 (see page 2 of the WQMP summary)
EC (Effluent Concentration) = 12 mg/l (highest from DMRs)
BC (Background Concentration) = 0.1 mg/l (April 23, 2019 @ LOUA016C)

IWC = (12 * 0.0331) + 0.1 = 0.497 mg/l

B. **Anti-backsliding**

The permit is consistent with the requirements to meet Anti-backsliding provisions of the Clean Water Act (CWA), Section 402(o) [40 C.F.R. § 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 C.F.R. § 122.44(l)(2)(i).

The mass limits, with the exception of TP, have increased due to an increase in the design flow of the facility. This does not violate the anti-backsliding standards in the CWA since the change is due to material and substantial changes at the WWTP.

The NH_3-N concentrations for the months of April through October have increased due to updating the background flow of the receiving stream. This does not violate the anti-backsliding standards since the change is based on new information.

C. **Limits Calculations**

1. Mass Limits:

   In accordance with 40 C.F.R. § 122.45(f)(1), all pollutants limited in permits shall have limitations expressed in terms of mass if feasible. 40 C.F.R. § 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 12 MGD (Tier I) and 16 MGD (Tier II) and the following equation:

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

2. 7-Day Average Limits:

   Tier I

   The 7-day average limits for NH_3-N (November through March), $CBOD_5$ and TSS are based on Section 5.4.2 of the Technical Support Document for Water Quality-based Toxics Control:

   7-day average limits = monthly average limits × 1.5

   The 7-day average NH_3-N limits for the months of April through October are based on the requirements of Rule 2.512.

   The 7-Day average limits for FCB are based on Rule 2.507.

   Tier II

   The 7-day average limits for TP, NH_3-N (May through March), $CBOD_5$ and TSS are based on Section 5.4.2 of the Technical Support Document for Water Quality-based Toxics Control:

   7-day average limits = monthly average limits × 1.5 (except TP)

7-day average limits = monthly average limits × 2 (TP only)

The 7-day average NH_3-N limit for the month of April is based on the requirements of Rule 2.512.

The 7-Day average limits for FCB are based on Rule 2.507.

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

The 208 Plan, developed by the DEQ under provisions of Section 208 of the federal Clean Water Act, is a comprehensive program to work toward achieving federal water goals in Arkansas. The initial 208 Plan, adopted in 1979, provides for annual updates, but can be revised more often if necessary. The following updates to the 208 Plan are occurring with this permit renewal:

1. Revise facility design flow from 12 to 16 MGD.
2. Revise NH_3-N monthly average limit from 3.6 to 5.1 mg/l in April-October.
3. Revise DO instantaneous minimum limit from 5.0 to 6.0 mg/l in May-October.
4. Revise TP monthly average of 100.1 lb/day to a 12-month rolling average of 0.7 mg/l.

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

DEQ 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), Rule 2 (Rule 2.508), and criteria obtained from the "Quality Criteria for Water, 1986 (Gold Book)."

Under Federal Regulation 40 C.F.R. § 122.44(d), as adopted by Rule 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 C.F.R. § 122.45(c).

The following items were used in calculations:

Parameter	Value	Source
Discharge Flow = Q	16 MGD = 24.76 cfs	Application
critical flow, 7Q10	140 cfs	2019 letter from USGS to Hot Springs

Parameter	Value	Source
LTA Background Flow	420 cfs	TSD for WQ-based Toxics Control, p. 88
TSS	2.0 mg/l	CPP, Attachment V
Hardness as $CaCO_3$	31.0 mg/l	CPP, Attachment VI
pH	7.0 s.u.	Neutral pH
C_b, Upstream Concentration	See link below following table	LOUA016C
Q_b background flow, Mixing zone flow for chronic toxicity	0.25 × 7Q10 (7Q10>100 cfs)	Rule 2.508 and CPP-Appendix D
Q_b background flow, ZID flow for acute toxicity	0.13 × 7Q10 (7Q10>100 cfs)	Rule 2.508 and CPP-Appendix D

The following pollutants were reported above detection levels:

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Total Rec. Arsenic	1.85[1]	0.5
Total Rec. Copper	4.37[1]	0.5
Total Rec. Mercury	0.002885[1]	0.005
Total Rec. Nickel	1.64[1]	0.5
Total Rec. Zinc	23.99[1]	20

[1] Geometric Mean of 18 data points from pretreatment reports from the third quarter of 2018 through the fourth quarter of 2022.

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 Division's website at the following address:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0033880_PPS%20Calculations_20231228.pdf

The background concentrations can be viewed on the Division's web site at the following address:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0033880_Metals%20and%20Background%20Concentrations_20231228.pdf

1. **Aquatic Toxicity Evaluation**

a. Acute Criteria Evaluation

Pollutant	Concentration Reported (C_e) µg/l	$C_e \times 2.13$[1]	Instream Waste Concentration (IWC)	Criteria[2]	Reasonable Potential (Yes/No)
			Acute, µg/l	Acute, µg/l	
Total Rec. Copper	4.37	9.31	6.64	22.89	No
Total Rec. Mercury	0.002885	0.00615	0.00354	5.61	No
Total Rec. Nickel	1.64	3.49	2.86	1897.05	No
Total Rec. Zinc	23.99	51.10	23.99	219.32	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 Rule 2.508 unless otherwise specified.

b. Chronic Criteria Evaluation

Pollutant	Concentration Reported (C_e) µg/l	$C_e \times 2.13$[1]	Instream Waste Concentration (IWC)	Criteria[2]	Reasonable Potential (Yes/No)
			Chronic, µg/l	Chronic, µg/l	
Total Rec. Copper	4.37	9.31	5.61	16.92	No
Total Rec. Mercury	0.002885	0.00615	0.00255	0.012	No
Total Rec. Nickel	1.64	3.49	2.62	210.68	No
Total Rec. Zinc	23.99	51.10	27.03	200.27	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 Rule 2.508 unless otherwise specified.

DEQ has determined from the submitted information that the discharge does not pose the reasonable potential to cause or contribute to an exceedance above a listed Criteria.

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)
Total Rec. Arsenic	1.85	3.941	1.16	1.4	No

[1] Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.
[2] Unless otherwise specified, criteria are adapted from "National Recommended Water Quality Criteria – Human Health Criteria Table," 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 Rule 2.508.

DEQ has determined from the submitted information that the discharge does not pose the reasonable potential to cause or contribute to an exceedance above a listed Criteria.

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, 3/9/84)." In support of the national policy, Region 6 adopted the "Policy for Post Third Round NPDES Permitting" and the "Post Third Round NPDES Permit Implementation Strategy" on October 1, 1992. In addition, DEQ is required under 40 C.F.R. §122.44(d)(1), adopted by reference in Rule 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 C.F.R. § 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 C.F.R. § 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 for *P. promelas* to be the result of the permittee's discharge to the receiving stream or waterbody, at the appropriate instream critical dilution. Pursuant to 40 C.F.R. § 122.44(d)(1)(v), DEQ 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 permit must establish chronic effluent limitations for *P. promelas* following Regulations promulgated by 40 C.F.R. § 122.44(d)(1)(v). These chronic effluent limitations (7-day NOEC) are applied at Outfall 001 beginning three years from the effective date of the permit. Prior to that date, the permit requires monitoring and reporting only with no limitations being established. For Outfall 001, the 7-day NOEC value for chronic limits on *P. promelas* shall not be less than 41% (Critical

Dilution). The requirements for *C. dubia* will continue to be monitoring and reporting. 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	FREQUENCY
Chronic WET	Once/quarter

Requirements for measurement frequency are based on the CPP.

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

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

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

Qd = Design flow = 16 MGD = 24.76 cfs
7Q10 = 140 cfs
Qb = Background flow = 0.25 × 7Q10 = 35.0 cfs
CD = (24.76) / (35.0 + 24.76) × 100 = 41%

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 17%, 23%, 31%, 41%, and 55% (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 41% 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 C.F.R. § 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 Division shows toxicity in the permittee's discharge. Modification or revocation of this permit is subject to the provisions of 40 C.F.R. § 122.62, as adopted by reference in APC&EC Rule 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:	AR0033880	AFIN:	26-00145	Outfall Number:	001
Date of Review:	1/2/2024	Reviewer:	M. Barnett		
Facility Name:	City of Hot Springs - Regional Wastewater Treatment Plant				
Previous Dilution series:	58	Proposed Dilution Series:	41		
Previous Critical Dilution:	24, 33, 44, 58, 77	Proposed Critical Dilution:	17, 23, 31, 41, 55		
Previous TRE activities:	Fathead minnow TRE began August 2022, Final TRE report is due November 13, 2024				

Frequency recommendation by species	
Pimephales promelas (Fathead minnow):	once per quarter
Ceriodaphnia dubia (water flea):	once per quarter

TEST DATA SUMMARY

	Vertebrate		Invertebrate		
TEST DATE	Lethal	Sub-Lethal	Lethal	Sub-Lethal	
	NOEC	NOEC	NOEC	NOEC	
12/31/2018	77	77	77	77	
3/31/2019	77	77	77	77	
6/30/2019	77	77	77	77	
9/30/2019	77	77	77	77	
12/31/2019	77	77	77	77	
3/31/2020	77	**44**	77	77	
4/30/2020	77	77	77	77	retest 1
5/31/2020	77	77			retest 2
6/30/2020	77	77			retest 3
9/30/2020	77	77	77	77	
12/31/2020	77	77	77	77	
3/31/2021	77	77	77	77	
6/30/2021	77	77			
9/30/2021	77	77	77	77	
12/31/2021	77	77	77	77	
3/31/2022	77	77	77	77	
5/31/2022	**24**	**24**	77	77	
6/30/2022	**24**	**0**	77	77	retest 1*
9/30/2022	77	77	77	77	
12/31/2022	77	77	77	77	
3/31/2023	77	77			
6/30/2023	77	77	77	77	
9/30/2023	77	77	77	77	

Failures noted in BOLD

***TRE initiation date of July 13, 2022. July and August 2022 retests were suspended due to the TRE. Permit language states that quarterly testing is a minimum during TRE.**

REASONABLE POTENTIAL CALCULATIONS

	Vertebrate Lethal	Vertebrate Sub-lethal	Invertebrate Lethal	Invertebrate Sub-Lethal
Min NOEC Observed	24	12	77	77
TU at Min Observed	4.17	8.33	1.30	1.30
Count	21	21	17	17
Failure Count	2	3	0	0
Mean	1.572	1.817	1.299	1.299
Std. Dev.	0.863	1.628	0.000	0.000
CV	0.5	0.9	0	0
RPMF	1.3	1.5	0	0
Reasonable Potential	2.221	5.125	0.000	0.000
100/Critical dilution	2.439	2.439	2.439	2.439
Does Reasonable Potential Exist	No	Yes	No	No

PERMIT ACTION

P. promelas - 51714 Limit: not <41%; 3 year compliance schedule
C. dubia - monitoring

Reasonable potential exists for *P. promelas* sub-lethality. Additionally, according to EPA Region 6, chronic limits are to be inclusive of both toxicity endpoints (lethality and sub-lethality). Permit will include a 3-year compliance schedule for the *P. promelas* limits.

The permittee shall submit progress reports addressing the progress towards attaining the final effluent limits for *P. promelas* 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 Chronic limits for *P. promelas* is required three (3) years from the effective date of the permit.

The permittee has the option to undertake any study deemed necessary to meet the final limitations during the interim period. Any additional treatment must be approved and construction approval granted prior to final installation.

14. STORMWATER REQUIREMENTS

The federal regulations at 40 C.F.R. § 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 C.F.R. § 122.26(g) if several conditions can be certified. This facility was issued a "No Exposure" Exclusion under NPDES Tracking number ARR000059.

15. SAMPLE TYPE AND FREQUENCY

Requirements for sample type and sampling frequency were based on recommended frequencies for self-monitoring of discharges with design flows of 10.01 MGD and above from OWQ guidance memorandum "Recommended Monitoring Frequencies and Sample Types for NPDES Permits," April 14, 2022.

The following table applies to both Tier I and Tier II.

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Flow	once/day	totalizing meter	once/day	totalizing meter
$CBOD_5$	once/day	composite	once/day	composite
TSS	once/day	composite	once/day	composite

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
NH_3-N				
(April)	once/day	composite	once/day	composite
(May – October)	once/day	composite	once/day	composite
(November – March)	once/day	composite	once/day	composite
DO	once/day	grab	once/day	grab
FCB				
(May – September)	once/day	grab	once/day	grab
(October – April)	once/day	grab	once/day	grab
TP	once/day	grab	once/day	grab
$NO_3 + NO_2$ - N	once/month	grab	once/month	grab
pH	once/day	grab	once/day	grab

16. **PERMIT COMPLIANCE SCHEDULE**

A Schedule of Compliance for the lethal and sub-lethal WET limits for *P. promelas* has been included in the permit. A schedule of compliance is necessary because the permittee has not yet demonstrated that the facility can comply with the new limits at this time. It is important to note that the permittee has been working on a TRE since 2022.

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 permit:

A. Application No. AR0033880 received September 21, 2022, with all additional information received by October 21, 2022.
B. Arkansas Water Quality Management Plan (WQMP).
C. APC&EC Rule 2.
D. APC&EC Rule 3.
E. APC&EC Rule 6, which incorporates by reference certain federal regulations included in Title 40 of the Code of Federal Regulations at Rule 6.104.
F. 40 C.F.R. Parts 122, 125, 133, and 403.
G. Discharge permit file AR0033880.
H. Discharge Monitoring Reports (DMRs).
I. "2018 Integrated Water Quality Monitoring and Assessment Report," DEQ.
J. "2018 List of Impaired Waterbodies (303(d) List)," DEQ, May 2020.

K. Letter from USGS to City of Hot Springs regarding 7Q10 below Carpenter Dam, dated July 25, 2019.
L. USGS Streamstats web-based program.
M. Continuing Planning Process (CPP).
N. "OWQ Guidelines for Decimal Places and Rounding Conventions in NPDES Permits" documented in a June 12, 2020 Interoffice Memorandum.
O. OWQ guidance memorandum "Recommended Monitoring Frequencies and Sample Types for NPDES Permits," April 14, 2022.
P. Technical Support Document for Water Quality-based Toxic Control.
Q. Inspection Report dated August 18, 2021.
R. CAO LIS-08-099-02.
S. CAO LIS-22-007.
T. Enforcement Review Memo from Leslie Allen-Daniel to Loretta Carstens, P.E. dated January 23, 2023.
U. Planning Review Memo dated January 24, 2023.
V. Operator License Class Spreadsheet dated February 23, 2023.
W. Water Quality Model dated October 17, 2023.

19. PUBLIC NOTICE

The public notice of the draft permit was published for public comment on April 21, 2024. The last day of the comment period was thirty (30) days after the publication date. No public comments were received on the draft permit.

Copies of the draft permit and public notice were sent via email to the Corps of Engineers, the Regional Director of the U.S. Fish and Wildlife Service, the Department of Parks, Heritage, and Tourism, the EPA, and the Arkansas Department of Health.

20. PERMIT FEE

In accordance with Rule 9.403(B), the annual fee for the permit is calculated from the Design Flow (Q, in MGD) as follows:

Fee = \$5,000 + (900 × (Q-1)) = \$5,000 + (900 × (12-1)) = \$14,900

This facility is billed under Fee Code M.

21. **POINT OF CONTACT**

For additional information, contact:

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