

**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 Harrison  
Wastewater Treatment Plant

is authorized to discharge treated municipal wastewater from a facility located as follows: 1508 Silver Valley Road, Harrison, AR 72601, in Boone County. Turn north on Third Street off of US Highway 65 and continue north on Third Street until merging into Silver Valley Road. Continue approximately 1.4 miles on Silver Valley Road, then turn right into the facility.

Facility Coordinates: Latitude: 36° 14' 27" N; Longitude: 93° 04' 51" W

Receiving stream: Crooked Creek, thence to the White River in Segment 4I of the White River Basin.

The permitted outfall is located at the following coordinates:

Outfall 001: Latitude: 36° 14' 17" N; Longitude: 93° 04' 28" 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: August 1, 2021

Expiration Date: July 31, 2026

07/24/2021

---

Alan J. York  
Associate Director, Office of Water Quality  
Arkansas Department of Energy and Environment  
Division of Environmental Quality

---

Issue Date



**PART I**  
**PERMIT REQUIREMENTS**

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

During the period beginning on 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.

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lbs/day, else specified)	Concentration (mg/l, else specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
Flow	N/A	Report, MGD	Report, MGD (Daily Max.)	once/day	totalizing meter
Overflows	monthly total SSOs (occurrences/month)			see comments <sup>1</sup>	
Overflow Volume	monthly total volume of SSOs (gallons/month)			see comments <sup>1</sup>	
Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> )	216.8	10	15	once/week	composite
Total Suspended Solids (TSS)	325.3	15.0	22.5	once/week	composite
Ammonia Nitrogen (NH <sub>3</sub> -N)					
(April)	60.7	2.8	6.9	once/week	composite
(May – October)	56.4	2.6	6.4	once/week	composite
(November – March)	158.3	7.3	18.4	once/week	composite
Dissolved Oxygen (DO)	N/A	5.0 (Inst. Min.)		once/week	grab
Fecal Coliform Bacteria (FCB)	(colonies/100ml)				
(May – September)	N/A	200	400	once/week	grab
(October – April)	N/A	1000	2000	once/week	grab
Total Phosphorus (TP)	Report	Report	Report	once/year	grab
Nitrate + Nitrite as Nitrogen (NO <sub>3</sub> +NO <sub>2</sub> -N)	Report	Report	Report	once/month	grab
Chlorides	Report	Report	Report	once/month	grab
Sulfates	Report	Report	Report	once/month	grab
Total Dissolved Solids	Report	Report	Report	once/month	grab
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/week	grab
Whole Effluent Toxicity					
<i>P. promelas</i> Limit 51714	N/A	<u>Value</u> Not < 61 %		once/quarter	composite
<i>C. dubia</i> Limit 51710	N/A	<u>Value</u> Not < 61 %		once/quarter	composite
<b><i>Pimephales promelas</i> (Chronic)<sup>2,3</sup></b> Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC) TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation (Growth) TQP6C Growth (7-day NOEC) TPP6C	N/A	<u>Value</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter once/quarter once/quarter once/quarter	composite composite composite composite
<b><i>Ceriodaphnia dubia</i> (Chronic)<sup>2,3</sup></b> Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail Reproduction (7-day NOEC) TGP3B Survival (7-day NOEC) TOP3B Coefficient of Variation (Reproduction) TQP3B Reproduction (7-day NOEC) TPP3B	N/A	<u>Value</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter once/quarter once/quarter once/quarter	composite composite composite composite

- <sup>1</sup> See Part II.5 (SSO Condition). If there are no overflows during the entire month, report "zero" (0).
- <sup>2</sup> See Part II.8 (WET Limit Condition).
- <sup>3</sup> As per Part II.8 (WET Limit 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, 51710 TLP3B, TOP3B, TPP3B, TGP3B, TQP3B. This condition applies to *P. promelas* and *C. dubia*.)

---

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 for all parameters except dissolved oxygen shall be taken after disinfection, prior to the receiving stream. Samples for dissolved oxygen shall be taken after the cascade aeration, prior to the receiving stream.

## **SECTION B. PERMIT COMPLIANCE SCHEDULE**

Pursuant to 40 CFR 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:

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.
2. 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<sub>5</sub>) and Total Suspended Solids (TSS) shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR Part 133.102, as adopted by reference in APC&EC Rule 6.
3. In accordance with 40 CFR Parts 122.62(a)(2) and 124.5, this permit may be reopened for modification or revocation and/or reissuance to require additional monitoring and/or effluent limitations when new information is received that actual or potential exceedance of State water quality criteria and/or narrative criteria are determined to be the result of the permittee's discharge(s) to a relevant water body or a Total Maximum Daily Load (TMDL) is established or revised for the water body that was not available at the time of the permit issuance that would have justified the application of different permit conditions at the time of permit issuance.
4. Other Specified Monitoring Requirements

The permittee may use alternative appropriate monitoring methods and analytical instruments other than as specified in Part 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 CFR Part 136 or approved in accordance with 40 CFR Part 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:
  - 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) 682-0638, or by email at [ssoadeq@adeq.state.ar.us](mailto: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 oral 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 CFR Part 403) and the approved POTW pretreatment program submitted by the permittee. The pretreatment program was originally approved on May 16, 1984, modified on August 6, 1998 and once again modified and approved on January 9, 2017 to be compliant with the October 2005 Streamlining revisions to the Federal Pretreatment Regulations in 40 CFR 403. The POTW pretreatment program is hereby incorporated by reference and shall be implemented in a manner consistent with the following requirements:
- i. Industrial user information shall be updated at a frequency adequate to ensure that all IUs are properly characterized at all times;
  - ii. The frequency and nature of industrial user compliance monitoring activities by the permittee shall be commensurate with the character, consistency and volume of waste. The permittee must inspect and sample the effluent from each Significant Industrial User in accordance with 40 CFR 403.8(f)(2)(v). This is in addition to any industrial self-monitoring activities;
  - iii. The permittee shall enforce and obtain remedies for noncompliance by any industrial users with applicable pretreatment standards and requirements;
  - iv. The permittee shall control through permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements. In the case of Industrial Users identified as significant under 40 CFR 403.3 (v), this control shall be achieved through individual control mechanisms, in accordance with 40 CFR 403.8(f)(1)(iii). Control mechanisms must be enforceable and contain, at a minimum, the following conditions:
    - a. Statement of duration (in no case more than five years);
    - b. Statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator;
    - c. Effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards, categorical Pretreatment Standards, local limits, and State and local law;
    - d. Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency, and sample type, based on the applicable general Pretreatment Standards in 40 CFR 403, categorical Pretreatment Standards, local limits, and State and local law;

- e. Statement of applicable civil and criminal penalties for violation of Pretreatment Standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond federal deadlines; and
  - f. Requirements to control slug discharges, if determined by the POTW to be necessary.
  - v. The permittee shall evaluate, whether each Significant Industrial User needs a plan or other action to control slug discharges, in accordance with 40 CFR 403.8(f)(2)(vi);
  - vi. The permittee shall provide adequate staff, equipment, and support capabilities to carry out all elements of the pretreatment program; and
  - vii. The approved program shall not be modified by the permittee without the prior approval of the ADEQ.
- B. The permittee shall establish and enforce specific limits to implement the provisions of 40 CFR Parts 403.5(a) and (b), as required by 40 CFR Part 403.5(c). POTWs may develop Best Management Practices (BMPs) to implement paragraphs 40 CFR 403.5(c)(1) and (c)(2). Such BMPs shall be considered local limits and Pretreatment Standards. Each POTW with an approved pretreatment program shall continue to develop these limits as necessary and effectively enforce such limits.

The permittee shall submit, within sixty (60) days of the effective date of this permit, (1) a **WRITTEN CERTIFICATION** that a technical evaluation has demonstrated that the existing technically based local limits (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 CFR Part 403.5(b) shall be enforced by the permittee unless modified under this provision.

- C. The permittee shall analyze the treatment facility influent and effluent for the presence of the toxic pollutants listed in 40 CFR 122 Appendix D (NPDES Application Testing Requirements) Table II at least once 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 CFR 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.

The influent and effluent samples collected shall be composite samples, as defined in Part IV.8 of the permit. In accordance with 40 CFR 122.21(j)(4)(viii), where composite

samples are inappropriate due to sampling, holding time or analytical constraints, at least four (4) grab samples shall be taken at equal intervals over a representative 24-hour period. Sampling and analytical procedures shall be in accordance with guidelines established in 40 CFR 136.

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

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 May the permittee shall submit an updated pretreatment program status report to the ADEQ containing the following information:

- (1) An updated list of all significant industrial users. The list must also identify:
- a. Industrial Users classified as Non-Significant Categorical Industrial Users (NSCIUs) or Middle-Tier CIUs.
  - b. Industrial Users subject to categorical Pretreatment Standards that are subject to reduced monitoring and reporting requirements under 40 CFR 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 CFR Part 414, Petroleum Refining - 40 CFR Part 419, and Pesticide Chemicals - 40 CFR Part 455 and for which the Control Authority has chosen to use the concentration-based standards rather than converting them to flow-based mass standards as allowed at 40 CFR 403.6(c)(6).
  - 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 CFR 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 CFR 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 CFR 403(b), (e) and (h).

- (2) 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.
- (3) 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;
- (4) 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;
- (5) The results of all influent and effluent analyses performed pursuant to Item C above;
- (6) 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.

- (7) The information requested may be submitted in tabular form as per the example tables provided for your convenience (See Attachments II, III and IV); and
- (8) 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. Whole Effluent Toxicity Limits (7-Day Chronic NOEC Freshwater)

A. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL:	001
REPORTED ON DMR AS FINAL OUTFALL:	Outfall 001
CRITICAL DILUTION (%):	61%
EFFLUENT DILUTION SERIES (%):	26%, 34%, 46%, 61%, 81%
CHRONIC LIMIT:	not < 61%
SCHEDULE OF COMPLIANCE:	NO
TESTING FREQUENCY:	once/quarter
COMPOSITE SAMPLE TYPE:	Defined in Paragraph B.iv.a
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. This test should be

terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

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

- ii. The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.
- iii. The conditions of this item are effective beginning with the effective date of the WET limit. When the effluent fails the chronic endpoint below the required limit specified in Item A.i., the permittee shall be considered in violation of this permit limit and the frequency for the affected species will increase to monthly until such time compliance with the No Observed Effect Concentration (NOEC) effluent limitation is demonstrated for a period of three consecutive months, at which time the permittee may return to the testing frequency stated in PART I of this permit. The purpose of the increased frequency WET testing is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result.
- iv. If under a TRE, the permittee may conduct quarterly testing as a minimum monitoring requirement for the organism(s) under investigation for the duration of the TRE. Upon completion of the TRE, monitoring will revert back to the conditions specified in Item A.iii.
- v. This permit may be reopened to require chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

## B. REQUIRED TOXICITY TESTING CONDITIONS

### i. Test Acceptance

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

- a. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
  - b. The mean number of *Ceriodaphnia dubia* neonates produced per surviving female in the control (0% effluent) must be 15 or more.
  - c. 60% of the surviving control females must produce three broods.
  - d. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.
  - e. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test, the growth and survival of the Fathead minnow test.
  - f. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or sub-lethal effects are exhibited for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test; the growth and survival endpoints in the Fathead minnow test.
  - g. If a test passes, yet the percent coefficient of variation between replicates is greater than 40% in the control (0% effluent) and/or in the critical dilution for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test; the growth and survival endpoints of the Fathead minnow test, the test is determined to be invalid. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.
  - h. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.
  - i. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for *Ceriodaphnia dubia* reproduction;
  - j. A PMSD range of 12 - 30 for Fathead minnow growth.
- ii. Statistical Interpretation
- a. For the *Ceriodaphnia dubia* survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA-821-R-02-013 or the most recent update thereof.
  - b. For the *Ceriodaphnia dubia* reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect

Concentration (NOEC) as described in EPA-821-R-02-013, or the most recent update thereof.

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

iii. Dilution Water

- a. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water where the receiving stream is classified as intermittent or where the receiving stream has no flow due to zero flow conditions.
- b. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item B.i), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:
  - (1) a synthetic dilution water control which fulfills the test acceptance requirements of Item B.i was run concurrently with the receiving water control;
  - (2) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);
  - (3) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item C.i below; and
  - (4) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

iv. Samples and Composites

- a. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall listed at Item A.i above. Unless otherwise stated in this section, a composite sample for WET shall consist of a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.
- b. The permittee must collect all three flow-weighted composite samples within the monitoring period. The permittee shall collect second and third composite



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

- c. The permittee must collect all three flow-weighted composite samples within the monitoring period. Second and/or third composite samples shall not be collected into the next monitoring period; such tests will be determined to not meet either reporting period requirements. Monitoring period definitions are listed in Part IV.
- d. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to between 0 and 6 degrees Centigrade during collection, shipping, and/or storage.
- e. If the flow from the outfall being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item C of this section
- f. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in Item A.i above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.
- g. If chlorination is part of the treatment process, the permittee shall not allow the sample to be dechlorinated at the laboratory. At the time of sample collection the permittee shall measure the TRC of the effluent. The measured concentration of TRC for each sample shall be included in the lab report submitted by the permittee.

### C. REPORTING

- i. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA-821-R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.7 of this permit. The

permittee shall submit full reports. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

- ii. The permittee shall report the Whole Effluent Toxicity NOECs under Parameter No. 51710 for *C. dubia* and 51714 for *P. promelas*, on the Scheduled DMR for that reporting period in accordance with PART III.D.4 of this permit.

A valid test for each species must be reported on the Scheduled DMR during each reporting period specified in PART I of this permit. The full reports for all valid tests, invalid tests, repeat tests (for invalid tests), and increased frequency tests (for tests previously failed) performed during the reporting period must be attached to the DMR for Agency review.

- iii. The permittee shall submit the results of the valid toxicity test on the Scheduled DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. The permittee shall submit the results of the valid monthly increased frequency toxicity tests on the Unscheduled DMRs. If testing on a quarterly basis, the permittee may substitute one of the monthly increased frequency toxicity tests in lieu of one Scheduled toxicity test on the Scheduled DMR. Only results of valid tests are to be reported on a DMR.

- a. *Pimephales promelas* (Fathead minnow)

- (1) If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP6C
- (2) Report the NOEC value for survival, Parameter No. TOP6C
- (3) Report the NOEC value for growth, Parameter No. TPP6C
- (4) If the NOEC for growth is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP6C
- (5) Report the highest (critical dilution or control) Coefficient of Variation for growth, Parameter No. TQP6C
- (6) Report the lowest NOEC value for survival or growth, Limit Parameter No. 51714
- (7) The permittee shall submit the results of the monthly increased frequency toxicity tests on the Unscheduled DMRs.

- b. *Ceriodaphnia dubia*

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

- (2) Report the NOEC value for survival, Parameter No. TOP3B
- (3) Report the NOEC value for reproduction, Parameter No. TPP3B
- (4) If the NOEC for reproduction is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP3B
- (5) Report the higher (critical dilution or control) Coefficient of Variation for reproduction, Parameter No. TQP3B
- (6) Report the lowest NOEC value for survival or reproduction, Limit Parameter No. 51710
- (7) The permittee shall submit the results of the monthly increased frequency toxicity tests on the Unscheduled DMRs.

#### D. MONITORING FREQUENCY REDUCTION

For the first three years after the effective date of a WET limit, the minimum monitoring frequency for the affected species is once per quarter or once per month (in accordance with Item A.i.).

- i. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters or first twelve consecutive months (in accordance with Item A.i.) of the current permit term 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 year for the less sensitive species (usually the Fathead minnow) and not less than twice per year for the more sensitive test species (usually the *Ceriodaphnia dubia*).
- ii. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in Item B.i. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance System section to update the permit reporting requirements.
- iii. SUB-LETHAL OR SURVIVAL FAILURES - If any test fails the lethal or sub-lethal endpoint at any time during the life of this permit, three consecutive monthly retests are required and the monitoring frequency for the affected test species may be increased 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.

## 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.

## 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 requirements such as endangered species, state or local statute, ordinance or regulation.

#### 11. **Permit Fees**

The permittee shall comply with all applicable permit fee requirements (i.e., including annual permit fees following the initial permit fee that will be invoiced every year the permit is active) for wastewater discharge permits as described in 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 CFR Parts 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 CFR Part 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 CFR Part 503, 40 CFR Part 257, and 40 CFR Part 258.

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 CFR Part 136, unless other test procedures have been specified in this permit. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals frequent enough to 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 CFR Part 127.11(a)(1) and 40 CFR Part 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 CFR Part 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 25<sup>th</sup> 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 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated on the DMR.

## 7. **Retention of Records**

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

## 8. **Record Contents**

Records and monitoring information shall include:

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

## 9. **Inspection and Entry**

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

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

## SECTION D – REPORTING REQUIREMENTS

### 1. **Planned Changes**

The Permittee shall give notice to the Director as soon as possible but no later than 180 days prior to any planned physical alterations or additions to the permitted facility [40 CFR Part 122.41(l)]. Notice is required only when:

- A. The alteration or addition to a permitted facility may meet one of the criteria for new sources at 40 CFR Part 122.29(b).
- B. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants subject to effluent limitations in the permit, or to the notification requirements under 40 CFR Part 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](mailto: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 CFR 401.15 which is not limited in the permit, if that discharge will exceed the highest of the “notification levels” described in 40 CFR Part 122.42(a)(1).
- B. That any activity has occurred or will occur which would result in any discharge on a non-routine or infrequent basis of a toxic pollutant including those listed in 40 CFR 401.15 which is not limited in the permit, if that discharge will exceed the highest of the “notification levels” described in 40 CFR Part 122.42(a)(2).

#### 9. **Duty to Provide Information**

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

## 10. **Duty to Reapply**

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The complete application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be 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 CFR 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 Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties specified in Part III.A.2 and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

## 14. **Other Information**

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





## PART IV DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act and 40 CFR Part 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 CFR Part 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 CFR 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 25<sup>th</sup> of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the DMR shall be submitted by the 25<sup>th</sup> of the month following the monitoring period end date.

  - 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 or twice/year.
- E. **ANNUAL or YEARLY:**  
is defined as a fixed calendar year or any portion of the fixed calendar year for an effluent characteristic or parameter with a measurement frequency of once/year. A calendar year is January through December, or any portion thereof.
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<sub>5</sub>/BOD<sub>5</sub> 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. “**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 AR0034321 with Arkansas Department of Energy and Environment – Division of Environmental Quality (DEQ) Arkansas Facility Identification Number (AFIN) 05-00054 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 address is:

City of Harrison - Wastewater Treatment Plant  
P.O. Box 1715  
Harrison, AR 72602

The facility address is:

City of Harrison - Wastewater Treatment Plant  
1508 Silver Valley Road  
Harrison, AR 72601

### 3. PREPARED BY

The permit was prepared by:

Zachary Carroll, PhD  
Staff Engineer  
NPDES Discharge Permits Section  
Office of Water Quality  
(501) 682-0625  
E-mail: [zachary.carroll@adeq.state.ar.us](mailto:zachary.carroll@adeq.state.ar.us)

Carrie McWilliams, P.E.  
Engineer Supervisor  
NPDES Discharge Permits Section  
Office of Water Quality  
(501) 682-0915  
E-mail: [mcwilliamsc2@adeq.state.ar.us](mailto:mcwilliamsc2@adeq.state.ar.us)

### 4. PERMIT ACTIVITY

Previous Permit Effective Date: October 1, 2007  
Previous Permit Expiration Date: September 30, 2012

The permittee submitted a permit renewal application on March 29, 2012. This renewal was placed on an administrative hold pending a Use Attainability Analysis (UAA) and harmonic mean study for Crooked Creek. The UAA has been incorporated into APC&EC Rule 2, and was approved by the EPA on December 17, 2017. DEQ requested updated application

documents and an update on the harmonic mean study on July 30, 2020. The harmonic mean study was completed on August 21, 2020. The permittee provided updated application documents and the results of the harmonic mean study on October 30, 2020.

Land application of biosolids from this facility is regulated by EPA Region VI and Arkansas' state no-discharge program. Therefore, this permit does not cover the land application of biosolids. See Section 11 of this Fact Sheet for additional information.

A state construction permit was issued on November 15, 2008 to allow the facility to replace the chlorination/dechlorination system with UV disinfection. The installation of the UV system was verified in an inspection on October 6, 2009. Therefore, the facility no longer has reasonable potential for residual chlorine and the permit does not contain limits for TRC.

The current discharge permit is being reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

### DOCUMENT ABBREVIATIONS

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

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<sub>5</sub> - five-day biochemical oxygen demand

BPJ - best professional judgment

BPT - best practicable control technology currently available

CBOD<sub>5</sub> - carbonaceous biochemical oxygen demand

CD - critical dilution

CFR - Code of Federal Regulations

cfs - cubic feet per second

COD - chemical oxygen demand

COE - United States Corp of Engineers

CPP - continuing planning process

CWA - Clean Water Act

DMR - discharge monitoring report

DO - dissolved oxygen

ELG - effluent limitation guidelines

EPA - United States Environmental Protection Agency

ESA - Endangered Species Act

FCB - fecal coliform bacteria

gpm - gallons per minute

MGD - million gallons per day

MQL - minimum quantification level

NAICS - North American Industry Classification System

NH<sub>3</sub>-N - ammonia nitrogen

NO<sub>3</sub> + NO<sub>2</sub>-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.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034321\\_Compliance%20Review\\_20201130.pdf](https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034321_Compliance%20Review_20201130.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 mailing address was removed from the cover page.
2. All mass limits are now expressed to the nearest tenths digit.
3. The concentration limits for TSS are now expressed to three significant digits.
4. NH<sub>3</sub>-N limits were updated based on new flow data for the receiving stream. See Section 12.A of this Fact Sheet for additional details.
5. The DO limit was revised from a monthly average limit to an instantaneous maximum limit. The numeric value did not change. See Section 12.A of this Fact Sheet for additional details.
6. The fecal coliform bacteria limit for the month of April was revised. See Section 12.A of this Fact Sheet for additional details.
7. The limit for TRC was removed because the facility no longer uses chlorine disinfection. The Other Condition regarding TRC (Part III.11 of the previous permit) was also removed. See Section 12.A of this Fact Sheet for additional details.

8. The monitoring frequency for total phosphorus was reduced. See Section 15 of this Fact Sheet for additional details.
9. A monitoring requirement for NO<sub>3</sub>+NO<sub>2</sub>-N, Chlorides, Sulfates, and Total Dissolved Solids (TDS) was added. See Sections 12.A and 12.F of this Fact Sheet for additional details.
10. The critical dilution for whole effluent toxicity was revised. Additionally, the permit now contains separate WET limits for lethality and sub-lethality, and separate WET limits for *P. promelas* and *C. dubia*. See Part II.8 of the permit and Section 13 of this Fact Sheet for additional details.
11. Sample types for CBOD<sub>5</sub>, TSS, NH<sub>3</sub>-N, and WET are now “composite” rather than “24-hour composite”. See Section 15 of this Fact Sheet for additional details.
12. Part I of the permit no longer specifies latitude/longitude for sampling locations. The narrative description of the sampling locations has been updated to specify that the samples shall be taken prior to the receiving stream.
13. The schedule of compliance for pretreatment modifications was removed.
14. Other Conditions (Part III of the previous permit) are Part II of the final permit, and Standard Conditions (Part II of the previous permit) are Part III of the final permit.
15. The biosolids conditions (Parts III.3, III.4, and III.9 of the previous permit) were removed from the final permit. The condition requiring notification of changes in disposal practices was incorporated into Part III.B.6 of the final permit. See Section 11 of this Fact Sheet for additional information.
16. The SSO condition in Part II.5 of the final permit was updated.
17. The pretreatment requirements condition in Part II.7 of the final permit was updated.
18. The WET Limits condition in Part II.8 of the final permit was updated.
19. A new condition regarding applicable federal, state, or local requirements was added as Part III.A.10 of the final permit.
20. Part III.C.2 (Flow Measurement) was updated with a section regarding calculated flow.
21. Part III.C.5 now requires reporting of monitoring results through NetDMR.
22. Part III.D.1 (Planned Changes) was updated.
23. Part III.D.6 (24-hour Reporting) was updated.
24. Part III.D.8 (Changes in Discharge of Toxic Substances for Industrial Dischargers including Existing Manufacturing, Commercial, Mining, and Silvicultural Dischargers) was updated.
25. A new condition regarding other information was added as Part III.D.14 of the final permit.
26. The definitions in Part IV of the final permit were revised.

## 6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION

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

Latitude: 36° 14' 17" N; Longitude: 93° 04' 28" W

The receiving waters named:

Crooked Creek, thence to the White River in Segment 4I of the White River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C.) of 11010003 and reach #749 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.

As detailed in “Stream Evaluation Study for Harrison, Arkansas, Final Draft”, stream surveys of Crooked Creek were conducted on October 5-6 and October 28-29 in 1981. Flow measurements were taken from just upstream of the point of discharge of this facility to approximately 4 miles downstream of the point of discharge. Based on these measurements, the study determined that Crooked Creek was likely gaining flow from springs and other groundwater sources. Free-flowing springs were visually observed during the stream survey. Based on this study, the receiving stream segment does not meet the definition of a “losing stream segment” in Rule 6.301(B).

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

**A. 303(d) List**

Reach #749 of Crooked Creek is not listed on Arkansas' 2018 List of Impaired Waterbodies (303(d) List).

Approximately 10.5 miles downstream of the outfall, Reach #049 of Crooked Creek is on the 303(d) List in Category 5 for temperature. This facility does not discharge cooling water, and the maximum reported temperature out of 1904 reported measurements on the updated renewal application was 24.6°C, with average temperatures of 18.1°C in the winter and 20.7°C in the summer. Considering the distance downstream, type of wastewater discharged, and reported temperature data, there is no reasonable potential for this facility to cause or contribute to the temperature impairment in Reach #049 of Crooked Creek.

**B. Applicable Total Maximum Daily Loads (TMDLs)**

There are no TMDL reports applicable to this facility.

**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: 2.6 MGD
- B. Type of Treatment: Bar screen, grit removal, primary clarifier, two parallel oxidation ditches, two parallel final clarifiers, UV disinfection, and cascade aeration.
- C. Discharge Description: treated municipal wastewater
- D. Facility Status: This facility is classified as a major municipal since the design flow of the facility listed above is greater than 1.0 MGD.
- E. Facility Construction: 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 process wastewater from significant industrial users, as defined in 40 CFR §403.3(v). 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

Primary and secondary sludge are processed through two aerated sludge storage basins, dewatered through a single belt filter press, and land applied. During inclement weather, dewatered biosolids are stored in the sludge storage building.

The requirements for land application of biosolids were removed from the permit. This permit no longer covers the land application of biosolids.

Federal requirements for land application of biosolids in Arkansas are implemented by EPA Region VI. State requirements for land application of biosolids from this facility are implemented through the state no-discharge program. This facility has obtained permit coverage from the state no-discharge program, with permit number 5158-WR-1.

As specified in Part III.A.10, this permit does not relieve the facility of the responsibility to comply with any applicable federal, state, or local requirements regarding land application of biosolids.

## 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 CFR Parts 122, 124, and Subchapter N), the National Pretreatment Regulation in 40 CFR Part 403 and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.). All of the information contained in the application, including all of the submitted effluent testing data, was reviewed to determine the need for effluent limits and other permit requirements.

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

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

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

Parameter	Water Quality-Based		Technology-Based/BPJ		Previous Permit		Final Permit Limit	
	Monthly Avg. mg/l	7-Day Avg. mg/l	Monthly Avg. mg/l	7-Day Avg. mg/l	Monthly Avg. mg/l	7-Day Avg. mg/l	Monthly Avg. mg/l	7-Day Avg. mg/l
CBOD <sub>5</sub>	10	15	25.0	40.0	10	15	10	15
TSS	15.0	22.5	30.0	45.0	15	22.5	15.0	22.5
NH <sub>3</sub> -N								
(April)	2.8	6.9	N/A	N/A	1.8	4.6	2.8	6.9
(May – October)	2.6	6.4	N/A	N/A	1.8	4.6	2.6	6.4
(November – March)	7.3	18.4	N/A	N/A	4.9	12.2	7.3	18.4
DO	5.0 (Inst. Min.)		N/A		5.0 (Monthly Avg. Min.)		5.0 (Inst. Min.)	
FCB (col/100 ml)								
(April)	1000	2000	N/A	N/A	200	400	1000	2000
(May – September)	200	400	N/A	N/A	200	400	200	400
(October – March)	1000	2000	N/A	N/A	1000	2000	1000	2000
TRC (Inst. Max)	N/A		N/A		<0.1 (Inst. Max.)		N/A	
TP	N/A	N/A	Report	Report	Report	Report	Report	Report
NO <sub>3</sub> +NO <sub>2</sub> -N	N/A	N/A	Report	Report	N/A	N/A	Report	Report
Chlorides	N/A	N/A	Report	Report	N/A	N/A	Report	Report
Sulfates	N/A	N/A	Report	Report	N/A	N/A	Report	Report

Parameter	Water Quality-Based		Technology-Based/BPJ		Previous Permit		Final 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
TDS	N/A	N/A	Report	Report	N/A	N/A	Report	Report
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	
<i>P. promelas</i> Chronic WET Limits	Lethality: Not < 61% Sub-Lethality: Not < 61%		N/A		Lethality: Not < 84% Sub-Lethality: Not < 80%		Lethality: Not < 61% Sub-Lethality: Not < 61%	
<i>C. dubia</i> Chronic WET Limits	Lethality: Not < 61% Sub-Lethality: Not < 61%		N/A		Lethality: Not < 84% Sub-Lethality: Not < 80%		Lethality: Not < 61% Sub-Lethality: Not < 61%	

#### A. Justification for Limitations and Conditions of the Final Permit

Parameter	Water Quality or Technology	Justification
CBOD <sub>5</sub>	Water Quality	Water Quality Model dated February 4, 2015 (and reviewed December 14, 2020), CWA § 402(o), and previous permit
TSS	Water Quality	Water Quality Model dated February 4, 2015 (and reviewed December 14, 2020), CWA § 402(o), and previous permit
NH <sub>3</sub> -N	Water Quality	Rule 2.512, Water Quality Model dated February 4, 2015 (and reviewed December 14, 2020), CWA § 402(o), and previous permit
DO	Water Quality	Rule 2.505, Water Quality Model dated February 4, 2015 (and reviewed December 14, 2020), CPP Appendix D, CWA § 402(o), and previous permit
FCB	Water Quality	Rule 2.507, CWA § 402(o), and previous permit
TP	Technology	CPP Appendix D and previous permit
NO <sub>3</sub> + NO <sub>2</sub> - N	Technology	CPP Appendix D
Chlorides	Technology	CPP Section IX, Page 7
Sulfates	Technology	CPP Section IX, Page 7
TDS	Technology	CPP Section IX, Page 7
pH	Water Quality	Rule 2.504, CWA § 402(o), and previous permit
WET Limits	Water Quality	Rule 2.409, CPP Appendix D, CPP Attachments I & X, CWA § 402(o), and previous permit

#### **Ammonia as Nitrogen (NH<sub>3</sub>-N)**

NH<sub>3</sub>-N toxicity limits were calculated using the updated critical low flow (7Q10) values from the USGS Streamstats web-based application of 3.82 cfs in the critical season (May through October) and 4.71 cfs in the primary season (November through April). In accordance with the Mixing Zone Policy in Appendix D of the 2000 Continuous Planning Process (pages D-10 through D-12), 67% of the 7Q10 is used for the mixing zone.

The calculation for the limits is as follows:

$$C_e = \frac{IWC \times (Q_e + Q_b) - C_b \times Q_b}{Q_e}$$

where

$C_e$  = effluent limit

IWC = Instream Waste Concentration chronic toxicity criterion at the edge of the mixing zone (from Rule 2.512)

$Q_e$  = effluent flow (facility design flow of 2.6 MGD = 4.02 cfs)

$Q_b$  = background flow of mixing zone (67% of the 7Q10; 2.56 cfs in May through October or 3.16 cfs in November through April)

$C_b$  = background ammonia concentration (0.03 mg/l, based on monitoring data from DEQ station WHI0067)

The full NH<sub>3</sub>-N evaluation is in the WQMP summary at the following link:

[https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034321\\_WQMP%20Summary\\_20201214.pdf](https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034321_WQMP%20Summary_20201214.pdf)

Under all modeled conditions, the calculated toxicity limits were more stringent than the limits required to meet the dissolved oxygen standards in the water quality model. Therefore the NH<sub>3</sub>-N limits are all based on the toxicity standards in Rule 2.512.

#### **Dissolved Oxygen (DO)**

The DO limit was revised from a Monthly Average Minimum to an Instantaneous Minimum in accordance with the NPDES Program (General) Section IV.D of Appendix D of the CPP. The numeric limit of 5.0 mg/l is unchanged.

#### **Fecal Coliform Bacteria (FCB)**

The monthly average and 7-day maximum limits for FCB in April have been changed to 1000 and 2000 colonies per 100 ml, respectively, to be consistent with the limit in Rule 2.507.

#### **Total Residual Chlorine (TRC)**

The permit does not contain limits for TRC because the facility no longer uses chlorine.

#### **Total Phosphorus (TP) and Nitrate + Nitrite as Nitrogen (NO<sub>3</sub>+NO<sub>2</sub>-N)**

TP and NO<sub>3</sub>+NO<sub>2</sub>-N monitoring are required for all major facilities in accordance with Appendix D of the CPP to establish a database of point source loadings of nutrients to waters of the state. Therefore, the TP monitoring requirement was continued from the previous permit and an NO<sub>3</sub>+NO<sub>2</sub>-N monitoring requirement was added.

The reported monthly average TP concentration for the previous two years (October 2018 through September 2020) was 1.46 mg/l, with a maximum of 3.05 mg/l.

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

Monitoring and reporting are required for minerals in accordance with Item 5 of the Administrative Guidance Document in Section IX of the CPP (Page IX-7). See Section 12.F for additional details regarding minerals.

**Whole Effluent Toxicity (WET) Limits**

The critical dilution for WET Limits was revised based on the updated 7Q10 flow. See Section 13 of this Fact Sheet for details.

**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 CFR Part 122.44(l)]. The final effluent limitations for reissuance permits must be as stringent as those in the previous permit, unless the less stringent limitations can be justified using exceptions listed in CWA 402(o)(2), CWA 303(d)(4), or 40 CFR Part 122.44(l)(2)(i).

The permit meets or exceeds the requirements of the previous permit with the following exceptions:

Toxicity limits for NH<sub>3</sub>-N and critical dilutions for WET limits were revised based on the updated critical low flow values (7Q10) for the receiving stream, which is considered new information. Therefore, the revisions are allowed in accordance with CWA 402(o)(2)(B)(i).

The revised limitations identified for Fecal Coliform Bacteria are allowed in accordance with CWA § 303(d)(4)(B) based on the seasonal limits defined in APC&EC Rule 2.507.

The TRC limit was removed because the chlorination/dechlorination at this facility has been replaced by UV disinfection. This revision is because of material and substantial alterations to the permitted facility and is allowed in accordance with CWA 402(o)(2)(A).

**C. Limits Calculations****1. Mass Limits:**

In accordance with 40 CFR Part 122.45(f)(1), all pollutants limited in permits shall have limitations expressed in terms of mass if feasible. 40 CFR Part 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 2.6 MGD and the following equation:

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

## 2. 7-Day Average Limits:

The 7-day average limits for CBOD<sub>5</sub> and TSS are based on Section 5.4.2 of the Technical Support Document for Water Quality-based Toxics Control:

$$\text{7-day average limits} = \text{monthly average limits} \times 1.5$$

The 7-day average NH<sub>3</sub>-N limits are 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 208 Plan is being revised to change the monthly average NH<sub>3</sub>-N limits from 3 mg/l to 2.6 mg/l during May-October, from 10 mg/l to 7.3 mg/l during November-March, and from 10 mg/l to 2.8 mg/l during April.

### 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 CFR Part 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 CFR Part 122.45(c).

The following items were used in calculations:

Parameter	Value	Source
Discharge Flow = Q	2.6 MGD = 4.02 cfs	Application
critical flow, 7Q10	3.82 cfs <sup>1</sup>	USGS Streamstats
LTA Background Flow	27.2 cfs	Stream Study <sup>2</sup>
TSS	2.50 mg/l	CPP, Attachment V
Hardness as CaCO <sub>3</sub>	148 mg/l	CPP, Attachment VI
pH	7.6 s.u.	Ecoregion <sup>3</sup>

Parameter	Value	Source
Q <sub>b</sub> background flow, Mixing zone flow for chronic toxicity	0.67	Rule 2.508 and CPP-Appendix D
Q <sub>b</sub> background flow, ZID flow for acute toxicity	0.33	Rule 2.508 and CPP-Appendix D
Background, Antimony <sup>4</sup>	1	WHI0067 <sup>5</sup>
Background, Copper	0.38 µg/l	WHI0067
Background, Mercury <sup>6</sup>	0	Assumed
Background, Nickel	0.32 µg/l	WHI0067
Background, Zinc	1.58 µg/l	WHI0067
Background, Chloroform <sup>6</sup>	0	Assumed

<sup>1</sup>critical season (May through October) 7Q10. The primary season 7Q10 was not evaluated because there was no RP shown at the more stringent critical season 7Q10.

<sup>2</sup>harmonic mean from "Crooked Creek Flow Study" FTN No. R10387-2425-001 was used as the LTA

<sup>3</sup>Ecoregion pH in Memo from Mo Shaffii to Martin Maner regarding Ammonia-Nitrogen (NH<sub>3</sub>-N) and TP.

<sup>4</sup>Parameter not detected. Half of the most sensitive detection limit was used as a conservative estimate.

<sup>5</sup>DEQ monitoring station on Highway 62/65 above Harrison

<sup>6</sup>Parameter not monitored at WHI0067. Background concentration was assumed to be negligible.

The following pollutants were reported above detection levels:

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Antimony (Sb)	1	1
Copper (Cu)	1.79	0.5
Mercury (Hg)	0.00372	0.0005
Nickel (Ni)	2.28	0.5
Zinc (Zn)	36.1	20
Chloroform	1.05	1

One sample was taken for each of the above pollutants.

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.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034321\\_PPS\\_20201204.pdf](https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034321_PPS_20201204.pdf)



## 1. Aquatic Toxicity Evaluation

### a. Acute Criteria Evaluation

Pollutant	Concentration Reported ( $C_e$ ) $\mu\text{g/l}$	$C_e \times 2.13^1$	Instream Waste Concentration (IWC)	Criteria <sup>2</sup>	Reasonable Potential (Yes/No)
			Acute, $\mu\text{g/l}$	Acute, $\mu\text{g/l}$	
Copper (Cu)	1.79	3.81	2.99	57.1	No
Mercury (Hg)	0.000372	0.00792	0.00603	7.24	No
Nickel (Ni)	2.28	4.86	3.77	3405	No
Zinc (Zn)	36.1	76.9	58.9	422	No

<sup>1</sup> Statistical ratio used to estimate the 95<sup>th</sup> percentile using a single effluent concentration.

<sup>2</sup> Criteria are from Rule 2.508.

### b. Chronic Criteria Evaluation

Pollutant	Concentration Reported ( $C_e$ ) $\mu\text{g/l}$	$C_e \times 2.13^1$	Instream Waste Concentration (IWC)	Criteria <sup>2</sup>	Reasonable Potential (Yes/No)
			Chronic, $\mu\text{g/l}$	Chronic, $\mu\text{g/l}$	
Copper (Cu)	1.79	3.81	2.48	36.8	No
Mercury (Hg)	0.000372	0.00792	0.00484	0.012	No
Nickel (Ni)	2.28	4.86	3.09	378	No
Zinc (Zn)	36.1	76.9	47.6	385	No

<sup>1</sup> Statistical ratio used to estimate the 95<sup>th</sup> percentile using a single effluent concentration.

<sup>2</sup> Criteria are from Rule 2.508.

## 2. Human Health (Bioaccumulation) Evaluation

Pollutant	Concentration Reported ( $C_e$ ) $\mu\text{g/l}$	$C_e \times 2.13^1$	Instream Waste Concentration (IWC)	Criteria	Reasonable Potential (Yes/No)
Antimony (Sb)	1	2.13	1.15	6,400 <sup>2</sup>	No
Chloroform	1.05	2.24	0.29	157 <sup>3</sup>	No

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

<sup>2</sup> Adapted from "National Recommended Water Quality Criteria: 2002 – Human Health Criteria Calculation Matrix", EPA. The respective WQC from the noted reference are Consumption of Organism Only values. The values from the reference are for a lifetime risk factor of  $10^{-6}$ . These values have been multiplied by 10 to correspond to human health criteria lifetime risk factor of  $10^{-5}$  as stated in Rule 2.508.

<sup>3</sup> From 1986 EPA Gold Book

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 during the critical season. Because the critical season is the more stringent condition, the discharge also does not pose reasonable potential to cause or contribute to an exceedance

above a listed criteria during the primary season and a separate evaluation was not done using the primary season 7Q10.

#### F. **Minerals (Chloride, Sulfate, and Total Dissolved Solids)**

DEQ has reviewed the information submitted by the permittee regarding the amounts of minerals present in the effluent. The concentration of each mineral after mixing with the receiving stream was compared to the applicable water quality standards as established in APC&EC Rule 2.

From these standards, only chlorides, sulfates, and total dissolved solids (TDS) have specific numerical criteria. The complete minerals evaluation can be viewed on the Division's website at the following address:

[https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034321\\_Minerals%20Evaluation\\_20201214.pdf](https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034321_Minerals%20Evaluation_20201214.pdf)

The following information was used in calculating the In-stream Waste Concentration (IWC) for each mineral:

Parameter	Value	Source
Effluent Flow	2.6 MGD = 4.017 cfs	Design Flow
7Q10	3.82 cfs <sup>1</sup>	USGS Streamstats
Harmonic Mean Flow	27.2 cfs	Stream Study <sup>2</sup>
Chlorides Background	7.4 mg/l	WHI00067 <sup>3</sup>
Sulfates Background	5.9 mg/l	WHI00067 <sup>3</sup>
TDS Background	200 mg/l	WHI00067 <sup>3</sup>
Effluent Chlorides	43.8 mg/l	Effluent Samples <sup>4</sup>
Effluent Sulfates	42.7 mg/l	Effluent Samples <sup>4</sup>
Effluent TDS	313.8 mg/l	Effluent Samples <sup>4</sup>

<sup>1</sup>critical season (May through October) 7Q10. The primary season 7Q10 was not evaluated because there was no RP shown at the more stringent critical season 7Q10.

<sup>2</sup>"Crooked Creek Flow Study" FTN No. R10387-2425-001

<sup>3</sup>DEQ monitoring station on Highway 62/65 above Harrison

<sup>4</sup>Data collected from May 2012 through June 2013

The concentration of each mineral after mixing with the receiving stream was compared to the applicable water quality standards as established in Rule 2.511. Rule 2.511(A) contains site-specific mineral criteria for Crooked Creek at the Harrison WWTP, and Rule 2.511(C) contains domestic water supply criteria. In accordance with the definition of "Critical Flow" in Rule 2.106, the site-specific mineral criteria were evaluated at the harmonic mean flow, and the domestic water supply criteria were evaluated at the 7Q10 flow. Calculations were done in accordance with the CPP. The following table represents the comparison of IWCs to WQS.

Pollutant	WQS IWC, mg/l	Site-specific Mineral Criteria, mg/l	Domestic Water Supply IWC, mg/l	Domestic Water Supply Criteria, mg/l
Chlorides	12.1	22.6	26.1	250
Sulfates	10.6	24.4	24.8	250
TDS	215	279	258	500

For chlorides, sulfates, and TDS, neither the site-specific mineral criteria for the receiving stream nor the domestic water supply criteria were exceeded or showed the potential to be exceeded. Therefore, no limitations for these minerals are required at this time. However, in accordance with Item 5 of the Administrative Guidance Document in Section IX of the CPP (Page IX-7), a facility whose receiving streams' dissolved minerals criteria are amended under the water quality standards revision policy to reflect existing discharge conditions shall be required to monitor and report its effluent dissolved minerals concentrations in NPDES permits. Therefore, a monitor and report requirement has been added for chlorides, sulfates, and TDS.

### 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 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 effluent limitations for lethality and sub-lethality following Regulations promulgated by 40 C.F.R. §122.44(d)(1)(v). These effluent limitations for lethality and sub-lethality (7-day NOEC) are applied at Outfall **001**. For Outfall **001**, the 7-day NOEC value for lethality shall not be less than **61%** (Critical Dilution) effluent and the sub-lethality 7-day NOEC value shall not be less than **61%** (Critical Dilution). WET testing of the effluent is thereby required as a condition of this permit to assess potential toxicity. The WET testing procedures stipulated as a condition of this permit are as follows:

#### **TOXICITY TESTS**

Chronic WET

#### **FREQUENCY**

Once/quarter

Requirements for measurement frequency are based on the CPP.

Since 7Q10 is less than 100 cfs (ft<sup>3</sup>/sec), chronic WET testing requirements are included in the permit.

The Critical Dilution for WET testing is being revised in accordance with the updated 7Q10 flow. The calculations for dilution used for chronic WET testing are as follows:

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

$$Q_d = \text{Design flow} = 2.6 \text{ MGD} = 4.017 \text{ cfs}$$

$$7Q10 = 3.82 \text{ cfs}$$

$$Q_b = \text{Background flow} = 0.67 \times 7Q10 = 2.56 \text{ cfs}$$

$$\text{CD} = (4.017) / (4.017 + 2.56) \times 100 = 61\%$$

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 26%, 34%, 46%, 61%, and 81% (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 61% 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:	AR0034321	AFIN:	05-00054	Outfall Number:	001
Date of Review:	12/31/2020	Reviewer:	T. Cochran, M. Barnett		
Facility Name:	City of Harrison				
Previous Dilution series:	27, 35, 47, 63, 84	Proposed Dilution Series:	26, 34, 46, 61, 81		
Previous Critical Dilution:	84	Proposed Critical Dilution:	61		
<b>Previous TRE activities:</b>	None				
<b>Frequency recommendation by species</b>					
<i>Pimephales promelas</i> (Fathead minnow):		once per quarter			
<i>Ceriodaphnia dubia</i> (water flea):		once per quarter			

**TEST DATA SUMMARY**

TEST DATE	Vertebrate ( <i>Pimephales promelas</i> )		Invertebrate ( <i>Ceriodaphnia dubia</i> )	
	Lethal	Sub-Lethal	Lethal	Sub-Lethal
	NOEC	NOEC	NOEC	NOEC
3/31/2016	84	84	84	84
6/30/2016	84	84	84	84
9/30/2016	84	84	84	84
12/31/2016	84	84	84	84
3/31/2017	84	84	84	84
6/30/2017	84	84	84	84
9/30/2017	84	84	84	84
12/31/2017	84	84	84	84
3/31/2018	84	84	84	84
9/30/2018	84	84	84	84
12/31/2018	84	84	84	84
3/31/2019	84	84	84	84
6/30/2019	84	84	84	84
9/30/2019	84	84	84	84
12/31/2019	84	84	84	84
3/31/2020	84	84	84	84
6/30/2020	84	84	84	84
7/31/2020	84	84	84	27
8/31/2020			63	0
9/30/2020			84	0
10/31/2020			84	84
11/30/2020			84	84

Failures noted in **BOLD****REASONABLE POTENTIAL CALCULATIONS**

	Vertebrate Lethal	Vertebrate Sub-lethal	Invertebrate Lethal	Invertebrate Sub-Lethal
<b>Min NOEC Observed</b>	84	84	63	26
<b>TU at Min Observed</b>	1.19	1.19	1.59	3.85
<b>Count</b>	18	18	22	22
<b>Failure Count</b>	0	0	0	3
<b>Mean</b>	1.190	1.190	1.209	1.546
<b>Std. Dev.</b>	0.000	0.000	0.085	0.916
<b>CV</b>	0	0	0.1	0.6
<b>RPMF</b>	0	0	0	1.4
<b>Reasonable Potential</b>	0.000	0.000	0.000	3.285
<b>100/Critical dilution</b>	1.639	1.639	1.639	1.639
<b>Does Reasonable Potential Exist</b>	No	No	No	Yes

**PERMIT ACTION***P. promelas* Chronic - limit 51714 not <61 for both lethality and sub-lethality*C. dubia* Chronic- limit 51710 not <61 for both lethality and sub-lethality

Reasonable potential exists for *C. dubia* sub-lethality. WET limits for both organisms are being included, but are revised from the previous permit in accordance with the new critical dilution. Additionally, according to EPA Region 6, chronic limits are to be inclusive of both toxicity endpoints (lethality and sub-lethality).

#### 14. STORMWATER REQUIREMENTS

The federal regulations at 40 CFR § 122.26(b)(14)(ix) require major municipal dischargers to have NPDES permit coverage for stormwater discharges from the facility. These requirements include the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) to control the quality of stormwater discharges from the facility. In lieu of the development of a SWPPP, the facility may obtain a “No Exposure” Exclusion in accordance with 40 CFR § 122.26(g) if several conditions can be certified. This facility was issued a “No Exposure” Exclusion under NPDES tracking number ARR00C373.

#### 15. SAMPLE TYPE AND FREQUENCY

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

Requirements for sample type and sampling frequency have been based on the previous discharge permit, except as follows:

The sample frequency for TP was reduced to once/year. Based on the best engineering judgment of the permit writer, annual monitoring for TP is sufficient to continue data collection for point source loading of nutrients to waters of the state. The sample type and frequency of NO<sub>3</sub>+NO<sub>2</sub>-N was based on the best engineering judgment of the permit writer to collect sufficient data regarding NO<sub>3</sub>+NO<sub>2</sub>-N in this facility’s effluent. The sample types and frequencies for chlorides, sulfates, and TDS are based on the best engineering judgment of the permit writer and minerals requirements in NPDES permits AR0022250 and AR0048691.

TRC monitoring is no longer required because this facility no longer uses chlorine.

All “24-hour composite” sample types were revised to “composite” sample types. See Part IV.9 of the permit for the minimum requirements for a composite sample for all parameters other than WET, and Part II.8.B.iv for the minimum requirements for a composite sample for WET.

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 <sub>5</sub>	once/week	24-hour composite	once/week	composite
TSS	once/week	24-hour composite	once/week	composite

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
NH <sub>3</sub> -N	once/week	24-hour composite	once/week	composite
DO	once/week	grab	once/week	grab
FCB	once/week	grab	once/week	grab
TRC	once/week	grab	N/A	N/A
TP	once/week	grab	once/year	grab
NO <sub>3</sub> + NO <sub>2</sub> - N	N/A	N/A	once/month	grab
Chlorides	N/A	N/A	once/month	grab
Sulfates	N/A	N/A	once/month	grab
TDS	N/A	N/A	once/month	grab
pH	once/week	grab	once/week	grab
WET	once/quarter	24-hour composite	once/quarter	composite

## 16. PERMIT COMPLIANCE SCHEDULE

A Schedule of Compliance has been included in this permit for a technical evaluation of technically based local limits. Within 60 days of the effective date of the permit, the facility is required to submit either a written certification or written notification regarding the technical evaluation. See Section 1.B of the permit for details.

## 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. AR0034321 received March 29, 2012, and updated on October 30, 2020.
- 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 CFR Parts 122, 125, 133, and 403.
- G. Discharge permit file AR0034321.
- H. Discharge permit file AR0022250.
- I. Discharge permit file AR0048691.
- J. Discharge Monitoring Reports (DMRs).
- K. "2018 Integrated Water Quality Monitoring and Assessment Report," DEQ.



- L. “2018 List of Impaired Waterbodies (303(d) List),” DEQ, May 2020.
- M. USGS Streamstats web-based application
- N. Continuing Planning Process (CPP).
- O. Technical Support Document for Water Quality-based Toxic Control.
- P. [“Stream Evaluation Study for Harrison, Arkansas, Final Draft”, 1981.](#)
- Q. [Inspection Report dated January 14, 2019.](#)
- R. [Compliance Review Memo dated November 30, 2020.](#)
- S. [Planning Review Memo dated November 30, 2020.](#)
- T. [Minerals Evaluation dated December 14, 2020.](#)
- U. [PPS Evaluation dated December 4, 2020.](#)
- V. [Operator License Class Spreadsheet dated November 25, 2020.](#)
- W. [Water Quality Model dated February 4, 2015 \(and reviewed December 14, 2020\).](#)
- X. [EPA comment letter received April 2, 2021.](#)
- Y. [No comment letter from the Arkansas Department of Health received June 3, 2021.](#)

## 19. PUBLIC NOTICE

The public notice of the draft permit was published for public comment on May 8, 2021. The last day of the comment period was thirty (30) days after the publication date. No public comments were received on the draft permit.

A copy 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 Arkansas 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:

$$\text{Fee} = \$5,000 + (900 \times (Q-1)) = \$5,000 + (900 \times (2.6-1)) = \$6,440$$

## 21. POINT OF CONTACT

For additional information, contact:

Zachary Carroll, PhD  
Permits Branch, Office of Water Quality  
Division of Environmental Quality  
5301 Northshore Drive  
North Little Rock, Arkansas 72118-5317  
Telephone: (501) 682-0625





POLLUTANT (Total)	MAHC <sup>2</sup> (µg/l)	INFLUENT DATES SAMPLED (µg/l) once/quarter				WQ level / limit <sup>2</sup> (µg/l)	EFFLUENT DATES SAMPLED (µg/l) once/quarter				LABORATORY ANALYSIS		
		EPA	EPA	Detection	EPA		EPA	Detection					
3													
3													
3													
3													
3													
3													
3													
3													
3													
3													
3													
3													
3													
3													
3													
3													

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

<sup>2</sup> This value was calculated during the development of technically-based local limits (TBLLs) based on State WQ criteria, EPA guidance, and either DEQ Pretreatment staff Excel spreadsheets or the permittee’s consultant with concurrence from DEQ Pretreatment staff.

<sup>3</sup> Record the name of any pollutant [40 CFR 122, Appendix D, Table II and/or Table V] detected and the concentration at which they were detected.

MAHC - Maximum Allowable Headworks Concentration

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

**ATTACHMENT II  
 PRETREATMENT PROGRAM STATUS REPORT  
 UPDATED SIGNIFICANT INDUSTRIAL USERS LIST**

Industrial User Name	SIC/NAICS Code	40 CFR XXX or N/A	Control Document		New User	Times Inspected	Times Sampled	Compliance Status (N/A, C, NC, or SNC)				Permit Limits (denote parameter violated & number of times)
			Y/N	Last Action				Reports				
								BMR	90-day Compliance	Semi Annual	Self Monitoring	

Include NAICS code(s)  
 3<sup>rd</sup> column – include the CFR # only if the Category has Pretreatment Standards (numeric or narrative)  
 Please footnote N/A reason









**ATTACHMENT IV  
PRETREATMENT PERFORMANCE SUMMARY (PPS)**

NOTE: All questions refer to the Industrial Pretreatment Program as approved by the DEQ. The permittee should not answer the questions based on changes made to the Approved Program without Division Authorization.

**I. General Information**

Control Authority Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State / Zip Code: \_\_\_\_\_

Pretreatment Contact: \_\_\_\_\_ Title: \_\_\_\_\_

Contact Telephone Number: \_\_\_\_\_

NPDES Permit Number(s): \_\_\_\_\_

Reporting Period: \_\_\_\_\_  
(Beginning month, day, and year) (Ending month, day, and year)

Total Number of Categorical IUs: \_\_\_\_\_

Total Number of Significant Non-categorical IUs: \_\_\_\_\_

Total Number of Non-significant (yet permitted) IUs: \_\_\_\_\_

**II. Significant Industrial User Compliance**

		<u>Significant Industrial Users</u>	
		<u>Categorical</u>	<u>Non-categorical</u>
1)	Number of SIUs Submitting BMRs _____	_____	<u>N/A</u>
	Total Number Required _____	_____	<u>N/A</u>
2)	Number of SIUs Submitting 90-day Compliance Reports _____	_____	<u>N/A</u>
	Total Number Required _____	_____	<u>N/A</u>
3)	Number of SIUs Submitting Semiannual Reports _____	_____	_____
	Total Number Required _____	_____	_____
4)	Number of SIUs Meeting Compliance Schedule _____	_____	_____
	Total Number Required to Meet Schedule _____	_____	_____
5)	Number of SIUs in Significant Noncompliance _____	_____	_____
	Total Number of SIUs _____	_____	_____
6)	Rate (%) of Significant Noncompliance for all SIUs (categorical and non-categorical) _____	_____	_____

III. Compliance Monitoring Program

		<u>Significant Industrial Users</u>	
		<u>Categorical</u>	<u>Non-categorical</u>
1) Number of Control Documents Issued	_____	_____	_____
Total Number Required	_____	_____	_____
2) Number of Non-sampling Inspections Conducted	_____	_____	_____
Total Number Required	_____	_____	_____
3) Number of Sampling Visits Conducted	_____	_____	_____
Total Number Required	_____	_____	_____
4) Number of Facilities Inspected (non-sampling)	_____	_____	_____
Total Number Required	_____	_____	_____
5) Number of Facilities Sampled	_____	_____	_____
Total Number Required	_____	_____	_____

IV. Enforcement Actions

		<u>Significant Industrial Users</u>	
		<u>Categorical</u>	<u>Non-categorical</u>
1) Number of Compliance Schedules Issued	_____	_____	_____
Total Number of Schedules Required	_____	_____	_____
2) Number of Notices of Violation Issued to SIUs	_____	_____	_____
3) Number of Administrative Orders Issued to SIUs	_____	_____	_____
4) Number of Civil Suits Filed	_____	_____	_____
5) Number of Criminal Suits Filed	_____	_____	_____
6) Number of Significant Violators (attach newspaper publication)	_____	_____	_____
7) Amount of Penalties (not surcharges) Collected (Total Dollars)	_____	\$	\$
(Total Number of IUs Assessed)	_____	_____	_____
8) Other Actions (sewer bans, etc.)	_____	_____	_____

The following certification must be signed in order for this form to be considered complete:

I certify that the information contained herein is complete and accurate to the best of my knowledge.

Authorized  
Representative:

\_\_\_\_\_

Date:

\_\_\_\_\_