

**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 Decatur

is authorized to discharge treated municipal wastewater from a facility located as follows: 985 Austin Avenue, Decatur, AR 72722, at the end of Austin Avenue, west of Arkansas State Highway 102 in Benton County, Arkansas. The applicant's mailing address is: P.O. Box 247, Decatur, AR 72722.

Facility Coordinates: Latitude: 36° 20' 38.99" N; Longitude: 94° 28' 21.76" W

Receiving stream: Columbia Hollow Creek, thence to Spavinaw Creek in Segment 3J of the Arkansas River Basin.

The permitted outfall is located at the following coordinates:

Outfall 001: Latitude: 36° 20' 38.8" N; Longitude: 94° 28' 21.3" 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:	October 1, 2014
Modification Effective Date:	September 1, 2018
Expiration Date:	September 30, 2019



Caleb J. Osborne
Associate Director, Office of Water Quality
Arkansas Department of Environmental Quality

7.30.18

Issue Date

**PART I
PERMIT REQUIREMENTS**

SECTION A1. 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 with a design flow of 2.2 MGD¹. Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions and calculations.

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
Flow	N/A	Report, MGD	Report, MGD (Daily Max.)	daily	totalizing
Overflows	Monthly Total SSOs (occurrences/month)			See Comments ²	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Comments ²	
Carbonaceous Biochemical Oxygen Demand (CBOD5)	183.5	10.0	15.0	three/week	composite
Total Suspended Solids (TSS)	275.2	15.0	22.5	three/week	composite
Ammonia Nitrogen (NH3-N)					
(April-Oct)	29.4	1.6	3.9	three/week	composite
(Nov-March)	75.2	4.1	10.3	three/week	composite
Dissolved Oxygen (DO)	N/A	6.0 (Inst. Min.)		three/week	grab
Fecal Coliform Bacteria (FCB)	(colonies/100ml)				
	N/A	200	400	three/week	grab
Total Phosphorus (TP)	18.3	1.0	1.0	two/week	composite
Nitrate + Nitrite Nitrogen (NO3 + NO2-N)	183.5	10.0 (Inst. Max.)		two/week	composite
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	three/week	grab
Chronic WET Testing ³	N/A	Report		once/quarter	composite
<u>Pimephales promelas (Chronic)</u> ³ Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC) TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation (Growth) TQP6C Growth (7-day NOEC) TPP6C		7-Day Average 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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
<u>Ceriodaphnia dubia (Chronic)</u> ³ Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail production (7-day NOEC)TGP3B Survival (7-day NOEC) TOP3B Coefficient of Variation (Reproduction) TQP3B Reproduction (7-day NOEC) TPP3B			<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1)	once/quarter once/quarter once/quarter once/quarter	composite composite composite composite
			Report % Report %		
			Report %	once/quarter	composite

¹ See Part II.11 (Transition Condition).

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

³ See Condition No. 10 of Part II (WET Testing Condition).

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

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after final treatment at the monitoring station located after the UV disinfection station. Grab samples for DO will be taken after the post-aeration cascade.

SECTION A2. 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 with a design flow of 3.8 MGD¹. Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions and calculations.

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
Flow	N/A	Report, MGD	Report, MGD (Daily Max.)	daily	totalizing
Overflows	Monthly Total SSOs (occurrences/month)			See Comments ²	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Comments ²	
Carbonaceous Biochemical Oxygen Demand (CBOD5)	316.9	10.0	15.0	three/week	composite
Total Suspended Solids (TSS)	475.4	15.0	22.5	three/week	composite
Ammonia Nitrogen (NH3-N)					
(April)	53.9	1.7	4.0	three/week	composite
(May-Oct)	50.7	1.6	3.2	three/week	composite
(Nov-March)	129.9	4.1	6.2	three/week	composite
Dissolved Oxygen (DO)					
(May-Oct)	N/A	6.0 (Inst. Min.)		three/week	grab
(Nov- April)	N/A	6.3 (Inst. Min.)		three/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
	N/A	200	400	three/week	grab
Total Phosphorus (TP)	15.8	0.5	0.75	two/week	composite
Nitrate + Nitrite Nitrogen (NO3 + NO2-N)	316.9	10.0 (Inst. Max.)		two/week	composite
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	three/week	grab
Chronic WET Testing ³	N/A	Report		once/quarter	composite
<u>Pimephales promelas (Chronic)³</u> Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC)TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation (Growth) TQP6C Growth (7-day NOEC) TPP6C		7-Day Average 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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
<u>Ceriodaphnia dubia (Chronic)</u> ³ Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail production (7-day NOEC) TGP3B Survival (7-day NOEC) TOP3B Coefficient of Variation (Reproduction) TQP3B Reproduction (7-day NOEC) TPP3B			<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %	once/quarter once/quarter once/quarter once/quarter once/quarter	composite composite composite composite composite

¹ See Part II.11 (Transition Condition).

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

³ See Condition No. 10 of Part II (WET Testing Condition).

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

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after final treatment at the monitoring station located after the UV disinfection station. Grab samples for DO will be taken after the post-aeration cascade.

SECTION B. PERMIT COMPLIANCE SCHEDULE

None.

PART II OTHER CONDITIONS

1. The operator of this wastewater treatment facility shall be licensed as Class IV by the State of Arkansas in accordance with APCEC Regulation No. 3.
2. For publicly owned treatment works, the 30-day average percent removal for Carbonaceous Biochemical Oxygen Demand (CBOD5) and Total Suspended Solids (TSS) shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR Part 133.102, as adopted by reference in APCEC Regulation No. 6. The permittee must monitor the influent and effluent CBOD5 and TSS at least once per year and calculate the percent removal to ensure compliance with the required 85 percent removal. This information must be maintained on site and provided to Department personnel upon request.
3. In accordance with 40 CFR Parts 122.62 (a)(2) and 124.5, this permit may be reopened for modification or revocation and/or reissuance to require additional monitoring and/or effluent limitations when new information is received that actual or potential exceedance of State water quality criteria and/or narrative criteria are determined to be the result of the permittee's discharge(s) to a relevant water body or a Total Maximum Daily Load (TMDL) is established or revised for the water body that was not available at the time of the permit issuance that would have justified the application of different permit conditions at the time of permit issuance.
4. Other Specified Monitoring Requirements

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

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

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

5. Sanitary Sewer Overflow (SSO) Reporting Requirements:

All SSOs are prohibited.

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

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

B. Immediate Reporting

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

C. Follow-Up Written Reports/email:

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

At a minimum, the report shall identify:

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

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

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

D. Reporting for All SSOs on DMR

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

6. Best Management Practices (BMPs), as defined in Part IV.6, must be implemented for the facility along with the collection system to prevent or reduce the pollution of waters of the State from stormwater runoff, spills or leaks, sludge or waste disposal, or drainage from raw sewage. The permittee must amend the BMPs whenever there is a change in the facility or a change in the operation of the facility.
7. Contributing Industries and Pretreatment Requirements
 - A. The following pollutants may not be introduced into the treatment facility:
 - (1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit (°F) or 60 degrees Centigrade (°C) using the test methods specified in 40 CFR 261.21;
 - (2) Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works is specifically designed to accommodate such discharges;
 - (3) Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in Interference* or Pass Through**;
 - (4) Any pollutant, including oxygen demanding pollutants (BOD, etc.), released in a discharge at a flow rate and/or pollutant concentration which will cause Pass Through or Interference with the POTW;
 - (5) Heat in amounts which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 °C (104 °F) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits;
 - (6) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through;
 - (7) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and
 - (8) Any trucked or hauled pollutants, except at discharge points designated by the POTW.
 - B. The permittee shall comply with the pretreatment requirements in 40 CFR 403, as specified in the following schedule of compliance. The final approvable package is due 12 months from the effective date of the permit.

Pretreatment Schedule of Compliance:

Activity	Requirement	Due Date
1	<p>Submit to the Department results of an industrial user survey which consists of a qualitative analysis of pollutants being contributed by all industrial sources in its entire municipal system (including all treatment plants). The industrial users should be asked to provide information on the type and approximate quantity of pollutants discharged into the system. This information may be derived from knowledge of the facility's process, and should not require any sampling at the source.</p> <p>(Unless the Department notifies the permittee otherwise within 30 days after receipt of this survey, the permittee will be required to continue the program past Activity No. 1.)</p>	2 months from the effective date of the permit modification
2	<p>Submit to the Department a design of a sampling, inspection and reporting program which will implement the requirements of 40 CFR 403.8 and 403.12, and in particular those requirements referenced in 40 CFR 403.8(f)(1)(iv-v), 403.8(f)(2)(iv-vii) and 403.12(g-j and l-p).</p>	4 months from the effective date of the permit modification
3	<p>Submit to the Department an evaluation of the financial programs, revenue sources, equipment and staffing, which will be employed to implement the pretreatment program (as required by 40 CFR Parts 403.8(f)(3) and 403.9(b)(3)).</p>	6 months from the effective date of the permit modification
4	<p>Submit to the Department the results of an influent pollutant scan of a 24-hour composite sample to determine all pollutants being contributed to the system. The type of scan to be performed is the basic priority pollutant scan of the 126 "priority pollutants" plus any other additional pollutants designated in your State Water Quality Standards. All sampling, analyses, and method detection limits must be done in accordance with 40 CFR Part 136. This scan will also serve as the initial scan necessary for developing technically based local limits (Activity No. 5 as follows).</p> <p>a) From the qualitative information supplied by the industrial users in Activity No. 1 and the quantitative information collected in the pollutant scan, the permittee shall determine which industrial users may be discharging pollutants which may affect the operation of the POTW(s) or pass through untreated.</p>	6 months from the effective date of the permit modification

Activity	Requirement	Due Date
	b) Sampling and analysis to quantify the pollutants discharged by the industrial users, identified in the investigation of (a) above, shall be completed.	
5	Submit to the Department an approvable technically based local limits submission package as required by 40 CFRs 403.5(c) and 403.8(f)(4). Technically based local limits should be developed in accordance with <i>EPA Region 6 Technically Based Local Limits Development Guidance</i> .	9 months from the effective date of the permit modification
6	<p>40 CFR 403.8(f)(1) requires POTWs to apply and enforce the requirements of Sections 307(b) and (c), and 402(b)(8) of the Act and any regulations implementing those sections. Submit to the Department:</p> <ul style="list-style-type: none"> a) a statement from the city solicitor, a city official acting in a comparable capacity, or the city's independent counsel, that the POTW has the authority to carry out the program; b) a copy of any statute, ordinance, regulation, contract, agreement, or other authority that will be relied on by the POTW to administer the program; c) a statement reflecting the endorsement of or approval by the local boards or bodies responsible for supervising and/or funding the program; d) any additional documents required in multi-jurisdictional situations for administration of the program; and e) an enforcement response plan that shall contain detailed procedures indicating how the POTW will investigate and respond to instances of industrial user noncompliance. The plan shall contain, at a minimum, the aspects defined at 40 CFR 403.8(f)(5). 	10 months from the effective date of the permit modification
7	Submit to the Department an approvable pretreatment program (and removal credit approval, if desired and appropriate) as required by 40 CFR 403.9. The approvable pretreatment program shall include a compilation of all previously submitted pretreatment program activities as finally amended and supplemented (i.e., Activities Nos. 1-6).	12 months from the effective date of the permit modification

Activity	Requirement	Due Date
	Upon notification by the Department of approvability of the submitted program, the permittee is required to submit an official request for program approval, including three (3) copies of the program deemed to be approvable.	

- C. If the permittee does not comply with any of the increments of the progress in the above schedule, the permittee shall submit to Department within 14 days of the activity due date a report, including, at a minimum, the date on which the required activity will be submitted, the reason for the delay, and the steps taken to return to the established schedule.
- D. Upon approval of a local pretreatment program by the Department, this permit will be modified, or, alternatively, revoked and reissued to incorporate that pretreatment program.
- E. The permittee may develop and submit an approvable pretreatment program at any time before the deadline established in Activity No. 7.
- F. The permittee may apply for authority to revise categorical pretreatment standards to reflect POTW removal of pollutants in accordance with the requirements of 40 CFR 403.7 at any time.
- G. The permittee shall require any indirect discharger to the treatment works to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Clean Water Act (CWA), including any requirements established under 40 CFR Part 403.
- H. The permittee shall provide adequate notice to the Department of the following:
- (1) Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the CWA if it were directly discharging those pollutants; and
 - (2) Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

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

NOTES:

- * According to 40 CFR 403.3(k), the term *Interference* means a Discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- (1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
- (2) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the CWA, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

** According to 40 CFR 403.3(p), the term *Pass Through* means a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

8. [Reserved]

9. [Reserved]

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

A. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL(S):	001
REPORTED ON DMR AS FINAL OUTFALL:	Outfall 001
CRITICAL DILUTION (%):	99
EFFLUENT DILUTION SERIES (%):	31, 42, 56, 74, 99
TESTING FREQUENCY:	quarterly
COMPOSITE SAMPLE TYPE:	Defined at Part II.10.C.iv
TEST SPECIES/METHODS:	40 CFR Part 136

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

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

- ii. The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.
- iii. This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

B. PERSISTENT LETHAL and/or SUB-LETHAL EFFECTS

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

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

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

- b. **IF LETHAL EFFECTS HAVE BEEN DEMONSTRATED** If any of the retests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item E of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests. A TRE required based on lethal effects should consider any sub-lethal effects as well.
- c. **IF SUB-LETHAL EFFECTS ONLY HAVE BEEN DEMONSTRATED** If any two of the three retests demonstrates significant sub-lethal effects at 75% effluent or lower, the permittee shall initiate the Sub-Lethal Toxicity Reduction Evaluation (TRE_{SL}) requirements as specified in Item E of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required for failure to perform the required retests.
- d. The provisions of Item B.i.a are suspended upon submittal of the TRE Action Plan.

C. REQUIRED TOXICITY TESTING CONDITIONS

i. Test Acceptance

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

- a. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- b. The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.
- c. 60% of the surviving control females must produce three broods.
- d. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.
- e. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints 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 of the Fathead minnow test.
 - g. If a test passes, yet the percent coefficient of variation between replicates is greater than 40% in the control (0% effluent) and/or in the critical dilution for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test, the test is determined to be invalid. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.
 - h. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.
 - i. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for Ceriodaphnia dubia reproduction;
 - j. A PMSD range of 12 - 30 for Fathead minnow growth.
- ii. Statistical Interpretation
- a. For the Ceriodaphnia dubia survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA/821/R-02-013 or the most recent update thereof.
 - b. For the Ceriodaphnia dubia reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA/821/R-02-013 or the most recent update thereof.
 - c. If the conditions of Test Acceptability are met in Item C.i above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item D below.
- iii. Dilution Water
- a. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for;

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

iv. Samples and Composites

- a. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item A.i above. Unless otherwise stated in this section, a composite sample for WET shall consist of a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.
- b. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples, on use, are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis.
- 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(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item D of this section.
- 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.

D. REPORTING

- i. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA/821/R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.7 of this permit. The permittee shall submit full reports. For any test or retest which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.
- ii. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit. The full reports for all invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for Agency review.
- iii. The permittee shall submit the results of each valid toxicity test and retest on the subsequent monthly DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Only results of valid tests are to be reported on the DMR.

a. Pimephales promelas (Fathead minnow)

- (1) If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP6C
- (2) Report the NOEC value for survival, Parameter No. TOP6C
- (3) Report the NOEC value for growth, Parameter No. TPP6C
- (4) If the NOEC for growth is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP6C
- (5) Report the highest (critical dilution or control) Coefficient of Variation for growth, Parameter No. TQP6C
- (6) If conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution):
 - (A) Consecutive Monthly Retest 1: If the NOEC (lowest lethal or sub-lethal) for *P. promelas* is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 22418;
 - (B) Consecutive Monthly Retest 2: If the NOEC (lowest lethal or sub-lethal) for *P. promelas* is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 22419;
 - (C) Consecutive Monthly Retest 3: If the NOEC (lowest lethal or sub-lethal) for *P. promelas* is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 51444;
 - (D) If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one scheduled toxicity test;
 - (E) If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under Parameter Nos. 22418, 22419, 51444

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) If conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution):
 - (A) Consecutive Monthly Retest 1: If the NOEC (lowest lethal or sub-lethal) for *C. dubia* is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 22415;
 - (B) Consecutive Monthly Retest 2: If the NOEC (lowest lethal or sub-lethal) for *C. dubia* is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 22416;
 - (C) Consecutive Monthly Retest 3: If the NOEC (lowest lethal or sub-lethal) for *C. dubia* is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 51443;
 - (D) If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one scheduled toxicity test;
 - (E) If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under Parameter Nos. 22415, 22416, and 51443

E. TOXICITY REDUCTION EVALUATIONS (TREs)

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

- i. Within ninety (90) days of confirming toxicity, as outlined above, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The goal of the TRE is to maximally reduce the toxic effects of effluent at the critical dilution and includes the following:
 - a. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts

Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures' (EPA-600/6-91/003) and 'Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I' (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/080) and 'Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/081), as appropriate.

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

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

- b. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;
 - c. Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where lethality was demonstrated within 48 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;
 - d. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and
 - e. Project Organization (e.g., project staff, project manager, consulting services, etc.).
- ii. The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal. The permittee shall assume all risks for failure to achieve the required toxicity reduction.

- iii. The permittee shall submit a quarterly TRE Activities Report, with the Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:
 - a. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
 - b. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and
 - c. any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at the critical dilution.
- iv. The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming toxicity in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant toxicity at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.
- v. Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).

F. MONITORING FREQUENCY REDUCTION

- 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 one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the Fathead minnow) and not less than twice per year for the more sensitive test species (usually the Ceriodaphnia dubia).
- ii. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in Item C.i. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance System section to update the permit reporting requirements.

- iii. SUB-LETHAL OR SURVIVAL FAILURES - Monthly retesting is not required if the permittee is performing a TRE.
- iv. Any monitoring frequency reduction granted applies only until the expiration date of this permit, at which time the monitoring frequency for both test species reverts to once per quarter until the permit is re-issued.

11. Transition Period:

The City of Decatur is upgrading its wastewater treatment plant, which will result in an increase in the design flow from 2.2 MGD to 3.8 MGD. The construction will modify the system from sequential batch reactors to continuous-flow membrane bioreactors.

- a. Beginning on the effective date of the permit, the permittee must submit a Discharge Monitoring Report (DMR) for each permitted design flow (i.e., 2.2 MGD and 3.8 MGD) on a monthly basis. The DMR for the 3.8 MGD design flow can be marked and submitted as “No Discharge”, until such a time as the new treatment train is operational. The permittee must continue to submit two (2) monthly DMRs until the request in Part II.11.d below is approved and implemented.
- b. The permittee must notify the ADEQ when construction is complete.
- c. The permittee must notify the Department within 30 days after the discharge at the new design flow has begun.
- d. Once the facility modification is complete, and discharge at the new design flow has begun, the facility may request deletion of the limitations and requirements on Page 1 of Part I, Section A1 of the permit through a Minor Modification.

PART III STANDARD CONDITIONS

SECTION A – GENERAL CONDITIONS

1. Duty to Comply

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

2. Penalties for Violations of Permit Conditions

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

3. Permit Actions

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

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

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

4. Toxic Pollutants

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

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

5. Civil and Criminal Liability

Except as provided in permit conditions for “Bypass of Treatment Facilities” (Part III.B.4), and “Upset” (Part III.B.5), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state and federal 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 such as endangered species, state or local statute, ordinance or regulation.

11. Permit Fees

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

SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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

2. Need to Halt or Reduce not a Defense

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

production or discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power for the treatment facility is reduced, is lost, or alternate power supply fails.

3. Duty to Mitigate

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

4. Bypass of Treatment Facilities

A. Bypass not exceeding limitation

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

B. Notice

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

C. Prohibition of bypass

1. Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless:
 - (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal or preventive maintenance; and
 - (c) The permittee submitted notices as required by Part III.B.4.b.
2. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in Part III.B.4.c(1).

5. Upset Conditions

- A. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Part III.B.5.b of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- B. Conditions necessary for demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
1. An upset occurred and that the permittee can identify the specific cause(s) of the upset;
 2. The permitted facility was at the time being properly operated.
 3. The permittee submitted notice of the upset as required by Part III.D.6; and
 4. The permittee complied with any remedial measures required by Part III.B.3.
- C. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. Removed Substances

- A. Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State. The Permittee must comply with all applicable state and Federal regulations governing the disposal of sludge, including but not limited to 40 CFR Part 503, 40 CFR Part 257, and 40 CFR Part 258.
- B. Any changes to the permittee's disposal practices described in Part II of the permit will require at least 180 days prior notice to the Director to allow time for additional permitting. Please note that the 180 day notification requirement may be waived if additional permitting is not required for the change.

7. Power Failure

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

SECTION C – MONITORING AND RECORDS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified,

before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director. Intermittent discharge shall be monitored.

2. Flow Measurement

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

Calculated Flow Measurement

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

3. Monitoring Procedures

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

4. Penalties for Tampering

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

5. Reporting of Monitoring Results

40 CFR 127.11 (a)(1) and 40 CFR 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://netdmr.epa.gov>. Permittees who are unable to file electronically may request a waiver from the Director in accordance with 40 CFR 127.15. Monitoring results obtained during the previous monitoring period shall be summarized and reported on a DMR dated and submitted no later than the 25th day of the month, following the completed reporting period beginning on the effective date of the permit.

6. Additional Monitoring by the Permittee

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

7. Retention of Records

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

8. Record Contents

Records and monitoring information shall include:

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

9. Inspection and Entry

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

- A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and

- D. Sample, inspect, or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION D – REPORTING REQUIREMENTS

1. Planned Changes

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

- A. The alteration or addition to a permitted facility may meet one of the criteria for new sources at 40 CFR 122.29(b); or
- B. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants subject to effluent limitations in the permit, or to the notification requirements under 40 CFR 122.42(b).

2. Anticipated Noncompliance

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

3. Transfers

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

4. Monitoring Reports

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

5. Compliance Schedule

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

6. Twenty-four Hour Report

- A. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the following information:
1. A description of the noncompliance and its cause;
 2. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
 3. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- B. The following shall be included as information which must be reported within 24 hours:
1. Any unanticipated bypass which exceeds any effluent limitation in the permit;
 2. Any upset which exceeds any effluent limitation in the permit and
 3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part I of the permit to be reported within 24 hours to the Enforcement Section of the Water Division of the ADEQ.
- C. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours to the Enforcement Section of the Water Division of the ADEQ.

7. Other Noncompliance

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

8. Changes in Discharge of Toxic Substances for Industrial Dischargers

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

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

9. Duty to Provide Information

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

10. Duty to Reapply

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

11. Signatory Requirements

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

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

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

- (a) The chief executive officer of the agency, or
 - (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- B. All **reports** required by the permit and **other information** requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- 1. The authorization is made in writing by a person described above.
 - 2. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - 3. The written authorization is submitted to the Director.
- C. Certification. Any person signing a document under this section shall make the following certification:

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

12. Availability of Reports

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

13. Penalties for Falsification of Reports

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

PART IV DEFINITIONS

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

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

- A. When limited in the permit as a minimum monthly average, shall mean the lowest acceptable monthly average value, determined by averaging all samples taken during the calendar month;
- B. When limited in the permit as an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
14. **“E-Coli”** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For E-Coli, report the monthly average as a 30-day geometric mean in colonies per 100 ml.
15. **“Fecal Coliform Bacteria (FCB)”**a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For Fecal Coliform Bacteria (FCB) report the monthly average as a 30-day geometric mean in colonies per 100 ml.
16. **“Grab sample”** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
17. **“Industrial User”** means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
18. **“Instantaneous flow measurement”** means the flow measured during the minimum time required for the flow-measuring device or method to produce a result in that instance. To the extent practical, instantaneous flow measurements coincide with the collection of any grab samples required for the same sampling period so that together the samples and flow are representative of the discharge during that sampling period.
19. **“Instantaneous Maximum”** when limited in the permit as an instantaneous maximum value, shall mean that no value measured during the reporting period may fall above the stated value.
20. **“Instantaneous Minimum”** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
21. **“Monthly average”** means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month. For Fecal Coliform Bacteria (FCB) or E-Coli, report the monthly average.
22. **Monitoring and Reporting:**
When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is monthly or more frequently, the Discharge Monitoring Report (DMR) shall be submitted by the 25th of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the DMR shall be submitted by the 25th of the month following the monitoring period end date.
- A. **MONTHLY:**
is defined as a calendar month or any portion of a calendar month for monitoring requirement frequency of once/month or more frequently.
- B. **BI-MONTHLY:**
is defined as two (2) calendar months or any portion of 2 calendar months for monitoring requirement frequency of once/2 months or more frequently.
- C. **QUARTERLY:**
1. is defined as a **fixed calendar quarter** or any part of the fixed calendar quarter for a non-seasonal effluent characteristic with a measurement frequency of once/quarter. Fixed calendar quarters are: January through March, April through June, July through September, and October through December; or

2. is defined as a **fixed three month period** (or any part of the fixed three month period) of or dependent upon the seasons specified in the permit for a seasonal effluent characteristic with a monitoring requirement frequency of once/quarter that does not coincide with the fixed calendar quarter. Seasonal calendar quarters are: May through July, August through October, November through January, and February through April.
- D. **SEMI-ANNUAL:**
is defined as the fixed time periods January through June, and July through December (or any portion thereof) for an effluent characteristic with a measurement frequency of once/6 months or twice/year.
- E. **ANNUAL or YEARLY:**
is defined as a fixed calendar year or any portion of the fixed calendar year for an effluent characteristic or parameter with a measurement frequency of once/year. A calendar year is January through December, or any portion thereof.
23. **“National Pollutant Discharge Elimination System”** means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements under Sections 307, 402, 318, and 405 of the Clean Water Act.
24. **“POTW”** means a Publicly Owned Treatment Works.
25. **Reduction of CBOD5/BOD5 and TSS in mg/l Formula:**
$$\frac{(\text{Influent} - \text{Effluent})}{\text{Influent}} \times 100$$
26. **“Severe property damage”** means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in products.
27. **“Sewage sludge”** means the solids, residues, and precipitate separated from or created in sewage by the unit processes at a POTW. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and stormwater runoff that are discharged to or otherwise enter a POTW.
28. **“7-day average”** Also known as “average weekly” means the highest allowable average of “daily discharges” over a calendar week, calculated as the sum of all “daily discharges” measured during a calendar week divided by the number of “daily discharges” measured during that week.
29. **“Treatment works”** means any devices and systems used in storage, treatment, recycling, and reclamation of municipal sewage and industrial wastes, of a liquid nature to implement section 201 of the Act, or necessary to recycle reuse water at the most economic cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities, and any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment.
30. **Units of Measure:**
“MGD” shall mean million gallons per day.
“mg/l” shall mean milligrams per liter or parts per million (ppm).
“µg/l” shall mean micrograms per liter or parts per billion (ppb).
“cfs” shall mean cubic feet per second.

“ppm” shall mean parts per million.

“s.u.” shall mean standard units.

31. **“Upset”** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. Any upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or carelessness of improper operations.
32. **“Visible sheen”** means the presence of a film or sheen upon or a discoloration of the surface of the discharge. A sheen can also be from a thin glistening layer of oil on the surface of the discharge.
33. **“Weekday”** means Monday – Friday.

Fact Sheet

All changes to the draft Fact Sheet are italicized.

THIS IS A MODIFIED PERMIT. IN ACCORDANCE WITH 40 CFR 122.62, ONLY THE CONDITIONS WHICH ARE THE SUBJECT OF THE MODIFICATION ARE REOPENED.

This Fact Sheet is for information and justification of the permit limits only. Please note that it is not enforceable. This permitting decision is for *major modification* of the discharge Permit Number AR0022292 with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 04-00052 to discharge to Waters of the State.

1. PERMITTING AUTHORITY.

The issuing office is:

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

2. APPLICANT.

The applicant's mailing address is:

City of Decatur
P.O. Box 247
Decatur, AR 72722

The facility address is:

City of Decatur
985 Austin Avenue
Decatur, AR 72722

3. PREPARED BY.

The permit was prepared by:

Guy Lester
Staff Engineer
NPDES Discharge Permits Section
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4. PERMIT ACTIVITY.

Previous Permit Effective Date: October 1, 2014
Previous Permit Expiration Date: September 30, 2019

The permittee submitted an application for a state construction permit and discharge permit modification on April 7, 2017, and additional information was received on April 25, 2017, June 23, 2017, August 4, 2017, and August 31, 2017. The current discharge permit is being modified for the remainder of the 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

DOCUMENT ABBREVIATIONS

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

BAT - best available technology economically achievable
BCT - best conventional pollutant control technology
BMP - best management practices
BOD₅ - five-day biochemical oxygen demand
BPJ - best professional judgment
BPT - best practicable control technology currently available
CBOD₅ - carbonaceous biochemical oxygen demand
CD - critical dilution
CFR - Code of Federal Regulations
cfs - cubic feet per second
COD - chemical oxygen demand
COE - United States Corp of Engineers
CPP - continuing planning process
CWA - Clean Water Act
DMR - discharge monitoring report
DO - dissolved oxygen
ELG - effluent limitation guidelines
EPA - United States Environmental Protection Agency
ESA - Endangered Species Act
FCB - fecal coliform bacteria
gpm - gallons per minute
MGD - million gallons per day
MQL - minimum quantification level
NAICS - North American Industry Classification System
NH₃-N - ammonia nitrogen
NO₃ + NO₂-N - nitrate + nitrite nitrogen
NPDES - National Pollutant Discharge Elimination System
O&G - oil and grease
Reg. 2 - APCEC Regulation No. 2
Reg. 6 - APCEC Regulation No. 6
Reg. 8 - APCEC Regulation No. 8
Reg. 9 - APCEC Regulation No. 9
RP - reasonable potential
SIC - standard industrial classification
TDS - total dissolved solids
TMDL - total maximum daily load
TP - total phosphorus
TRC - total residual chlorine
TSS - total suspended solids
UAA - use attainability analysis
USF&WS - United States Fish and Wildlife Service
USGS - United States Geological Survey

WET - Whole effluent toxicity
WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

Compliance and Enforcement History:

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

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0022292_Combpliance%20Review_20170908.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 DO limit for the months of November-April has been changed from 6.0 mg/l to 6.3 mg/l, based on water quality modeling.*
- 2. The NH₃-N limits for the month of April have changed from 1.6/3.9 mg/l (Monthly Avg./7-day Avg.) to 1.7/4.0 mg/l, based on a revised 7Q10 for the receiving stream from USGS StreamStats.*
- 3. The 7-day Avg. NH₃-N limits for the months of May-October and November-March have changed from 3.9 mg/l and 10.3 mg/l to 3.2 mg/l and 6.2 mg/l, respectively, based on a revised 7Q10 for the receiving stream from USGS StreamStats.*
- 4. The TRC limit in Part IA and the TRC requirements in Part II.9 have been deleted from the permit because the facility no longer uses chlorine disinfection.*
- 5. The mass loading limitations of all parameters, except TP, have been increased in accordance with the increase in design flow.*
- 6. Technology-based limitations for TP have been included in the permit. See Footnote 4 of Section 12.A below for details.*
- 7. Supplementary requirements to evaluate the development and implementation of a Pretreatment Program have been included with the standard boilerplate Pretreatment Requirements in Part II.7 of the permit.*
- 8. The sludge management condition in Part II.8 has been deleted from the permit to avoid any conflict with the requirements of Part III.B.6.*
- 9. Part II.11 has been included in the permit to allow for the transition from the 2.2 MGD design flow to the 3.8 MGD design flow when construction is complete.*
- 10. Part III.C.5 of the permit now requires that DMRs be submitted electronically via NetDMR.*
- 11. Deleted Parts II.8 and II.9 have been marked [Reserved] to maintain the numbering scheme of Part II of the permit.*

6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

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

Latitude: 36° 20' 38.8" N; Longitude: 94° 28' 21.3" W

The receiving waters named:

Columbia Hollow Creek (aka Decatur Branch), thence to Spavinaw Creek in Segment 3J of the Arkansas River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 11070209 and Reach #949 is a Water of the State classified as a losing stream, and for secondary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

The Department recognizes that the permittee is located in close proximity to the State of Oklahoma. The Department conferred with the Oklahoma Department of Environmental Quality (ODEQ) during the drafting of the permit modification. ODEQ had no requirements or recommendations concerning the discharge limitations in the permit. The draft permit and Fact Sheet will be sent to the EPA and the State of Oklahoma for their review, in accordance with 40 CFR 124.10(c)(1)(iii).

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

A. 303(d) List:

The receiving stream is not listed on the 2016 303(d) list. Therefore no permit action is needed.

B. 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.

C. Anti-Degradation:

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

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

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

- A. Design Flow: 2.2 MGD
- B. Type of Treatment: equalization, screening, grit removal, three sequential batch reactors in parallel, equalization, filtration, UV disinfection, and post-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 Reg. 6.202.

Transition Period:

The City of Decatur is upgrading its wastewater treatment plant, which will result in an increase in the design flow from 2.2 MGD to 3.8 MGD. The construction will modify the system from sequential batch reactors to continuous-flow membrane bioreactors.

The permittee must notify the ADEQ when construction is complete and within 30 days after the discharge at the new design flow has begun.

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

- A. Design Flow: 3.8 MGD
- B. Type of Treatment: equalization, screening, grit removal, two (2) drum screens (in parallel), splitter box, three (3) treatment trains in parallel, each consisting of an anoxic tank, an aeration tank, and a membrane bioreactor, permeate storage tank, UV disinfection, and post-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.

9. ACTIVITY.

Under the SIC code of 4952 or NAICS code of 221320, the applicant's activities are the operation of a sewage treatment plant.

10. INDUSTRIAL WASTEWATER CONTRIBUTIONS.

INDUSTRIAL USERS

The Permittee receives wastewater from one (1) significant industrial user – a poultry processor which contributes 80% of the permittee’s average daily flow. *Based on this, requirements to develop a Pretreatment Program are deemed necessary at this time. The Department may decide to waive this requirement after subsequent information from the applicant is received and reviewed.*

11. SEWAGE SLUDGE PRACTICES.

Waste sludge is placed in an anaerobic sludge digester, transferred to an aerobic sludge digester, dewatered, then hauled out-of-state for land application.

12. DEVELOPMENT AND BASIS FOR PERMIT CONDITIONS.

The Arkansas Department of Environmental Quality has made a determination 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		Permit Limit	
	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l
CBOD5	10.0	15.0	25.0	40.0	10	15	10.0	15.0
TSS	15.0	23.0	30.0	45.0	15	22.5	15.0	22.5
NH3-N								
(April)	1.7*	4.0*	N/A	N/A	1.6	3.9	1.7*	4.0*
(May-Oct)	1.6	3.2*	N/A	N/A	1.6	3.9	1.6	3.2*
(Nov-March)	4.1	6.2*	N/A	N/A	4.1	10.3	4.1	6.2*
DO								
(May-Oct)	6.0 (Inst. Min.)		N/A		6.0 (Inst. Min.)		6.0 (Inst. Min.)	
(Nov-March)	6.3 (Inst. Min.)		N/A		6.0 (Inst. Min.)		6.3 (Inst. Min.)	
FCB (col/100 ml)	200	400	N/A	N/A	200	400	200	400
TP	1.0	1.0	0.5	0.5	1.0	1.0	0.5	0.75
NO ₃ + NO ₂ - N	10.0 (Inst. Max)		N/A		10.0 (Inst. Max)		10.0 (Inst. Max)	
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.	

*Based on revised 7Q10 from USGS StreamStats.

A. Justification for Limitations and Conditions of the Permit:

Parameter	Water Quality or Technology	Justification
CBOD5 ¹	Water Quality	Reg. 6.301(C)(2)(a), 40 CFR 122.44(l), and previous permit
TSS ¹	Water Quality	Reg. 6.301(C)(2)(b), 40 CFR 122.44(l), and previous permit
NH3-N ²	Water Quality	Reg. 2.512 / Reg. 6.301(C)(2)(f), and <i>MultiSMP Model dated September 29, 2017</i>
DO ³	Water Quality	Reg. 2.505 / <i>MultiSMP Model dated September 29, 2017</i>
FCB ¹	Water Quality	Reg. 6.301(C)(2)(d)
TP ⁴	Technology	<i>Generally accepted scientific knowledge and engineering practice, and technical information attached to the application</i>
NO ₃ + NO ₂ - N ¹	Water Quality	Reg. 6.301(C)(2)(e)
pH ¹	Water Quality	Reg. 2.504 / Reg. 6.301(C)(2)(c)

¹ Limits for CBOD5, TSS, FCB and NO₃+NO₂-N are from the respective sections of Reg. 6.301 which specifies limits for discharges to Losing Streams.

² *The NH₃-N limits have been revised based on the revised 7Q10 for the receiving stream provided by USGS StreamStats.*

³ *DO limits have been expressed as Instantaneous Minimum because analysis of the results of the MultiSMP Model dated September 29, 2017 shows that if the DO in the discharge falls below the Instantaneous Minimum limit, the DO WQS standard will not be maintained.*

⁴ *The TP limit has been based on generally accepted scientific knowledge and engineering practice in consideration of the technical information on TP treatment capability of the MBR treatment system. The information was submitted by email letter, dated December 11, 2017, for attachment to the application.*

NOTE: TRC limitations have been deleted from the permit because the facility no longer uses chlorine disinfection.

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 122.44(l)]. The final effluent limitations for reissuance permits must be as stringent as those in the previous permit, unless the less stringent limitations can be justified using exceptions listed in 40 CFR 122.44 (l)(2)(i).

The permit meets or exceeds the requirements of the previous permit, except for mass limitations for all parameters (except TP), NH₃-N, and Whole Effluent Toxicity Critical Dilution.

In accordance with the exception listed in 40 CFR 122.44(l)(2)(i)(A), the increased mass limitations for all parameters (except TP) is not backsliding because material and substantial alterations to the permitted facility have occurred.

In accordance with the exception listed in 40 CFR 122.44(l)(2)(i)(B)(1), the changes to the NH₃-N limits for the month of April and the WET Critical Dilution are not backsliding because the changes are based on information (revised 7Q10 for Columbia Hollow Creek) which was not available at the time of the permit renewal.

C. Limits Calculations

1. Mass limits:

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

The calculation of the loadings (lbs per day) uses a design flow of 2.2 MGD, *or 3.8 MGD*, and the following equation:

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

Note: All mass limits in the permit, except TP, have been increased as part of the modification due to the increase in the design flow of the facility.

2. 7-Day Average Limits:

The 7-Day Average limits for CBOD5 and TSS are based on Reg. 6.301(C)(2)(a) and (b), respectively.

The 7-day average limit for TP is based on Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control:

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

The 7-Day Average limit for $\text{NO}_3+\text{NO}_2\text{-N}$ is based on Reg. 6.301(C)(2)(e).

The 7-Day Average $\text{NH}_3\text{-N}$ limit for the month of April is based on the requirements of Reg. 2.512. The 7-Day Average $\text{NH}_3\text{-N}$ limits for the months of May-October and November-March are based on the MultiSMP Model dated September 29, 2017.

The 7-Day Average limit for FCB is based on Reg. 6.301(C)(2)(d).

3. Ammonia-Nitrogen ($\text{NH}_3\text{-N}$):

The water quality effluent limitations for Ammonia are based either on DO-based effluent limits or on toxicity-based standards, whichever are more stringent. The toxicity-based effluent limitations are based on Reg. 2.512 and the CPP.

Prior to issuance of the previous permit, EPA updated its national criteria for ammonia toxicity, and these updated ammonia toxicity criteria were added to Reg. 2.512. 40 CFR 122.44(d)(1)(v) required a WET limit where the permitting authority does not demonstrate in the fact sheet that chemical-specific limits are adequate to prevent an exceedance of a state narrative criterion for aquatic life protection. Because the facility was not certain that the new treatment system being constructed would be able to meet the toxicity-based $\text{NH}_3\text{-N}$ limitations, the previous permit included a monthly Whole Effluent Toxicity (WET) Limit for the months of January, February, March, April, September, and December, and DO-based $\text{NH}_3\text{-N}$ limits. DMR data show that the facility discharge has $\text{NH}_3\text{-N}$ concentrations that are below toxicity levels. Therefore, toxicity-based $\text{NH}_3\text{-N}$ limits have replaced the WET limit and DO-based $\text{NH}_3\text{-N}$ limits. See Section 14 below for details on WET.

D. 208 Plan (Water Quality Management Plan)

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

The 208 Plan has been revised to change the design flow of the facility from 2.2 MGD to 3.8 MGD, the Dissolved Oxygen limit for the months of November-April from 6.0 mg/l to 6.3 mg/l, the Monthly Avg. Ammonia-Nitrogen limit for the month of April from 1.6 mg/l to 1.7 mg/l, and the Monthly Avg. Total Phosphorus limit from 1.0 mg/l to 0.5 mg/l.

E. Priority Pollutant Scan (PPS)

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

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

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

The following items were used in calculations:

Parameter	Value	Source
Flow = Q	2.2 MGD = 3.4 cfs & 3.8 MGD = 5.88 cfs	Application
7Q10	0.0484 cfs	USGS StreamStats
TSS	2.50 mg/l	CPP
Hardness as CaCo3	148.0 mg/l	CPP
pH	7.0 s.u.	Assumed

The pollutants in the following table were detected in the discharge by analyses that meet the Minimum Quantification Level (MQL) requirements. Instream Waste Concentrations (IWC's) were calculated in the manner described in the CPP and compared to the applicable Water Quality Standards. The following table summarizes the results of the analysis.

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Arsenic	0.39 ¹	0.5
Copper	0.66 ¹	0.5
Mercury	0.0022 ²	0.005
Nickel	0.69 ¹	0.5
Zinc	4.00 ¹	20
Total Phenols	0.32 ¹	5

¹ Values are the geometric mean of 2 data points from samples taken in 2009 and 2013.

² Values are the geometric mean of 6 data points from samples taken in 2009, 2013, and 2014.

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

The complete evaluation *for the design flow of 2.2 MGD* can be viewed on the Department's website at the following address:

http://www.adeg.state.ar.us/ftproot/Pub/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0022292_PPS_20140326.pdf

The complete evaluation *for the design flow of 3.8 MGD* can be viewed on the Department's website at the following address:

http://www.adeg.state.ar.us/ftproot/Pub/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0022292_PPS_20171002.pdf

13. TOTAL RESIDUAL CHLORINE (TRC) REQUIREMENTS.

All requirements concerning TRC have been deleted from the permit because the facility no longer uses chlorine disinfection.

14. WHOLE EFFLUENT TOXICITY.

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

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

TOXICITY TESTS

FREQUENCY

Chronic WET

once/quarter

Requirements for measurement frequency are based on the CPP.

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

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

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

$$Q_d = \text{Design flow} = 3.8 \text{ MGD} = 5.88 \text{ cfs}$$

$$7Q_{10} = 0.0484 \text{ cfs}$$

$$Q_b = \text{Background flow} = 0.67 \times 7Q_{10} = 0.0324 \text{ cfs}$$

$$CD = (5.88) / (5.88 + 0.0324) \times 100 = 99\%$$

Toxicity tests shall be performed in accordance with protocols described in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", EPA/600/4-91/002, July 1994. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are 31%, 42%, 56%, 74%, 99% (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 99% effluent. The requirement for chronic WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species, *Ceriodaphnia dubia* and the Fathead minnow (*Pimephales promelas*) are representative of organisms indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

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

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

Administrative Records

Permit Number:	AR0022292	AFIN:	04-00052	Outfall Number:	001
Date of Review:	10/2/2017	Reviewer:	M. Barnett		
Facility Name:	City of Decatur WWTP				
Previous Dilution series:	32, 42, 56, 75, 100	Proposed Dilution Series:	31, 42, 56, 74, 99		
Previous Critical Dilution:	100	Proposed Critical Dilution:	99		
Previous TRE activities:	None				
Frequency recommendation by species					
<i>Pimephales promelas</i> (Fathead minnow):	once per quarter				
<i>Ceriodaphnia dubia</i> (water flea):	once per quarter				
TEST DATA SUMMARY					
TEST DATE	Vertebrate (<i>Pimephales promelas</i>)		Invertebrate (<i>Ceriodaphnia dubia</i>)		
	Lethal	Sub-Lethal	Lethal	Sub-Lethal	
	NOEC	NOEC	NOEC	NOEC	
7/30/2012	100	100	100	100	
10/31/2012	100	100	100	100	
1/31/2013	100	100	100	100	
2/28/2013	100	100	100	56	
3/31/2013	100	100	100	100	
4/30/2013	100	100	100	100	
5/31/2013	100	100	100	100	
7/30/2013	100	100	100	100	
10/31/2013	100	100	100	100	
1/31/2014	100	100	100	100	
2/26/2014	100	100	100	100	
3/31/2014	100	100	100	100	
4/30/2014	100	100	100	100	
7/31/2014	100	100	100	100	
1/31/2015	100	100	100	100	
6/30/2015	100	100	100	100	
9/30/2015	100	100	100	100	
12/31/2015	100	100	100	100	
3/31/2016	100	100	100	100	
6/30/2016	100	100	100	100	
9/30/2016	100	100	100	100	
12/31/2016	100	100	100	100	
3/31/2017	100	100	100	100	
6/30/2017	100	100	100	100	
Failures noted in BOLD					

REASONABLE POTENTIAL CALCULATIONS				
	Vertebrate Lethal	Vertebrate Sub-lethal	Invertebrate Lethal	Invertebrate Sub-Lethal
Min NOEC Observed	100	100	100	56
TU at Min Observed	1.00	1.00	1.00	1.79
Count	24	24	24	24
Failure Count	0	0	0	1
Mean	1.000	1.000	1.000	1.033
Std. Dev.	0.000	0.000	0.000	0.160
CV	0	0	0	0.2
RPMF	0	0	0	1.1
Reasonable Potential	0.000	0.000	0.000	1.945
100/Critical dilution	1.010	1.010	1.010	1.010
Does Reasonable Potential Exist	No	No	No	Yes
PERMIT ACTION				
<i>P. promelas</i> Chronic - monitoring				
<i>C. dubia</i> Chronic - monitoring				

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

During the past five years there has been only one C. dubia sub-lethal WET test failure below the critical dilution. The facility reported passing the required re-tests. At this time, there is insufficient evidence to support the inclusion of limits. Additional data is needed to confirm the necessity of limits; therefore they are not required at this time.

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

15. SAMPLE TYPE AND FREQUENCY.

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

Requirements for sample type and sampling frequency have been based on the current discharge permit, except for NH₃-N and WET testing. NH₃-N seasons have been changed to April-Oct and Nov-March in accordance with the toxicity-based limitations that have been added to the permit. WET testing is based on the recommended frequency for major municipal facilities with a design flow greater than or equal to 2 MGD and no known problems [ref. CPP, Appendix D, Toxic Control implementation Procedure, Section III.E.1.b].

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Flow	daily	totalizing	daily	totalizing
CBOD5	three/week	6-hr composite	three/week	composite
TSS	three/week	6-hr composite	three/week	composite
NH3-N				
<i>(April)</i>	<i>three/week</i>	<i>6-hr composite</i>	<i>three/week</i>	<i>composite</i>
<i>(May-Oct)</i>	three/week	6-hr composite	three/week	composite
<i>(Nov-March)</i>	three/week	6-hr composite	three/week	composite
DO				
<i>(May-Oct)</i>	three/week	grab	three/week	grab
<i>(Nov-March)</i>	three/week	grab	three/week	grab
FCB	three/week	grab	three/week	grab
TP	two/week	6-hr composite	two/week	composite
NO ₃ + NO ₂ - N	two/week	6-hr composite	two/week	composite
pH	three/week	grab	three/week	grab
Chronic WET	once/month	24-hr composite	once/quarter	24-hr composite

16. 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.

17. PERMIT COMPLIANCE SCHEDULE.

A Schedule of Compliance has not been included in this permit. Compliance with all permit requirements is required on the effective date of the permit.

18. MONITORING AND REPORTING.

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

19. SOURCES.

The following sources were used to draft the permit:

- A. *Application No. AR0022292 received April 7, 2017, with additional information received on April 25, 2017, June 23, 2017, August 4, 2017, and August 31, 2017.*
- B. Arkansas Water Quality Management Plan (WQMP).
- C. APCEC Regulation No. 2.
- D. APCEC Regulation No. 3.
- E. APCEC Regulation No. 6 which incorporates by reference certain federal regulations included in Title 40 of the Code of Federal Regulations at Reg. 6.104.
- F. 40 CFR Parts 122, 125, 133, and 403.
- G. Discharge permit file AR0022292.
- H. State Construction Permit No. AR0022292C.
- I. [Letter, dated 9/6/2011, from John Bailey, P.E. of ADEQ to Ron Reed of Reed Dozing and Contracting concerning Land Application of biosolids in the State of Missouri.](#)
- J. Discharge Monitoring Reports (DMRs).
- K. *"2016 List of Impaired Waterbodies (303(d) List)", ADEQ.*
- L. *"Integrated Water Quality Monitoring Assessment Report 2016", ADEQ.*
- M. USGS StreamStats GIS program at <http://water.usgs.gov/osw/streamstats/arkansas.html>.
- N. Letter from EPA, dated 4/10/2006, Region 6 Minimum Quantification Level Guidance.
- O. [MultiSMP Model dated September 29, 2017.](#)
- P. [Priority Pollutant Scan for 2.2 MGD.](#)
- Q. Continuing Planning Process (CPP).
- R. Technical Support Document For Water Quality-based Toxic Control.
- S. [Compliance Review Memo dated 2/5/2014 from Michelle Bolenbaugh to Guy Lester.](#)
- T. [Inspection Report #066503, dated 6/26/2012.](#)
- U. [Site visit on 2/19/2014.](#)
- V. EPA email, dated 2/4/2014 - WET Implementation.
- W. [Email letter, dated 4/23/2014, from Charles Linam, Mayor, City of Decatur to Guy Lester of ADEQ.](#)
- X. [Letter, dated 5/23/2014, from Mark Derichsweiler, P.E. of Oklahoma DEQ, to Guy Lester, of ADEQ.](#)
- Y. Telephone conversations on 2/20/2014 and 3/26/2014 to discuss changes to the permit.
- Z. [E-mail letter from EPA, dated 7/1/2014, declining full review of preliminary draft permit.](#)
- AA. [Priority Pollutant Scan for 3.8 MGD.](#)
- BB. [Letter, dated September 13 2017, from Nicholas R. Batker, P.E., C.F.M. of McClelland Consulting Engineers, Inc. to Adam Parker, E.I. of the Arkansas Department of Health.](#)

- CC. *Letter, dated October 17 2017, from Raymond Thompson, P.E. of the Arkansas Department of Health to Nicholas Batker, P.E., C.F.M. of McClelland Consulting Engineers, Inc.*
- DD. *Email letter, dated December 11, 2017, from Nick Batker, P.E., C.F.M. of McClelland Consulting Engineers, Inc., to Guy Lester of ADEQ.*
- EE. *E-mail letter from EPA, dated November 15, 2017, No Objection to Preliminary Draft Permit Modification AR0022292.*
- FF. *E-mail letter, dated March 16, 2018, from Cristina Stella of the Animal Legal Defense Fund, to Guy Lester of ADEQ.*
- GG. *E-mail letter, dated March 16, 2018, from Patricia Thompson to the ADEQ Office of Water Quality.*
- HH. *E-mail letter, dated March 16, 2018, from P. Mike McCollum to Guy Lester of ADEQ.*
- II. *E-mail letter, dated March 16, 2018, from Jimmy and Susan Roberts to Guy Lester of ADEQ.*
- JJ. *E-mail letter, dated March 19, 2018, from Stacey Amos to the ADEQ Office of Water Quality.*
- KK. *Map overlays of FEMA, Construction Plans, and Google Earth image.*

20. POINT OF CONTACT.

For additional information, contact:

*Guy Lester
Permits Branch, Office of Water Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317
Telephone: (501) 682-0023*

**RESPONSE TO COMMENTS
FINAL PERMITTING DECISION**

Permit No.: AR0022292
Applicant: City of Decatur
Prepared by: Guy Lester

The following are responses to comments received regarding the draft permit number above and are developed in accordance with regulations promulgated at 40 C.F.R. §124.17, APCEC Regulation No. 8 Administrative Procedures, and A.C.A. §8-4-203(e)(2).

Introduction

The above permit was submitted for public comment on February 14, 2018. The public comment period ended on March 16, 2018.

This document contains a summary of the comments that the ADEQ received during the public comment period. A summary of the changes to the NPDES Permit can be found on the last page of this document. There were several similar issues raised throughout the comments; those are grouped together, with one response from the ADEQ.

The following people or organizations sent comments to the ADEQ during the public notice. A total of 22 comments were raised by five (5) separate commenters.

	Commenter	Number of Comments Raised
1.	Jimmy and Susan Roberts	14
2.	Cristina Stella, Staff Attorney, Animal Legal Defense Fund	7
3.	P. Mike McCollum	5
4.	Patricia Thompson	1
5.	Stacey Amos	1

Similar comments submitted by Jimmy and Susan Roberts, and Cristina Stella, Staff Attorney, Animal Legal Defense Fund

Comment 1 Unresolved floodplain issues

The map provided on pdf page 41 of 577 of the permit application shows that the 100 year floodplain intersects with one of the wastewater storage ponds. This problem has not been resolved with the proposed expansion of the WWTF.

Response: FEMA Flood Insurance Rate Map 05007C0205J (FEMA Map) shows that a small portion of the 100-year flood plain intersects with the location of one of the wastewater storage ponds. This flood plain is noted as “Zone A” which the map legend describes as having “No Base Flood Elevation determined.” Section

3.1.2 of the “Flood Insurance Study for Benton County, Arkansas” (FIS) a FEMA document describing the development of the FEMA Map, includes Columbia Hollow Creek in a list of “Limited Detailed Study Streams”. Section 3.2.2 of the FIS states that the water surface elevations for the 100-year flood were computed (not surveyed).

The floodplain elevation noted on the FEMA map follows a computed topographical contour, and does not take into account local variations in elevation due to construction. Since it shows on the Google Earth image overlaid with the FEMA Map that most of the holding pond levee is above this 100-year floodplain contour, it is evident that the top of the entire holding pond levee is above the 100-year flood plain.

Surveyed plans for the pond show that the elevation of the top of the levee is 1,178 feet. When the FEMA map is compared to the surveyed plans, the inspection reveals the computed elevation of the 100-year floodplain is approximately 1,170 feet, which is approximately eight feet below the top of the levee.

Comment 2 Unresolved shallow groundwater issues

Back in 2009, the ADEQ was made aware that there was shallow groundwater under proposed location of the ISAM anaerobic system such that the concrete system had to be constructed 13 feet higher than originally designed. This shallow groundwater problem was never resolved nor was it brought to the attention of the public by virtue of (a) requiring a more thorough hydrogeologic study, (b) new public notice for the change in design and the reason for that change being shallow groundwater, (c) requiring an evaluation of the existing structures/ponds/piping and how these wastewater conveyances could adversely impact shallow groundwater, and (d) look at the hydrogeologic connection between the shallow groundwater and very nearby Columbia Hollow Creek.

Response: The shallow groundwater issue that became apparent during construction of the facility in 2009 was resolved by constructing the sequenced batch reactor (SBR) tanks 13 feet higher than in the original construction plans. This was not a change in the function of the treatment system, in the type of treatment, or the design flow, and public notice of the change was not required.

No issues remain concerning shallow groundwater at the facility.

Comment 3 Submittal of old data rather than current data

The proposed expansion/modification permit application was submitted and signed on April 6, 2017 (the 577 page permit application found online). However, the data provided in the 2017 permit application includes the following old data:

pdf page 52 - lab certification sheet showing certification expires in 2014
pdf pages 59-71 lab sheets dated 2013
pdf page 74 - signature dated 2009
pdf pages 81-89 - cover letter and wet test lab results from 2013
pdf pages 90-127 - Pace Analytical chronic toxicity test report dated January 2013
pdf pages 128-169 - Pace Analytical chronic toxicity test report dated April 2013
pdf pages 170-211 - Pace Analytical chronic toxicity test report dated July 2013
pdf pages 212-253 - Pace Analytical chronic toxicity test report dated October 2013

at the following link there are more current wet test reports prepared by Pace Analytical

Bio Report for 3rd quarter 2017

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/EnforcementReports/AR0022292_Biomonitoring%20Report%203rd%20Qtr%202017_20171020.pdf

Bio Report for 1st quarter 2015

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/EnforcementReports/AR0022292_bio%20rprt%20for%20Jan%202015_20150121.pdf

Response: The instructions in EPA Form 2A Part D – Expanded Effluent Testing Data state that submitted data must be less than four and one-half years old. All of the submitted data, with the exception of the “PPS Requirements” form that starts on page 74 of the application, is less than four and one-half years old. The old “PPS Requirements” form is not a deficiency because a “PPS Requirements” form dated November 19, 2013 (starting on page 52 of the application) was also submitted.

It should be noted that these data are required by the EPA Form 2A. However, this permit modification is based on the revisions to the treatment system, as described in the application, the plans and specifications, and State Construction Permit No AR0022292C. Discharge data from the current treatment system is not necessarily a limiting or relevant factor for considering the requirements for the revised system. The permit limits and conditions are based on design and operational specifications necessary to protect water quality standards of the receiving stream, and the revised treatment system design.

Comment 4 Is not clear if the contribution by Simmons poultry facility is for the old facility or the new facility

From page 6 of Fact Sheet it says: "INDUSTRIAL USERS The Permittee receives wastewater from one (1) significant industrial user – a poultry processor which contributes 80% of the permittee’s average daily flow. Based on the permittee’s compliance history and other factors, standard boilerplate Pretreatment Prohibitions (40 CFR Part 403.5[b]) and reporting requirements are deemed appropriate at this time."

However, the word "poultry" or "Simmons" does not appear in the permit language itself. Considering that at least 80%, if not more, of the total flow to the WWTF is from one industrial facility (Simmons poultry plant) it seems that the ability of the City of Decatur to remain in compliance is dependent entirely on the condition of the wastewater received from the poultry processing facility.

Why doesn't the ADEQ require a federal industrial pretreatment permit for the 1.8 million gallons per day wastewater flow?

The permit application is silent with respect to the new location of the Simmons poultry processing plant proposed to be built over four miles away as compared to the existing location of about 1/2 mile from the plant. No discussion is made in the permit application with respect to how the new Simmons facility will be connected to a sewer line that can transport the wastewater to the WWTF.

Response: Neither the permit application, nor the draft permit, considered any new significant industrial users (SIUs) of the treatment plant; local decisions and announcements had not been made at the time of draft permit development and public notice of the proposed permit.

Based on the comment and information available at this time regarding proposed new users, supplementary requirements to evaluate the development and implementation of a Pretreatment Program have been included with the standard Pretreatment Requirements in Part II.7 of the permit. The requirements include a 12-month schedule of compliance.

Comment 5 Known pathogens from the slaughter of poultry

The proposed permit does not require monitoring for salmonella and listeria which are known pathogens that would be in the 1.8 million gallons per day inflow from the Simmons poultry slaughterhouse. Has the City or ADEQ ever asked Simmons to monitor for pathogen contribution from the slaughterhouse?

How often has the equalization basin been emptied of sludge? has anyone performed pathogen tests on the liquids in the anaerobic portion of the basin to see if Salmonella and Listeria thriving at depth?

Response: APC&EC Reg. 2.507 establishes water quality standards (WQS) for fecal coliform bacteria and *E. coli*. There are no WQS established for salmonella or listeria, so there is no basis for including monitoring and reporting requirements for them in the permit.

The treatment system includes a UV disinfection system which meets the requirements of Part 104 of "Recommended Standards for Wastewater Facilities" (10 State Standards). The permit contains effluent discharge limits and compliance monitoring for fecal coliform bacteria that are protective of the applicable water quality standards in the receiving stream. Fecal coliform

bacteria monitoring and compliance serves as an overall indicator of performance and effectiveness of a wide array of pathogen reduction and proper operation of the treatment system.

Comment 6 Disposal of municipal treatment plant sludge

The permit application Form 1 on pdf page 8 says the WWTP sludge is disposed of by Ron Reed of Reed Dozing and Contracting (Sheldon, MO) by land application.

The ADEQ online permit files includes a Missouri fertilizer permit for Reed Dozing for 2011 to 2012 to "sell commercial fertilizers under the provisions of the Missouri Fertilizer Law." and a 2011 letter of permit exemption from Missouri DNR that states "the biosolids fertilizer product from the City of Decatur, AR Wastewater Treatment Plant qualifies for a permit exemption in accordance with Missouri Clean Water Law and regulations under 10 CSR 20-6.015(3)(B)8." Further the MDNR letter states "we understand that the product will be used on agricultural grain and forage crops in Vernon County, MO and application rates will be based on testing results and nutrient requirements of the intended crops."

website for MoDNR citations:
<https://www.sos.mo.gov/adrules/csr/current/10csr/10csr>

see attached 10 CSR 20-6.015 document and on pdf page 11-13 see exemptions for non-discharge permits *[ADEQ: no attachments received with this comment]*

see also the two documents that are in the ADEQ permit online database *[ADEQ: no attachments were received with this comment]*

I have not found the original application to MoDNR that includes the "initial report to the department on the pollutant content of the product and shall file periodic monitoring reports as determined necessary by the department"

So Simmons represents 80% of the wastewater flowing to the Decatur WWTF and then the sludge from that facility is land applied on crops in Vernon County Missouri without need of a permit to track where it is land applied. And how much does Simmons pay to use the WWTF?

Wonder if the folks in Vernon County MO know about that?

Perhaps we should do a FOIA at MoDNR to see if any monitoring reports have been required and also to see what information was shared with MoDNR in order to qualify for the exemption.

Response: The sludge management and associated permit conditions are not a part of the application or proposed permit. Therefore, in accordance with 40 CFR 122.62, they are not open for comment.

Comments submitted by Jimmy and Susan Roberts

Comment 7 Permitted Flow not correct in permit

The permit application, permit fact sheet, and permit summary all say the new flow rate will be 3.8 million gallons per day. However, the permit itself on page 1 of Part 1A that the facility is authorized to discharge 2.2 MGD out of Outfall #001 (which is the old flow rate).

Response: Pages 1 and 2 of Part IA are the table of permit limitations for the existing facility, which has a design flow of 2.2 MGD. Footnote 1 references Part II.11 of the modified permit, which describes the conditions for transitioning from the current permit limitations to those based on the modified design flow of 3.8 MGD (which are included in pages 3 and 4 of Part IA).

Comment 8 Simmons processing plant not required to have a federal industrial pretreatment permit

Citizens asked ADEQ if Simmons had a pretreatment permit and the response was that the City of Decatur WWTP was able to handle the wastewater so the state was not requiring the federal permit.

This conclusion by ADEQ is inconsistent with the significant treatment issues experienced by the WWTP and the need for extensive upgrades to the plant to handle the flow volumes and to insure solids and nutrients are not discharged in violation of the City's NPDES permit.

The Simmons wastewater represents at least 80 percent of the flow to the treatment plant. Thus it would be fair to say that the City has been and continues to struggle to treat Simmons wastewater. If the City only had to treat the community domestic sewage generated by Decatur, then it is quite possible that the City could manage that quite handily. The community is bearing the costs of wastewater treatment and disposal for the one significant industrial user.

Why hasn't the City required Simmons to reduce the pollutant load on the city's WWTF?

The recent permit application appears to be silent with respect to the pollutant loading from Simmons -- only mentions the flow rates. Perhaps someone could identify where the permit application contains waste analyses from samples taken at the Simmons plant so that the public can better understand how Simmons' wastewater impacts the ability of the WWTP to properly treat and discharge all wastewater?

Response: Neither the permit application, nor the draft permit, considered any new significant industrial users (SIUs) of the treatment plant; local decisions and announcements had not been made at the time of draft permit development and public notice of the proposed permit.

Based on the comment and information available at this time regarding proposed new users, supplementary requirements to evaluate the development and implementation of a Pretreatment Program have been included with the standard Pretreatment Requirements in Part II.7 of the permit. The requirements include a 12-month schedule of compliance.

Comment 9 Unresolved surface water spills and proximity of sewage lagoons to Columbia Hollow Creek

In June 2014 - the City wrote a long letter detailing their problems with permit limits dating back as far as 2011 (remember that the WWTP was built in 2009).

In July 2015 - The ADEQ online database has a Record of Communication dated 7-30-2015 that summarizes a telephone conversation with the city about "eight total suspended solids violations and two phosphorus violations" for monitoring period 03-31-2015 to 05-30-2015.

In April 2016,- the ADEQ inspector observed solids at Outfall #001 in the receiving stream.

In May 2016, the City of Decatur explained that the solids buildup occurred "predominantly before the Actiflow went online toward the end of 2015." The question to be asked is why didn't the City clean up the solids around the Outfall so that they could be sure that the new Actiflow was working properly?

Response: The Department issued CAO LIS 16-094 (effective on January 10, 2017) which covered permit limit violations from April 1, 2013 through July 31, 2016. The CAO included a civil penalty of \$5,250, and the requirement to submit a revised comprehensive corrective action plan (CAP), prepared by an Arkansas Licensed Professional Engineer, that detailed the activities and milestones, including capital improvements, necessary to correct alleged violations and prevent future violations, to be completed by December 31, 2018.

The CAP was submitted to the Enforcement Branch of the Office of Water Quality on April 10, 2017. The capital improvements to the facility that were included in the CAP are being implemented through State Construction Permit No. AR0022292C (effective December 1, 2017) and this major permit modification.

The Enforcement Branch continues to track the progress of the CAP through bimonthly progress reports submitted by the facility.

Comment 10 Diverting flow to the equalization basin

Numerous documents in the ADEQ online files make mention of using the equalization basin when flows are too heavy or when the UV equipment is on back-up among other examples. What is not discussed is whether the equalization basin has the capacity to hold these diverted flows and how long it would take to

get the basin emptied. There is no discussion of the type of liner constructed in the equalization basin. Google earth images show that the basin has been on the property since before 1994, which begs the question on what types of liners were even required for treatment plants 25 years ago.

The equalization basin is located less than 500 feet from one home on Meadowbrook Court southeast of basin; 410 feet from the four bungalow businesses southwest of basin; 440 feet from the poultry grower barns directly east of basin; and about 110 feet from Columbia Hollow Creek east of basin. How does the proposed permit protect these homes and businesses from groundwater and air pollution from the storage of raw untreated wastewater in the equalization basin?

Response: The equalization basin is a component of the wastewater treatment facility, and no changes to its function or use are included in the permit modification. Therefore, in accordance with 40 CFR 122.62, the function of the equalization basin is outside the scope of the modification and not open for comment.

The purpose of the equalization basin is to store excess wastewater during peak flow periods to prevent the facility from becoming hydraulically overloaded. Preventing hydraulic overload allows the facility to continue to operate for a period under proper design flow during peak flow generation which helps maintain compliance with the discharge limits in place to protect the receiving stream.

Comment 11 Condition of holding ponds

The two remaining holding ponds located east of the sludge digestion system have been used by the WWTP since before 1994. What is the condition of the liners in those two holding ponds? The triangular shaped holding pond has been dry off and on throughout the years and google earth images shown excessive plant growth. Whatever liner was installed must surely be compromised by this point in time.(see attached google images from 2010, 2014, and 2017)

The rectangular holding pond used to have bird deflectors strung across the pond (rope with flags) but now does not have bird deflectors. What reason was given to quit using the bird deflectors?

That same rectangular holding pond now has excessive solids crusting as can be seen in a 2017 google earth image (see attached). How does the proposed permit address this problem?

How does the facility get rid of the liquids in these two holding ponds? Is this the wastewater that is discharged through Outfall #001?

Response: These ponds are no longer part of the wastewater treatment system, and are not a part of the permit modification. Therefore, in accordance with 40 CFR 122.62, the out-of-service ponds are outside the scope of the modification and not open for comment.

However, it should be noted that the rectangular pond was the main pond of the previous Bio-Lac treatment system. It has a compacted clay liner, and was put back into service temporarily as a sludge holding pond in 2016, as part of the interim operating plan to accommodate the increased flows to the plant.

The triangular-shaped pond has not had the solids removed since closure of the previous treatment system. The pond has a compacted clay liner. This matter has been referred to the Enforcement Branch for review as part of the active corrective action activities.

Comment 12 Permit Fact Sheet claims "no active Consent Administrative Orders" - page 3 of fact sheet

The Fact Sheet states that there has only been two exceedances in the last three years. What the document does not acknowledge is the fact that the facility has been under a Corrective Action Plan as recently as February 2018 because of serious problems with the treatment plant and discharges of solids and nutrients in violation of the existing permit. The entire reason for the modification of the permit is to address major construction changes needed to put the treatment plant back into compliance.

It is disingenuous for the state to write a fact sheet on this permit that does not acknowledge the long history of compliance problems experienced and documented at this treatment plant.

Response: As noted on page 1 of the Fact Sheet, the proposed permit action is a modification of the existing permit, and all changes to the Fact Sheet are italicized. The referenced portion of the Fact Sheet concerning permit limit exceedances and enforcement actions is unchanged from the renewal of the permit in 2013.

To avoid confusion, this section of the Fact Sheet (Compliance and Enforcement History) has been revised to include compliance and enforcement information.

Comment 13 Columbia Hollow Creek is a losing stream

The WWTP has been discharging 2.2 million gallons of wastewater into Columbia Hollow Creek. The Creek itself starts southeast of Decatur and flows north and west through town and then to the south side of the treatment plant. The plant discharges to an unnamed tributary of Hollow Creek so no dilution of the treated wastewater occurs. Once the tributary meets the creek - the only dilution of the treated wastewater would be when the creek is flowing.

The permit and fact sheet do not describe how the daily discharge of now 3.8 million of gallons of treated wastewater does not end up in the groundwater when Columbia Hollow Creek is 'losing' its flow to the subsurface.

Response: As noted in the table in Section 12.A of the Fact Sheet, the CBOD₅, TSS, Ammonia-Nitrogen, Fecal Coliform Bacteria, and Nitrate+Nitrite-Nitrogen limits are based upon the requirements for discharges to Losing Stream Segments in Reg. 6.301(C). These permit limits meet the referenced regulatory standards and are protective of water quality standards in Columbia Hollow Creek. Additionally, this is confirmed by water quality modeling analysis dated September 29, 2017, using 7Q10 critical flows for Columbia Hollow Creek estimated by USGS StreamStats program. The modeling analysis was submitted to EPA for review on October 5, 2017 and received technical approval on December 13, 2017.

Comment 14 Contributing industry pretreatment requirements - page 3 of Part II of the proposed modified permit

(7)(A)(3) regarding solids or viscous pollutants --- how does Simmons reduce the fats oils and greases (FOG), bone/feathers, and scrap protein in their slaughterhouse wastewater so as to limit the solids and viscous pollutants?

(7)(A)(4) oxygen demanding pollutants -- how does Simmons segregate chicken blood from the waste stream in order to reduce the BOD and nutrient loading on the WWTP? Who keeps track of this segregation and does Simmons report to the City or the State to show they are reducing the oxygen demanding load on the WWTP? Considering the flow from Simmons is 80 to 90 percent of the total flow, this seems to be a really important question.

How does Simmons prevent solids and slime buildup in the sewer lines leading to the WWTP? How effective have these techniques been to keep pipe flow open and flowing when the pipe length was only a half-mile and will the same techniques be effective when Simmons pipes their wastewater over three miles to the WWTP?

(7)(A)(7) toxic gases -- how does Simmons insure that anaerobic gases, such as hydrogen sulfide and phenols are not generated in the transfer of protein/blood laden wastewater through the 1/2 mile pipe to the WWTP and how will those assurances carry forward when the pipeline is over three miles long?

(7)(C)(1) new pollutants -- how often has Simmons provided information to the City and the State about the use (volume and MSDS) of cleaners, disinfectants, and other sources of pollutants at the slaughterhouse? Where can the public read about these pollutants in the public file? Would this type of information be kept only with the City or would the State also need to know all the pollutants [sic] in order to prepare proper sampling and monitoring requirements in the permit itself?

(7)(C)(2)(1) inhibits or disrupts the POTW -- If the permit application does not identify the type and amount of expected pollutants in the 1.8 million gallons per day wastewater from the Simmons slaughterhouse -- then how does the City or the State know if there are pollutants that could possibly inhibit or disrupt the biological integrity of the treatment plant or the hydraulic capacity of the plant and the equalization basin?

When Simmons discharges its wastewater generated during the cleaning shift -- what is the effect of bleaches and disinfectants on the pH and chemical composition of the wastewater when it enters the treatment plant and is there any residual disinfectant that could adversely impact the biological treatment at the WWTP? Does anyone sample the wastewater as it leaves the Simmons processing plant? at the inflow pipe at the WWTP? How would the public gain access to such data in order to evaluate whether or not the decision to not require an industrial pretreatment permit was in fact a good decision by the state?

Response: After review of the comment, and consideration of previous comments, Part II.7 of the permit has been revised. Supplementary requirements to evaluate the development and implementation of a Pretreatment Program have been included with the standard Pretreatment Requirements in Part II.7 of the permit. The requirements include a 12-month schedule of compliance.

Comment submitted by Cristina Stella, Staff Attorney, Animal Legal Defense Fund

Comment 15 Permit Modification Warrants U.S. EPA Oversight & NEPA Compliance

Due to the nearly unprecedented scale of the facilities that will imminently begin discharging into the Decatur WWTP, the demonstrated public interest and concern about its approval, and its potential for surface and groundwater contamination, ALDF believes that the Environmental Protection Agency (EPA) Region 6 should take an active role in reviewing the permit application and engaging with stakeholders prior to any final action by ADEQ. EPA is obligated to ensure that states are implementing the Clean Water Act (CWA) properly, and it has a clear interest here in ensuring that any permit issued to municipal wastewater treatment facilities will comply with federal regulations, and will not cause or contribute to violations of Arkansas's water quality standards or federal safe drinking water standards. We therefore urge ADEQ and EPA to engage directly in the further consideration of this permit modification.

Likewise, because a Community Development Block Grant from the U.S. Department of Housing and Urban Development is being used to fund extension of water and wastewater lines from the City of Decatur to the new Simmons facility, the City—and ADEQ by extension—must comply with the National Environmental Policy Act (NEPA) when modifying the City's wastewater permit.⁴ NEPA requires, at a minimum, an Environmental Assessment to ensure that modifying the permit may not have a significant effect on the environment.⁵

Even if ADEQ determines in an EA that no significant impacts are likely, it must still adequately explain its decision by supplying a “convincing statement of reasons” why the action’s effects are insignificant. Because the 100-year floodplain intersects with one of the wastewater storage ponds at the WWTP, federal requirements for avoiding unnecessary floodplain development are also triggered.⁶ The failure to engage in applicable environmental review processes before granting a permit modification here would thus be arbitrary, capricious, and not in accordance with law.

Response: The draft permit modification was submitted to the EPA for review. The EPA reviewed the draft permit modification, and had no comment (see Section 19.EE in the Fact Sheet).

The assessment requirement under the National Environmental Policy Act (“NEPA”) applies to all major federal actions significantly affecting the quality of the human environment. NEPA applies only to federal actions and imposes obligations only on federal entities. While there are not clear standards for defining the point at which federal participation transforms a state or local project into a major federal action subject to NEPA, marginal federal action will not render otherwise state or local action federal. 42 U.S.C.A. § 4332 (WL through P.L. 115-181).

The development and improvement of sewage treatment by a municipality is intrinsically a local matter under the responsibility of local government, for purposes of determining a major federal action subject to NEPA. 42 U.S.C.A. § 4332 (WL through P.L. 115-181). Additionally, NEPA does not apply to an agency’s approval of a local government’s development program comprised of distinct projects with separate functions and independent justifications, even if some of the constituent projects are entirely funded by the federal government. 42 U.S.C.A. § 4332 (WL through P.L. 115-181). Finally, a federal decision maker must maintain authority over a local plan in order for it to become a major federal action subject to NEPA. 42 U.S.C.A. § 4332 (WL through P.L. 115-181).]

See Comment 1 concerning the 100-year floodplain matter.

Comments submitted by P. Mike McCollum

Comment 16 I am a concerned landowner who has lived along Columbia Hollow Creek Since 1983. I am not sure if I am for or against the permit but I want things done right and I reserve the right to appeal the decision.

Response: The Department acknowledges this comment.

Comment 17 My thoughts are that the City of Decatur didn't do well in the last permit as raw, stinky, brown sludge has come down Columbia Hollow Creek for several months without affected landowners being notified by anyone. Since my well is forty (40) feet deep and e.coli and coliform bacteria have been found in our drinking water, I am baffled as to why the city wants more wastewater (e.g. Centerton or new Simmons Plant). There can be no more excuses like cold weather or heavy rainfall as those are normal and to be expected.

Response: At the time that discharge from the City of Centerton was approved for treatment by the facility, the total influent flows, including the flow from the City of Centerton, to the Decatur wastewater treatment facility (WWTF) were within the design and peak flow range for the facility. The WWTF currently receives flows of wastewater greater than the design and peak flows of the facility. This overloading has resulted in violations of various requirements of the NPDES discharge permit.

This permit modification is to incorporate changes in the treatment capacity and design flow of the WWTF, as outlined in State Construction Permit No. AR0022292C (and the plans and specifications submitted with the application for the state construction permit). These improvements to the WWTF are to enable the plant to properly treat all of the wastewater that is flowing into the facility, so that the discharge from the facility will meet permit limits in place to protect receiving stream water quality standards in APC&EC Reg. 2.

Concerning the acceptance of industrial wastewater from a new industrial facility, nothing in the permit application, nor the draft permit, referenced the acceptance of wastewater from any new significant industrial users (SIUs) of the treatment plant.

However, as noted in the response to Comment 8, supplementary requirements to evaluate the development and implementation of a Pretreatment Program have been included with the standard Pretreatment Requirements in Part II.7 of the permit. The requirements include a 12-month schedule of compliance.

Comment 18 I might also point out that my grandchildren swim in this creek regularly.

Response: The Department acknowledges this comment.

Comment 19 It bothers me that I have been prohibited from applying chicken litter to my fields for over ten years, and incurred a financial loss, while the WWTP was releasing excess amounts of phosphorus, we cattle farmers took the fall for this.

Response: This permit modification decreases the limits for Total Phosphorus (TP) for the modified treatment system. The concentration limits for TP have been decreased from 1.0 mg/l (Monthly Average and 7-day Average) to 0.5 mg/l Monthly Average and 0.75 mg/l 7-day Average. The mass limit has been decreased from 18.3 lbs/day Monthly Average to 15.8 lbs/day Monthly Average.

Comment 20 The only sure way that I am in favor of this permit is if (1) Simmons Poultry builds a pre-treatment plant at their new location to remove blood because we shouldn't subsidize their waste treatment and (2) that if Decatur WWTP becomes overloaded again, that they notify landowners and send Centerton's waste back to Bentonville and/or tell Simmons to stop processing until they fix the problems and (3) that they build a tertiary treatment facility, designed to be the best in Arkansas and send only pure, pristine, drinkable water down Columbia Hollow Creek, no matter what the cost.

Response: (1) Concerning the pre-treatment of industrial wastewater from a new industrial facility, nothing in the permit application, nor the draft permit, referenced the acceptance of wastewater from any new significant industrial users (SIUs) of the treatment plant.

However, as noted in the response to Comment 8, supplementary requirements to evaluate the development and implementation of a Pretreatment Program have been included with the standard Pretreatment Requirements in Part II.7 of the permit. The requirements include a 12-month schedule of compliance.

(2) The wastewater collection system from Centerton to the Bentonville WWTP has been removed; Centerton wastewater cannot be sent back to the Bentonville plant under existing collection system configurations.

Part III.D.6 of the permit requires the permittee to report to the Department any noncompliance which may endanger health or the environment. The permittee must make an oral report within 24-hours, and submit a written report within 5 days. There is no provision in the regulations for direct notification of non-government parties.

(2&3) This permit modification is to incorporate changes in the treatment capacity and design flow of the WWTF as outlined in State Construction Permit No. AR0022292C (and the plans and specifications submitted with the application for the state construction permit), in accordance with the Corrective Action Plan (CAP) submitted on April 10, 2017, which was required by Condition 2 of the Order and Agreement section of CAO LIS# 16-094, executed November 23, 2016. These improvements to the WWTF are to enable the plant to properly treat all of the wastewater that is flowing into the facility, including wastewater from the Decatur Simmons plant, so that the discharge from the facility will meet permitted effluent limits which are protective of water quality standards in APC&EC Reg. 2.

Comment submitted by Patricia Thompson

Comment 21 Do not allow waste water to be discharged into Spavinaw Creek...against this permit! Decatur's not equipped to handle more sewage

Response: The Decatur wastewater treatment facility (WWTF) currently receives flows of wastewater greater than the design flow of the facility. This overloading has resulted in violations of various requirements of the NPDES discharge permit.

This permit modification is to incorporate changes in the treatment capacity and design flow of the WWTF as outlined in State Construction Permit No. AR0022292C (and the plans and specifications submitted with the application for the state construction permit). These improvements to the WWTF are to enable the plant to properly treat all of the wastewater that is flowing into the facility in order for the discharge from the facility to meet effluent limitations which are protective of water quality standards in APC&EC Reg. 2.

Comment submitted by Stacey Amos

Comment 22 Protesting the slug coming from the city of Decatur

Response: The Department acknowledges this comment.

Summary of Changes to the permit				
Part	Draft Permit	Final Permit	Reason	Comment #
II.7	Standard boilerplate Pretreatment Requirements	Supplementary requirements to evaluate the development and implementation of a Pretreatment Program added to the standard boilerplate Pretreatment Requirements	Significant contribution to influent by SIU	4, 8, 14, 17, and 20