Permit Number: AR0022403

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 (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. § 1251 et seq.),

The applicant's mailing address is:

Bentonville Wastewater Treatment Plant
1901 N.E. A Street
Bentonville, AR 72712

is authorized to discharge from a facility located as follows: one mile northeast of Bentonville Square in Benton County, Arkansas.

Latitude: 36° 23' 27.38"; Longitude: 94° 12' 14.4"

to receiving waters named:

from the plant site to Town Branch, then to Little Sugar Creek in Segment 3J of the Arkansas River Basin.

The outfall is located at the following coordinates:

Outfall 001: Latitude: 36° 23' 32.4"; Longitude: 94° 12' 12.6"

Discharge shall be in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, and IV hereof.

The Response to comments is attached.

Original Issue Date:	January 31, 2009
Original Effective Date:	March 1, 2009
Minor Modification Issue Date:	February 20, 2009
Minor Modification Effective Date:	March 1, 2009
Minor Modification Effective Date:	December 1, 2013
Expiration Date:	February 28, 2014

Ryan Benefield, P.E.
Deputy Director
Arkansas Department of Environmental Quality

11/15/13
Issue Date

PART I
PERMIT REQUIREMENTS

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

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below from a treatment system consisting of bar screen, grit and scum removal, aeration basins, anoxic basins, final clarifiers, UV disinfection, post aeration with a design flow of 4.0 MGD

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Flow	N/A	Report, MGD	Report, MGD (Daily Maximum)	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)	333.6	10	15	once/week	24-hr Composite
Total Suspended Solids (TSS)	500.0	15	23	once/week	24-hr Composite
Ammonia Nitrogen (NH3-N)					
(April-Oct)	53.4	1.6	3.9	once/week	24-hr Composite
(Nov-March)	136.8	4.1	7.5	once/week	24-hr Composite
Dissolved Oxygen					
(May-Oct)	N/A	5 (Monthly Avg. Min.)		once/week	grab
(Nov-Apr)	N/A	6.5 (Monthly Av. Min.)		once/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
	N/A	200	400	once/week	grab
Total Phosphorus	33.4	1	1.5	once/week	24-hr Composite
Nitrate + Nitrite Nitrogen	N/A	Report	10 (Daily Max.)	two/week	24-hr Composite
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	one/week	grab
Chronic WET Testing[1]	N/A	N/A	N/A	once/quarter	24-hr composite
Pimephales promelas (Chronic)[1]		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C		Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Growth (7-day NOEC)TGP6C		Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) TOP6C		Report %		once/quarter	24-hr composite
Coefficient of Variation (Growth) TQP6C		Report %		once/quarter	24-hr composite
Growth (7-day NOEC) TPP6C		Report %		once/quarter	24-hr composite
Ceriodaphnia dubia (Chronic)[1]		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B		Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail production (7-day NOEC)TGP3B		Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) TOP3B		Report %		once/quarter	24-hr composite
Coefficient of Variation (Reproduction) TQP3B		Report %		once/quarter	24-hr composite
Reproduction (7-day NOEC) TPP3B		Report %		once/quarter	24-hr composite

1 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 due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples taken in compliance with the monitoring requirements specified above shall be taken from the following location; after the post-aeration and at the following monitoring coordinates: Latitude: 36° 23' 31.7"; Longitude: 94° 12' 13.4"

SECTION B. PERMIT COMPLIANCE

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

1. Final Effluent Limits:

   Compliance is required on the effective date of the permit.

2. The permittee shall submit all necessary proposed Pretreatment Program modifications, including Ordinance revisions to ADEQ within twelve (12) months of the effective date of this permit.

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

4. During the month of December the permittee shall submit an updated pretreatment program status report to the ADEQ containing the information described in Condition 7. d. of Part II.

5. The permittee shall submit annual reports including the biosolids and soil analyses conducted under Condition 8.b (1) and 8.b (2) prior to May 1.

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 Act 211 of 1971, Act 1103 of 1991, Act 556 of 1993, and APCEC Regulation No. 3, as amended.

2. For publicly owned treatment works, the 30-day average percent removal for Carbonaceous Biochemical Oxygen Demand (CBOD5) and Total Suspended Solids shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR Part 133.102, as adopted by reference in APCEC Regulation No. 6.

3. Produced sludge shall be disposed of by land application only when meeting the following criteria:

   a. Sewage sludge from treatment works treating domestic sewage (TWTDS) must meet the applicable provisions of 40 CFR Part 503; and

   b. The sewage sludge has not been classified as a hazardous waste under state or federal regulations.

4. The permittee shall give at least 120 days prior notice to the Director of any change planned in the permittee's sludge disposal practice or land use applications, including types of crops grown (if applicable).

5. The permittee shall report all overflows with the Discharge Monitoring Report (DMR) submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: the date, time, duration, location, estimated volume, and cause of overflow; observed environmental impacts from the overflow; action taken to address the overflow; and ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary). All overflows which endanger health or the environment shall be orally reported to this department (Enforcement Section of the Water Division), within 24 hours from the time the permittee becomes aware of the circumstance. A written report of overflows which endanger health or the environment, shall be provided within 5 days of the time the permittee becomes aware of the circumstance.

6. 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.

7. 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 acceptable to the Director; 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.

8. Additional Conditions for Land Application of Municipal Wastewater Biosolids

a. <u>GENERAL REQUIREMENTS:</u>

(1) Only biosolids which are not classified as a hazardous waste under state or federal regulations may be land applied.

(2) The waste disposal system shall be operated and maintained in accordance with the Waste Management Plan (WMP) approved by the Department.

(2) Plant Available Nitrogen (PAN) will not be applied at a rate exceeding the annual nitrogen uptake of the crop. At no time will the nitrogen application rate (PAN/acre-year) be allowed to exceed the site specific rate approved by the Department.

(3) Biosolids with Polychlorinated Biphenyls (PCB's) concentrations equal or greater than 50 mg/kg (dry basis) will not be land applied at any time.

(4) CEILING CONCENTRATIONS (milligrams per kilogram, dry weight basis): If the biosolids to be land applied exceed any of the pollutant concentrations listed in **Table 1** below, the biosolids shall not be land applied.

TABLE 1	
Element	**Concentration (mg/kg)**
Arsenic	75
Cadmium	85
Chromium	*
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

*This value is being reevaluated by US EPA.

(5) POLLUTANTS LIMITS: When bulk biosolids are applied to agricultural land, forest, a public contact site, or reclamation site, the permittee shall not exceed the Cumulative Pollutant Loading Rate values listed in **Table 2**, or the Pollutant Concentration values listed in **Table 3.**

TABLE 2		
Element	**Cumulative Pollutant Loading Rate**	
	Kg/ha	**lbs/ac**
Arsenic	41	37
Cadmium	39	35
Chromium	*	*
Copper	1,500	1,350
Lead	300	270
Mercury	17	15
Molybdenum	*	*
Nickel	420	378
Selenium	100	90
Zinc	2,800	2,520

*This value is being reevaluated by US EPA.

TABLE 3	
Element	**Monthly Average Concentration (mg/kg)**
Arsenic	41
Cadmium	39
Chromium	*
Copper	1,500
Lead	300
Mercury	17
Molybdenum	*
Nickel	420
Selenium	36
Zinc	2,800

*This value is being reevaluated by US EPA.

(6) The biosolids generator must issue a signed certification stating that the Pathogen Reduction, Vector Attraction Reduction, and Pollutant Concentration Limits have been met. The State requirements on Pathogen Reduction, Vector Attraction Reduction, and Pollutant Concentration Limits are the same as those listed in 40 CFR Part 503. All the above information must be made available to the land-applicator before the biosolids materials are delivered. Concurrently, a signed copy of each certification must be also submitted to the ADEQ Water Division.

(7) Biosolids can only be stored in accordance with the permit and the approved waste management plan, if provisions are made in the plan for that purpose. The utilization of improvised field storage sites or any other site not approved by the Department is strictly prohibited.

(8) Transportation of the biosolids must be such that will prevent the attraction, harborage or breeding of insects or rodents. It must not produce conditions harmful to public health, the environment, odors, unsightliness, nuisances, or safety hazards.

(9) The containers used for the transportation of the biosolids must be of the closed type. Transportation equipment must be leak-proof and kept in a sanitary condition at all times. Biosolids must be enclosed or covered as to prevent littering, vector attraction, or any other nuisances.

(10) The permittee will be responsible for assuring that the land owner, of any land application site not owned by the permittee, and the waste applicator, if different from the permittee, abide by the conditions of this permit.

(11) Waste shall not be discharged from this operation to the waters of the State or onto the land in any manner that may result in runoff to the waters of the State.

(12) Biosolids will not be applied to slopes with a gradient greater than 15%; or to soils that are saturated, frozen or covered with snow, during rain, or when precipitation is imminent.

(13) The permittee will not cause any underground drinking water source to exceed the limitations in 40 CFR Part 257, Appendix I.

Chemicals and their Maximum Contaminant Levels (MCLs) from 40 CFR Part 257, Appendix I

Chemical	mg/l	Chemical	mg/l
Arsenic	0.05	Lindane	0.004
Barium	1.0	Lead	0.05
Benzene	0.005	Mercury	0.002
Cadmium	0.01	Methoxychlor	0.1
Carbon tetrachloride	0.005	Nitrate	10.0
Chromium (hexavalent)	0.05	Selenium	0.01
2,4-Dichlorophenoxy acetic acid	0.1	Silver	0.05
1,4-Dichlorobenzene	0.075	Toxaphene	0.005
1,2-Dichloroethane	0.005	1,1,1-Trichloroethane	0.2
1,1-Dichloroethylene	0.007	Trichloroethylene	0.005
Endrin	0.0002	2,4,5-Trichlorophenoxy acetic acid	0.01
Fluoride	4.0	Vinyl chloride	0.002

(14) The permittee will not cause or contribute to the taking of life or the destruction or adverse modification of the critical habitat of any known endangered or threatened species of plant, fish or wildlife.

(15) The permittee will take all necessary measures to reduce obnoxious and offensive odors. Equipment will be maintained and operated to prevent spillage and leakage.

(16) Disposal of wastewater biosolids in a flood plain will not restrict the flow of the base flood, reduce the temporary storage capacity of the flood plain, or result in a washout of solid waste, so as to pose a hazard to human life, wildlife or land and water uses.

(17) Biosolids will not be spread within 50 feet of rock outcrops and property lines; 100 feet of lakes, ponds, springs, streams, wetlands and sinkholes; 200 feet of drinking water wells; 300 feet of occupied buildings and streams classified as an "extraordinary resource water body."

(18) All new land application sites must have a waste management plan approved by the Department prior to land application of wastewater biosolids. This change normally requires a permit modification.

b. MONITORING AND REPORTING REQUIREMENTS:

The permittee will be responsible for the biosolids analyses, soil analyses, and a reporting schedule that must include the following:

(1) Biosolids Analysis

i. Biosolids samples collected must be representative of the treated biosolids to be land applied. The samples are to be stored in appropriate containers and kept refrigerated or frozen to prevent any change in composition and analyzed by a laboratory certified by the Department.

ii. Quarterly representative samples of the land-applied biosolids will be analyzed and results expressed in dry basis in mg/kg, except as otherwise indicated:

Volatile Solids (%)	Total Kjeldahl Nitrogen
Total Solids(%)	Total Phosphorus
Nitrate +Nitrate Nitrogen	Total Potassium
Ammonia Nitrogen	Arsenic
Cadmium	Copper
Lead	Mercury
Nickel	Selenium
Zinc	pH (SU)

(2) Soils Analysis

Each land application site will be soil tested in the Spring prior to application for the following parameters by a laboratory certified by the Department:

Nitrate-Nitrogen	Potassium
Phosphorus	Magnesium
Arsenic	Cadmium
Copper	Lead
Mercury	Nickel
Selenium	Zinc
pH	
Cation Exchange Capacity (me/100g)	
Salt Content (micro-mhos/cm)	

(3) Reporting

i. Annual reports will be sent to the Department and to the owner of the land receiving biosolids prior to May 1, which must include the following:

The biosolids and soil analyses conducted under section a. above (including a statement that the analyses were performed in accordance with EPA Document SW-846, "Test Methods for Evaluation of Solid Waste," or other procedures approved by the Director), application dates and locations, volumes of biosolids applied (in dry tons/acre-year and gallons/acre-year of biosolids), methods of disposal, identity of hauler, and type of crop grown, amounts of nitrogen applied, total elements added that year (lbs/acre), total elements applied to date, and copies of soil analyses for each site.

ii. The permittee will also maintain copies of the above records for Department personnel review at the biosolids generating facility for a period of three (3) years.

Sludge will be applied at the following land application sites:

Field number	New /old	Range	Township	Section	Total Acres	Available Acres	Crop Cover	Loading Rate (in lbs N/acre)
Beckloff #1	Old	31 W	20N	21	24.1	13.1	Fescue	160
Beckloff #2	Old	31 W	20N	21	19.4	19.4	Fescue	160
Beckloff #3	Old	31 W	20N	21	17.5	17.5	Fescue	160
Beckloff #4	Old	31 W	20N	21	16.6	16.6	Fescue	160

c. The permittee shall comply with the Arkansas Soil and Water Conservation Commission "TITLE XXII RULES GOVERNING THE ARKANSAS SOIL NUTRIENT AND POULTRY LITTER APPLICATION AND MANAGEMENT PROGRAM."

9. CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

a. The permittee shall operate an industrial pretreatment program in accordance with Section 402(b)(8) of the Clean Water Act, the General Pretreatment Regulations (40 CFR Part 403) and the approved POTW pretreatment program submitted by the permittee. The pretreatment program was approved on November 28, 1984, modified and approved on October 6, 1995, modified and approved on December 6, 2004 and once again modified and approved on November 4, 2013 to be current with the Streamlining revisions to the Federal Pretreatment Regulations in 40 CFR 403.

The POTW pretreatment program is hereby incorporated by reference and shall be implemented in a manner consistent with the following requirements:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

All specific prohibitions or limits developed under this requirement are deemed to be conditions of this permit. The specific prohibitions set out in 40 CFR Part 403.5(b) shall be enforced by the permittee unless modified under this provision.

c. The permittee shall analyze the treatment facility influent and effluent for the presence of the toxic pollutants listed in 40 CFR 122 Appendix D (NPDES Application Testing Requirements) Table II at least once/year and the toxic pollutants in Table III at least 4 times/year (quarterly). If, based upon information available to the permittee, there is reason to suspect the presence of any toxic or hazardous pollutant listed in Table V, or any other pollutant, known or suspected to adversely affect treatment plant operation, receiving water quality, or solids disposal procedures, analysis for those pollutants shall be performed at least 4 times/year (quarterly) on both the influent and the effluent.

The influent and effluent samples collected shall be composite samples consisting of at least 12 aliquots collected at approximately equal intervals over a representative 24 hour period and composited according to flow. Sampling and analytical procedures shall be in accordance with guidelines established in 40 CFR 136. Where composite samples are

inappropriate, due to sampling, holding time, or analytical constraints, at least 4 grab samples, taken at equal intervals over a representative 24 hour period, shall be taken.

d. The permittee shall prepare annually a list of Industrial Users which during the preceding twelve months were in significant noncompliance with applicable pretreatment requirements. For the purposes of this Part, significant noncompliance shall be determined based upon the more stringent of either criteria established at 40 CFR Part 403.8(f)(2)(viii) [rev. 10/14/05] or criteria established in the approved POTW pretreatment program. This list is to be published annually in the newspaper of general circulation that provides meaningful public notice within the jurisdiction(s) served by the POTW during the month of December.

   In addition, during the month of December the permittee shall submit an updated pretreatment program status report to the ADEQ containing the following information:

   i. An updated list of all significant industrial users and identify which Industrial Users are Non-Significant Categorical Industrial Users (NSCIUs) or Middle Tier CIUs. The list must also identify:

      (a) Industrial Users subject to categorical Pretreatment Standards that are subject to reduced monitoring and reporting requirements under 40 CFR 403.12(e)(2) & (3),

      (b) Industrial Users subject to the following categorical Pretreatment Standards [Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) (40 CFR Part 414), Petroleum Refining (40 CFR Part 419), and Pesticide Chemicals (40 CFR Part 455)] and for which the Control Authority has chosen to use the concentration-based standards rather than converting them to flow-based mass standards as allowed at 40 CFR 403.6(c)(6).

      (c) Categorical Industrial Users subject to concentration-based standards for which the Control Authority has chosen to convert the concentration-based standards to equivalent mass limits, as allowed at 40 CFR 403.6(c)(5).

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

      (e) Best Management Practices or Pollution Prevention alternatives required by a categorical Pretreatment Standard or as a local limit requirement that are implemented and documentation to demonstrate compliance, as required at 40 CFR 403 (b), (e) and (h).

(2) For each industrial user listed the following information shall be included:

(a) Standard Industrial Classification (SIC) and NAICS code and categorical determination;

(b) Control document status. Whether the user has an effective control document, and the date such document was last issued, reissued, or modified, (indicate which industrial users were added to the system (or newly identified) within the previous 12 months);

(c) A summary of all monitoring activities performed within the previous 12 months. The following information shall be reported:

* total number of inspections performed;
* total number of sampling visits made;

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

* Compliant (C) - no violations during the previous 12 month period;
* Non-compliant (NC) - one or more violations during the previous 12 months but does not meet the criteria for significantly noncompliant industrial users;
* Significant Noncompliance (SNC) - in accordance with requirements described in d. above; and .

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

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

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

(5) The results of all influent and effluent analyses performed pursuant to paragraph (c) above;

(6) A copy of the newspaper publication of the significantly noncompliant industrial users giving the name of the newspaper and the date published;

(7) The information requested may be submitted in tabular form as per the example tables provided for your convenience (See Attachment A, B and C); and

(8) The monthly average water quality based effluent concentration necessary to meet the state water quality standards as developed in the approved technically based local limits.

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

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

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

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

10. Whole Effluent Toxicity Testing (7-Day Chronic Noec Freshwater)

A. Scope And Methodology

(1) The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO FINAL OUTFALL: **001**

CRITICAL DILUTION (%): **99 %**

EFFLUENT DILUTION SERIES (%): **31%, 42%, 56%, 74%, and 99%**

COMPOSITE SAMPLE TYPE: Defined at Part I

TEST SPECIES/METHODS: 40 CFR Part 136

Ceriodaphnia dubia (water flea) - chronic static renewal survival and reproduction test, Method 1002.0, EPA/600/4-91/002 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/600/4-91/002, or the most recent update

thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

(2) The NOEC (No Observed Effect Concentration) is defined as the greatest effluent dilution at and below which toxicity that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic toxicity test failure is defined as a demonstration of a statistically significant toxic effect at test completion to a test species at or below the critical dilution.

(3) 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.

(4) Test failure is defined as a demonstration of statistically significant sub-lethal or lethal effects to a test species at or below the effluent critical dilution. If any test demonstrates significant toxic effects at or below the critical dilution, the permittee shall henceforth increase the frequency of testing for the affected species to once per quarter for the life of the permit.

B. Persistent Lethality

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal effects at or below the critical dilution. Significant lethal effects are herein defined as a statistically significant difference at the 95% confidence level between the survival of the appropriate test organism in a specified effluent dilution and the control (0% effluent).

(1) Part I Testing Frequency Other Than Monthly

(a) The permittee shall conduct a total of two (2) additional tests for any species that demonstrates significant lethal effects at or below the critical dilution. The two additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional tests in lieu of routine toxicity testing. The full report shall be prepared for each test required by this section in accordance with procedures outlined in Item E of this section and submitted with the period DMR to the permitting authority for review.

(b) If one or both of the two additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item G 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 be also be required due to a demonstration of persistent significant sub-lethal effects or intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests. Monthly retesting is not required if the permittee is performing a TRE.

(c) If any test demonstrates significant toxic effects at or below the critical dilution, the permittee shall henceforth increase the frequency of testing for the affected species to once per quarter for the life of the permit.

(d) The provisions of Item B(1)(a) of this condition are suspended upon submittal of the TRE Action Plan.

(2) Part I Testing Frequency of Monthly

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

C. Sub-Lethal Failures

If a statistically significant sub-lethal effect is demonstrated at or below the critical dilution during any quarterly test, the permittee shall conduct two additional tests. The additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional in lieu of routine toxicity testing.

Monthly retesting is not required if the permittee is performing a TRE.

D. Required Toxicity Testing Conditions

(1) 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 nonlethal 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) Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

(h) PMSD range of 13 - 47 for *Ceriodaphnia dubia* reproduction.

(i) PMSD range of 12 – 30 for Fathead minnow growth.

(2) 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/600/4-91/002 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/600/4-91/002 or the most recent update thereof.

(c) If the conditions of Test Acceptability are met in Item D.1) 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 an NOEC of not less than the critical dilution for the DMR reporting requirements found in Item E below.

(3) 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:

i. Toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and

ii. 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 D.1), 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:

i. A synthetic dilution water control which fulfills the test acceptance requirements of Item D.1) was run concurrently with the receiving water control;

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

iii. The permittee includes all test results indicating receiving water toxicity with the full report and information required by Item E below; and

iv. 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.

(4) Samples and Composites

(a) The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item A(1) above.

(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 are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.

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

(d) If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must collect an effluent

composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. 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 E of this section.

(e) Multiple Outfalls: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in Item A(1) above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

(f) 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.

E. Reporting

(1) 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/600/4-91/002, 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 to the Department. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for review.

(2) A valid test for each species must be reported on the DMR during each reporting period specified in Part I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of whole effluent toxicity test data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST survival results for each species during the reporting period. 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 ADEQ review.

(3) The permittee shall submit the results of each valid toxicity test on DMR for that reporting period in accordance with Part III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following DMR. Only results of valid tests are to be reported on the DMR.

(a) *Pimephales promelas* (Fathead minnow)

i. If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP6C.

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

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

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

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

(b) Ceriodaphnia dubia

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

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

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

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

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

F. Monitoring Frequency Reduction

(1) The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing for one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution without a major modification. 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*).

(2) Certification: The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in Item D(1). 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 Department will issue a letter of confirmation of the monitoring frequency reduction.

A copy of the letter will be forwarded to the Permit Compliance System section to update the permit reporting requirements.

(3) This monitoring frequency reduction applies only until the expiration date of this permit, at which time the monitoring frequency for both test species reverts to once per quarter until the permit is re-issued.

G. Toxicity Reduction Evaluation (TRE)

(1) Within ninety (90) days of confirming lethality in the retests, 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 TRE Action Plan shall lead to the successful elimination of effluent toxicity at the critical dilution and include the following:

(a) Specific Activities

The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, 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 (800) 553-6847, 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;

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;

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

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

(2) 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.

(3) 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 lethality at the critical dilution.

(4) The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming lethality 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 lethality at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.

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).

11. Stormwater Pollution Prevention Plan Requirements

Stormwater runoff commingling with other process waster discharged from outfall 001 shall be managed in accordance with the Best Management Practices (BMPs) in the form of a stormwater pollution prevention plan (SWPPP) required by the Arkansas Industrial General Stormwater Permit (ARR00000) to control the quality of stormwater discharges associated with industrial activity that are authorized by this permit. Use of BMPs in lieu of numeric effluent limitations in NPDES permits is authorized under 40 CFR 122.44(k) when the Permitting Authority finds numeric effluent limitations to be infeasible to carry out the purposes of the Clean Water Act.

12. Disinfection unit

The permittee is required to maintain the inventory of spare parts for the UV disinfection unit.

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.10. 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 on "Bypassing" (Part III.B.4.a.), and "Upsets" (Part III.B.5.b), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state and federal statues or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

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. Permit Fees

The permittee shall comply with all applicable permit fee requirements 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 II.B.4.b. and 4.c.

b. Notice

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

c. Prohibition of bypass

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

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

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

5. Upset Conditions

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

b. Conditions necessary for demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
   (1) An upset occurred and that the permittee can identify the specific cause(s) of the upset;
   (2) The permitted facility was at the time being properly operated.
   (3) The permittee submitted notice of the upset as required by Part III.D.6.; and
   (4) The permittee complied with any remedial measures required by Part III.B.3.
c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of waste waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the waters of the State. Written approval must be obtained from the ADEQ for land application only.

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 discharges 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.

3. Monitoring Procedures

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

4. Penalties for Tampering

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

5. Reporting of Monitoring Results

Monitoring results must be reported on a Discharge Monitoring Report (DMR) form (EPA No. 3320-1 and other approved Form by ADEQ). Permittees are required to use preprinted DMR forms provided by ADEQ, unless specific written authorization to use other reporting forms is obtained from ADEQ. Monitoring results obtained during the previous calendar month shall be summarized and reported on a DMR form postmarked no later than the 25th day of the month following the completed reporting period to begin on the effective date of the permit. Duplicate copies of DMR forms signed and certified as required by Part III.D.11. and all other reports required by Part III.D., shall be submitted to the Director at the following address:

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

If permittee uses outside laboratory facilities for sampling and/or analysis, the name and address of the contract laboratory shall be included on the DMR.

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of

this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated on the DMR.

7. Retention of Records

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

8. Record Contents

Records and monitoring information shall include:

a. The date, exact place, time and methods of sampling or measurements, and preservatives used, if any;
b. The individuals(s) who performed the sampling or measurements;
c. The date(s) and time analyses were performed;
d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The measurements and results of such analyses.

9. Inspection and Entry

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

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

SECTION D – REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall give notice and provide plans and specification to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility. Notice is required only when:

Any change in the facility discharge (including the introduction of any new source or significant discharge or significant changes in the quantity or quality of existing discharges of pollutants) must be reported to the permitting authority. In no case are any new connections, increased flows, or significant changes in influent quality permitted that cause violation of the effluent limitations specified herein.

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 II.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:
(i) 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
(ii) 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:
(i) The chief executive officer of the agency, or
(ii) 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 (Act 472 of 1949, as amended).

Final Fact Sheet

for reissuance of the final discharge Permit Number AR0022403 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:

Bentonville Wastewater Treatment Plant
1901 N.E. A Street
Bentonville, AR 72712

3. PREPARED BY.

The permit was prepared by:

Marysia Jastrzebski, P.E.
Staff Engineer
Discharge Permits Section, Water Division
(870)446-5939
E-mail: marysia@adeq.state.ar.us

4. PERMIT ACTIVITY.

Previous Permit Effective Date:	01/01/2004
Previous Permit Modification Date:	12/06/2004
Previous Permit Expiration Date:	12/31/2008

The permittee submitted a permit renewal application on 6/10/2008. Additional information was submitted on September 19, 2008, October 1, 2008, and October 20, 2008. The current discharge permit is being reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

DMR Review:

The Discharge Monitoring Reports (DMR's) from the previous permit cycle were reviewed during the permit renewal process. The following violations were found:

July 2007 – Ammonia Nitrogen
March and April 2007 – Total Phosphorus

It is the best engineering judgment of the permit writer that the facility is in compliance with the effluent limitations and no further action is necessary.

Legal Order Review:

There are currently no active Consent Administrative Orders (CAOs) or Notice of Violations (NOVs) for this facility.

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 Latitude and Longitude of the facility location and Outfall 001 have been corrected.
2. A list of treatment units has been included for Outfall 001 on Page 1 of Part IA.
3. The Latitude and Longitude and narrative description of the sampling location have been added.
4. The final effluent limitations for Ammonia Nitrogen for the months of May through October have been revised.
5. A requirement for the monitoring and reporting for Ammonia Nitrogen for the months of November through April has been replaced by the final effluent limitations.
6. The final effluent limitations for Dissolved Oxygen have been added.
7. The final effluent limitations for Total Residual Chlorine have been deleted.
8. Mass limitation for Total Phosphorus has been included.
9. A schedule of compliance regarding TRC and Phosphorus has been deleted.
10. The effluent limitations for pH have been changed from 6-9 s.u. to 6.0-9.0 s.u.
11. The monitoring frequencies for Carbonaceous Biochemical Oxygen Demand, Total Suspended Solids, Ammonia Nitrogen, Total Phosphorus, Nitrate + Nitrite Nitrogen, Fecal Coliform Bacteria and pH have been reduced.
12. Sample type for Carbonaceous Biochemical Oxygen Demand, Total Suspended Solids, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, and Total Phosphorus has been changed from 6-hr composite to 24-hr composite.
13. A schedule of compliance regarding pretreatment and land application has been added.
14. A special condition requiring a Class IV licensed operator has been added in Part II of the permit.
15. Part II, Part III, and Part IV have been revised.

6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

The outfall is located at the following coordinates based on GPS reading collected on September 19, 2008 and confirmed on google earth maps:

Latitude: 36° 23' 32.4" Longitude: 94° 12' 12.6"

The receiving waters named:

from the plant site to Town Branch, then to Little Sugar Creek in Segment 3J of the Arkansas River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 11070208 and reach # 901 is a losing stream. The receiving stream is a Water of the State classified for secondary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

7. 303(d) LIST AND ENDANGERED SPECIES CONSIDERATIONS.

a. 303(d) List:

Arkansas 303(d) List:

The receiving stream has been added by EPA to Arkansas 2008 303d list in Category 5a for Total Phosphorus. Since no TMDL has been completed and the final permit includes the effluent limitations for Total Phosphorus, no additional permit action is necessary at this time.

A reopener clause is established in Part II of the permit, which allows the permit to be modified, if necessary, to conform with an approved waste load allocation (WLA) as part of a Total Maximum Daily Load (TMDL).

Missouri 303(d) List:

The facility discharges into Town Branch which flows north before reaching Little Sugar Creek and Missouri border. Further downstream Little Sugar flows into Big Sugar Creek and into the Elk River.

All three streams, Little Sugar Creek, Big Sugar Creek, and Elk River, are listed on Missouri 2002 303(d) List as impaired due to Nutrients. They do not appear on the proposed 2004/2006 303(d) list since Total Maximum Daily Load (TMDL) study for the Elk River Basin was completed by the Missouri Department of Natural Resources (DNR) in January 2004 and approved by EPA on March 26, 2004. While the study identified the poultry production and processing industry in Northwest Arkansas and Southwest Missouri as the most significant contributor, according to TMDL both point and non-point sources will need to make reduction in nutrient loading to address the problem.

According to Section 10.0 Implementation Plan of the Missouri DNR final TMDL report (page 26) all permits for facilities discharging to the Elk River watershed should contain a monitoring requirement for Total Nitrogen and Total Phosphorus. This requirement is necessary to provide further information regarding the nutrient concentration in individual effluents and to provide more accurate point source loading information.

Total Phosphorus and Total Nitrogen:

The permit already includes the final effluent limitations for Total Phosphorus. These limits are identical to the permit limitations given to all Missouri permitted facilities discharging to the Elk River watershed and having a design flow greater than or equal to 0.4 MGD. Since the permit includes effluent limitations for Ammonia Nitrogen and Nitrate + Nitrite Nitrogen it is best professional judgment of the permit writer that a requirement for monitoring and reporting for Total Nitrogen is not necessary.

b. **Endangered Species**:

No comments on the application were received from the U.S. Fish and Wildlife Service (USF&WS).

8. OUTFALL AND TREATMENT PROCESS DESCRIPTION.

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

a. Design Flow: 4.0 MGD

b. Type of Treatment: bar screen, grit and scum removal, aeration basins, anoxic basins, final clarifiers, UV disinfection, 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 is greater than 1.0 MGD.

9. ACTIVITY.

Under the Standard Industrial Classification (SIC) code of 4952 or North American Industry Classification System (NAICS) code of 22132, the applicant's activities are the operation of a sewage treatment plant.

10. INDUSTRIAL WASTEWATER CONTRIBUTIONS.

INDUSTRIAL USERS

The facility does receive industrial process wastewater from three non-categorical significant industrial users and one categorical industrial user. Based on the applicant's effluent compliance history and the type of industrial contributions, standard Pretreatment Program implementation conditions are deemed necessary at this time.

A written certification that existing technically based local limits are adequate to prevent pass through, inhibition, or interference is required within six (6) months of the effective date of the permit or; a written notification that a technical evaluation revising the current technically based limits will be submitted within twelve (12) months of the effective date of the permit.

Pretreatment requirements have been added to modify the permittee's Program to be current with the newly revised (10/05) Pretreatment Regulations under 40 CFR 403. Submittal of these modifications are due within twelve (12) months of the effective date of the permit.

Industrial Contributor	Principal Product	Process Wastewater Flow
Krafts Food Global, Inc.	Cheese Flavor Product	0.35 mgd
3 M ESPE OMNI Preventative Care	Prescription Dental Rinses	0.00005 mgd
Wal-Mart Fleet Maintenance	Oil Changes, Engine Repairs, Trailer Repairs, Tire and Brake Replacement	0.05 mgd

11. SEWAGE SLUDGE PRACTICES.

Sludge is composted and/or land applied at the following land application sites:

Field number	New /old	Range	Township	Section	Total Acres	Available Acres	Crop Cover	Loading Rate (in lbs N/acre)
Beckloff #1	Old	31 W	20N	21	24.1	13.1	Fescue	160
Beckloff #2	Old	31 W	20N	21	19.4	19.4	Fescue	160
Beckloff #3	Old	31 W	20N	21	17.5	17.5	Fescue	160
Beckloff #4	Old	31 W	20N	21	16.6	16.6	Fescue	160

12. PERMIT CONDITIONS.

The Arkansas Department of Environmental Quality has made a determination to issue a final permit for the discharge described in the application. Permit requirements are based on

federal regulations (40 CFR Parts 122, 124, and Subchapter N), the National Pretreatment Regulation in 40 CFR Part 403 and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et. seq.).

a. **Final Effluent Limitations**

Outfall 001- treated municipal wastewater

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	**Discharge Limitations**			**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Flow	N/A	Report, MGD	Report, MGD (Daily Maximum)	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)	333.6	10	15	once/week	24-hr Composite
Total Suspended Solids (TSS)	500.0	15	23	once/week	24-hr Composite
Ammonia Nitrogen (NH3-N)					
(April-Oct)	53.4	1.6	3.9	once/week	24-hr Composite
(Nov-March)	136.8	4.1	7.5	once/week	24-hr Composite
Dissolved Oxygen					
(May-Oct)	N/A	5.0 (Monthly Avg. Min.)		once/week	grab
(Nov-Apr)	N/A	6.5 (Monthly Avg. Min.)		once/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
	N/A	200	400	once/week	grab
Total Phosphorus	33.4	1	1.5	once/week	24-hr composite
Nitrate + Nitrite Nitrogen	N/A	Report	10 (Daily Max.)	two/week	24-hr composite
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	one/week	grab
Chronic WET Testing	N/A	Report		once/quarter	24-hr composite

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

13. BASIS FOR PERMIT CONDITIONS.

The following is an explanation of the derivation of the conditions of the final permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons suggesting the decisions as required under 40 CFR Part 124.7 (48 FR 1413, April 1, 1983).

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

Following regulations promulgated at 40 CFR Part 122.44 (1)(2)(ii), the final permit limits are based on either technology-based effluent limits pursuant to 40 CFR Part 122.44 (a) or on State water quality standards and requirements pursuant to 40 CFR Part 122.44 (d), whichever are more stringent as follows:

Parameter	Water Quality-Based		Technology-Based/BPJ		Previous Permit		Permit Limit	
	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l
CBOD5	10	15	25	40	10	15	10	15
TSS	15	23	30	45	15	23	15	23
NH3-N								
(April)	1.6	3.9	N/A	N/A	Report	Report	1.6	3.9
(May-Oct)	1.6	3.9	N/A	N/A	3	4.5	1.6	3.9
(Nov-March)	4.1	7.5	N/A	N/A	Report	Report	4.1	7.5
Dissolved Oxygen								
(May-Oct)	5.0 (Monthly Avg. Min.)		N/A		N/A		5.0 (Monthly Avg. Min.)	
(Nov-Apr)	6.5(Monthly Avg. Min.)		N/A		N/A		6.5 (Monthly Avg. Min.)	
FCB (col/100 ml)	200	400	N/A	N/A	200	400	200	400
Total Phosphorus	1	1.5	N/A	N/A	1	1.5	1	1.5
Nitrate + Nitrite Nitrogen	Report	10 (Daily Max.)	N/A	N/A	N/A	10 (Daily Max.)	Report	10 (Daily Max.)
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6-9 s.u.		6.0-9.0 s.u.	

Parameter	Water Quality or Technology	Justification
CBOD5	Water Quality	MultiSMP Model dated September 5, 2008/ Section

		6.301(C)(2)(a) of Regulation No. 6
TSS	Water Quality	MultiSMP Model dated September 5, 2008/ Section 6.301(C)(2)(b) of Regulation No. 6
NH3-N*	Water Quality	Section 2.512 of Regulation No. 2/ MultiSMP Model dated September 5, 2008
DO**	Water Quality	Section 2.505 of Regulation No. 2
Fecal Coliform Bacteria	Water Quality	Section 6.301(C)(2)(d) of Regulation No. 6
Nitrite + Nitrate Nitrogen	Water Quality	Section 6.301(C)(2)(e) of Regulation No. 6
Total Phosphorus	Water Quality	Section 6.401(F) of Regulation No. 6
pH***	Water Quality	Section 2.504 of Regulation No. 2

* Ammonia Nitrogen

The water quality effluent limitations for Ammonia are based either on DO-based effluent limits or on toxicity-based standards, whichever are more stringent. See 13. b. iii on page 10 below.

It is the best engineering judgment of the permit writer that the existing facility is capable of meeting the proposed limit. No schedule of compliance is included. The final limitation must be met on the effective date of the permit.

** Dissolved Oxygen

The Monthly Average Minimum effluent limitation for Dissolved Oxygen is based on APCEC Regulation No. 2 Section 2.505.

It is the best engineering judgment of the permit writer that the existing facility is capable of meeting the proposed limit. No schedule of compliance is included. The final limitation must be met on the effective date of the permit.

***pH

The effluent limitations for this parameter have been revised from 6-9 s.u. to 6.0-9.0 s.u. to be consistent with Reg.2.504 of Regulation No. 2.

a. **Anti-backsliding**

The final 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 final permit maintains the requirements of the previous permit with the following exceptions:

1. The effluent limitations for TRC are not included at Outfall 001. This change does not constitute backsliding based on 40 CFR 122.44 (l)(2)(i)(B)(1) - information is available which was not available at the time of permit issuance (there is no need to continue the effluent limitations for TRC since chlorination unit has been replaced by UV disinfection unit).

2. The monitoring frequencies for CBOD5, TSS, FCB, Ammonia Nitrogen, Nitrates + Nitrites Nitrogen, Total Phosphorus, and pH have been reduced using EPA's *Interim Guidance for Performance - Based Reductions of NPDES Permit Monitoring Frequencies*. This decrease in monitoring frequency does not constitute backsliding based on 40 CFR 122.44 (l)(2)(i)(B)(1) - information is available (DMR data) which was not available at the time of permit issuance.

3. A sample type for CBOD5, TSS, NH3-N, Nitrate + Nitrite Nitrogen, and Total Phosphorus has been changed from 6-hr composite to 24-hr composite. This requirement is considered to be more stringent than recommended 6-hr composite sample type for self-monitoring of discharges within the flow of 1.00 to 4.99 MGD.

b. **Limits Calculations**

i. Mass limits:

The calculation of the loadings (lbs per day) uses a design flow of 4.0 MGD and the following equation:

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

ii. Daily Maximum Limits:

Daily Maximum limits = Monthly average limits X 1.5

iii. Ammonia-Nitrogen (NH3-N):

The water quality effluent limitations for Ammonia are based either on DO-based effluent limits or on toxicity-based standards, whichever are more stringent. The toxicity-based effluent limitations are based on Chapter 5, Section 2.512 of APCEC Regulation No. 2 and an ADEQ internal memo dated March 28, 2005. The following formula has been used to calculate toxicity based Ammonia limits:

$Cd = (IWC(Qd + Qb) - CbQb)/Qd,$

Where:

Cd = effluent limit concentration
IWC = Ammonia toxicity standard for Ecoregion

Qd = design flow
Qb = Critical flow of the receiving stream. This flow is 67 percent of the 7-day, 10-year low-flow (7Q10) for the receiving stream.
Cb = background concentration

c. **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 add the effluent limitations for Dissolved Oxygen and revise the effluent limitations for Ammonia Nitrogen to the existing water quality limitations:

May-October:	CBOD5/TSS/NH3-N/DO =	10/15/1.6/5 mg/l
November-March:	CBOD5/TSS/NH3-N/DO =	10/15/4.1/6.5 mg/l
April	CBOD5/TSS/NH3-N/DO =	10/15/1.6/6.5 mg/l

Design flow (Q): 4.0 MGD
Background Flow of the receiving stream (7Q10): 0.1 cfs

d. **Toxics Pollutants**

i. Post Third Round Policy and Strategy

Section 101 of the Clean Water Act(CWA) states that "...it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited...". To insure that the CWA's prohibitions on toxic discharges are met, EPA has issued a "Policy for the Development of Water Quality-Based Permit Limitations by Toxic Pollutants"(49 FR 9016-9019,3/9/84). In support of the national policy, Region 6 adopted the "Policy for post Third Round Permitting" and the "Post Third Round Permit Implementation Strategy" on October 1, 1992. The Regional policy and strategy are designed to insure that no source will be allowed to discharge any wastewater which (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical State water quality standard resulting in non-conformance with the provisions of 40 CFR Part 122.44(d); (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

ii. Implementation

The State of Arkansas is currently implementing EPA's Post Third-Round Policy in conformance with the EPA Regional strategy. The 5-year discharge permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, or where there are no applicable technology-based limits, additional water quality-based effluent limitations and/or conditions are included in the discharge

permits. State narrative and numerical water quality standards from Regulation No. 2 are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

iii. Priority Pollutant Scan (PPS)

In accordance with the regional policy ADEQ has reviewed and evaluated the effluent in evaluating the potential toxicity of each analyzed pollutant:

(a) The results were evaluated and compared to EPA's Minimum Quantification Levels (MQLs) to determine the potential presence of a respective toxic pollutant. Those pollutants which are greater than or equal to the MQLs are determined to be reasonably present in the effluent and an evaluation of their potential toxicity is necessary.

(b) Those pollutants with one datum shown as "non-detect" (ND), providing the level of detection is equal to or lower than MQL are determined to be not potentially present in the effluent and eliminated from further evaluation.

(c) Those pollutants with a detectable value even if below the MQL are determined to be reasonably present in the effluent and an evaluation of their potential toxicity is necessary.

(d) For those pollutants with multiple data values and all values are determined to be non-detect, therefore no further evaluation is necessary. However, where data set includes some detectable concentrations and some values as ND, one-half of the detection level is used for those values below the level of detection to calculate the geometric mean of the data set.

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, Reg. No. 2 and with the aquatic toxicity, human health, and drinking water criteria obtained from the "Quality Criteria for Water, 1986 (Gold Book)". The following expression was used to calculate the pollutant instream waste concentration(IWC):

$$IWC = ((C_e \times Q_e) + (C_b \times Q_b))/(Q_e + Q_b)$$

where:

IWC = instream concentration of pollutant after mixing with receiving stream (μg/l)
C_e = pollutant concentration in effluent (μg/l)
Q_e = effluent flow of facility (cfs)
C_b = background concentration of pollutant in receiving stream (μg/l)

Q_b = background flow of receiving stream (cfs)

The following values were used in the IWC calculations:

C_e = varies with pollutant. A single value from the Priority Pollutant Screen (PPS) submitted by the permittee as part of the discharge permit application or the geometric mean of a group of data points(less than 20 data points) is multiplied by a factor of 2.13. This factor is based on EPA's Region VI procedure (See attachment IV of Continuing Planning Process(CPP)) to extrapolate limited data sets to better evaluate the potential toxicity for higher effluent concentrations to exceed water quality standards. This procedure employs a statistical approach which yields an estimate of a selected upper percentile value (the 95th percentile) of an effluent data set which would be expected to exceed 95% of effluent concentrations in a discharge. If 20 or more data points during the last two years are available, do not multiply by 2.13, but instead use the maximum reported values.

Q_e = 4.0 MGD = 6.16 cfs

C_b = 0 µg/l

Q_b = (See below):

I. Aquatic Toxicity

Chronic Toxicity**:** Flow = 0.07 cfs, for comparison with chronic aquatic toxicity. This flow is 67 percent of the 7-day, 10-year low-flow (7Q10) for the receiving stream. The 7Q10 of 0.1 cfs is continued from the previous permit based on the "Stream Assimilative Capacity Study, Town Branch Creek, Bentonville, Arkansas" (dated April 1981 with the most recent revision on February 23, 1983).

Acute Toxicity: Flow = 0.03 cfs, for comparison with acute aquatic toxicity. This flow is 33 percent of the 7Q10 for the receiving stream.

II. Bioaccumulation

Flow = 0.10 cfs, for comparison with bioaccumulation criteria. This flow is the 7Q10 for the receiving stream.

III. Drinking Water

Flow = 0.10 cfs, for comparison with drinking water criteria. This flow is the 7Q10 for the receiving stream.

The following values were used to determine limits for the pollutants:

Hardness = 148 mg/l, based on attachment VI of CPP.

TSS = 2.5 mg/l, based on attachment V of CPP

pH = 7.26 s.u., based on compliance data from EPA's STORET (Storage and retrieval), Water Quality Data Base System, utilizing ADEQ accumulated data for Station ARK0056.

iv. Water Quality Standards for Metals and Cyanide

Standards for Chromium (VI), Mercury, Selenium, and Cyanide are expressed as a function of the pollutant's water-effect ratio (WER), while standards for cadmium, chromium (III), copper, lead, nickel, silver, and zinc are expressed as a function of the pollutant's water-effect ratio, and as a function of hardness.

The Water-effect ratio (WER) is assigned a value of 1.0 unless scientifically defensible study clearly demonstrates that a value less than 1.0 is necessary or a value greater than 1.0 is sufficient to fully protect the designated uses of the receiving stream from the toxic effects of the pollutant.

The WER approach compares bioavailability and toxicity of a specific pollutant in receiving water and in laboratory test water. It involves running toxicity tests for at least two species, measuring LC50 for the pollutant using the local receiving water collected from the site where the criterion is being implemented, and laboratory toxicity testing water made comparable to the site water in terms of chemical hardness. The ratio between site water and lab water LC50 is used to adjust the national acute and chronic criteria to site specific values.

v. Conversion of Dissolved Metals Criteria for Aquatic Life to Total Recoverable Metal

Metals criteria established in APCEC Regulation No. 2, Section 2.508 for aquatic life protection are based on dissolved metals concentrations and hardness values. However, Federal Regulations cited at 40 CFR Part 122.45(c) require that effluent limitations for metals in discharge permits be expressed as total recoverable based on Attachment V of CPP. Therefore a dissolved to the total recoverable metal conversion must be implemented. This involves determining a linear partition coefficient for the metal of concern and using this coefficient to determine the fraction of metal dissolved, so that the dissolved metal ambient criteria may be translated to a total effluent limit. The formula for converting dissolved metals to total recoverable metals for streams and lakes are provided in Attachment V of CPP and Region 6 Implementation Guidance for Arkansas Water Quality Standards promulgated at 40 CFR Part 131.36.

vi. Comparison of the submitted information with the water quality standards and criteria

The following pollutants were determined to be present in the effluent for each pollutant as reported by the permittee.

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Copper, Total Recoverable*	1.8	0.5
Mercury, Total Recoverable*	0.001	0.005
Nickel, Total Recoverable*	17	0.5
Zinc, Total Recoverable*	33	20
Phenols, Total Recoverable*	38	5

* single data point submitted with PPS on September 19, 2008

The PPS submitted on September 19, 2008, showed Bis(2ethylhexyl)phthalate concentration of 77 µg/l. This parameter is a known plasticizer. The permittee was asked to retest. Sample was collected on November 3, 2008. The results (no detect, i. e. less than 2.5 µg/l) were submitted on November 14, 2008. It is the best professional judgment of the permit writer that this pollutant is not present in the effluent.

ADEQ has determined from the information submitted by the permittee that no water quality standards or Gold Book criteria are exceeded. Therefore no permit action is necessary to maintain these standards or criteria (See Attachment 1.)

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 appendix D of CPP.

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

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

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

Qd = Design flow = 4.0 MGD = 6.16 cfs
7Q10 = 0.1 cfs
Qb = Background flow = (0.67) X 7Q10 = 0.67 X 0.1 cfs = 0.067 cfs
CD = (6.16) / (6.16 + 0.067) X 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%, and 99%** (See **Attachment I** of 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 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/600/4-91/002, July 1994 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

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

Administrative Records

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

WHOLE EFFLUENT TOXICITY TESTING FREQUENCY RECOMMENDATION AND RATIONALE FOR ADDITIONAL REQUIREMENTS

Permit Number: **AR0022403** AFIN: **04-00154**
Facility Name: **Bentonville Wastewater Treatment Plant**
Outfall Number: **001**
Previous Critical Dilution: **99%** Proposed Critical Dilution: **99%**
Date of Review: **10/7/08** Name of Reviewer: **Barnett**

Number of tests performed during previous 5 years by species:
***Pimephales promelas* (Fathead minnow):10**
***Ceriodaphnia dubia* (water flea):10**

Failed test dates during previous 5 years by species:

	Lethal	Sublethal
***Pimephales promelas* (Fathead minnow):**	3/05 (2)	3/05
***Ceriodaphnia dubia* (water flea):**	None	12/06

Previous TRE activities: None

Frequency recommendation by species:
***Pimephales promelas* (Fathead minnow): four/year**
***Ceriodaphnia dubia* (water flea): four/year**

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

Rationale: According to the EPA Region 6 Post-Third Round Whole Effluent Toxicity Testing Frequencies: "All major dischargers, and those minor dischargers specifically identified by EPA or the State permitting authority (based on available information on a case-by case basis) as posing a significant unaddressed toxic risk, will be required to perform Whole Effluent Toxicity testing at a frequency of once per quarter for the vertebrate and invertebrate tests species for the first year of a new or reissued permit."

Reasonable Potential Calculation

Facility Name Bentonville Wastewater Treatment Plant
NPDES Permit Number AR0022403 Outfall number 1
Proposed Critical Dilution 99 * Critical Dilution in draft permit, do not use % sign.

Test Data Enter data in yellow shaded cells only. Fifty percent should be entered as 50.

	Vertebrate				Invertebrate			
See Dates Below	Lethal NOEC	Sublethal NOEC	Lethal TU	Sublethal TU	Lethal NOEC	Sublethal NOEC	Lethal TU	Sublethal TU
	99	99	1.01	1.01	99	99	1.01	1.01
	99	99	1.01	1.01	99	99	1.01	1.01
	99	99	1.01	1.01	99	99	1.01	1.01
	99	99	1.01	1.01	99	99	1.01	1.01
	56	**42**	1.79	2.38	99	99	1.01	1.01
	31	99	3.23	1.01	99	99	1.01	1.01
	99	99	1.01	1.01	99	**42**	1.01	2.38
	99	99	1.01	1.01	99	99	1.01	1.01
	99	99	1.01	1.01	99	99	1.01	1.01
	99	99	1.01	1.01	99	99	1.01	1.01
Min NOEC Observed	31	42			99	42		
TU at Min Observed			3.23	2.38			1.01	2.38

	Count	10	10	10	10
	Mean	1.309	1.147	1.010	1.147
	Std. Dev.	0.716	0.434	0.000	0.434
	CV	0.5	0.4	0	0.4
	RPMF	1.6	1.5	1.1	1.5

1.000 Reasonable Potential Acceptance Criteria.

Vertebrate Lethal	5.110	Reasonable Potential exists, Permit requires WET monitoring and WET limit.
Vertebrate Sublethal	3.536	Reasonable Potential exists, Permit requires WET monitoring and WET limit.
Invertebrate Lethal	1.100	Reasonable Potential exists, Permit requires WET monitoring and WET limit.
Invertebrate Sublethal	3.536	Reasonable Potential exists, Permit requires WET monitoring and WET limit.

NOTES:

Although reasonable potential appears to exist, *P. promelas* failures duing March of 2005 have been attributed to a contract laboratoy issue. Since that time, no other *P. promelas* failures have been reported, therefore WET limits are not required at this time.

Regarding the RP decision for the invertebrate species (*Ceriodaphnia dubia*) only "Where a facility does not intend to significantly alter the effluent quality or quantity during the permit term, has a critical dilution of 90% or greater, has performed quarterly testing and has demonstrated no significant lethal effects during the previous fiveyear period, a finding of no reasonable potential may be made."

Although reasonable potential appears to exist, only one *C. dubia* sub-lethal failure has been reported during the past five years, therefore WET limits are not required at this time.

	Vertebrate			Invertebrate				
TEST DATE	Lethal	Sub-Lethal		Lethal	Sub-Lethal			
	NOEC	NOEC		NOEC	NOEC			
Jun-04	99	99		99	99			
Mar-04	99	99		99	99			
Sep-04	99	99						
Dec-04	99	99		99	99			
Mar-05	**56**	**42**		99	99	Fish exhibiting a gill fungus		
Mar-05	**31**	99				Fish exhibiting a gill fungus		
Dec-05	99	99		99	99			
Jun-06	99	99		99	99			
Dec-06				99	**42**			
Jun-07				99	99			
Dec-07	99	99		99	99			
Jun-08	99	99		99	99			

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)(l)].

The requirements for sampling frequencies for flow, NH3-N, Total Phosphorus, and Chronic Wet Testing and sample type for flow, FCB, pH, and Chronic Wet Testing have been continued from the previous permit.

The sampling frequencies for CBOD5, TSS, Ammonia Nitrogen, Total Phosphorus, Nitrates + Nitrites Nitrogen, FCB, and pH have been reduced using EPA's *Interim Guidance for Performance - Based Reductions of NPDES Permit Monitoring Frequencies*. This decrease in monitoring frequencies does not constitute backsliding based on 40 CFR 122.44 (l)(2)(i)(B)(1) since information is available which was not available at the time of permit issuance.

The requirements for sample type for CBOD5, TSS, NH3-N, Nitrate + Nitrite Nitrogen, and TP have been changed from 6-hr composite to 24-hr composite in response to a request from the permittee. It is the best professional judgment of the permit writer that this new requirement is more stringent that typically required for the major municipal facility with the design capacity of 1.0 to 4.99 MGD, therefore, no anti-backsliding regulations are being violated.

The requirements for a sample type and sampling frequency for Dissolved Oxygen are similar to those required for FCB.

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Flow	once/day	totalizing meter	once/day	totalizing meter
CBOD5	three/week	6-hr composite	once/week	24-hr composite
TSS	three/week	6-hr composite	once/week	24-hr composite
NH3-N				
(April-Oct)	three/week	6-hr composite	once/week	24-hr composite
(Nov-March)	three/week	6-hr composite	once/week	24-hr composite
Dissolved Oxygen				
(May-Oct)	N/A	N/A	once/week	grab
(Nov-April)	N/A	N/A	once/week	grab
FCB	three/week	grab	once/week	grab
Phosphorus, Total	three/week	6-hr composite	once/week	24-hr composite
Nitrate + Nitrite	three/week	6-hr composite	two/week	24-hr composite
pH	once/week	grab	three/week	grab

16. STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS.

In lieu of storm water pollution prevention plan requirements, the permittee submitted a "No exposure certification for exclusion from NPDES Storm water." This certification was approved by the Department on October 21, 2008 and tracking permit No. ARR00C404 was assigned to this permittee.

17. PERMIT COMPLIANCE.

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

1. Final Effluent Limits:

   Compliance is required on the effective date of the permit.

2. The permittee shall submit all necessary proposed Pretreatment Program modifications, including Ordinance revisions to ADEQ within twelve (12) months of the effective date of this permit.

3. The permittee shall, within sixty (60) days of the effective date of this permit, (1) submit a WRITTEN CERTIFICATION that a technical evaluation has demonstrated that the

existing technically based local limits (TBLL) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination, OR (2) submit a WRITTEN NOTIFICATION that a technical evaluation revising the current TBLL and a final sewer use ordinance which incorporates such revisions will be submitted within twelve (12) months of the effective date of this permit.

4. During the month of December the permittee shall submit an updated pretreatment program status report to the ADEQ containing the information described in Condition 7. d. of Part III.

5. The permittee shall submit annual reports including the biosolids and soil analyses conducted under Condition 8.b (1) and 8.b (2) prior to May 1.

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 prepare the final permit:

a. Application No. AR0022403 received 6/10/2008.
b. Arkansas Water Quality Management Plan (WQMP).
c. APCEC Regulation No. 2.
d. APCEC Regulation No. 3.
e. APCEC Regulation No. 6.
f. 40 CFR Parts 122, 125, 133, 403, and 503.
g. Discharge permit file AR0022403.
h. Discharge Monitoring Reports (DMRs).
i. "Arkansas Water Quality Inventory Report 2004 (305B)", ADEQ.
j. Memo from Mo Shafii to Engineers dated March 28, 2005
k. "Identification and Classification of Perennial Streams of Arkansas", Arkansas Geological Commission.
l. Continuing Planning Process (CPP).
m. Technical Support Document For Water Quality-based Toxic Control.
n. Region 6 Implementation Guidance for Arkansas Water Quality Standards promulgated at 40 CFR Part 131.36.
o. Inspection Report dated May 29, 2008.
p. Site visit on September 19, 2008.
q. E-mail dated September 5, 2008, from Chris Roberts to Marysia Jastrzebski.
r. E-mail dated September 22, 2008, from Allen Gilliam to Marysia Jastrzebski.
s. E-mail dated October 7, 2008, from Mary Barnett to Marysia Jastrzebski.
t. E-mail dated October 7, 2008, from Anne Roberts to Marysia Jastrzebski.
u. Letter dated October 1, 2008, from Terry Carpenter to Marysia Jastrzebski.

v. Priority Pollutant Scan received September 19, 2008 and October 20, 2008.
w. E-mail dated October 21, 2008, from Jennifer Harmon to Marysia Jastrzebski.
x. E-mail dated November 14, 2008, from Nancy Busen to Marysia Jastrzebski.
y. Letter dated January 8, 2009, from Belva Plumlee to Marysia Jastrzebski.

20. POINT OF CONTACT.

For additional information, contact:

Marysia Jastrzebski, P.E.
Permits Branch, Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317
Telephone: (870) 446-5939

RESPONSE TO COMMENTS
FINAL PERMITTING DECISION

Response to comments received on the subject draft permit in accordance with regulations promulgated at 40 CFR Part 124.17 are as follows:

Permit No.: AR0022403

Applicant: City of Bentonville

Prepared by: Marysia Jastrzebski, P. E.

Public Notice Date: The draft permit was publicly noticed on December 15, 2008

Date Prepared: January 14, 2009

The following comments have been received on the draft permit:

Letter from Belva Plumlee, Wastewater Utilities Manager to Marysia Jastrzebski dated January 8, 2009

ISSUE #1

The permittee requested that the monitoring frequency for Ammonia Nitrogen and Total Phosphorus be reduced to be consistent with frequencies required for other parameters. The violations for these parameters were incurred during the first year of the permit required phosphorus removal. Since then Ammonia Nitrogen and Total Phosphorus concentrations were significantly below the permit limits and would qualify the facility for reduction of the monitoring frequencies.

RESPONSE #1

The Department agrees. The monitoring frequencies for Ammonia Nitrogen and Total Phosphorus have been reduced from three per week to one per week.

ISSUE #2

The permittee notified the Department that Kennametal has closed and should be removed from the list of Industrial contributors. Additionally, word "months" should be added in the second paragraph of Section 10 of the Fact Sheet.

RESPONSE #2

The Department agrees. Kennametal has been removed from the list of the Industrial Users.

ISSUE #3

The permittee requested that the monitoring frequency for Whole Effluent Toxicity testing remains the same as in the existing permit.

RESPONSE #3

The Department agrees – the final permit continues the monitoring frequency of once per quarter as required in the previous permit. This frequency was temporarily reduced in accordance with Part 10. 5. a. of Part III of the permit. In accordance with Part 10. 5. e. of Part III this reduced monitoring frequency reduction applied only until the expiration date of the permit, at which time the monitoring frequency for both test species had to revert to once per quarter until the permit is re-issued.

The final permit establishes quarterly monitoring in accordance with the following EPA Region 6 Post-Third Round Whole Effluent Toxicity Testing Frequencies: "All major dischargers, and those minor dischargers specifically identified by EPA or the State permitting authority as posing a significant unaddressed toxic risk, will be required to perform Whole Effluent Toxicity (WET) testing at a frequency of once per quarter for the vertebrate and invertebrate tests species for the first year of a new or reissued permit."

This frequency may be reduced again after four consecutive quarters of toxicity testing indicating no effluent toxicity, according to Condition 10. F of Part II of the final permit.

If applied, this monitoring frequency reduction will again apply only until the expiration date of this permit, at which time the monitoring frequency for both test species will revert to once per quarter until the permit is re-issued.

ISSUE #4

The permittee requested that extra "mgd" be deleted in Section 13. b. I of the Fact Sheet.

RESPONSE #4

The Department agrees. The requested change has been made.

ISSUE #5

The permittee requested that due date for pretreatment reports be changed from November to December.

RESPONSE #5

The Department agrees. The requested change has been made.

ISSUE #6

The permittee stated that Land Application Table on Page 7 of Part II of the permit does not accurately list available acres. These are correctly listed on the Public Notice.

RESPONSE #6

The Department agrees. The updated Land Application table has been placed on Page 7 of Part II of the permit.