EXHIBIT C

DEPARTMENT OF ENVIRONMENTAL QUALITY, WATER DIVISION

SUBJECT: Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters; Third Party Rulemaking

DESCRIPTION: This is a proposed change to the Water Quality Standards for Surface Waters for the state to modify the dissolved minerals criteria applicable to the Gulf Coast Ecoregion as follows:

a. Modify the dissolved minerals criteria for the McGeorge Creek to confluence with Willow Springs Branch as follows:

- Sulfate from 41.3 mg/L to 257mg/L
- TDS from 138 mg/L to 432 mg/L

b. Modify the dissolved minerals criteria for Willow Springs Branch between confluences with McGeorge Creek and Little Fourche Creek as follows:

- Sulfate from 41.3 mg/L to 112 mg/L
- TDS from 138 mg/L to 247 mg/L

c. Modify the dissolved minerals criteria for Little Fourche Creek between confluences with Willow Springs ranch and Fourche Creek as follows:

- Sulfate: No change
- TDS from 138 mg/L to 179 mg/L

PUBLIC COMMENT: A public hearing was held December 14, 2009. The public comment period expired December 30, 2009. No public comments were submitted to the department. The proposed effective date is 10 days after filing the final rule, which is likely to be mid-June 2010.

CONTROVERSY: This is not expected to be controversial.

FINANCIAL IMPACT:

Financial Impact Statement

1. Explain the need for the proposed changes. The rule establishes water quality standards for surface waters in the state that are promulgated to protect the designated use of those surface waters. The rule will amend specific standards applicable to specified surface waters. The need for this rule change was not motivated by a complaint, but rather during the permit renewal of McGeorge Construction Company, Inc., a regulated entity whose wastewater discharge permit is impacted by the rule.

2. What are the top three benefits of the proposed rule? To modify the minerals criteria as follows:

(1) a. Modify the dissolved minerals criteria for the McGeorge Creek to confluences with Willow Springs Branch as follows: Sulfate from 41.3 mg/l to 25 mg/l and TDS from 138 mg/L to 432 mg/L

b. Modify the dissolved minerals criteria for Willow Springs branch between confluences with McGeorge Creek and Little Fourche Creek as follows: Sulfate from 41/3 mg/L to 250 mg/L and TDS from 138 mg/L to 247 mg/L

c. Modify the dissolved minerals criteria for Little Fourche Creek between confluences with Willow Springs ranch and Fourche Creek as follows: Sulfate: No change and TDS from 138 mg/L to 179 mg/L

(2) The rule is necessary to modify the dissolved mineral criteria for the above listed stream segments to levels that are appropriate and protective of the designated and existing uses. These water quality standards modifications will not adversely affect the aquatic life communities and existing fisheries.

(3) This rule is necessary to enable ADEQ to issue an NPDES Permit to McGeorge with permit limits for dissolved minerals that are appropriate to the McGeorge operations and protective of water quality.

3. What would be the consequence of taken no action, thereby maintaining the status quo? McGeorge would not be able to operate.

4. Describe market-based alternatives or voluntary standards that were considered in place of the proposed rule and state the reason for not selecting those alternatives. Market based alternatives and voluntary standards were not considered because the existing rule needs to be changed.

5. Estimate the cost to state government of collecting information, completing paperwork, filing, recordkeeping, auditing, and inspecting associated with this new rule. None.

6. What types of small businesses will be required to comply with the proposed rule? None.

7. Does the proposed rule create barriers to entry? If so, please describe those barriers and why those barriers are necessary. No.

8. Explain the additional requirements with which small business owners will have to comply and estimate costs associated with compliance. None.

9. State whether the proposed rule contains different requirements for different sized entities, and explain why this is or is not necessary. None.

10. Describe your understanding of the ability of small business owners to implement changes required by the proposed rule. No small business owners are impacted.

11. How does this rule compare to similar rules in other states or the federal government? This rule is unique to Arkansas.

12. Summarize the input your agency has received from small business or small business advocates about the proposed rule. None. There are no small businesses impacted.

LEGAL AUTHORIZATION: Ark. Code Ann. § 8-4-202(a) generally authorizes the Arkansas Pollution Control and Ecology Commission to "adopt, modify, or repeal, after notice and public hearings, rules and regulations implementing or effectuating the powers and duties of the Arkansas Department of Environmental Quality and the commission" under the Arkansas Water and Air Pollution Control Act. More specifically, Ark. Code Ann. § 8-4-202(b)(1) authorizes the commission to promulgate rules and regulations that prescribe "[e]ffluent standards specifying the maximum amounts or concentrations and the physical, thermal, chemical, biological, and radioactive nature of the contaminants that may be discharged into the waters of this state".

ARKANSAS POLLUTION CONTROL AND ECOLOGY COMMISSION

REGULATION NO. 2

REGULATION ESTABLISHING WATER QUALITY STANDARDS FOR SURFACE WATERS OF THE STATE OF ARKANSAS

INITIAL DRAFT

Submitted to the Arkansas Pollution Control and Ecology Commission on April 23, 2010

banks and/or bottoms of the watercourses or adversely affect any of the associated biota. As a guideline, oil and grease shall not exceed 10 mg/l average or 15 mg/l maximum when discharging to surface waters. No mixing zones are allowed for discharges of oil and grease.

Reg. 2.511 Mineral Quality

(A) Site Specific Mineral Quality Criteria

Mineral quality shall not be altered by municipal, industrial, other waste discharges or instream activities so as to interfere with designated uses. The following limits apply to the streams indicated, and represent the monthly average concentrations of chloride (Cl^-), sulfate ($SO_4^=$) and total dissolved solids (TDS).

Stream	Concentration-mg/L		
	Cl^-	$SO_4^=$	TDS
Arkansas River Basin			
Arkansas River (Mouth to L&D #7)	250	100	500
Bayou Meto (Rocky Branch to Bayou Two Prairie)	64*	ER	ER
Bayou Meto (mouth to Bayou Two Prairie)	95**	45**	ER
Bayou Two Prairie (mouth to Rickey Branch)	95**	45**	ER
Rocky Branch Creek	64*	ER	ER
Arkansas River (L&D #7 to L&D #10)	250	100	500
Cadron Creek	20	20	100
Arkansas River (L&D #10 to Oklahoma line, including Dardanelle Reservoir)	250	120	500
James Fork	20	100	275
Illinois River	20	20	300
Poteau River from Business Hwy 71to Stateline	120	60	500
Unnamed trib at Waldron	150	70	660
White River Basin			
White River (Mouth to Dam #3)	20	60	430
Big Creek	20	30	270
Unnamed trib from Frit Ind.	ER	48*	ER
Cache River	20	30	270
Lost Creek Ditch	20	30	270
Bayou DeView from Whistle Ditch to AR Hwy 14	**48**	**38**	**411.3**
Bayou DeView from AR Hwy 14 to its mouth	**48**	**37.3**	**411.3**
Big Creek from unnamed trib to Whistle Ditch	**58**	**49**	ER
Unnamed trib. to Big Creek	**71**	**60**	**453**
Little Red River (including Greers Ferry Reservoir)	20	30	100
Black River	20	30	270
Strawberry River	20	30	270
Spring River	20	30	290

Eleven Point River	20	30	270
Stennitt Creek	ER	ER	456*
South Fork Spring River	20	30	270
Myatt Creek	20	30	270
Current River	20	30	270
White River (Dam #3 to Missouri line, including Bull Shoals Reservoir)	20	20	180
Buffalo River	20	20	200
Crooked Creek	20	20	200
White River (Missouri line to headwaters, including Beaver Reservoir)	20	20	160
Kings River	20	20	150
West Fork White River	20	20	150
St. Francis River Basin			
St. Francis River (Mouth to 36° N. Lat.)	10	30	330
L'Anguille River	20	30	235
Tyronza River (headwaters to Ditch No. 6 confluence)	20	30	350
Ditch No. 27	ER	480	1200
Ditch No. 6 (mouth to Ditch No. 27 confluence)	ER	210	630
Tyronza River (mouth to Ditch No. 6 confluence)	20	60	350
Little River	20	30	365
Pemiscot Bayou	20	30	380
St. Francis River (36° N. Lat. to 36° 30' N. Lat.)	10	20	180
Ouachita River Basin			
Bayou Bartholomew	50	20	500
Chemin-A-Haut Creek	50	20	500
Overflow Creek	20	30	170
Bayou Macon	30	40	330
Boeuf River	90	30	460
Big Cornie Creek	230	30	500
Little Cornie Creek	200	10	400
Three Creeks	250	10	500
Little Cornie Bayou	200	20	500
Unnamed trib from GLCC 003	538*	35*	519*
Unnamed trib to Little Cornie Bayou	305*	ER	325*
Little Cornie Bayou from unnamed trib to State Line	215*	25*	500*
Walker Branch	180*	ER	970*
Gum Creek	104*	ER	311*
Bayou de L'Outre above Gum Creek	250	90	500
Bayou de L'Outre below Gum Creek	250	90	750
Ouachita River (Louisiana line to Camden)	160	40	350
Saline River	20	40	120
Saline River east bifurcation at Holly Creek	ER	250	500

Hurricane Cr above Hurricane Lake Dam	20	250	500
Hurricane Cr from Hurricane Lk. Dam to Ben Ball Brdg	125	730	1210
Hurricane Cr from Ben Ball Bridge to Hwy.270	125	700	1200
Hurricane CR from Hwy 270 to Saline River	100	500	1000
Alcoa unnamed tribs to Hurricane Cr.	125	700	1100
Dry Lost Creek and tribs	ER	560	880
Lost Creek to Little Lost Creek	ER	510	820
Lost Creek below Little Lost Creek	ER	300	550
Holly Creek	30	860	1600
Moro Creek	30	20	260
Smackover Creek	250	30	500
Haynes Creek from mouth of Flat Creek to Smackover creek	360*	55*	855*
Flat Creek from mouth of UTA to Haynes Creek	165*	67*	560*
Unnamed trib A to Flat Creek from mouth of EDCC 001 ditch to confluence with Flat Creek	16*	80*	315*
Confluence with unnamed trib A to Flat Creek	23*	125*	475*
Bayou de L'Outre Creek above Loutre Creek	180	ER	970
Unnamed trib UT004 from GLCC	014*	ER	311*
Unnamed trib UT002 from GLCC	278*	90*	500*
Loutre Creek- from Hwy 15 South to the confluence of Bayou de Loutre	256*	997*	1756*
Bayou de Loutre – from Loutre Creek to the discharge for the City of El Dorado - South facility	264*	635*	1236*
Bayou de Loutre – from the discharge for the City of El Dorado-South downstream to the mouth of Gum Creek	250*	431*	966*
Bayou de Loutre – from the mouth of Gum Creek downstream to the mouth of Boggy Creek	250*	345*	780*
Boggy Creek - from the discharge for Clean Harbors El Dorado LLC to the confluence of Bayou de Loutre	631*	63*	1360*
Bayou de Loutre- from the mouth of Boggy Creek downstream to the mouth of Hibank Creek	250*	296*	750*
Bayou de Loutre – from the mouth of Hibank Creek downstream to the mouth of Mill Creek	250*	263*	750*
Bayou de Loutre – from the mouth of Mill Creek downstream to the mouth of Buckaloo Branch	250*	237*	750*
Bayou de Loutre- from the mouth of Buckaloo Branch downstream to the mouth of Bear Creek	250*	216*	750*
Bayou de Loutre – from the mouth of Bear Creek downstream to the final segment of Bayou de Loutre	250*	198*	750*
Bayou de Loutre (Final segment) – from the mouth of Bear Creek to the Arkansas/Louisiana State Line	250*	171*	750*
Ouachita River (Camden to Carpenter Dam)	50	40	150
Town Creek below Acme tributary	ER	200	700

Unnamed trib from Acme	ER	330	830
Little Missouri River	10	90	180
Muddy Fork Little Missouri	ER	250	500
Bluff Creek and unnamed trib.	ER	651*	1033*
Garland Creek	250	250	500
South Fork Caddo	ER	60	128
Back Valley Creek	ER	250	500
Ouachita River (Carpenter Dam to Headwaters, including Lake Ouachita tributaries)	10	10	100
Red River Basin			
Bayou Dorcheat	100	16*	250
Albemarle unnamed trib (AUT) to Horsehead Creek	137*	ER	383*
Horsehead Creek from AUT to mouth	85*	ER	260*
Cypress Creek	250	70	500
Crooked Creek	250	10	500
Dismukes Creek	26	ER	157
Big Creek from Dismukes to Bayou Dorcheat	20	ER	200
Bois d'Arc Creek from Caney Creek to Red River	113*	283*	420*
Caney Creek	113*	283*	420*
Bodcau Creek	250	70	500
Poston Bayou	120	40	500
Kelley Bayou	90	40	500
Red River from Oklahoma to confluence with Little River	250	200	850
Red River from Little River to Louisiana	250	200	500
Sulphur River	120	100	500
Days Creek	250	250	500
McKinney Bayou	180	60	480
Little River	20	20	100
Saline River	20	10	90
Mine Creek from Hwy 27 to Millwood Lake	90	65	700
Cossatot River	10	15	70
Upper Rolling Fork	20	20	100
Rolling Fork from unnamed trib A to DeQueen Lake	130	70	670
Unnamed tribs A and A1 at Grannis	135	70	700
Mountain Fork	20	20	110
Mississippi River (Louisiana line to Arkansas River)	60	150	425
Mississippi River (Arkansas River to Missouri line)	60	175	450

ER - ecoregion standard

* - based on critical background flow of 4 cfs

** - These limits shall apply to all tributaries of Bayou Meto and Bayou Two Prairie listed in Appendix A Any modification of these values must be made in accordance with Reg. 2.306.

(B) Ecoregion Reference Stream Minerals Values

The following values determined from Arkansas' least-disturbed ecoregion reference streams are considered to be the maximum naturally occurring levels. For waterbodies not listed above, any discharge which results in instream concentrations more than 1/3 higher than these values for Cl and $SO_4^{=}$ or more than 15 mg/l, whichever is greater, is considered to be a significant modification of the water quality. Similarly, such modification exists if the following TDS values are exceeded after being increased by the sum of the increases to Cl and SO_4. Such modifications may be made only in accordance with Reg. 2.306.

CALCULATED ECOREGION REFERENCE STREAM VALUES (mg/l)

Ecoregion	Chlorides	Sulfates	TDS
Ozark Highlands	17.3	22.7	250
Boston Mountains	17.3	15	95.3
Arkansas River Valley	15	17.3	112.3
Ouachita Mountains	15	20	142
Gulf Coastal Plains	18.7	41.3	138
Delta	48	37.3	411.3

(C) Domestic Water Supply Criteria

In no case shall discharges cause concentrations in any waterbody to exceed 250, 250 and 500 mg/l of chlorides, sulfates and total dissolved solids, respectively, or cause concentrations to exceed the applicable limits in the streams to which they are a tributary, except in accordance with Reg. 2.306.

Reg. 2.512 Ammonia

Total ammonia nitrogen (N) shall not exceed those values and frequency of occurrence established in the following tables:

(A) The one-hour average concentration of total ammonia nitrogen shall not exceed, more than once every three years on the average, the acute criterion as shown in the following table:

Blue Point Ditch- – chlorides 95 mg/l; sulfates 45 mg/l
Big Ditch – chlorides 95 mg/l; sulfates 45 mg/l
Main Ditch – chlorides 95 mg/l; sulfates 45 mg/l
Plum Bayou– chlorides 95 mg/l; sulfates 45 mg/l
Crooked Creek Ditch – chlorides 95 mg/l; sulfates 45 mg/l
Indian Bayou Ditch – chlorides 95 mg/l; sulfates 45 mg/l
Caney Creek Ditch – chlorides 95 mg/l; sulfates 45 mg/l
Salt Bayou Ditch – chlorides 95 mg/l; sulfates 45 mg/l
Bradley Slough – chlorides 95 mg/l; sulfates 45 mg/l
Tupelo Bayou – chlorides 95 mg/l; sulfates 45 mg/l
Dennis Slough – chlorides 95 mg/l; sulfates 45 mg/l
Buffalo Slough – chlorides 95 mg/l; sulfates 45 mg/l
Flynn Slough – chlorides 95 mg/l; sulfates 45 mg/l
Boggy Slough – chlorides 95 mg/l; sulfates 45 mg/l
Bear Bayou – chlorides 95 mg/l; sulfates 45 mg/l
Bubbling Slough – chlorides 95 mg/l; sulfates 45 mg/l
Five Forks Bayou – chlorides 95 mg/l; sulfates 45 mg/l
Government Cypress Slough – chlorides 95 mg/l; sulfates 45 mg/l
Brushy Slough – chlorides 95 mg/l; sulfates 45 mg/l
Tipton Ditch – chlorides 95 mg/l; sulfates 45 mg/l
Hurricane Slough – chlorides 95 mg/l; sulfates 45 mg/l
Newton Bayou – chlorides 95 mg/l; sulfates 45 mg/l
West Bayou – chlorides 95 mg/l; sulfates 45 mg/l
Brownsville Branch– chlorides 95 mg/l; sulfates 45 mg/l
Eagle Branch– chlorides 95 mg/l; sulfates 45 mg/l
Unnamed tributary to Big Creek – chlorides 71 mg/l, sulfates 60 mg/l, TDS 453 mg/l (D-1, #38)
Big Creek from mouth of unnamed trib to Whistle Ditch – chloride 58 mg/l, sulfates 49 mg/l (D-1. #39)
Bayou DeView from Whistle Ditch to AR Hwy 14 – chloride 48 mg/l, sulfates 38 mg/l, TDS 411.3 mg/l (D-1, #40
Bayou DeView from AR Hwy 14 to its mouth – chloride 48 mg/l, sulfates 37.3 mg/l, TDS 411.3 (D-1. #41)

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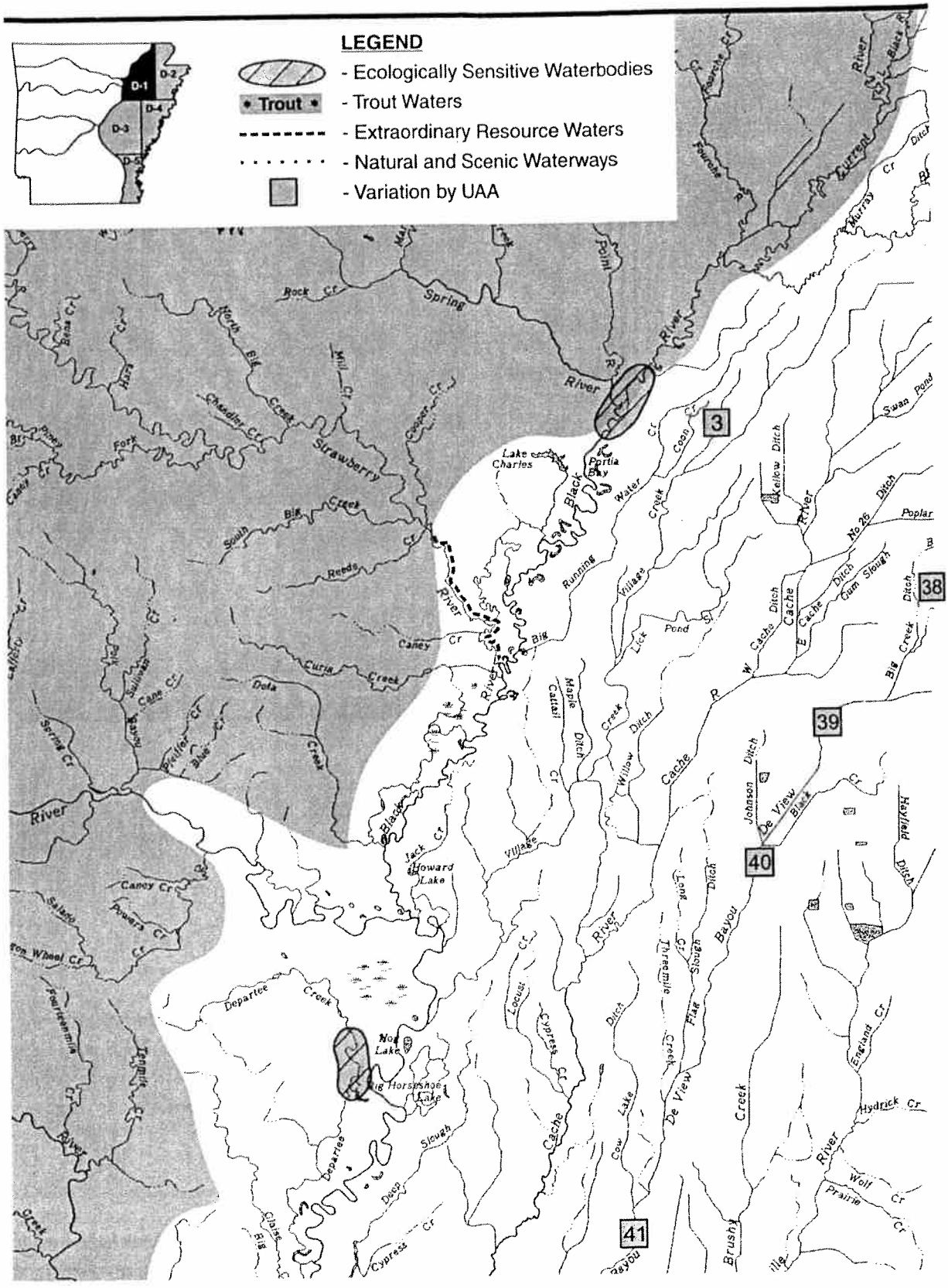
* Increase over natural temperatures may not be more than 2.8°C (5°F).

** When water temperatures exceed 22°C, the critical season D.O. standard may be depressed by 1 mg/l for no more than 8 hours during a 24-hour period.

Plate D-1 (Delta)



EXECUTIVE SUMMARY

City Water of Light Plant of the City of Jonesboro (CWL) is a consolidated municipal improvement district which discharges wastewater through Outfall 001 into an Unnamed Tributary to Big Creek (UT) under the authority of NPDES Permit No. AR0037907 issued by the ADEQ. The discharge enters the UT which flows to Big Creek (BC) which flows to Bayou DeView (BDV).

Because it is anticipated that CWL's renewal permit will, for the first time, contain effluent limitations for chloride (Cl) Sulfate (SO_4) and Total Dissolved Solids (TDS) based upon Arkansas water quality standards for UT, BC and BDV set forth in APCEC Regulation No. 2, CWL evaluated alternatives through a Use Attainability Analysis (UAA) which included field studies, toxicity testing, mass balance modeling, engineering analysis of alternatives for discharge and treatment, and an analysis of designated uses for UT, BC and BDV.

Based upon the UAA, CWL is requesting the following amendments to APCEC Regulation No. 2:

a. modify the Cl, SO_4 and TDS standards for the entire length of UT as follows: Cl from 48 mg/l to 71 mg/l; SO_4 from 37.3 mg/l to 60 mg/l; and TDS from 411.3 mg/l to 453 mg/l.
b. modify the Cl and SO_4 standards for BC from the mouth of UT to the mouth of Whistle Ditch as follows: Cl from 48 mg/l to 58 mg/l and SO_4 from 37.3 mg/l to 49 mg/l.
c. modify the Cl, SO_4 and TDS standards for BDV from Whistle Ditch to AR Hwy 14 to match Delta Ecoregion standards as follows: Cl from 20 mg/l to 48 mg/l; SO_4 from 30 mg/l to 38 mg/l; and TDS from 270 mg/l to 411.3 mg/l.
d. modify the Cl, SO_4 and TDS standards for BDV from AR Highway 14 to its mouth to match Delta Ecoregion standards as follows: Cl from 20 mg/l to 48 mg/l; SO_4 from 30 mg/l to 37.3 mg/l; and TDS from 270 mg/l to 411.3 mg/l.

CWL's proposed modifications are supported by the following:

- CWL is not seeking a change from current and historical water quality conditions in the affected streams;
- The UAA demonstrated the presence of ecoregion key and indicator species and species composition consistent with the attainment of a Channel-altered Delta Ecoregion fishery designated use at all sampling locations influenced by CWL's discharge. Toxicity testing on *Ceridaphnia dubia and Pimphales promelas* using CWL effluent showed no significant lethal or sub-lethal toxicity in either test organism;
- There is no economically feasible treatment technology for the removal of the minerals. Reverse osmosis technology does exist; however, the technology is not cost effective, generates a concentrated brine which is environmentally difficult to dispose of and provides no significant environmental protection.
- The basis for site-specific standards is provided in 40 CFR 131.10(g). Two factors support CWL's request for the modifications requested: 40 CFR 131.10(g)(5) Physical conditions related to the natural features of the water body, such as the lack of proper substrate, cover, flow, depth, pools, riffles and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; and 40 CFR 131.10(g)(6) Controls more stringent than those required by section 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.
- 40 CFR 131.11(b)(1)(ii) provides states with the opportunity to adopt water quality standards that are "modified to reflect site-specific conditions."