

EXHIBIT A

REDLINE VERSION OF APCEC REGULATION NO. 2 SHOWING PROPOSED TECHNICAL ADJUSTMENTS

ARKANSAS POLLUTION CONTROL AND ECOLOGY COMMISSION



REGULATION NO. 2

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

Submitted to the Arkansas Pollution Control and Ecology Commission: December 5, 2014

Stream

Concentration-mg/L
Chlorides **Sulfates** **TDS**
 (Cl⁻) (SO₄⁼²)

| | | | |
|--|------|-------------------|-------------------|
| 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 |
| <u>Red River from Arkansas/Oklahoma state line to the mouth of the Little River</u> | 250 | <u>250</u> | <u>940</u> |
| <u>Red River from mouth of the Little River to Arkansas/Louisiana state line</u> | 250 | <u>225</u> | 500 |
| Sulphur River | 120 | 100 | 500 |
| Days Creek | 250 | 250 | 500 |
| McKinney Bayou | 180 | 60 | 480 |
| Little River | 20 | 20 | 100 |
| Little River from Millwood Lake to the Red River | 20 | 20 | 138 |
| 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 state line to Arkansas River) | 60 | 150 | 425 |
| Mississippi River (Arkansas River to Missouri state line) | 60 | 175 | 450 |

ER - ecoregion value

* - developed using 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.

† Not applicable for Clean Water Act purposes until approved by EPA.

(B) Ecoregion Reference Stream Minerals Values

The following values were 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 chlorides (Cl⁻) and sulfates (SO₄⁼²) or more than 15 mg/L, whichever is greater, is considered to be a significant modification of the maximum naturally occurring values. These waterbodies should be considered as candidates for site specific criteria development in accordance with Regs. 2.306 and 2.308. Similarly, site specific criteria development should be considered if the following TDS values are exceeded after being increased by the sum of the increases to Cl and SO₄. Such criteria may be developed only in accordance with Regs. 2.306 and 2.308. The values listed in

SPECIFIC STANDARDS: GULF COASTAL ECOREGION

(Plates GC-1, GC-2, GC-3, GC-4)

| | <u>Typical Streams</u> | <u>Spring Water Streams</u> | <u>Lakes and Reservoirs</u> |
|---|----------------------------|---------------------------------|---------------------------------|
| Temperature °C (°F)* | 30 (86) | 30 (86) | 32 (89.6) |
| Ouachita River (state line to Little Missouri River) | 32 (89.6) | | |
| Red River | 32 (89.6) | | |
| Turbidity (NTU) (base/all) | 21/32 | 21/32 | 25/45 |
| Red River (base/all) | 50/150 | | |
| Minerals | see Reg. 2.511 | | see Reg. 2.511 |
| Dissolved Oxygen (mg/L) ** | <u>Pri.</u> | <u>Crit.</u> | see Reg. 2.505 |
| <10 mi ² watershed | 5 | 2 | |
| 10 mi ² - 500 mi ² | 5 | 3 | |
| >500 mi ² watershed | 5 | 5 | |
| All sizes (springwater influenced) | | 6 | 5 |
| All other standards | (same as statewide) | | |

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

**At water temperatures ≤10°C or during March, April and May when stream flows are 15 cfs and greater, the primary season dissolved oxygen standard will be 6.5 mg/L. When water temperatures exceed 22°C, the critical season dissolved oxygen standard may be depressed by 1 mg/L for no more than 8 hours during a 24-hour period

Site Specific Standards Variations Supported by Use Attainability Analysis

- Loutre Creek - from headwaters to railroad bridge, critical season dissolved oxygen standard - 3 mg/L; primary season - 5 mg/L; from railroad bridge to mouth, critical season dissolved oxygen - 2 mg/L (GC-2, #1)
- Unnamed tributary to Smackover Creek - headwaters to Smackover Creek, year round dissolved oxygen criteria - 2 mg/L (GC-2, #2)
- Unnamed tributary to Flat Creek - from headwaters to Flat Creek, year round dissolved oxygen criteria - 2 mg/L (GC-2, #4)
- Dodson Creek - from headwaters to confluence with Saline River, critical season dissolved oxygen standard - 3 mg/L (GC-4, #5)
- Jug Creek - from headwaters to confluence with Moro Creek, critical season dissolved oxygen standard - 3 mg/L (GC-2, #6)
- Lick Creek - from headwaters to Millwood Reservoir, critical season dissolved oxygen standard - 2 mg/L (GC-1, #7)
- Coffee Creek and Mossy Lake - exempt from Reg. 2.406 and Chapter Five (GC-3, #8)
- Red River from Oklahoma state line to confluence with Little River - total dissolved solids - 850 mg/L (GC-1, #9)
- Bluff Creek and unnamed trib. - sulfates 651 mg/L; total dissolved solids 1033 mg/L (GC-1, #10)
- Muddy Fork Little Missouri River - sulfates 250 mg/L; total dissolved solids 500 mg/L (GC-1, #24)
- Little Missouri River - sulfates 90 mg/L; total dissolved solids 180 mg/L (GC-1, #25)
- Mine Creek from Highway 27 to Millwood Lake - chlorides - 90 mg/L; sulfates - 65 mg/L; total dissolved solids - 700 mg/L (GC-1, #11)

Caney Creek - chlorides 113 mg/L; sulfates 283 mg/L; total dissolved solids 420 mg/L (GC-1,#12)
 Bois d'Arc Creek from Caney Creek to Red River - chlorides 113 mg/L; sulfates 283 mg/L; total dissolved solids 420 mg/L (GC-1,#13)
 Town Creek below Acme tributary - sulfates 200 mg/L; total dissolved solids 700 mg/L (GC-4,#14)
 Unnamed trib. from Acme - sulfates 330 mg/L; total dissolved solids 830 mg/L (GC-4,#14)
 Gum Creek - chlorides 104 mg/L; total dissolved solids 311 mg/L (GC-2,#15)
 Bayou de Loutre from Gum Creek to State line - Chlorides 250 mg/L; total dissolved solids 750 mg/L (GC-2,#16)
 Walker Branch - chlorides 180 mg/L; total dissolved solids 970 mg/L (GC-2,#17)
 Ouachita River - from Ouachita River mile (ORM) 223 to the Arkansas-Louisiana border (ORM 221.1), site specific seasonal dissolved oxygen criteria: 3 mg/L June and July; 4.5 mg/L August; 5 mg/L September through May. These seasonal criteria may be unattainable during or following naturally occurring high flows;(i.e., river stage above 65 feet measured at the lower gauge at the Felsenthal Lock and Dam, Station No.89-o, and also for the two weeks following the recession of flood waters below 65 feet), which occurs from May through August. Naturally occurring conditions which fail to meet criteria should not be interpreted as violations of these criteria (GC-3, #26)
 Alcoa unnamed trib. to Hurricane Cr. and Hurricane Cr. - see Reg. 2.511 (CG-4. #19)
 Holly Creek - See Reg. 2.511 (CG-4, #20)
 Saline River bifurcation - see Reg. 2.511 (GC-4, #23)
 Dry Lost Creek and tributaries - see Reg. 2.511 (GC-4, #21)
 Lost Creek - see Reg. 2.511 (GC-4, #22)
 Albemarle unnamed trib (AUT) to Horsehead Creek - chlorides 137 mg/L; total dissolved solids 383 mg/L (GC-2, #27)
 Horsehead Creek from AUT to mouth - chlorides 85 mg/L; total dissolved solids 260 mg/L(GC-2,#27)
 Bayou Dorcheat - sulfates 16 mg/L (GC-2,#27)
 Dismukes Creek – chlorides 26 mg/L; total dissolved solids 157 mg/L (GC-2, #28)
 Big Creek from Dismukes to Bayou Dorcheat – chlorides 20 mg/L; total dissolved solids 200 mg/L (GC-2, #28)
 Bayou de Loutre from Chemtura outfall to Loutre Creek – maximum water temperature 96°F (GC-2, #29)
 Unnamed tributary of Lake June below Entergy Couch Plant to confluence with Lake June – maximum water temperature 95 degrees F (limitation of 5 degrees above natural temperature does not apply) (GC-1, #30).
 Unnamed tributary to Flat Creek from EDCC Outfall 001 d/s to confluence with unnamed tributary A to Flat Creek Chloride 23 mg/L, Sulfate 125 mg/L, TDS 475 mg/L, (GC-2, #37) †
 Unnamed tributary A to Flat Creek from mouth of EDCC 001 ditch to confluence with Flat Creek, Chloride 16 mg/L, Sulfate 80 mg/L, TDS 315 mg/L, (GC-2, #38) †
 Boggy Creek from the discharge from Clean Harbors El Dorado LCC downstream to the confluence of Bayou de Loutre. Chloride, 631mg/L; Sulfate, 63 mg/L, total dissolved solids, 1360; Selenium, 15.6 u/L
 McGeorge Creek (headwaters to Willow Springs Branch) Sulfate, 250 mg/L; total dissolved solids, 432 mg/L (GC-4. #52)
 Willow Springs Branch (McGeorge Creek to Little Fourche Creek) Sulfate, 112 mg/L; total dissolved solids 247 mg/L (GC-4. #53)
 Little Fourche Creek (Willow Springs Branch to Fourche Creek) total dissolved solids, 179 mg/L (GC-4. #54)

† Not applicable for clean water act purposes until approved by EPA.

Variations Supported by Environmental Improvement Project

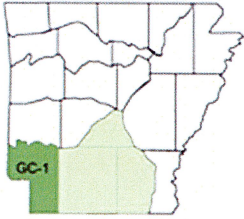
Holly Creek; Selenium, Chronic Standard, 17µg/L (GC-4, #1)

Site Specific Standards Variations Supported by Technical Adjustment

Red River from the Arkansas/Oklahoma state line to the mouth of the Little River; sulfate, 250 mg/L, TDS 940 mg/L (GC-1, #57)

Red River from the mouth of the Little River to the Arkansas/Louisiana state line; sulfate, 225 mg/L (GC-1, #58)

Plate GC-1 (Gulf Coastal Plain)



LEGEND

- • Extraordinary Resource Waters
- • Natural and Scenic Waterways
- Variation by UAA
- Ecologically Sensitive Waterbodies
- ESW Caves, Springs, and Seeps
- Trout Waters

