

# **EXHIBIT B**

## **LEGISLATIVE QUESTIONNAIRE**

**QUESTIONNAIRE  
FOR FILING PROPOSED RULES AND REGULATIONS  
WITH THE ARKANSAS LEGISLATIVE COUNCIL  
AND JOINT INTERIM COMMITTEE**

**DEPARTMENT/AGENCY:** Arkansas Department of Environmental Quality  
**DIVISION:** Water Division  
**DIVISION DIRECTOR:** Steve Drown  
**CONTACT PERSON:** Steve Drown  
**ADDRESS:** 5301 Northshore Drive, North Little Rock, AR 72118  
**PHONE NO.:** 501/682-0655 **FAX NO.:** 501/682-0910 **E-MAIL:** [drown@adeq.state.ar.us](mailto:drown@adeq.state.ar.us)  
**NAME OF PRESENTR AT COMMITTEE MEETING:** Marcella Taylor  
**PRESENTER E-MAIL:** [mtaylor@mwlaw.com](mailto:mtaylor@mwlaw.com)

**TO:** Donna K. Davis  
Subcommittee on Administrative Rules and Regulations  
Arkansas Legislative Council  
Bureau of Legislative Research  
Room 315, State Capitol  
Little Rock, AR 72201

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1. What is the short title of this rule?  
*Arkansas Pollution Control and Ecology Commission, Regulation No. 2,  
Regulation Establishing Water Quality Standards for Surface Waters of the State  
of Arkansas*
  
2. What is the subject of the proposed rule?  
*Modification of the selenium chronic water quality standard of the Arkansas  
Water Quality Standards (WQS) for Holly Creek*
  
3. Is this rule required to comply with federal statute or regulations?  
Yes\_\_\_ No\_\_X
  
4. Was this rule filed under the emergency provisions of the Administrative Procedure  
Act?  
Yes\_\_\_ No\_\_X  
  
If yes, what is the effective date of the emergency rule? N/A  
  
When does the emergency rule expire? N/A  
  
Will this emergency rule be promulgated under the permanent provisions of the  
Administrative Procedure Act? Yes\_\_\_ No\_\_ N/A

Is this a new Rule? Yes \_\_\_\_\_ No X

If yes, please provide a brief summary explaining the regulation

Does this repeal an existing rule: Yes \_\_\_\_\_ No X If yes, a copy of the repealed rule is to be included with your completed questionnaire. If it is being replaced with a new rule, please provide a summary of the rule giving an explanation of what the rule does.

5. Is this an amendment to an existing rule? Yes X No \_\_\_\_\_ If yes, please attach a mark-up showing the changes in the existing rule and a summary of the substance changes.

*See Attachments A (blackline of the affected pages of APCEC Regulation No. 2 and B (executive summary).*

6. Cite the state law that grants the authority for this proposed rule. If codified, please give the Arkansas Code citation.

*Act 472 of 1949, as amended, ARK. CODE ANN. § 8-4-101, et seq. and Act Act 401 of 1997, ARK. CODE ANN. § 8-5-901 et seq.*

7. What is the purpose of the rule? Why is it necessary?

*The purpose of the amendment to APCEC Regulation No. 2 is to temporarily modify the chronic water quality standard for selenium in Holly Creek to 17 µg/l for the duration of an Environmental Improvement Project (EIP) being carried out by Alcoa. Holly Creek is a small intermittent stream that begins at Alcoa's NPDES Outfall 009 and flows for approximately 3.4 miles entirely on Alcoa's property before emptying into the Saline River. The flow in the creek ranges from 0 gallons per minute to in excess of 30,000 gallons per minute depending upon rainfall and/or Alcoa's discharge. As documented by a 1995 Use Attainability Analysis ("UAA") approved by ADEQ and EPA, Holly Creek has an existing fishery which is habitat limited; however, without Alcoa's discharge, the creek would consist only of small pools during the dry portions of the year.*

*The rule change is necessary because there is currently no known technically and economically feasible biological or chemical treatments capable of reducing the selenium concentration to levels that meet the chronic water quality standard of 5 µg/l for selenium. Alcoa's current NPDES permit set a selenium limit of 17 µg/l for Outfall 009 and required Alcoa to submit an EIP and, following approval of the EIP by ADEQ, file the instant Petition for Third Party Rulemaking seeking to modify the selenium standard for Holly Creek during the course of the EIP.*

*Alcoa Inc. owns a facility in Saline County on which bauxite mining and refining were previous conducted by Alcoa (from 1897 to 1990) and by its now wholly-owned subsidiary, Reynolds Metals Company (from 1945 to 1984). Alcoa's primary function since the cessation of the mining and refining activities has been to manage the acreage including the collecting, storing, treating and discharging*

of stormwater and wastewater from the property under the authority of NPDES Permit No. AR0000582.

*The acreage includes two non-contiguous bauxite residue disposal areas (BRDAs) totalling approximately 1,000 acres. Both BRDA's were closed under agreements with ADEQ in the late 1980's and 1990's. The bauxite residue is alkaline and contains selenium, a naturally occurring element. Although the BRDAs are closed, a portion of the rain that falls on them percolates through the soil covers, contacts the alkaline residue, and produces an alkaline leachate which is collected through a leachate collection system, treated in earthen basins, and then discharged under the terms of the NPDES permit.*

*During the 2000 NPDES permit renewal process Alcoa discovered selenium in its discharge above the chronic standard. Prior to this time there was no selenium standard in Arkansas and the analytical technology was not available to accurately measure the concentration of selenium found in Alcoa's discharge. Upon discovery of the selenium Alcoa contacted ADEQ and EPA and conducted a site-wide investigation which concluded that the BRDAs were the primary source of the selenium. Since then Alcoa has continuously sought ways to reduce the source and to modify the treatment system to reduce the concentration to levels at or below the chronic water quality standard.*

*Because of the large volume of water to be treated (an average of 2.5 billion gallons per year), the relatively low levels of selenium in the discharge, and the form of selenium in the discharge, Alcoa has discovered that there are currently no known technically and economically feasible biological or chemical treatments capable of reducing the selenium concentration to levels that meet the chronic water quality standard. Both the chronic and acute selenium standards are currently under review by EPA and it is likely that they will change during the course of the EIP.*

*Holly Creek supports a fishery which includes spotted bass, bluegill, sunfish, longear sunfish, and mosquito fish. Observations support that a reproducing bluegill fishery exists in Alcoa's No. 3 treatment pond and in Holly Creek's headwaters below Outfall 009. Holly Creek discharges into the Saline River. Monitoring in the Saline River both upstream and downstream of its confluence with Holly Creek conducted since Alcoa's discovery of the selenium issue demonstrates that the Saline River's existing and designated uses are being met and that the selenium concentrations in the water column and fish tissue are at near background levels. A mussel survey in the Saline River below its confluence with Holly Creek revealed a healthy mussel population. The modifications will not adversely affect the habitat-limited fishery of Holly Creek and will continue to protect the Saline River.*

8. Will a public hearing be held on this proposed rule? Yes  X  No       If yes, please complete the following:

Date: week of November 15, 2010

Time: to be determined by ADEQ

Place: Benton, Arkansas at a location to be determined by ADEQ

9. When does the public comment period expire for permanent promulgation? (Must provide a date.)

*The period for receiving all written comments by the public shall conclude ten (10) business days after the date of the public hearing pursuant to Arkansas Pollution Control and Ecology Commission Regulation No. 8, Section 8.806(C), unless an extension of time is granted. Thus, the public comment period will expire during the week of November 29, 2010.*

10. What is the proposed effective date of this proposed rule? (Must provide a date.)

*The regulation becomes effective twenty days after filing of the final regulation as adopted by the Commission with the Secretary of State.*

11. Do you expect the rule to be controversial? Yes \_\_\_\_\_ No  X  If yes, please explain.

12. Please give the names of persons, groups, or organizations that you expect to comment of these rules? Please provide the position (for or against) if known.

*For or Neutral:*

*Arkansas Department of Environmental Quality*

*Arkansas Department of Health*

*Arkansas Natural Resources Conservation Commission*

*Region VI, US Environmental Protection Agency*

*Arkansas Game and Fish Commission*

*U.S. Fish and Wildlife Service*

*Against:*

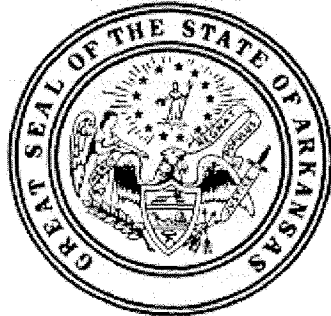
*Unknown*

**Attachment A**

**To**

**Exhibit B**

# 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 September 24, 2010

## DESIGNATED USES: GULF COASTAL ECOREGION

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

### Extraordinary Resource Waters

Saline River (GC-3, GC-4)

Moro Creek - adjacent to natural area (GC-3)

### Natural and Scenic Waterways

Saline River from the Grant-Saline County line to mouth (GC-3)

### Ecologically Sensitive Waterbodies

Little River above Millwood Reservoir - location of Ouachita rock pocketbook and pink mucket mussels (GC-1)

Grassy Lake and Yellow Creek below Millwood Reservoir - unique ecosystem and biota (GC-1)

Lower Little Missouri River - location of peppered shiner and longnose darter (GC-2)

Lower Saline River - location of peppered shiner, crystal darter and goldstripe darter (GC-3)

Ouachita River near Arkadelphia - location of flat floater, Ouachita rock pocketbook and pink mucket mussels (GC-2)

### Streams with Substantial Springwater Influence

L'Eau Fraies (GC-4)

Cypress Creek (GC-4)

East and West Fork Tulip Creeks (GC-4)

Others to be determined

Primary Contact Recreation - all streams with watersheds greater than 10 mi<sup>2</sup> and all lakes/reservoirs

Secondary Contact Recreation - all waters

Domestic, Industrial and Agricultural Water Supply - all waters

### Fisheries

#### **Trout**

Little Missouri River from Narrows Dam to confluence with Muddy Fork (GC-1)

#### **Lakes and Reservoirs - all**

#### **Streams**

Seasonal Gulf Coastal fishery - all streams with watersheds of less than 10 mi<sup>2</sup> except as otherwise provided in Reg. 2.505

Perennial Gulf Coastal fishery - all streams with watersheds of 10 mi<sup>2</sup> or larger and those waters where discharges equal or exceed 1 CFS

### Use Variations Supported by UAA

Loutre Creek - perennial fishery, except seasonal from railroad bridge to mouth (GC-2, #1)

Unnamed tributary to Smackover Creek - no fishable/swimmable uses (GC-2, #2)

Unnamed tributary to Flat Creek - no fishable/swimmable uses (GC-2, #4)

Dodson Creek - perennial fishery (GC-4, #5)

Jug Creek - perennial fishery (GC-2, #6)

Lick Creek - seasonal fishery; no primary contact (GC-1, #7)

Coffee Creek and Mossy Lake - no fishable/swimmable or domestic water supply uses (GC-3, #8)

Red River from Oklahoma to confluence with Little River - No domestic water supply use (GC-1, #9)

Bluff Creek and unnamed tributary - no domestic water supply use (GC-1, #10)

Mine Creek from Highway 27 to Millwood Lake - no domestic water supply use (GC-1, #11)

Caney Creek - no domestic or industrial water supply use (GC-1, #12)



**Use Variations Supported by UAA**

- Bois d'Arc Creek from Caney Creek to Red River - no domestic or industrial water supply use(GC-1,#13)
- Town Creek below Acme tributary - no domestic water supply(GC-4,#14)
- Unnamed trib. from Acme - no domestic water supply(GC-4,#14)
- Gum Creek - no domestic water supply use(GC-2,#15)
- Bayou de Loutre from Gum Creek to State line - no domestic water supply use(GC-2,#16)
- Walker Branch - no domestic water supply use(GC-2,#17)
- Little Cornie Bayou from Walker Branch to State line - no domestic water supply use(GC-2,#18)
- Alcoa unnamed trib to Hurricane Cr.and Hurricane Cr. - no domestic water supply use(GC-4,#19)
- Holly Creek - no domestic water supply use(GC-4,#20)
- Dry Lost Creek and Tribs. - no domestic water supply use(GC-4.#21)
- Lost Creek - no domestic water supply use(GC-4,#22)
- Albemarle unnamed trib (AUT) to Horsehead Creek - no domestic water supply use(GC-2,#27)
- Horsehead Creek from AUT to mouth - no domestic water supply use(GC-2,#27)
- Dismukes Creek and Big Creek to Bayou Dorcheat – no domestic water supply
- Boggy Creek from the discharge from Clean Harbors El Dorado LCC downstream to the confluence of Bayou de Loutre - no domestic water supply use

**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 <sup>2</sup> watershed	5	2	
10 mi <sup>2</sup> - 500 mi <sup>2</sup>	5	3	
>500 mi <sup>2</sup> watershed	5	5	
All sizes	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  $\leq 0^{\circ}\text{C}$  or during March, April and May when stream flows are 15 CFS and greater, the primary season D.O. standard will be 6.5 mg/l. When water temperatures exceed  $22^{\circ}\text{C}$ , the critical season D.O. standard may be depressed by 1 mg/l for no more than 8 hours during a 24-hour period

### **Variations Supported by UAA**

- Loutre Creek - from headwaters to railroad bridge, critical season D.O. standard - 3 mg/l; primary season - 5 mg/l; from railroad bridge to mouth, critical season D.O. - 2 mg/l (GC-2, #1)
- Unnamed tributary to Smackover Creek - headwaters to Smackover Creek, year round D.O. criteria - 2 mg/l (GC-2, #2)
- Unnamed tributary to Flat Creek - from headwaters to Flat Creek, year round D.O. criteria - 2 mg/l (GC-2, #4)
- Dodson Creek - from headwaters to confluence with Saline River, critical season D.O. standard - 3 mg/l (GC-4, #5)
- Jug Creek - from headwaters to confluence with Moro Creek, critical season D.O. standard - 3 mg/l (GC-2, #6)
- Lick Creek - from headwaters to Millwood Reservoir, critical season D.O. 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 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; TDS - 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; dissolved solids 420 mg/l (GC-1, #13)
- Town Creek below Acme tributary - sulfates 200 mg/l; TDS 700 mg/l (GC-4, #14)
- Unnamed trib. from Acme - sulfates 330 mg/l; TDS 830 mg/l (GC-4, #14)
- Gum Creek - chlorides 104 mg/L; TDS 311 mg/L (GC-2, #15)
- Bayou de Loutre from Gum Creek to State line - Chlorides 250 mg/l; TDS 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 D.O. 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; TDS 383 mg/l (GC-2, #27)
- Horsehead Creek from AUT to mouth - chlorides 85 mg/l; TDS 260 mg/l (GC-2, #27)
- Bayou Dorcheat - sulfates 16 mg/l (GC-2, #27)
- Dismukes Creek - chlorides 26 mg/L; TDS 157 mg/L (GC-2, #28)
- Big Creek from Dismukes to Bayou Dorcheat - chlorides 20 mg/L; TDS 200 mg/L (GC-2, #28)
- Bayou de Loutre from Chemtura outfall to Loutre Creek - maximum water temperature  $96^{\circ}\text{F}$  (GC-2, #29)
- Unnamed tributary of Lake June below Entergy Couch Plant to confluence with Lake June - maximum water temperature  $95^{\circ}\text{F}$  (limitation of 5 degrees above natural temperature does not apply) (GC-1, #30).
- Unnamed tributary from Great Lakes Chemical Company Outfall 002 to Bayou de Loutre - chloride 65, sulfate 35 mg/L, TDS 141 mg/L (GC-2, #31)
- Unnamed tributary from Great Lakes Chemical Company Outfall 004 to Bayou de Loutre - chloride 239 mg/L, TDS 324 mg/L (GC-2, #32)
- Bayou de Loutre from mouth of UT004 to mouth of Loutre Creek, chloride 278 mg/L (GC-2, #33)
- Unnamed tributary from Great Lakes Chemical Company Outfall 003 (UT003) downstream to unnamed tributary to Little Cornie Bayou - chloride 538 mg/L, sulfate 35 mg/L, and TDS 519 mg/L (GC-2, #34)
- Unnamed tributary of Little Cornie Bayou to confluence with Little Cornie Bayou - chloride 305 mg/L and TDS

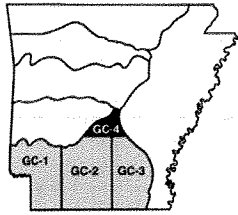
325 mg/L (GC-2, #35)  
Little Cornie Bayou from mouth UTA to state line- chloride 215mg/L,sulfate 25mg/L and TDS 500mg/L. (GC-2, #36)

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)  
Flat Creek from mouth of UTA to confluence with Haynes Creek,  
Chloride 165 mg/L, Sulfate 67 mg/L, TDS 560 mg/L (GC-2, #39)  
Haynes Creek from mouth of Flat Creek to confluence with Smackover Creek, Chloride 360 mg/L, Sulfate 55 mg/L,  
TDS 855 mg/L (GC-2, #40)  
Loutre Creek from Hwy 15 South to the confluence of Bayou de Loutre Chloride, 256mg/l; Sulfate 997mg/l, TDS,  
1756\* (GC-3. #41)  
Bayou de Loutre from Loutre Creek to the discharge for the City of El Dorado South facility Chloride, 264mg/l;  
Sulfate 635mg/l, TDS, 1236\* (GC-3. #42)  
Bayou de Loutre from the discharge from the City of El Dorado-South downstream to the mouth of Gum Creek. Chloride,  
250mg/l; Sulfate 431mg/l, TDS, 966 (GC-3. #43)  
Bayou de Loutre from the mouth of Gum Creek downstream to the mouth of Boggy Creek Chloride, 250mg/l;  
Sulfate 345mg/l, TDS, 780 (GC-3. #44)  
Bayou de Loutre from the mouth of Boggy Creek downstream to the mouth of Hibank Creek Chloride, 250mg/l; Sulfate  
296mg/l, TDS, 750 (GC-3. #45)  
Bayou de Loutre from the mouth of Hibank Creek downstream to the mouth of Mill Creek Chloride, 250mg/l; Sulfate  
263mg/l, TDS, 750 (GC-3. #46)  
Bayou de Loutre from the mouth of Mill Creek downstream to the mouth of Buckaloo Branch Chloride, 250mg/l; Sulfate  
237mg/l, TDS, 750 (GC-3. #47)  
Bayou de Loutre from the mouth of Buckaloo Branch downstream to the mouth of Bear Creek Chloride, 250mg/l; Sulfate  
216mg/l, TDS, 750 (GC-3. #48)  
Bayou de Loutre from the mouth of Bear Creek to the final segment of Bayou de Loutre. Chloride, 250mg/l; Sulfate  
198mg/l, TDS, 750(GC-3. #49)  
Bayou de Loutre (Final Segment) to the Arkansas / Louisiana State Line. Chloride, 250mg/l; Sulfate 171 mg/l, TDS,  
750(GC-3. #50)  
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, TDS, 1360; Selenium, 15.6 u/l




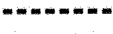



**Variations Supported by EIP**

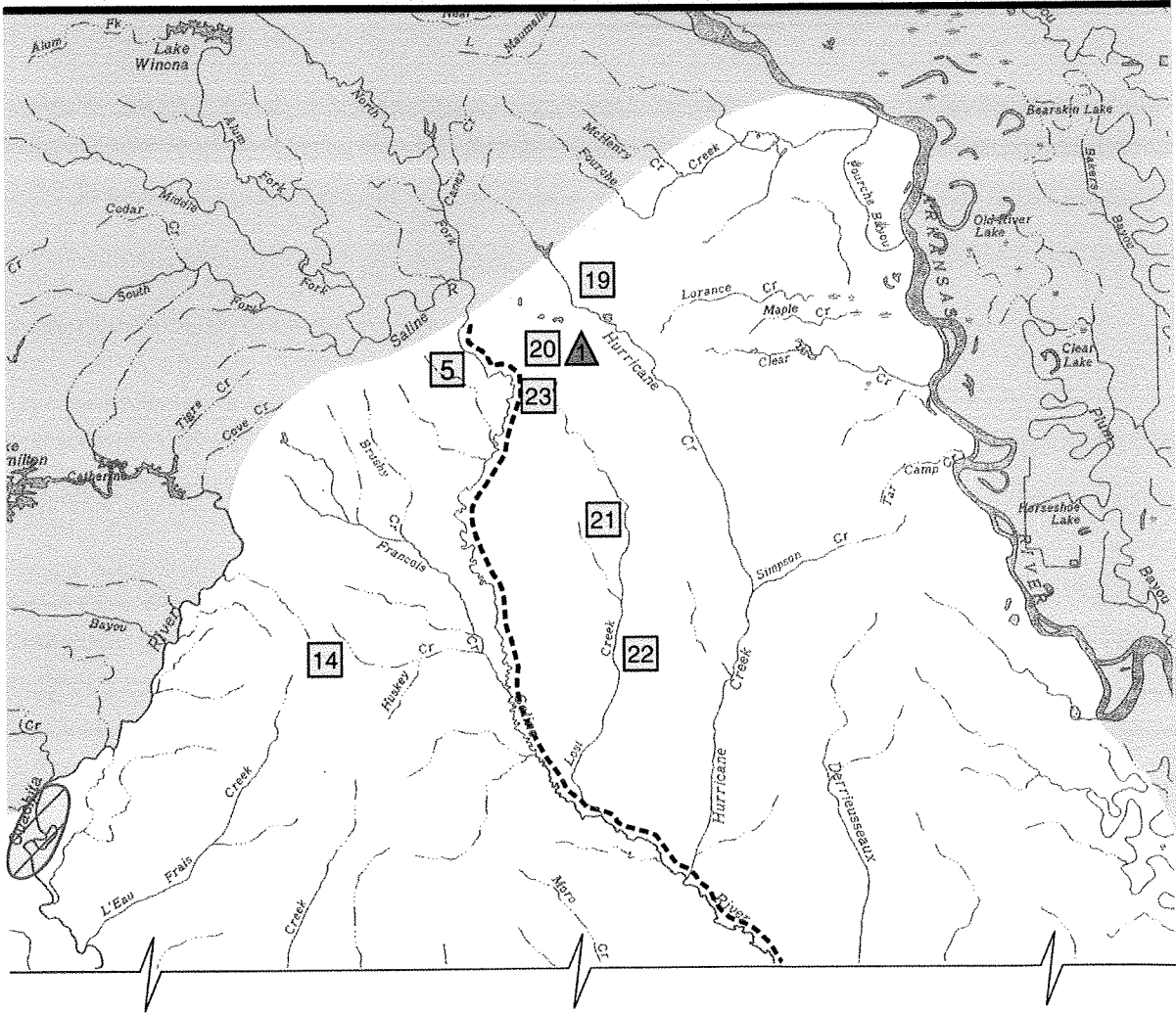
**Holly Creek; Selenium, Chronic Standard, 17µg/l (GC-4, #1)**

# Plate GC-4 (Gulf Coastal Plain)



## LEGEND

-  - Ecologically Sensitive Waterbodies
-  **Trout**  - Trout Waters
-  - Extraordinary Resource Waters
-  - Natural and Scenic Waterways
-  - Variation by UAA
-  - Variation by EIP



**Attachment B**

**To**

**Exhibit B**

## EXECUTIVE SUMMARY

Alcoa Inc. is requesting an amendment to Arkansas Pollution Control & Ecology Commission (APCEC) Regulation No. 2 to temporarily modify the chronic water quality standard for selenium in Holly Creek (Saline County) during the implementation of an Environmental Improvement Project (EIP) authorized by Ark. Code Ann. § 8-5-901 *et seq.* and by APCEC Regulation No. 2, § 2.105 and Appendix B, required by Alcoa's NPDES Permit and approved by the ADEQ. Alcoa is not seeking a change in what are current and historical water quality conditions in Holly Creek; rather it seeks a change in the chronic water quality standard for selenium from 5 µg/l to 17 µg/l as it carries out the EIP. The selenium concentrations in Holly Creek are believed to represent historical conditions and not a recent change in stream conditions.

Alcoa and its subsidiary, Reynolds Metals Company, own property on which they conducted bauxite mining and refining operations. Alcoa's primary function following the cessation of their mining and refining activities has been to manage the property including the collecting, storing, treating and discharging of stormwater and wastewater from the property under the authority of NPDES Permit No. AR0000582. The property includes two non-contiguous closed (under agreements with ADEQ) bauxite residue disposal areas (BRDAs) totaling approximately 1,000 acres. The bauxite residue is alkaline and contains selenium. A portion of the rain that falls on the BRDAs percolates through the soil covers, contacts the alkaline residue, and produces an alkaline leachate which is collected through a leachate collection system, treated in earthen basins, and then discharged under the terms of the NPDES permit primarily through Outfall 009 to Holly Creek which is a small intermittent stream beginning at Outfall 009 and flowing approximately 3.4 miles into the Saline River. A 1995 Use Attainability Analysis (UAA) demonstrated that Holly Creek has an existing fishery which is habitat limited; however, without Alcoa's discharge, the creek would consist only of small pools during the dry portions of the year.

During the 2000 NPDES permit renewal process Alcoa discovered selenium in its discharge above the standard. Prior to this time there was no selenium standard in Arkansas and the analytical technology was not available to accurately measure the concentration of selenium in Alcoa's discharge. An investigation concluded that the BRDAs were the primary source of the selenium. Since then Alcoa has continuously sought ways to remove the source of the selenium and to reduce the selenium concentration to levels at or below the chronic water quality standard. Because of the large volume of water to be treated (2.5 billion gallons per year on average), the relatively low levels of selenium in the discharge, and the form of selenium in the discharge, there are currently no known technically and economically feasible treatment technologies, nor source reduction strategies, capable of reducing the selenium to levels that meet the chronic water quality standard.

Alcoa's current NPDES permit sets a selenium limit of 17 µg/l for Outfall 009 and requires Alcoa to submit an EIP and, following approval of the EIP by ADEQ, file a Petition for Third Party Rulemaking seeking to modify the selenium standard for Holly Creek. The remediation plan in the EIP involves taking appropriate actions to develop and implement selenium source reduction strategies and/or economically and technically feasible water treatment technologies to reduce the selenium concentration in Alcoa's discharge to meet the chronic water quality standard for selenium in Holly Creek. This will be accomplished by continuing to evaluate through research, bench-scale studies, and pilot studies those options that show promise in terms of viable selenium reduction. Options for treatment of selenium at its source, treatment after mixing the leachate with the acid mine drainage, and treatment at the discharge are being considered.

Holly Creek supports a fishery which includes spotted bass, bluegill, sunfish, longear sunfish, and mosquito fish and a reproducing bluegill fishery exists in Alcoa's No. 3 treatment pond and in Holly Creek's

headwaters below Outfall 009. Holly Creek discharges into the Saline River. Monitoring in the Saline River both upstream and downstream of its confluence with Holly Creek conducted since Alcoa discovered the selenium issue demonstrates that the Saline River's existing and designated uses are being met and that selenium concentrations in the water column and fish tissue are near background levels. A mussel survey in the Saline River below its confluence with Holly Creek revealed a healthy mussel population. The requested modification will not adversely affect the habitat-limited fishery of Holly Creek and will protect the Saline River.

Pursuant to APCEC Regulation No. 2, § 2.306, APCEC Regulation No. 8, § 8.809, the Continuing Planning Process, and Alcoa's NPDES Permit No. AR0000582, Section IB, Alcoa is requesting that the chronic water quality standard for selenium in Holly Creek be modified from 5 µg/l to 17 µg/l for the duration of the EIP.

This request is supported by the following:

- There is not a currently known economically and technically feasible water treatment technology or source reduction strategy to reduce the selenium in Alcoa's discharge enough to meet the chronic water quality standard for selenium in Holly Creek.
- Performing the necessary research, development and implementation of economically and technically feasible water treatment technologies and/or source reduction strategies is the logical approach to reducing selenium in the discharge while maintaining the habitat-limited existing fishery in Holly Creek.
- The regulatory basis for the EIP-based temporary modification of the chronic selenium water quality standard is provided in 40 CFR 131.10(g). There are three factors which are applicable to the Alcoa site:
  - 40 CFR 131.10(g)(3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place;
  - 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 criteria that are "modified to reflect site-specific conditions."