

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

**DEPARTMENT/AGENCY**

**DIVISION**

**DIVISION DIRECTOR**

**CONTACT PERSON**

**ADDRESS**

**PHONE NO.:**

**FAX NO.:**

**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?

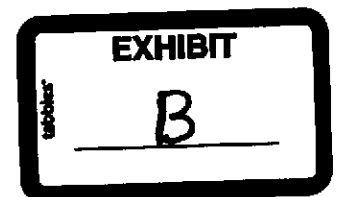
*Arkansas Pollution Control and Ecology Commission, Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas*

2. What is the subject of the proposed rule?

*Modification of the chloride, sulfate and total dissolved minerals (TDS) criteria of the Arkansas Water Quality Standards (WQS) and removal of the designated, but not existing, domestic water supply use for an unnamed tributary to Bayou de Loutre (referred to hereafter as UT002); modification of the chloride and TDS criteria and removal of the designated, but not existing, domestic water supply use for a second unnamed tributary to Bayou de Loutre (referred to hereafter as UT004); modification of the chloride criteria and removal of the designated, but not existing, domestic water supply use for a portion of the Bayou de Loutre; modification of the chloride, sulfate and TDS criteria and removal of the designated, but not existing, domestic water supply use for an unnamed tributary to an unnamed tributary of Little Cornie Bayou (hereafter referred to as UT003); modification of the chloride and TDS criteria and removal of the designated, but not existing, domestic water supply use for an unnamed tributary to Little Cornie Bayou; and modification of the chloride and sulfate criteria for a portion of Little Cornie Bayou. (Union County)*

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? \_\_\_\_\_

When does the emergency rule expire? \_\_\_\_\_

Will this emergency rule be promulgated under the permanent provisions of the Administrative Procedure Act? Yes \_\_\_\_\_ No \_\_\_\_\_

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 and B.*

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

*Act 472 of the Acts of Arkansas 1949, as amended. ARK. CODE ANN.. § 8-4-101, et seq.*

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

*Great Lakes Chemical Corporation—Central Facility (GLCC) operates a bromine extraction facility south of El Dorado which employs approximately 300 workers who produce specialty chemicals in a bromine production process. The facility discharges storm water and non-process water through three outfalls as authorized by the Arkansas Department of Environmental Quality (ADEQ) under National Pollution Discharge Elimination System (NPDES) Permit No. AR0001171.*

*The effluent from these outfalls discharge into unnamed wet weather tributaries. The discharge limits contained in the NPDES Permit are based on ecoregion numbers and the maintenance of a domestic water supply use. The domestic water supply uses for the affected watercourses are designated, but not attainable uses because the natural, ephemeral and low flow conditions prevent the attainment of the use. The aquatic life field studies conducted in April and May of 2005 show that despite the fact*

*that the watercourses are seasonal wet weather tributaries with small watersheds which limit the development of biotic communities, the designated aquatic life use and the biological integrity of the watercourses is being maintained downstream of the discharges. Further, toxicity testing demonstrates that there is no toxicity resulting from the dissolved mineral concentrations to the affected watercourses.*

*GLCC requests the Arkansas Pollution Control and Ecology Control Commission to amend Regulation No. 2 to remove the domestic drinking water supply use designation from two unnamed tributaries to Bayou de Loutre (UT002 and UT004), from Bayou de Loutre from its confluence with UT004 to Loutre Creek, from an unnamed tributary to an unnamed tributary to Little Cornie Bayou (UT003), and from the unnamed tributary to Little Cornie Bayou. GLCC is further asking APCEC to modify the dissolved minerals criteria as follows:*

*a. for the entire length of UT002:*

*TDS from 123 mg/L to 141 mg/L  
sulfate from 31 mg/L to 35 mg/L  
chloride from 14 mg/L to 65 mg/L*

*b. for the entire length of UT004:*

*TDS from 123 mg/L to 324 mg/L  
chloride from 14 mg/L to 239 mg/L*

*c. for Bayou de Loutre from its the confluence with UT004 to Loutre Creek:*

*chloride from 250 mg/L to 278 mg/L*

*d. for the entire length of UT003:*

*TDS from 123 mg/L to 519 mg/L  
sulfate from 31 mg/L to 35 mg/L  
chloride from 14 mg/L to 538 mg/L*

*e. for the unnamed tributary of Little Cornie Bayou from its confluence with UT003 to its mouth:*

*TDS from 123 mg/L to 325 mg/L  
chloride from 14 mg/L to 305 mg/L*

*f. for Little Cornie Bayou from it confluence with the unnamed tributary to the Arkansas/Louisiana state line:*

sulfate from 20 mg/L to 25 mg/L  
chloride from 200 mg/L to 215 mg/L

*These water quality standard modifications will not adversely affect the aquatic life communities and existing fisheries.*

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

Date: week of November 13, 2006

Time: to be determined by ADEQ

Place: El Dorado, 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, Part 3, Section 2.2.3, unless an extension of time is granted. Thus, the public comment period will expire during the week of December 4, 2006.*

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  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*

*Louisiana Department of Environmental Quality*

*Against:*

*unknown*

<u>Stream</u>	<u>Concentration—mg/L</u>		
	<u>Cl<sup>-</sup></u>	<u>SO<sub>4</sub></u>	<u>TDS</u>
<b>Ouachita River Basin</b>			
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	500
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*	20 25*	500*
Walker Branch	180	ER	970
Gum Creek	104*	ER	311*
Bayou de L'Outre above Loutre Creek	278*	90*	500*
Unnamed trib UT004 from GLCC	239*	ER	324*
Unnamed trib UT002 from GLCC	65*	35*	141*
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
Ben Ball Bridge to Hwy 270	125	700	1200
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
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
<b>Red River Basin</b>			
Bayou Dorcheat	100	16*	250

<u>Stream</u>	<u>Concentration-mg/L</u>		
	<u>Cl<sup>-</sup></u>	<u>SO<sub>4</sub><sup>2-</sup></u>	<u>TDS</u>
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

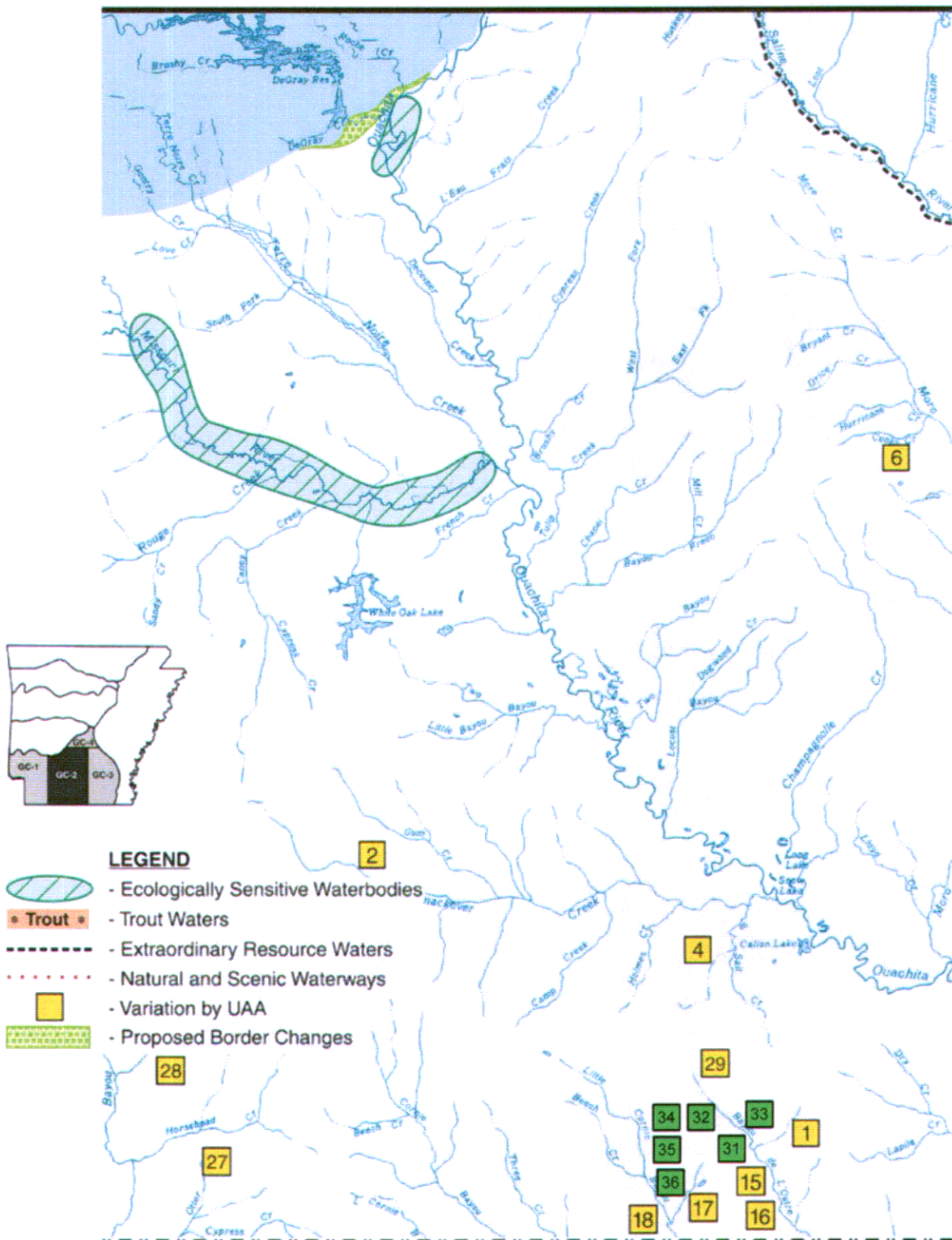
Any modification of these values must be made in accordance with Reg. 2.306.

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<sub>4</sub> 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<sub>4</sub>. Such modifications may be made only in accordance with Reg. 2.306.

**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'Are 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 Great Lakes 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 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 Corme Bayou- Chloride 538 mg/L, sulfate 35 mg/L, and TDS 519 mg/L (GC-2, # 34)
- Unnamed tributary of Little Corme Bayou to confluence with Little Corme Bayou-chloride 305 mg/L and TDS 325 mg/L (GC-2, # 35)
- Little Corme Bayou to State Line-sulfate 25 mg/L and chloride 215 mg/L (GC-2, # 36).

# Plate GC-2 (Gulf Coastal Plain)





## EXECUTIVE SUMMARY

Great Lakes Chemical Corporation—Central Facility (GLCC) is requesting a modification of the Arkansas Water Quality Standards (WQS) set forth in Regulation No. 2 of the Arkansas Pollution Control and Ecology Commission. GLCC requests: (a) modification of the chloride, sulfate and total dissolved minerals (TDS) criteria and removal of the designated, but not existing, domestic drinking water supply use for an unnamed tributary to Bayou de Loutre (referred to hereafter as UT002); (b) modification of the chloride and TDS criteria and removal of the designated, but not existing, domestic drinking water supply use for a second unnamed tributary to Bayou de Loutre (referred to hereafter as UT004); (c) modification of the chloride criteria and removal of the designated, but not existing, domestic drinking water supply use for a portion of the Bayou de Loutre; (d) modification of the chloride, sulfate and TDS criteria and removal of the designated, but not existing, domestic drinking water supply use for an unnamed tributary to an unnamed tributary of Little Cornie Bayou (hereafter referred to as UT003); (e) modification of the chloride and TDS criteria and removal of the designated, but not existing, domestic drinking water supply use for an unnamed tributary to Little Cornie Bayou; and (f) modification of the chloride and sulfate criteria for a portion of Little Cornie Bayou. (Union County) The specific amendments to Regulation No. 2 requested by GLCC are set forth more fully below.

GLCC operates a bromine extraction facility south of El Dorado which employs approximately 529 workers who produce specialty chemicals in a bromine production process. The facility discharges storm water through two outfalls (002 and 004) and stormwater and non-process water through one outfall (003) all as authorized by the Arkansas Department of Environmental Quality (ADEQ) under National Pollution Discharge Elimination System (NPDES) Permit No. AR0001171.

The effluent from these outfalls all discharge into unnamed wet weather tributaries. The discharge limits contained in the NPDES Permit are based on ecoregion numbers and the maintenance of a domestic drinking water supply use. The domestic drinking water supply uses for the affected watercourses are designated, but not attainable, uses because the natural, ephemeral and low flow conditions prevent the attainment of the use. The aquatic life field studies conducted in April and May of 2005 show that despite the fact that the watercourses are seasonal wet weather tributaries with small watersheds which limit the development of biotic communities, the designated aquatic life use and the biological integrity of the watercourses is being maintained downstream of the discharges. Further whole effluent toxicity testing demonstrates that there is no toxicity as a result of the dissolved mineral concentrations.

Pursuant to Section 2.306 of Arkansas Pollution Control and Ecology Commission Regulation No. 2, Section 3.4 of APCEC Regulation No. 8 and the Continuing Planning Process, GLCC is requesting the following modifications to Regulation No. 2:

- a. modify the dissolved minerals criteria for the entire length of UT002 as follows:

TDS from 123 mg/L to 141 mg/L

sulfate from 31 mg/L to 35 mg/L  
chloride from 14 mg/L to 65 mg/L

- b. modify the dissolved minerals criteria for the entire length of UT004 as follows:

TDS from 123 mg/L to 324 mg/L  
chloride from 14 mg/L to 239 mg/L

- c. modify the chloride for Bayou de Loutre from its the confluence with UT004 to Loutre Creek as follows:

chloride from 200 mg/L to 278 mg/L

- d. modify the dissolved minerals criteria for the entire length of UT003 as follows:

TDS from 123 mg/L to 519 mg/L  
sulfate from 31 mg/L to 35 mg/L  
chloride from 14 mg/L to 538 mg/L

- e. modify the dissolved minerals criteria for the unnamed tributary of Little Cornie Bayou from its confluence with UT003 to its mouth as follows:

TDS from 123 mg/L to 325 mg/L  
chloride from 14 mg/L to 305 mg/L

- f. modify the dissolved minerals criteria for Little Cornie Bayou from its confluence with the unnamed tributary to the Arkansas/Louisiana state line as follows:

sulfate from 20 mg/L to 25 mg/L  
chloride from 200 mg/L to 215 mg/L

- g. remove the Domestic Water Supply use designation for the entire length of UT002.

- h. remove the Domestic Water Supply use designation for the entire length of UT004.

- i. remove the Domestic Water Supply use designation for the Bayou de Loutre from its confluence with UT004 to the mouth of Loutre Creek.

- j. remove the Domestic Water Supply use designation for the entire length of UT003.

- k. remove the Domestic Water Supply use designation for the unnamed tributary to Little Cornie Bayou from its confluence with UT003 to its mouth.

This request is supported by the following:

- The domestic water supply use designation for UT002, UT004, Bayou de Loutre from its confluence with UT004 to Loutre Creek, UT003, and the unnamed tributary to Little Cornie Bayou from its confluence with UT003 to its mouth were assigned by default, are not existing uses, and are not attainable uses because the natural, ephemeral and low flow conditions prevent the attainment of the use;
- The aquatic life field studies conducted in April and May of 2005 show that despite the fact that the watercourses are seasonal wet weather tributaries with small watersheds which limit the development of biotic communities, the designated aquatic life use and the biological integrity of the watercourses is being maintained downstream of the discharges;
- Toxicity testing in 100% whole effluent from Outfalls 002 and 004 and WET testing of the Outfall 003 effluent demonstrated no toxicity as a result of the dissolved mineral concentrations;
- Current discharge concentration have been reduced from historic concentrations through modifications to site stormwater management and control, facility upgrades to Best Management Practices and spill control containment and clean up;
- There is no current economically feasible treatment technology for the removal of chloride, sulfate, or TDS. Ion exchange and reverse osmosis treatment technologies do exist; however, these methods are not cost effective on a large scale basis, are prohibitively expensive, and generate a concentrated brine which is environmentally difficult to dispose of. Such treatment technology is not required to meet the existing uses and would not add any significant environmental protection.