Exhibit B

List of Proposed Changes to Regulation No. 2

2013 Regulation No. 2 Revisions and Justifications Document

Major Revisions

1. **Revision: Table of Contents: Appendix C:** Replace title "SCIENTIFIC NAMES OF FISHES" with "SCIENTIFIC NAMES OF AQUATIC BIOTA."
   Justification: Appendix C is being revised to include scientific names of all aquatic biota in the regulation, not just fishes.

2. **Revision: Table of Contents: Appendix D:** Replace title "PROCEDURES FOR OBTAINING DIRECTOR'S DETERMINATION ON THE PROPOSED PHYSICAL ALTERATION OF AN EXTRAORDINARY RESOURCE WATERS, ECOLOGICALLY SENSITIVE WATERBODY, OR NATURAL AND SCENIC WATERWAY" with "LIST OF CURRENT EXTRAORDINARY RESOURCE WATERS, ECOLOGICALLY SENSITIVE WATERBODIES, AND NATURAL AND SCENIC WATERWAYS."
   Justification: EPA disapproved the current appendix D.

3. **Revision: 2.101:** Revise this sections as follows: "Pursuant to ~~the provisions of SubChapter 2 of~~ the Arkansas Water and Air Pollution Control Act, ~~(Act 472 of the Acts of Arkansas for 1949, as amended;~~ (Ark. Code Ann. § 8-4-101 ~~et seq~~ *et seq.*), and in compliance with the requirements of the Federal Water Pollution Control Act, 33 U.S.C. § 1251 *et seq.*,~~as amended~~ (hereinafter "Clean Water Act"), the Arkansas Pollution Control and Ecology Commission~~,~~ (hereinafter ~~referred to as~~ "Commission") hereby promulgates this ~~R~~regulation ~~No. 2, as amended,~~ establishing water quality standards for all surface waters, interstate and intrastate, of the State of Arkansas."
   Justification: These revisions provide more accurate reference to the legal codes and acts.

4. **Revision: Reg. 2.105:** Revise this section as follows: The Commission may, after consideration of ~~the~~ information provided pursuant to Appendix B and Ark. Code Ann. § 8-5-901 *et seq.*, grant modifications to the General and Specific Standards ~~(Chapters 4 and 5, herein)~~ or establish a subcategory(ies) of use(s) ~~(Reg. 2.307, herein)~~ for completion of long-term Environmental Improvement Projects. ~~(EIP), as provided by Act 401 of 1997, codified at A.C.A. § 8-5-901.~~
   Justification: These revisions provide more accurate reference to the legal codes and acts. The EIP acronym is not used elsewhere in the document and is therefore unnecessary.

5. **Revision: Reg. 2.106:** Revise the third and fourth inset of the definition of "Critical flow" as follows:

   For minerals criteria - ~~harmonic mean flow or 4 cfs, except in those waters listed in Reg. 2.511. Those waters in Reg. 2.511 which are noted with an asterisk will have a critical flow of 4 cfs. (Also see minerals implementation procedure in CPP)~~

   - Reg. 2.511(A)(1) Site specific standards: Q7-10.
   - Reg. 2.511(A)(2) Site specific standards: Flow stated in site specific criteria documentation.
   - Reg. 2.511(B) Ecoregion Reference Stream Minerals Values: Harmonic mean flow; if no data is available to calculate a harmonic mean flow, permits shall contain a "monitor and

report" condition (for a period of time not to exceed three years) until such time as the harmonic mean flow can be determined.

- Reg. 2.511 (C) Domestic Water Supply Criteria: Q7-10.

For ~~all others~~ metals and conventional pollutants: The critical flow will be Q7-10.

(Also see minerals implementation procedure in State of Arkansas Continuing Planning Process).

Justification: Clarification in this section will allow appropriate flow data to be used in implementation of minerals criteria. The use of an accurate stream flow or harmonic mean flow in calculating permit limitations results in appropriate pollutant concentrations in permits and will protect designated uses. If an inaccurate flow was used, the permit limitation would be inappropriate for actual conditions and could result in the stream being added to the List of Impaired Waterbodies.

6. **Revision: Reg. 2.106:** Revise "Harmonic mean flow" definition to:
"Harmonic mean flow: The number of daily flow measurements divided by the sum of the reciprocals of the daily flows. For the purpose of determining critical flow, a minimum of twenty-four (24) samples each collected at least thirty (30) days apart is required."
Justification: Clarify meaning of definition.

7. **Revision: Reg. 2.304:** Revert to the language (2004) previously approved by EPA.
Justification: In 2007, EPA disapproved the current language because they felt it went against the antidegradation policy.

8. **Revision: Reg. 2.404:** Add "pH (except as specified in 40 CFR 133.102(c))" in the first sentence of the third paragraph.
Justification: As defined in Section 2.504 of Reg. No. 2, pH must be applied as end-of-pipe. The State of Arkansas Continuing Planning Process exempts pH from mixing zones. As per EPA's Technical Support Document For Water Quality-based Toxics Control (1991), mixing zones apply for acute and chronic criteria. pH does not have acute or chronic criteria.
Mixing zone allowances will increase the mass loading of a pollutant. A mass loading cannot be calculated for pH.

9. **Revision: Reg. 2.404:** Revise the last three sentences of this section as follows:
Mixing zones shall not prevent the free passage of fish or significantly affect aquatic ecosystems. Careful consideration will be given to the appropriateness of a mixing zone where a substance discharged is bioaccumulative, persistent, carcinogenic, mutagenic, or teratogenic.

A mixing zone shall not apply to any public or private domestic water supply intake or public water supply well.

~~A mixing zone shall not include any domestic water supply intake.~~
Justification: EPA recommendation for clarification of regulation.

10. **Revision: Reg. 2.502, Reg. 2.503, 2.505, and 2.511:** Add "applicable at 1.0 meter depth" under lakes and reservoirs .
Justification: Clarify the appropriate sampling depth for lakes and reservoirs to be consistent with the procedures utilized during standards development.

11. **Revision: Reg. 2.504:** Add "No mixing zones are allowed for pH (except as specified in 40 CFR 133.102(c))."
Justification: As defined in Section 2.504 of Reg. No. 2, pH must be applied as end-of-pipe. The State of Arkansas Continuing Planning Process exempts pH from mixing zones. As per EPA's Technical Support Document For Water Quality-based Toxics Control (1991), mixing zones apply for acute and chronic criteria. pH does not have acute or chronic criteria.
Mixing zone allowances will increase the mass loading of a pollutant. A mass loading cannot be calculated for pH.

12. **Revision: Reg. 2.505:** In the sentence above table replace "must be met" with "are applicable:"
Justification: EPA is encouraging ADEQ to move away from using such definitive language. Based on recent litigation, EPA has stated that language such as "must be met" may not be appropriate for state assessment methodology that allows for more than one exceedance.

13. **Revision: Reg. 2.505:** Revise second paragraph as follows:
"All streams with watersheds of less than 10 mi^2 are expected to support *aquatic life* during the primary season when stream flows, including discharges, equal or exceed 1 cubic foot per second (cfs). However, when site verification indicates that *aquatic life* exists at flows below 1 cfs, such *aquatic biota* will be protected by the primary standard (Refer to the State of Arkansas Continuing Planning Process for field verification requirements)."
Justification: To clarify when small watersheds are expected to support aquatic life. Also, the "CFS" acronym is revised to "cfs" for standardization of text.

14. **Revision: Reg. 2.507:** Reformat this section as follows:
"For the purposes of this regulation, all streams with watersheds less than 10 mi^2 shall not be designated for primary contact unless and until site verification indicates that such use is attainable. No mixing zones are allowed for discharges of bacteria.

For assessment of ambient waters, at least eight (8) data points must be taken during the primary contact season or during the secondary contact season.

The following standards are applicable:

Contact Recreation Seasons	**Limit (col/100ml)**			
Primary Contact*	*E. coli*		Fecal Coliform	
	IS[1]	GM[2]	IS[1]	GM[2]
ERW, ESW, NSW, Reservoirs, Lakes	298	126	400	200

Contact Recreation Seasons	Limit (col/100ml)			
All Other Waters	410	-	400	200
Secondary Contact**				
ERW, ESW, NSW, Reservoirs, Lakes	1490	630	2000	1000
All Other Waters	2050	-	2000	1000

1 – Individual Sample Criteria
2 – Geometric Mean – Calculated on a minimum of five samples spaced evenly and within a thirty-day period.
* - May 1 to September 30
** - October 1 to April 30

The Arkansas Department of Health has the responsibility of approving or disapproving surface waters for public water supply and of approving or disapproving the suitability of specifically delineated outdoor bathing places for body contact recreation, and it has issued rules and regulations pertaining to such uses."

Justification: Easier to interpret.

15. **Revision: Reg. 2.508:** Replace the first sentence with the following:
"The following standards for toxic substances in receiving waters, after mixing, represent the concentrations that will not be toxic to human, animal, plant, or aquatic biota, or will not interfere with the normal propagation, growth, and survival of the indigenous aquatic biota."
Justification: EPA is encouraging ADEQ to move away from using such definitive language.

16. **Revision: Reg. 2.508:** Replace "may not be exceeded" with "apply" in the second sentence and replace "shall not be exceeded" with "apply" in the third sentence.
Justification: EPA is encouraging ADEQ to move away from using such definitive language.

17. **Revision: Reg. 2.508:** Remove "Never to Exceed" from the "Aquatic Life Criteria" table.
Justification: EPA is encouraging ADEQ to move away from using such definitive language.

18. **Revision: Reg. 2.509**: Add Beaver Lake criteria:

Lake	Chlorophyll a (ug/L)**	Secchi Transparency (m)***
Beaver Lake*	8	1.1

*These standards are for measurement at the Hickory Creek site over the old thalweg, below the confluence of War Eagle Creek and the White River in Beaver Lake.
**Growing season geometric mean (May - October)
***Annual Average

Justification: The numeric criteria for Beaver Lake are based on the recommendation of the Beaver Lake Scientific Workgroup. Additionally, EPA has been requesting the states to move forward with nutrient criteria development.

19. **Revision: Reg. 2.509**: Remove text:

"All point source discharges into the watershed of waters officially listed on Arkansas' impaired waterbody list (303d) with phosphorus as the major cause shall have monthly average discharge permit limits no greater than those listed below. Additionally, waters in nutrient surplus watersheds as determined by Act 1061 of 2003 Regular Session of the Arkansas 84th General Assembly and subsequently designated nutrient surplus watersheds may be included under this Reg. if point source discharges are shown to provide a significant phosphorus contribution to waters within the listed nutrient surplus watersheds.

Facility Design Flow – mgd	Total Phosphorus discharge limit – mg/L
= or > 15	Case by case
3 to <15	1.0
1 to <3	2.0
0.5 to <1.0	5.0
<0.5	Case by Case

For discharges from point sources which are greater than 15 mgd, reduction of phosphorus below 1 mg/L may be required based on the magnitude of the phosphorus load (mass) and the type of downstream waterbodies (e.g., reservoirs, Extraordinary Resource Waters). Additionally, any discharge limits listed above may be further reduced if it is determined that these values are causing impairments to special waters such as domestic water supplies, lakes or reservoirs or Extraordinary Resource Waters."

Justification: Based on recent litigation, EPA has stated that the phosphorus effluent limitations that were approved in 2004 are not water quality based standards designed to maintain and protect designated uses and therefore are not appropriate.

20. **Revision: Reg. 2.509**: Revise last sentence to read " However, when excess nutrients result in an impairment, based upon Department assessment methodology, by any Arkansas established, numeric water quality standard, the waterbody will be determined to be impaired by nutrients.
Justification: Clarification of which water quality standards are used to determine nutrient impairment.

21. **Revision: Reg. 2.510**: Replace "As a guideline, oil and grease shall not exceed 10 mg/l average or 15 mg/l maximum when discharging to surface waters" with, "Oil and grease shall not be added to any waterbody in excess of an average of 10 mg/L or a maximum of 15 mg/L when discharged to surface waters."
Justification: Reg. 2.510 is a standard, not a guideline. Based on recent litigation, EPA has stated that language such as "shall not exceed" may not be appropriate for standards when the states assessment methodology allows for more than one exceedance.

22. **Revision: Reg. 2.511(A):** Reformat 2.511(A) as follows: Current 2.511(A) will be subdivided into (A)(1) and (A)(2) which will also split the table therein into two tables. The new 2.511(A)(1) will include streams with site specific criteria developed by ADEQ. The new 2.511(A)(2) will include

streams with site specific criteria developed by a third party.
Justification: This will follow the format of the minerals section of the Critical flow definition and therefore make the minerals section easier to interpret.

23. **Revision: Reg. 2.511(A)**: In the second sentence of the first paragraph, replace "limits" with "criteria."
Justification: Clarification of the intent of the section; the numbers represent criteria, not limitations used in the permitting process.

24. **Revision: Reg. 2.511(A)**: Revise Bayou Two Prairie in table. (Include revision in Delta section of Appendix A.)

~~Bayou Two Prairie (mouth to Rickey Branch)~~	~~95**~~	~~45**~~	~~ER~~
Bayou Two Prairie (Rickey Branch to Northern boundary of Smoke Hole Natural Area)	95	45	411.3
Bayou Two Prairie (Southern boundary of Smoke Hole Natural Area to Mouth)	95	45	411.3

Justification: EPA Record of Decision received August 5, 2008.

25. **Revision: Reg. 2.511(A):** Revise Bayou Bartholomew in table as follows:

Bayou Bartholomew	~~50~~ 30	~~20~~ 30	~~500~~ 220

Justification: The 2007 version of Reg. No. 2 was inadvertently changed; the numbers from the 2004 version are the correct site specific standards.

26. **Revision: Reg. 2.511(A):** Add the following stream segments to the site specific mineral quality criteria table between Lost Creek Ditch and Bayou DeView listings:

Big Creek Ditch to Bayou DeView	20	30	270

Justification: According to the Herman 7.5 minute Quadrangle, Arkansas Atlas & Gazetteer, AGFC's Arkansas Outdoor Atlas, and USGS NHD High Resolution Flowline, the upper reaches of Bayou DeView are named Big Creek Ditch, with the uppermost reaches (headwaters) being named Lost Creek Ditch.

27. **Revision: Reg. 2.511(A):** Remove the following stream segments from the site specific mineral quality criteria table:

Unnamed trib from GLCC 003	538*	35*	519*
Unnamed trib to Little Cornie Bayou	305*	ER	325*
Little Cornie Bayou from unnamed trib to Louisiana State Line	215*	25*	500*

Justification: Disapproved by EPA Record of Decision ("ROD") dated April 14, 2009.

28. **Revision: Reg. 2.511(A):** Remove the following stream segments from the site specific mineral quality criteria table:

Haynes Creek from mouth of Flat Creek to	360*	55*	855*

Smackover creek			
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*

Justification: Disapproved by EPA RODs dated April 14, 2009 and August 31, 2011.

29. **Revision: Reg. 2.511(A):** Remove the following stream segments from the site specific mineral quality criteria table:

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 AR 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*

Justification: Disapproved by EPA ROD dated April 14, 2009.

30. **Revision: Reg. 2.511(A):** Remove the following stream segments from the site specific mineral quality criteria table:

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	250*	171*	750*

of Bear Creek to the Arkansas/Louisiana State Line			

Justification: Disapproved by EPA ROD dated April 14, 2009.

31. **Revision: Reg. 2.511(B):** Revise this section as follows: "The following values ~~determined~~ were derived from Arkansas' least-disturbed ecoregion reference streams and are considered to be the maximum naturally occurring ~~levels~~ values. For waterbodies not listed in Reg. 2.511(A)(1) and (A)(2) ~~above~~, any discharge-which results in instream concentrations, after mixing, more than 1/3 higher than these values for chlorides (Cl^-) and sulfates ($SO_4^{=2}$) or more than 15 mg/~~l~~L, whichever is greater, is considered to be a significant modification of the ~~water quality~~ maximum naturally occurring values. These waterbodies should be considered as candidates for a modification in accordance with Regs. 2.306 and 2.308. Similarly, such modification ~~exists~~ should be considered 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 Regs. 2.306., and 2.308. The values listed in the table below are not intended to be, nor will be, used by the Department to evaluate attainment of the water quality standards."
Justification: Replacing "determined" with "were derived" is a more accurate way of expressing the values' origin. Replacing "levels" with "values" clarifies that these are values. Insertion of "in Reg. 2.511(A)(1) and (A)(2)" is necessary with the restructuring of the entire 2.511 section. Adding "Chlorides" and "Sulfates" and placing empirical formulae in parentheses defines the symbols. Deletion of "instream" and "water quality" and insertion of "maximum naturally occurring values and should be considered as candidates for a modification in accordance with Reg. 2.306 and 2.308." clarifies that these are values, not standards. Inclusion of the "s" after Reg and the addition of ", and 2.308" calcifies that both regulations are necessary for water quality modifications. Addition of "the values listed in the table below are not intended nor will these values be used by the Department to evaluate attainment of the designated uses" clarifies that these values are not intended to be used in designated use attainment.

32. **Revision: Reg. 2.511(B)**: Replace the existing table of calculated Ecoregional values with a table that shows the original (non-calculated) Ecoregional values from 2004 Reg. 2.
Justification: Clarification of the values for implementation purposes.

33. **Revision: Reg. 2.511(C):** Replace "limits" with "criteria."
Justification: Reg. No. 2 is not a permitting document; it contains water quality standards and criteria. Criteria is the more appropriate term.

34. **Revision: Reg. 2.512** - Revise the first sentence to read "The total ammonia nitrogen (N) criteria and the frequency of occurrence are as follows:"
Justification: Based on recent litigation, EPA has stated that language such as "shall not exceed" may not be appropriate for standards when the states assessment methodology allows for more than one exceedance.

35. **Revision: Appendix A:** Throughout Appendix A, addition of several threatened and endangered or endemic species to currently designated ESW stream segments.

Justification: Please see attached "Proposed Species to be added to ESW list in Reg. 2."

36. **Revision: Appendix A:** Update plates to use National Hydrography Dataset ("NHD") based GIS files.
Justification: NHD GIS data is the most accurate updated GIS data.

37. **Revision: Appendix A: GC:** Add "Loutre creek from Highway 15 S. to the confluence of Bayou de Loutre – no domestic water supply use (GC-2, #41)" under Designated Use Variation Supported by UAA.
Justification: Approved by EPA ROD dated April 14, 2009.

38. **Revision: Appendix A: GC:** Add:
"Unnamed trib 002 (UT002) – no domestic water supply use (GC-2, #31)",
"Unnamed trib 003 (UT003) – no domestic water supply use (GC-2, #34)",
"Unnamed trib 004 (UT004) – no domestic water supply use (GC-2, #32)" and
"Unnamed trib to Little Cornie Bayou (UTLCB-2) - no domestic water supply use (GC-2, #18)" under Designated Use Variation Supported by UAA.
Justification: Approved by EPA ROD dated November 9, 2007.

39. **Revision: Appendix A: GC:** Under Designated Use Variation Supported by UAA, removal of domestic water supply designated use revise to read "Bayou de Loutre from ~~Gum Creek~~ mouth of UT004 to State line - no domestic water supply use (GC-2,#16)."
Justification: Per EPA ROD April 14, 2009, EPA approved Domestic Water Supply designated use removal for Bayou de Loutre from the mouth of UT004 to Gum Creek. Domestic Water Supply designated use removal for Bayou de Loutre from Gum Creek to State line is already part of the current Reg. 2., thus the entire reach from Bayou de Loutre from mouth of UT004 to State line has no domestic water supply use.

40. **Revision: Appendix A: GC:** Remove the following stream segments from Variations Supported by UAA:
    - 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)

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)

Justification: Disapproved by EPA ROD dated April 14, 2009.

41. **Revision: Appendix A: D:** Under Site Specific Standards Supported by UAA, revise:
Bayou Meto from mouth to ~~Bayou Two Prairie~~Pulaski/Lonoke county line
Justification: Approved by Arkansas Pollution Control and Ecology Commission Minute Order No. 07-41.

42. **Revision: Appendix A: D:** Remove:
~~Bayou Two Prairie (mouth to Rickey Branch) - chlorides 95 mg/lL; sulfates 45 mg/lL~~
Add:
Bayou Two Prairie (Pulaski/ Lonoke county line to Northern boundary of Smoke Hole Natural Area) - chlorides 95 mg/L; sulfates 45 mg/L (D-3, #42)
Bayou Two Prairie (Southern boundary of Smoke Hole Natural Area to Mouth) - chlorides 95 mg/L; sulfates 45 mg/L (D-3, #42)
Justification: Disapproved by EPA ROD dated August 5, 2008.

43. **Revision: Appendix C:** Revise the name of Appendix C to "Scientific Names of Aquatic Biota"
Justification: The appendix will now have the scientific names of all aquatic biota mentioned in Regulation 2, not just fish.

44. **Revision: Appendix C:** Add the title "SCIENTIFIC NAMES OF KEY AND INDICATOR FISHES" to the first table in Appendix C.
Justification: This table will only contain key and indicator species of fish.

45. **Revision: Appendix C:** Add a table titled "SCIENTIFIC NAMES OF AQUATIC AND SEMI-AQUATIC LIFE FORMS PROTECTED UNDER THE ECOLOGICAL SENSITIVE WATERBODY DESIGNATED USE" to the second table in Appendix C
Justification: This table will contain the scientific names of all aquatic or semi-aquatic biota mentioned in Regulation 2.

46. **Revision: Appendix D:** Replace current Appendix D, with a list of current Extraordinary Resource Waters ("ERWs"), Ecologically Sensitive Waterbodies ("EWSs"), and Natural and Scenic Waterways ("NSWs").
Justification: EPA disapproved the current Appendix D. ADEQ believes that inclusion of a list of all the ERWs, ESWs, and NSWs will be useful for both ADEQ and other agencies and citizens of Arkansas.

Minor Revisions

47. **Revision: Reg. 2.104**: Replace "facility" with "permittee" in the first sentence.
Justification: Clarification of the intent of the section.

48. **Revision: Reg. 2.104**: Revise the last sentence as follows: Compliance must occur at the earliest practicable time~~,; but~~ not to exceed three years from effective date of permit~~.~~ unless the permittee is completing site specific criteria development or is under a plan approved by the Department, in accordance with Regs. 2.306, 2.308, and the State of Arkansas Continuing Planning Process.
Justification: Clarification of the intent of the section.

49. **Revision: Reg. 2.106:** Remove the definition of "Act".
Justification: Full citations to the Clean Water Act are now included throughout the regulation so the definition is not necessary.

50. **Revision: Reg. 2.106:** Add the definition:
"Aquatic life: The designated use of a waterbody determined by the fish community and other associated aquatic biota."
Justification: "Aquatic life" is proposed to replace "Fisheries."
"Aquatic life" more adequately describes the intent of the designated use and better fits the definition given in Reg. 2.302.

51. **Revision: Reg. 2.106:** Add the definition:
"Bioaccumulation: The process by which a compound is taken up by an aquatic organism, both from water and through food."
Justification: Bioaccumulation is referenced in the regulation, but has not been included in the definitions section.

52. **Revision: Reg. 2.106:** Add the definition; **Conventional pollutants:** Pursuant to section 304(a)(4) of the Clean Water Act, 33 U.S.C. § 1314(a)(4), includes biochemical oxygen demand (BOD), total suspended solids (nonfilterable) (TSS), pH, fecal coliform, and oil and grease.
Justification: Conventional pollutant is referenced in the regulation, but has not been included in the

definitions section.

53. **Revision: Reg. 2.106:** Add the definitions:
"Criterion continuous concentration (CCC): An estimate of the highest concentration of a material in ambient water to which an aquatic community can be *exposed indefinitely* without resulting in an unacceptable adverse effect. This is the chronic criterion.

Criterion maximum concentration (CMC): An estimate of the highest concentration of a material in ambient water to which an aquatic community can be *exposed briefly* without resulting in an unacceptable adverse effect. This is the acute criterion."
Justification: Criterion Continuous Concentration and Criterion Maximum Concentration are referenced in the regulation, but have not been included in the definitions section.

54. **Revision: Reg. 2.106:** Remove the definition "Fishery."
Justification: This definition is proposed to be replaced with "Aquatic life." Aquatic life" more adequately describes the intent of the designated use and better fits the definition given in Reg. 2.302.

55. **Revision: Reg. 2.106:** Add the definition:
"Groundwater: Water below the land surface in a zone of saturation."
Justification: This is the definition of ground water provided in APC&EC Regulations 17, 22, and 23 and federal regulations at 40 C.F.R. §§ 146.3 and 270.2, . The Safe Drinking Water Act, and Resource Conservation and Recovery Act also use this definition.

56. **Revision: Reg. 2.106:** Revise the definition:
"**Headwater:** The upper watershed area where streams generally begin; typically consists of 1st- and 2nd-order streams."
Justification: This definition is consistent with the EPA definition.

57. **Revision: Reg.2.106:** Revise the definition of "Nonpoint source" to:
"Nonpoint source: A contributing factor to water pollution that is not confined to an end-of-the-pipe discharge, i.e., stormwater runoff <u>not regulated under Clean Water Act § 402(p), 33 U.S.C. § 1342</u>, agricultural or silvicultural runoff, irrigation return flows, <u>and other sources of diffuse runoff.</u>"
Justification: EPA suggestion to clarify definition to include a reference to the Clean Water Act.

58. **Revision: Reg. 2.302**: Add text "(For specific listings refer to Appendices A and D)" to sections (A), (B), and (C).
Justification: This provides a reference to the listings for specific designated uses.

59. **Revision: Reg. 2.311(A)(8)**: Revise to read: "Supporting documentation for the designation, including information which addresses the factors listed in Appendix F."
Justification: All articles in Appendix F must be met; there is no need to list them.

60. **Revision: Reg. 2.401:** Add "Unless otherwise designated in this chapter and in Appendix A" as the first sentence.

Justification: To clarify that some general standards may not apply to every waterbody due to water quality standards variations supported by a use attainability analysis.

61. **Revision: Reg. 2.405:** In the second paragraph, replace "variety and abundance" with "habitat and hydrologic condition." Remove the second sentence. Revise the forth sentence to read "It is the responsibility of the Department to evaluate the data for an aquatic biota assessment when appropriate to protect aquatic life uses designated in Appendix A. Such data may be used to develop permit effluent limitations or conditions."
Justification: EPA suggestion, to clarify the circumstances for aquatic biota assessments.

62. **Revision: Reg. 2.501:** Add, "Unless otherwise designated in this chapter and in Appendix A" as the first sentence.
Justification: To clarify that some specific standards may not apply to every waterbody due to water quality standards variations supported by a use attainability analysis.

63. **Revision: Reg. 2.503:** Remove "ambient" from the third sentence of the first paragraph.
Justification: Current wording limits the data that can be used to assess turbidity.

64. **Revision: Reg. 2.504:** Revise to read:
"pH between 6.0 and 9.0 standard units are the applicable standards for streams. For lakes, the standards are applicable at 1.0 meter depth. As a result of waste discharges, the pH of water in streams or lakes must not fluctuate in excess of 1.0 standard unit over a period of 24 hours. No mixing zones are allowed for pH. Standards are applicable to all waters of the state, except in those waterbodies where natural background conditions result in pH values either less than or greater than the criteria listed above."
Justification: Easier to interpret.

65. **Revision: Reg. 2.505**: Place the table before the text.
Justification: Easier flow of information.

66. **Revision: Reg. 2.509**: Add section heading "(A)" to the first paragraph and "(B)" to "Site Specific Nutrient Criteria."
Justification: Separating narrative general standard from site specific nutrient standards.

67. **Revision: Reg. 2.511(A)**: Regarding the Arkansas River, replace "Mouth to L&D #7" with "Mouth to Murray Lock and Dam [L&D #7]".
Justification: Adding the dam's common name will make the stream reach description easier to interpret.

68. **Revision: Reg. 2.511(A)**: Regarding the Arkansas River, replace "L&D #7 to L&D #10" with "Murray Lock and Dam [L&D #7] to Dardanelle Lock and Dam [L&D #10]".
Justification: Adding the dam's common name will make the stream reach description easier to interpret.

69. **Revision: Reg. 2.511(A):** Regarding the Arkansas River, replace "L&D #10 to Oklahoma line,

including Dardanelle Reservoir" with "Dardanelle Lock and Dam [L&D #10] to Oklahoma line, including Dardanelle Reservoir."
Justification: Adding the dam's common name will make the stream reach description easier to interpret.

70. **Revision: Reg. 2.511(A):** Revise Stennitt Creek to say "Stennitt Creek from Brushy Creek to Spring River."
Justification: This creek is listed as "Stennitt Creek- from Brushy Creek to Spring River, TDS=456 mg/l (OH-4, #6)'' in the variation supported by UAA list in Appendix A.

71. **Revision: Reg. 2.511(C):** Add an "s" to the end of "Reg." and "and 2.308" after 2.306.
Justification: Clarification that both Reg. 2.306 and 2.308 apply when mineral concentrations exceed Domestic Water Supply designated use criteria.

72. **Revision: Appendix A:** Add a table of contents for the ecoregions.
Justification: This will increase the user friendly nature of the appendix.

73. **Revision: Appendix A:** Throughout Appendix A, replace "Site Specific Use Variations Supported by UAA" headings with "Designated Use Variations Supported by Use Attainability Analysis." Replace "Variations Supported by UAA" headings with "Site Specific Standards Variations Supported by " for each Appendix A ecoregion.
Justification: The added language will help clarify the difference between designated use variations and specific standard variations supported by UAAs.

74. **Revision: Appendix A**: On each Designated Uses ecoregion page - Add two asterisks (**) to Primary Contact Recreation; Secondary Contact Recreation; Domestic, Industrial and Agricultural Water Supply; and Aquatic Life headings. Also add footnote "**Except for those waters with designated use variations supported by UAA or other investigations."
Justification: To clarify that all designated uses do not apply to all waters.

75. **Revision: Appendix A: OH:** Add Little Strawberry River to ERW and ESW lists for Ozark Highlands Ecoregion.
Justification: This river is designated on the corresponding plate (OH-3) as an ERW and ESW and has been since the 1988 version of Reg. No. 2.

76. **Revision: Appendix A: OH:** Add "Cave Springs Cave, Logan Cave, and n..." to ESW list.
Justification: These caves are already designated on the corresponding plates, adding their names will highlight the fact that they are protected.

77. **Revision: Appendix A: OH:** Add Rock Creek to ESW list for Ozark Highlands Ecoregion.
Justification: This creek is designated on the corresponding plate (OH-4) as an ESW and has been since the 1988 version of Reg No. 2.

78. **Revision: Appendix A: OH:** Designated Use Variations Supported…Section, add #6 to Stennitt Creek after OH-4.
Justification: #6 corresponds to the number representing the location on the following plate.

79. **Revision: Appendix A: BM:** Revise the first entry in the ERW section:
"Middle and Devils Forks of the Little Red River including Beech Creek, Tomahawk Creek, Turkey Creek, Lick Creek, Raccoon Creek, and Little Raccoon Creek (BM-2, BM-3)"
This
Justification: Little Raccoon Creek is designated on the corresponding plate (BM-3) as an ERW and ESW and has been since the 1988 version of Reg. No. 2. Raccoon Creek is the correct spelling of this creek.

80. **Revision: Appendix A: BM:** Revise the first entry in the ESW section:
Middle, South, and Devils Forks of Little Red River including Beech Creek, Tomahawk Creek, Turkey Creek, Lick Creek, Raccoon Creek, Little Raccoon Creek, and Archey Creek above Greers Ferry Reservoir - location of endemic yellowcheek darter, endangered speckled pocketbook mussel, and scaleshell (except Devils Fork) (BM-2, BM-3)
Justification: Little Raccoon, Beech, Tomahawk, Turkey, and Lick Creeks are designated on the corresponding plate (BM-3) as an ERW and ESW and has been since the 1988 version of Reg. No. 2. The new format is succinct and easier to read.

81. **Revision: Appendix A: ARV:** Under the Ecologically Sensitive Waterbodies heading add "None."
Justification: The current version of Reg. No. 2 has nothing listed under the ESW heading. Adding "None" will clarify that there are no ESWs in the Arkansas River Valley Ecoregion.

82. **Revision: Appendix A: GC:** Add "springwater influenced" to "All sizes" in Dissolved Oxygen Table.
Justification: Reg. 2.505 Dissolved Oxygen (page 5-4) states limits for < 10, 10 – 500, > 500, *and* springwater- influenced streams in the Gulf Coastal ecoregion. As the table on page A-30 is currently written it appears the "All sizes" limits would trump the other 3, this is incorrect.

83. **Revision: Appendix A: D**: Revise line three under the ERW heading: Norrell Lock and Dam (Dam #2).
Justification: Adding the dam's common name will make the stream reach description easier to interpret.

84. **Revision: Appendix C:** Revise the scientific names for the Blacktail shiner, Bluntnose darter, Gravel chub, Pugnose minnow, Striped shiner, and Whitetail shiner
Justification: As per Nelson, J. S., Crossman, E. J., Espinosa-Pérez, H., Findley, L. T., Gilbert, C. R., Lea, R. N., Williams, J. D. 2004. Common and scientific names of fishes from the United States, Canada and Mexico. 6th edition. American Fisheries Society, Bethesda, Maryland. ix,386 p.

85. **Revision: Appendix C:** Revise the scientific name for the Southern redbelly dace.
Justification: As per Strange, R. M., and R. L. Mayden. 2009. Phylogenetic Relationships and a

Revised Taxonomy for North American Cyprinids Currently Assigned to Phoxinus (Osteichthyes: Cyprinidae). Copeia 2009 (3):494-501.

Grammatical and Typos. The following list is intended to list every amendment related to grammatical and typographical errors. The list also attempts to list each instance where the regulation has been amended to conform to the APC&EC Regulation Formatting and Drafting Guidelines. However, due to the size of this regulation, all changes may not be included in this list.

86. **Revision:** Remove the wording "Adopted by...(August 26, 2011)," add "Initial Draft."
Justification: The current 2013 Regulation No. 2 is in draft form. The cover of the final 2013 Reg. No. 2 will include the latest adoption date.

87. **Revision:** Throughout regulation, any place other than the front title page, remove the existing adoption date.
Justification: The adoption date on the front cover is sufficient to cover the entire regulation document. There is no legal basis to have adoption dates on appendices.

88. **Revision: page 1-1:** Add an "s" at the end of "standard."
Justification: Typo

89. **Revision:** Throughout regulation replace "mg/l," "µg/l" and "ng/l," with "mg/L," "µg/L" and "ng/L," respectively.
Justification: The standard abbreviation for milligrams per liter is mg/L; µg/L is the standard abbreviation for micrograms per liter; and ng/L is the standard abbreviation for nanograms per liter.

90. **Revision:** Throughout regulation capitalize "Extraordinary Resource Waters, Ecologically Sensitive Waterbodies, and Natural and Scenic Waterways".
Justification: Standardization of text.

91. **Revision:** Throughout regulation replace CFS with cfs.
Justification: Standardization of text.

92. **Revision:** Throughout regulation replace "aquatic life" with "aquatic biota".
Justification: The term "aquatic life" is not defined in the document, "aquatic biota" is.
Use of the term "aquatic biota" will help differentiate between the aquatic life designated use and plant and animal life found in aquatic systems.

93. Revision: Throughout regulation replace "Cr." with "creek".
Justification: Standardization of text.

94. **Revision:** Throughout Appendix A replace "TDS" with "total dissolved solids"
Justification: Standardization of text.

95. **Revision:** Throughout Appendix A replace "tributary" with "trib."
Justification: Standardization of text.

96. **Revision:** Throughout entire regulation replace "ADEQ" with "Department."
Justification: Reg. 2.104 states that the Arkansas Department of Environmental Quality will thereafter be referred to as the "Department" in the document.

97. **Revision:** Throughout entire regulation replace "D.O." with "dissolved oxygen".
Justification: Standardization of text.

98. **Revision:** Throughout entire regulation add the appropriate state name before "state line" or the appropriate count name before "county line." Example: "from mouth to Louisiana state line."
Justification: Clarification.

99. **Revision:** Throughout entire regulation add the word "state" or "county" in front of "line" in reference to a state or county boundary. Example: Missouri state line.
Justification: Clarification.

100. **Revision:** Throughout entire regulation replace "Brdg" with "Bridge."
Justification: Standardization of text.

101. **Revision:** Throughout entire regulation, replace the acronym "UAA" with "Use Attainability Analysis," except for the plate legends in Appendix A (based on available space).
Justification: Required by "REGULATION FORMATTING AND DRAFTING GUIDELINES."

102. **Revision: Reg 2.102:** Second sentence, add comma after "value."
Justification: Typo.

103. **Revision: Reg 2.104:** Add text: "Arkansas" Department "of Environmental Quality (hereinafter referred to as "Department")."
Justification: Proper reference to the Arkansas Department of Environmental Quality.

104. **Revision: Reg 2.104**: Add text "National Pollutant Discharge Elimination System" and place NPDES in parenthesis.
Justification: Defining NPDES acronym for clarification.

105. **Revision: Reg. 2.106:** Bold defined words.
Justification: Required by "REGULATION FORMATTING AND DRAFTING GUIDELINES."

106. **Revision: Reg. 2.106:** Replace uppercase first letter of second and subsequent words with a lower case letter.
Justification: Standardization of text.

107. **Revision: Reg. 2.106:** In 304(a) guidance definition, add ", 33 U.S.C. § 1251 *et seq.*" after "Clean Water Act.
Justification: To provide a more accurate reference to the legal codes and acts.

108. **Revision: Reg. 2.106:** Add "United States" in front of "Environmental Protection Agency" (and throughout the Regulation.
Justification: Standardization of text.

109. **Revision: Reg. 2.106:** Add a period to the end of definitions for "Act" and "Design flow."
Justification: EPA suggestion, typos.

110. **Revision: Reg. 2.106:** In "Algae" definition, add a comma after the word "stems" and replace "which" with "that."
Justification: Both changes are to correct grammatical errors.

111. **Revision: Reg. 2.106:** Remove "Continuing Planning Process" definition.
Justification: Proper reference of the document is the "State of Arkansas Continuing Planning Process" and it will be defined under that title.

112. **Revision: Reg 2.106:** Revise first inset sentence of "Critical flows" definition to include the text "cubic foot per second" and place cfs in parenthesis.
Justification: Defining cfs acronym for clarification.

113. **Revision: Reg. 2.106:** Revise "Department" definition to read "Department: The Arkansas Department of Environmental Quality, or its successor."
Justification: Required by "REGULATION FORMATTING AND DRAFTING GUIDELINES."

114. **Revision: Reg. 2.106:** In *Escherichia coli* revise the "A" to lower case at the beginning of the definition.
Justification: Standardization of definition formatting.

115. **Revision: Reg. 2.106:** In the "Existing uses" definition, and throughout the rest of the regulation, add "Clean Water" in front of "Act".
Justification: Clarification of the reference and standardization of text.

116. **Revision: Reg. 2.106:** In the "Mixing zone" definition, remove the comma and "(ZID)" acronym. ZID acronym also removed from Reg. 2.508.
Justification: The comma is a grammatical error and the ZID acronym is removed based upon the "REGULATION FORMATTING AND DRAFTING GUIDELINES."

117. **Revision: Reg. 2.106:** Remove the parenthesis from "Nephelometric Turbidity Unit" and follow with NTU in parenthesis (NTU). Format "Jackson Turbidity Units" and Formazin Turbidity Units in the same manner.
Justification: Proper formatting.

118. **Revision: Reg. 2.106:** Move Q7-10 definition to follow "Primary season" definition.
Justification: Q7-10 definition is not in alphabetical order.

119. **Revision: Reg. 2.106:** Revise "Seasonal fishery" to "Seasonal Aquatic Life." Also replace "fishery" with "aquatic life" within the text of the definition.
Justification: It is proposed to replace the designated use "fishery" with "aquatic life."

120. **Revision: Reg. 2.106:** Add "State of Arkansas Continuing Planning Process" definition.
Justification: Formerly defined as "Continuing Planning Process." The new definition provides proper reference of the document.

121. **Revision: Reg. 2.106:** Capitalize "state" in waterbodies, waterways, and waters definition.
Justification: Typo.

122. **Revision: Reg. 2.202:** Remove "...State's continuing planning process.." wording and replace with "State of Arkansas's Continuing Planning Process." Scan document and change all references to "State of Arkansas's Continuing Planning Process."
Justification: Proper reference of the document.

123. **Revision: Reg. 2.203:** Replace "ERW" with "Extraordinary Resource Waters" and place "ERW" in parenthesis.
Justification: Defining ERW acronym for clarification.

124. **Revision: Reg. 2.302**: Under Fisheries heading, capitalize the first word after the hyphen in sections (1), (2), and (3).
Justification: Standardization of text.

125. **Revision: Reg. 2.303**: Replace "EPA" with "U.S. Environmental Protection Agency" and place "EPA" in parenthesis.
Justification: Defining EPA acronym for clarification.

126. **Revision: Reg. 2.303**: Remove "CPP" acronym.
Justification: The acronym is not used elsewhere in the document and is therefore unnecessary.

127. **Revision: Reg. 2.308:** spell out the acronym for WER – water effects ratio
Justification: Defining WER acronym for clarification.

128. **Revision: Reg. 2.310:** In the title, replace the capitalized "A" with a lowercase "a."
Justification: Typo.

129. **Revision: Reg. 2.404:** In second paragraph, remove the commas that come before and after the information in parenthesis (this occurs twice in the paragraph).
Justification: Grammatical errors.

130. **Revision: Reg. 2.501:** Insert coma after "...on occasion."
Justification: Typo.

131. **Revision: Reg. 2.502:** Add a space between St. and Francis in the "streams" list.
Justification: Typo.

132. **Revision: Reg. 2.505:** Replace "state's continuing planning process" with "State of Arkansas Continuing Planning Process."
Justification: Standardization of document.

133. **Revision: Reg. 2.505**: Replace the "#" symbol with "No." in Regulation No. 6 reference.
Justification: Standardization of text.

134. **Revision: Reg. 2.508:** Remove the space between "non" and "permit."
Justification: Typo

135. **Revision: Reg. 2.508:** Remove NOECs acronym.
Justification: The acronym is not used elsewhere in the document and is therefore unnecessary.

136. **Revision: Reg. 2.508:** Revise the first foot note to read "These values may be adjusted by a site specific Water-Effects Ratio as defined in 40 CFR Part 131.36 (c)."
Justification: The acronym "WER" does not need to be included, it does not occur anywhere else in the document. The first #1 was inadvertently left off of "Part 131.36 (c)."

137. **Revision: Reg. 2.508:** Remove the "**" footnote marker from the first column for Mercury in the Dissolved Metals table.
Justification: Clarify that acute criteria are not expressed as total recoverable.

138. **Revision: Reg. 2.508:** Add the footnote marker "‡" to Mercury in the Dissolved Metals table. Add the foot note, "‡ Mercury based on bioaccumulation of residues in aquatic organisms." Remove "Mercury based on bioaccumulation of residues in aquatic organisms, rather than toxicity" from the existing "**" footnote.
Justification: Clarification

139. **Revision: Reg. 2.508:** Under "Human Health Criteria" revise second footnote to read "4000 ng/L is also represented as 4.0 ug/L, which is the maximum contaminant level under..."
Justification: The "M" in "maximum" does not need to be capitalized, it is a typo. Also, the acronym "MCL" does not need to be included, it is not used anywhere else in the document.

140. **Revision: Reg. 2.509**: In last sentence of first paragraph, remove the comma between "established, numeric."
Justification: Grammatical error.

141. **Revision: Reg. 2.509** In the second sentence replace "are" with "is."
Justification: Grammatical error.

142. **Revision: Reg. 2.511(A)**: Add element names to the minerals table.
Justification: The atomic symbols for chloride and sulfate has not been defined, nor has the acronym TDS, at this point in the document.

143. **Revision: Reg. 2.511(A)**: Remove the asterisks (*) from the chloride and TDS criteria for Walker Branch.
Justification: The asterisks were inadvertently added in the 2007 version of Reg. No. 2.

144. **Revision: Reg. 2.511(A)**: Under Ouachita River (Louisiana line to Camden), replace capital "R" with lower case "r" for Hurricane Creek from Hwy 270 to Saline River in table.

Hurricane C~~R~~r from Hwy 270 to Saline River	100	500	1000

Justification: Typo.

145. **Revision: Reg. 2.512(B):** In the tables, remove the comma between "temperature" and "°C."
Justification: Typos.

146. **Revision: Reg. 2.512(B):** Replace "ELS" with "Early Life Stage."
Justification: Defining acronym for clarification

147. **Revision: Reg. 2.512(D):** Remove the number 7 and spell it out in "seven-day average."
Justification: Bring consistency to "seven-day average" and "four-day average," which is used later in the sentence.

148. **Revision: Appendix A:** Restart numbering of pages after page A-2.
Justification: Currently there are 2 pages numbered A-2.

149. **Revision: Appendix A: BM:** Add "Big" to Piney Creek in ERW list for Boston Mountains ecoregion.
Justification: This creek is labeled Big Piney Creek in the NSW list and in the NHD data.

150. **Revision: Appendix A: ARV :**Under Designated Use Variations Supported by UAA, add a space between the word "use" and the parentheses for both entries.
Justification: Typos.

151. **Revision: Appendix A: OM:** Standardize the spelling of "Arkansas fatmucket mussel" in ESW list.
Justification: "Arkansas fatmucket mussel" is the correct spelling.

152. **Revision: Appendix A: GC:** Replace "(GC-3)" with "(GC-2)" for Moro Creek under the ERW heading.
Justification: Typo

153. **Revision: Appendix A: GC:** Replace "(GC-2)" with "(GC-4)" for Ouachita River near Arkadelphia under the ESW heading.
Justification: Typo

154. **Revision: Appendix A: GC:** Move "Lower Little" to next line in ESW descriptions.
Justification: Current placement of the word "Lower Little" gives the impression that it goes with Grassy Lake and Yellow Creek. This is incorrect; it should be Lower Little Missouri River.

155. **Revision: Appendix A: GC:** Add "(GC-2, #28)" after "Dismukes Creek and Big Creek to Bayou Dorcheat – no domestic water supply."
Justification: Inadvertently omitted from previous versions.

156. **Revision: Appendix A: GC:** Add "(GC-2, #51)" after "Boggy Creek from the discharge from Clean Harbors El Dorado LCC downstream to the confluence of Bayou de Loutre - no domestic water supply use."
Justification: Inadvertently omitted from previous versions.

157. **Revision: Appendix A: GC:** Under Designated Use Variations Supported by UAA, add a space between the word "use" and the parentheses for multiple entries.
Justification: Typos.

158. **Revision: Appendix A: GC:** Move the numbers 6 and 5 (next to "All sizes") into the column below the "Spring Water Streams" heading.
Justification: Typo.

159. **Revision: Appendix A: D:** Add plate numbers and corresponding UAA map numbers (#38-41) to the "Variations Supported by UAA" list. (See Bayou Meto Water District UAA) [Ex:(D-3, #29)]
Justification: These numbers are labeled on Plate D-3, but were left off most of the listings.

160. **Revision: Appendix A: D:** Label ESWs on Plate D-2 using legend symbols.
Justification: The ESW delineations appear to have been inadvertently left off when the variations by UAA were added to the plate.

161. **Revision: Appendix A: D:** Replace "Lagrue Bayou" with "LaGrue Bayou."
Justification: LaGrue Bayou is the correct spelling.

162. **Revision: Appendix E:** Replace "Section" with "Reg." in second paragraph.
Justification: Proper reference to Reg 2.310.

163. **Revision: Appendix E:** Replace "7Q10" with "Q710" under part (V).
Justification: Proper reference of Q710.