

2013 Regulation No. 2 Revisions and Justifications Document

Major Revisions

- 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.
- 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.
- 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 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.
- Revision: 2.104:** Revise the second sentence as follows:
“Consequently, compliance schedules may be included in National Pollutant Discharge Elimination System (NPDES) permits at the time of renewal or permit modification initiated by the Department to require compliance with new water quality standards.”
Justification: As suggested by EPA, inclusion of the phrase “or permit modification initiated by the Department” allows, as appropriate, inclusion of compliance schedules in permit modifications initiated by the Department.
- 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.
- Revision: Reg. 2.106:** Revise the definition of “Critical flow” as follows:

The flow volume used as background dilution flows in calculating concentrations of pollutants from

permitted discharges. These flows may be adjusted for mixing zones. The following critical flows are applicable:

For a seasonal ~~fishery~~ aquatic life - 1 cubic foot per second (cfs) minus the design flow of any point source discharge (may not be less than zero);

For human health ~~criteria~~ - harmonic mean flow or long term average flow;

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), except as follows:~~

- o Reg. 2.511(A) Site Specific Mineral Criteria listed with an asterisk- 4 cubic feet per second.
- o Reg. 2.511 (C) Domestic Water Supply: Q7-10; and

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

Justification: Appropriate flow data is needed in setting permit limits. 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.

7. **Revision: Reg. 2.106:** Delete the definition for Primary Season Critical Flow.

Justification: The Department is satisfied that the definitions for “Primary Season” and “Critical Flow” sufficiently define “Primary Season Critical Flow.”

8. **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.

9. **Revision: Reg. 2.404:** The first sentence is revised as: “Where Mmixing zones are allowed, for all parameters not specifically excluded in Reg. 2.404 and the effects of wastes on the receiving stream shall be determined after the wastes have been thoroughly mixed with the mixing zone volume.”

Justification: The issue of a mixing zone must be determined on a case-by-case basis. The first sentence is being revised to recognize that a mixing zone can apply to a variety of parameters and circumstances.

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. 2.502:** Revise the last sentence as:
 “~~Maximum allowable temperatures from man induced causes in the following waters are: The following standards are applicable:~~”
Justification: EPA is encouraging ADEQ to move away from using such definitive language.
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:
 “All streams with watersheds of less than 10 mi² are expected to support a fishery aquatic life during the primary season when stream flows, including discharges, equal or exceed 1 cubic foot per second ~~(CFS)(cfs)~~. ~~h~~However, when site verification indicates that a fishery aquatic life exists at flows below 1 ~~CFS~~cfs, such fishery 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:
 “For the purposes of this regulation, all streams with watersheds less than 10 mi² 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 as impaired by bacteria, the below listed applicable values for *E. coli* shall not be exceeded in more than 25% of samples in no less than eight (8) samples taken during the primary contact season or during the secondary contact season.

The following standards are applicable:

<u>Contact Recreation Seasons</u>	<u>Limit (col/100mL)</u>			
	<u><i>E. coli</i></u>		<u>Fecal Coliform</u>	
<u>Primary Contact¹</u>	<u>IS³</u>	<u>GM⁴</u>	<u>IS³</u>	<u>GM⁴</u>
<u>ERW, ESW, NSW, Reservoirs, Lakes²</u>	<u>298</u>	<u>126</u>	<u>400</u>	<u>200</u>
<u>All Other Waters</u>	<u>410</u>	<u>-</u>	<u>400</u>	<u>200</u>
<u>Secondary Contact⁵</u>				
<u>ERW, ESW, NSW, Reservoirs, Lakes²</u>	<u>1490</u>	<u>630</u>	<u>2000</u>	<u>1000</u>
	<u>2050</u>	<u>-</u>	<u>2000</u>	<u>1000</u>

Contact Recreation Seasons

Limit (col/100mL)

All Other Waters

¹ May 1 to September 30

² Applicable at 1.0 meter depth in Reservoirs and Lakes

³ For assessment of Individual Sample Criteria– at least eight (8) data points

⁴ For calculation and assessment of Geometric Mean – calculated on a minimum of five (5) samples spaced evenly and within a thirty (30)-day period.

⁵ 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 “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.

- 16. **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.

- 17. **Revision: Reg. 2.509:** Add Beaver Lake criteria:

(B) Site Specific Nutrient Standards

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

*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.

- 18. **Revision: Reg. 2.509:** Revise last as:

“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.

- 19. **Revision: Reg. 2.510:** Revise as:

~~“As a guideline, oil and grease shall not exceed 10 mg/l average or 15 mg/l maximum when discharging to surface waters. Oil and grease shall be an average of no more than 10 mg/L or a maximum of no more than 15 mg/L.”~~

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.

20. **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.

21. **Reg. 2.511(A):** Remove the asterisks from the site specific criteria for Boggy Creek.

Boggy Creek - from the discharge for Clean Harbors El Dorado LLC to the confluence of Bayou de Loutre	631*	63	1360*
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Justification: This revision correctly reflects the flow used during development of these site specific criteria.

22. **Revision: Reg. 2.511(A):** Add asterisks from the site specific criteria for Dismukes Creek and Big Creek.

Dismukes Creek	26*	ER	157*
Big Creek from Dismukes to Bayou Dorcheat	20*	ER	200*

Justification: This revision correctly reflects the flow used during development of these site specific criteria.

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

Bayou Meto (mouth to Bayou Two Prairie Pulaski/Lonoke county line)	95**	45**	ER
— Bayou Two Prairie (mouth to Rickey Branch)	95**	45**	ER
Bayou Two Prairie (Pulaski/Lonoke county line to Northern boundary of Smoke Hole Natural Area)	95**	45**	ER
Bayou Two Prairie (Southern boundary of Smoke Hole Natural Area to Mouth)	95**	45**	ER

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

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

Bayou Bartholomew	50 30	20 30	500 220
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Justification: The 2007 version of Reg. No. 2 was inadvertently changed; the numbers from the 2004 version are the correct site specific standards.

25. **Revision: Reg. 2.511(A):** Revise the following stream segments in the site specific mineral quality criteria table:

— Unnamed trib from GLCC-003	538 *	35 *	519 *
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— 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.

26. **Revision: Reg. 2.511(A):** Add a “†” symbol to the following stream segment criteria in the site specific mineral quality criteria table:

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: The site specific mineral criteria for these segments were approved by the Arkansas Pollution Control and Ecology Commission, but disapproved by EPA as per RODs dated April 14, 2009 and August 31, 2011. Therefore, they are in Regulation No. 2, but cannot be used for Clean Water Act purposes until such time EPA approves. However, removing these criteria is not appropriate at this time because this rulemaking is currently under federal appeal.

27. **Revision: Reg. 2.511(A):** Revise the following stream segments in 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.

28. **Revision: Reg. 2.511(A):** Revise the following stream segments in 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	250*	263*	750*

—downstream to the mouth of Mill Creek			
Bayou de Loutre— from the mouth of Mill Creek —downstream to the mouth of Buckaloo Branch	250*	237*	750*
Bayou de Loutre— from the mouth of Buckaloo Branch downstream to the mouth of Bear Creek	250*	216*	750*
Bayou de Loutre— from the mouth of Bear Creek -downstream to the final segment of Bayou de loutre	250*	198*	750*
Bayou de Loutre (Final segment)— from the mouth of Bear Creek to the Arkansas/Louisiana State Line	250*	171*	750*

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

29. **Revision: Reg 2.511(A):** Add the following footnote to the Unnamed Tributaries to Flat Creek in the site specific mineral quality criteria table:

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

Justification: The site specific mineral criteria for the corresponding segments were approved by the Arkansas Pollution Control and Ecology Commission, but disapproved by EPA as per RODs dated April 14, 2009 and August 31, 2011. Removing these criteria is not appropriate at this time because EPA’s disapproval decision is currently under federal appeal. Therefore, the criteria remain in Regulation No. 2, but cannot be used for Clean Water Act purposes.

30. **Revision: Reg. 2.511(B):** Revise this section as follows:

“The following values were determined from Arkansas' least-disturbed ecoregion reference streams are considered to be the maximum naturally occurring levels. For waterbodies not listed above, any discharge which results in instream concentrations more than 1/3 higher than these values for chlorides (Cl) and sulfates (SO₄⁼²) or more than 15 mg/4L, 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 site specific criteria development in accordance with Regs. 2.306 and 2.308. Similarly, such ~~modification~~ site specific criteria development exists—should be considered if the following TDS values are exceeded after being increased by the sum of the increases to Cl and SO₄. Such ~~modifications~~ criteria may be ~~made~~ developed only in accordance with Regs. 2.306 and 2.308. The values listed in the table below are not intended nor will these values be used by the Department to evaluate attainment of the water quality standards.”

Justification: Adding “Chlorides” and “Sulfates” and placing empirical formula in parentheses defines the symbols. Deletion of “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” clarifies 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 water quality standards” clarifies that these values are not intended to be used in designated use attainment.

31. **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.

CALCULATED ECOREGION REFERENCE STREAM VALUES (mg/L)

Ecoregion	Chlorides (<u>Cl</u>)	Sulfates (<u>SO₄²⁻</u>)	TDS
Ozark Highlands	<u>17.3-13</u>	<u>22.7-17</u>	<u>250-240</u>
Boston Mountains	<u>17.3-13</u>	<u>15.9</u>	<u>95.3-85</u>
Arkansas River Valley	<u>15-10</u>	<u>17.3-13</u>	<u>112.3-103</u>
Ouachita Mountains	<u>15.6</u>	<u>20-15</u>	<u>142-128</u>
Gulf Coastal Plains	<u>18.7-14</u>	<u>41.3-31</u>	<u>138-123</u>
Delta	<u>48-36</u>	<u>37.3-28</u>	<u>411.3-390</u>

Justification: Clarification of the values for implementation purposes.

32. **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.

33. **Revision: Reg. 2.512 -** Revise the first sentence as:

“~~The Total ammonia nitrogen (N) criteria shall not exceed those values and the~~ frequency of occurrence ~~established in the following tables 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.

34. **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.

35. **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 the Site Specific Designated Use Variations Supported by Use Attainability Analysis or Other Investigations list.

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

36. **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.

37. **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.

38. **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)~~
- ~~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.

39. **Revision: Appendix A: GC:** Add a “†” symbol to the following stream segments in the Site Specific Standards Variations Supported by Use Attainability Analysis list:
“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) †

Justification: The site specific mineral criteria for the corresponding segments were approved by the Arkansas Pollution Control and Ecology Commission, but disapproved by EPA as per RODs dated April 14, 2009 and August 31, 2011. Removing these criteria is not appropriate at this time because EPA's disapproval decision is currently under federal appeal. Therefore, the criteria remain in Regulation No. 2, but cannot be used for Clean Water Act purposes.

40. **Revision: Appendix A: GC:** Add the following footnote to the Unnamed Tributaries to Flat Creek in the Site Specific Standards Variations Supported by Use Attainability Analysis list:

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

Justification: The site specific mineral criteria for the corresponding segments were approved by the Arkansas Pollution Control and Ecology Commission, but disapproved by EPA as per RODs dated April 14, 2009 and August 31, 2011. Removing these criteria is not appropriate at this time because EPA's disapproval decision is currently under federal appeal. Therefore, the criteria remain in Regulation No. 2, but cannot be used for Clean Water Act purposes.

41. **Revision: Appendix A: D:** Under Site Specific Standards Variations Supported by Use Attainability Analysis list, revise as:

“Bayou Meto from mouth to ~~Bayou Two Prairie~~Pulaski/Lonoke county line- chlorides 95 mg/4L; sulfates 45 mg/4L (D-3, #4)”

Justification: Approved by Arkansas Pollution Control and Ecology Commission Minute Order No. 07-41.

42. **Revision: Appendix A: D:** Revise as:

~~Bayou Two Prairie (mouth to Rickey Branch)—chlorides 95 mg/4L; sulfates 45 mg/4L~~
~~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 as:

“Scientific Names of ~~Fishes~~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 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, EWSs, and NSWs will be useful for both ADEQ and other agencies and citizens of Arkansas.

Minor Revisions

45. **Revision: Reg. 2.104:** Replace “facility” with “permittee” in the first sentence.
Justification: Clarification of the intent of the section.
46. **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.
47. **Revision: Reg. 2.106:** Remove the definition:
Act: Clean Water Act, as amended (33 U.S.C. 1251, et. seq.)
Justification: Full citations to the Clean Water Act are now included throughout the regulation so the definition is not necessary.
48. **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.
49. **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.
50. **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.
51. **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.

52. **Revision: Reg. 2.106:** Remove the definition:

~~**Fishery:** The designated use of a waterbody determined by the fish community and other associated aquatic life.~~

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.

53. **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.

54. **Revision: Reg. 2.106:** Revise the definition:

“Headwater: ~~The source of a stream~~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.

55. **Revision: Reg.2.106:** Revise the definition of “Nonpoint source” as:

“Nonpoint source: A contributing factor to water pollution that is not confined to an end-of-the-pipe discharge, i.e., stormwater runoff not regulated under Clean Water Act § 402(p)(1), 33 U.S.C. § 1342, agricultural or silvicultural runoff, irrigation return flows, and other sources of diffuse runoff.”

Justification: EPA suggestion to clarify definition to include a reference to the Clean Water Act.

56. **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.

57. **Revision: Reg. 2.311(A)(8):** Revise as:

(8) Supporting documentation for the designation, including information which addresses the factors listed in Appendix F, ~~I (A) through (P)~~;

Justification: All articles in Appendix F must be met; there is no need to list them.

58. **Revision: Reg. 2.401:** Revise first sentence as:

“Unless otherwise indicated in this Chapter and/or in Appendix A, ¶the general standards outlined below are applicable to all surface waters of the State at all times.”

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.

59. **Revision: Reg. 2.405:** In the second paragraph as:

“An aquatic biota assessment should compare biota communities that are similar in ~~variety-habitat~~ and ~~abundance~~-hydrologic condition, based upon either an in-stream study including an upstream

and downstream comparison, a comparison to a reference water body within the same ecoregion, or a comparison to community characteristics from a composite of reference waters. ~~The reference stream should have similar habitat and hydrologic conditions.~~ Such a comparison should consider the seasonal and natural variability of the aquatic biota community. It is the responsibility of the Department to ~~collect and~~ evaluate the data for an aquatic biota assessment ~~and such data will not be used to develop or impose permit limits 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.

60. **Revision: Reg. 2.501:** Revise the first sentence as:

“~~Unless otherwise indicated in this Chapter and/or in Appendix A, T~~the following specific standards shall apply to all surface waters of the state at all times except during periods when flows are less than the applicable critical flow.”

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.

61. **Revision: Reg. 2.503:** Revise first paragraph as:

“~~There shall be no distinctly visible increase in turbidity of receiving waters attributable to discharges or instream activities. The values below should not be exceeded during base flow (June to October) in more than 20% of samples. The values below should not be exceeded during all flows in more than 25% of samples taken in not less than 24 monthly samples.~~”

Justification: To clarify the turbidity standards for base flows and all flows.

62. **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.”

Justification: Easier to interpret.

63. **Revision: Reg. 2.505:** Place the table before the text.

Justification: Easier flow of information.

64. **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.

65. **Revision: Reg. 2.511(A):** Regarding the Arkansas River, revise as:

“(Mouth to ~~L&D #7~~Murray Lock and Dam [L&D #7])”.

Justification: Adding the dam’s common name will make the stream reach description easier to interpret.

66. **Revision: Reg. 2.511(A):** Regarding the Arkansas River, revise as:

“(L&D #7 Murray Lock and Dam [L&D #7] to ~~L&D #10~~Dardanelle Lock and Dam [L&D #10])”

Justification: Adding the dam’s common name will make the stream reach description easier to interpret.

67. **Revision: Reg. 2.511(A):** Regarding the Arkansas River, revise as:
 “(~~L&D #10~~Dardanelle Lock and Dam [L&D #10] to Oklahoma state line, including Dardanelle Reservoir)”
Justification: Adding the dam’s common name will make the stream reach description easier to interpret.
68. **Revision: Reg. 2.511(A):** Revise Stennitt Creek as:
 “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.
69. **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.
70. **Revision: Reg. 2.512(B):** Revise as:
 The ~~thirty-day~~ monthly average concentration of total ammonia nitrogen shall not exceed those values shown as the chronic criterion in the following tables:
Justification: To maintain consistency with typical monitoring data as calendar months can have from twenty-eight to thirty-one days.
71. **Revision: Appendix A:** Add a table of contents for the ecoregions.
Justification: This will make the appendix more user friendly.
72. **Revision: Appendix A:** Throughout Appendix A, revise the following list headings as:
 “Site Specific Designated Use Variations Supported by UAA Use Attainability Analysis or Other Investigations”;
 and “Site Specific Standards Variations Supported by UAA-Use Attainability Analysis”.
Justification: The added language will help clarify the difference between designated use variations and specific standard variations supported by UAAs.
73. **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.
74. **Revision: Appendix A: OH:** Add to ERW and ESW lists for Ozark Highlands Ecoregion, respectively:
 “Little Strawberry River (OH-3)” “Little Strawberry River – location of the Strawberry River darter (OH-3)”
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.; however, they were inadvertently omitted from the

lists.

75. **Revision: Appendix A: OH:** Add to ESW list:
“Cave Springs Cave, Logan Cave and nNumerous springs and spring-fed tributaries which support southern cavefish, Ozark cavefish, Arkansas darter, least darter, Oklahoma salamander, cave snails, cave crawfish and unique invertebrates (OH-1, OH-2, OH-3)”
Justification: These caves are already designated on the corresponding plates, but were inadvertently omitted from the list.
76. **Revision: Appendix A: OH:** Add to ESW list for Ozark Highlands Ecoregion:
“Rock Creek – snuffbox and pink mucket mussels; Ozark hellbender (OH-4)”
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; however, it was inadvertently omitted from the list.
77. **Revision: Appendix A: OH:** Designated Use Variations Supported...Section, revise as:
“Stennitt Creek- from Brushy Creek to Spring River, no domestic water supply use (OH-4, #6)”
Justification: “#6” corresponds to the number representing the location on the following plate and was previously inadvertently omitted.
78. **Revision: Appendix A: BM:** Revise the first entry in the ERW section:
“~~Devils Fork of Little Red River including Beech Creek, Tomahawk Creek, Turkey Creek, Lick Creek and, Raccoon Creek (BM-3)~~
~~Middle Fork of Little Red River above Greers Ferry Reservoir (BM-2, BM-3)~~
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)”
Justification: This overall revision provides more clarity to this entry. 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; but, was previously, inadvertently omitted. Raccoon Creek is the correct spelling of this creek.
79. **Revision: Appendix A: BM:** Revise the first entry in the ESW section as:
“~~Devils, Middle, and South, and Forks~~ Devils Forks of Little Red River including Beech Creek, Tomahawk Creek, Turkey Creek, Lick Creek, Raccoon Creek, Little Raccoon Creek, of Little Red River and Archey Creek above Greers Ferry Reservoir - location of endemic yellowcheek darter and endangered speckled pocketbook mussel (except Devils Fork) (BM-2, BM-3)”
Justification: Overall, this revision is succinct and easier to read. Additionally, 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; however, they were previously, inadvertently omitted.
80. **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.

81. **Revision: Appendix A: GC:** Add “springwater influenced” to “All sizes” in Dissolved Oxygen Table.
Justification: Reg. 2.505 Dissolved Oxygen 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.
82. **Revision: Appendix A: D:** Revise line three under the ERW heading as:
“Norrell Lock and Dam (Dam #2).”
Justification: Adding the dam’s common name will make the stream reach description easier to interpret.
83. **Revision: Appendix C:** Revise the scientific names for the Blacktail shiner, Bluntnose darter, Gravel chub, Pugnose minnow, Striped shiner, and Whitetail shiner, respectively, as:
“~~Notropis venustus~~ *Cyprinella venusta*, *Etheostoma chlorosomum chlorosoma*, *Hybopsis punctata* *Erimystax x-punctatus*, ~~Notropis~~ *Opsopoeodus emiliae*, ~~Notropis~~ *Luxilus chrysocephalus*, and ~~Notropis galacturus~~-*Cyprinella galactura*.”
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.
84. **Revision: Appendix C:** Revise the scientific name for the Southern redbelly dace as:
“~~Phoxinus~~ *Chrosomus erythrogaster*”
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.

85. **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.
86. **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.
87. **Revision: page 1-1:** Add an “s” at the end of “standard.”
Justification: Typo
88. **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.
89. **Revision:** Throughout regulation capitalize “Extraordinary Resource Waters, Ecologically Sensitive Waterbodies, and Natural and Scenic Waterways”.
Justification: Standardization of text.
90. **Revision:** Throughout regulation replace “~~CFS~~” with “cfs”.
Justification: Standardization of text.
91. **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.
92. **Revision:** Throughout regulation replace “~~Cr.~~” with “creek”.
Justification: Standardization of text.
93. **Revision:** Throughout Appendix A replace “~~TDS~~” with “total dissolved solids”
Justification: Standardization of text.
94. **Revision:** Throughout Appendix A replace “~~tributary~~” with “trib.”
Justification: Standardization of text.

95. **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.
96. **Revision:** Throughout entire regulation replace “D.O.” with “dissolved oxygen”.
Justification: Standardization of text.
97. **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.
98. **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.
99. **Revision:** Throughout entire regulation replace “Brdg” with “Bridge.”
Justification: Standardization of text.
100. **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.”
101. **Revision: Reg 2.102:** Second sentence, add comma after “value.”
Justification: Typo.
102. **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.
103. **Revision: Reg 2.104:** Revise as:
“National Pollutant Discharge Elimination System (NPDES).”
Justification: Defining NPDES acronym for clarification.
104. **Revision: Reg. 2.106:** Reformat definitions to Bolded font for defined words.
Example: **Abatement:** The reduction in degree or intensity of pollution.
Justification: Required by “REGULATION FORMATTING AND DRAFTING GUIDELINES.”
105. **Revision: Reg. 2.106:** Replace uppercase first letter of second and subsequent words with a lower case letter.
Example: **All Flows:** Takes into account all flows and data collected throughout the year, including elevated flows due to rainfall events.
Justification: Standardization of text.
106. **Revision: Reg. 2.106:** Revise the 304(a) Guidance definition as:

304(a) Guidance: Refers to Section 304(a) of the Clean Water Act, 33 U.S.C. § 1314(a), which requires the U-nited S:tates Environmental Protection Agency to publish and periodically update ambient water quality criteria which will be protective of human health and the environment.

Justification: To provide a more accurate reference to the legal codes and acts.

107. **Revision: Reg. 2.106 and throughout entire regulation:** Add “United States” in front of “Environmental Protection Agency”.

Justification: Standardization of text.

108. **Revision: Reg. 2.106:** Add a period to the end of the “Design flow” definition.

Justification: EPA suggestion, typos.

109. **Revision: Reg. 2.106:** Revise “Algae” definition as:

“**Algae:** Simple plants without roots, stems, or leaves ~~which that~~ contain chlorophyll and are capable of photosynthesis.”

Justification: Both changes are to correct grammatical errors.

110. **Revision: Reg. 2.106:** Revise “~~Continuing Planning Process~~” definition to “State of Arkansas Continuing Planning Process”. Move definition to proper alphabetical order within section. The wording of the definition was not revised.

Justification: Proper reference of the document is the “State of Arkansas Continuing Planning Process” and it will be defined under that title.

111. **Revision: Reg 2.106:** Revise part of “Critical flows” as:

“For a seasonal ~~fishery aquatic life~~ - 1 cubic foot per second (cfs) minus the design flow of any point source discharge (may not be less than zero)-;”

Justification: This is the first place in the document where “cubic foot per second” is used; therefore, the “cfs” acronym must be defined for clarification.

112. **Revision: Reg. 2.106:** Revise “Department” definition to:

“**Department:** The Arkansas Department of Environmental Quality (~~ADEQ~~) or its successor.”

Justification: Required by “REGULATION FORMATTING AND DRAFTING GUIDELINES.”

113. **Revision: Reg. 2.106:** Revise *Escherichia coli* definition as:

“**Escherichia coli:** ~~A~~ rod shaped gram negative bacillus (0.5 – 3-5 microns) abundant in the large intestines of mammals.”

Justification: Standardization of definition formatting.

114. **Revision: Reg. 2.106 and throughout regulation:** Revise reference to the Clean Water Act as: Act Clean Water Act.

Justification: Clarification of the reference and standardization of text.

115. **Revision: Reg. 2.106 and 2.508:** Revise “Mixing zone” definition as:

Mixing zone: An area where an effluent discharge undergoes mixing with the receiving waterbody. For toxic discharges a zone of initial dilution, ~~(ZID)~~ may be allowed within the mixing zone.

Justification: The comma is a grammatical error and the ZID acronym is removed based upon the “REGULATION FORMATTING AND DRAFTING GUIDELINES.”

116. **Revision: Reg. 2.106:** Revise current NTU definition as: “~~Nephelometric Turbidity Unit~~ (NTU);” also revise “JTU and FTU as “Jackson Turbidity Units (JTU)” and “Formazin Turbidity Units (FTU),” respectively.
Justification: Proper formatting.
117. **Revision: Reg. 2.106:** Move Q7-10 definition to follow “Primary season” definition.
Justification: Q7-10 definition is not in alphabetical order.
118. **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.”
119. **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.
120. **Revision: Reg. 2.106:** Capitalize “state” in the “Waterbodies, waterways, and waters” definition.
Justification: Typo.
121. **Revision: Reg. 2.202:** Revise as: “...provisions of the ~~State's continuing planning process~~ State of Arkansas' Continuing Planning Process,...”
Justification: Proper reference of the document.
122. **Revision: Reg. 2.203:** Replace “ERW” with “Extraordinary Resource Waters” and place “ERW” in parenthesis: “Extraordinary Resource Waters (ERW)”
Justification: Defining ERW acronym for clarification.
123. **Revision: Reg. 2.204:** Revise as: “In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with Section 316 of the Clean Water Act, 33 U.S.C. § 1326.”
Justification: Clarification of the reference.
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: “United States Environmental Protection Agency-(EPA)”

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: “...conditions ~~{WER}~~(i.e., 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 as:
“** 4000 ng/4L is also represented as 4.0 ug/4L, which is the Mmaximum contaminant level (MCL) under the EPA-Safe Drinking Water Act, [42 U.S.C. s/s§ 300f et seq-et seq. (1974)]”

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 the second sentence replace “are” with “is.”

Justification: Grammatical error.

141. **Revision: Reg. 2.509:** In last sentence of first paragraph, remove the comma between “established, numeric.”

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 “CR” with “Creek” for Hurricane Creek from Hwy 270 to Saline River in table:

Hurricane C <u>R</u> reek from Hwy 270 to Saline River	100	500	1000
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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):** Revise as:

“~~ELS~~-Early Life Stage”

Justification: Defining acronym for clarification

147. **Revision: Reg. 2.512(D):** Revise as:

“~~7~~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:** Revise as:

“~~Lagru~~~~e Bayou~~LaGrue Bayou.”

Justification: LaGrue Bayou is the correct spelling.

162. **Revision: Appendix E:** Revise as:

“~~Section~~Reg.”

Justification: Proper reference.

163. **Revision: Appendix E:** Revise part (V) as:

“~~7Q10Q7-10~~”

Justification: Proper reference.