

EXHIBIT H

DEPARTMENT OF ENVIRONMENTAL QUALITY, WATER DIVISION

SUBJECT: Regulation No. 2, Water Quality Standards for Surface Waters Third Party Rulemaking for Southwestern Electric Power Company

DESCRIPTION: This is a third party rulemaking proposed by SWEPCO. This rule amends APCEC Regulation No. 2 to:

1. Modify the total dissolved solids (TDS) water quality criterion and remove a designated, but not existing, drinking water use for a portion of the Red River from the mouth of the Little River to the Arkansas/Louisiana State line.
2. Modify the TDS and temperature water quality criteria for a portion of the Little River from Millwood Lake to the Red River.

This rule is necessary to modify the TDS and temperature criteria to levels that reflect current and historic water quality conditions which are affected by naturally occurring conditions. The site-specific water quality criteria modifications will not adversely affect the aquatic life. There are no economically feasible treatment technologies capable of reducing the dissolved mineral concentration to levels of the current standards in the affected segments of the Little and Red Rivers.

PUBLIC COMMENT: This is a third-party rulemaking request. A public hearing was held in Hope, Arkansas, on November 17, 2014. The public comment period expired on December 3, 2014. The following comments were received:

Comment 1: ADEQ's Water Quality Planning Branch commented on the draft markup of Regulation No. 2 stating that the footnote "† Not applicable for Clean Water Act purposes until approved by EPA" applies and should be used on pages 5-12, A-30, A-31 and A-32 and that the phrase "no domestic drinking water supply use" on page A-30 should be replaced with "no domestic water supply use."

Response 1: SWEPCO agrees and will make the revisions in the final version of the replacement pages.

Comment 2: Two commenters objected to the removal of the designated domestic water supply use from the Little River.

Response 2: SWEPCO is not asking to remove the designated domestic water supply use from the Little River.

Comment 3: One commenter objected to the removal of the domestic water supply use designation from the Red River.

Response 3: The domestic water supply use designation was previously removed from the upper portion of the Red River (from the Arkansas/Oklahoma state line to the mouth of the Little River) twenty years ago because the river historically did not meet secondary drinking water standards for minerals. The lower portion of the Red River, which is affected by SWEPCO's current request to amend APCEC Regulation No. 2, also has historically not met secondary drinking water standards for minerals. The entire Arkansas

portion of the Red River is frequently in excess of the secondary drinking water standards because it contains elevated levels of minerals caused primarily by input from natural salt springs and seeps in Oklahoma and Texas. This prevents the Red River from being used as a drinking water source without extensive treatment. The Arkansas Department of Health confirmed that the lower portion of the Red River has not been approved for, nor is it under consideration for use as a public water system source. The Arkansas Natural Resource Commission confirmed that there are no existing or planned public water supply uses documented for this portion of the Red River and that the removal of the domestic water supply use designation does not conflict with the Arkansas Water Plan.

Comment 4: One commenter objected to allowing increased toxic pollutants into rivers.

Response 4: The subject of this rulemaking, TDS and temperature, are not toxic pollutants at the levels proposed. The toxicity threshold (based on tests of *Ceriodaphnia dubia* using the facility's discharge) indicated that the level at which TDS becomes toxic is well above the mineral concentration in the facility's discharge. Based on studies performed and documented in support of the proposed changes to TDS and temperature, there should be no adverse effect on the aquatic life.

Comment 5: Four commenters objected to SWEPCO's being allowed to increase the total dissolved solids (TDS) and temperature it was discharging into the Little and Red Rivers.

Response 5: SWEPCO is seeking criterion which reflects the current ambient conditions in the Red River and to bring consistency to the water quality criterion on the Red River. Although SWEPCO will increase the TDS in its effluent, the proposed TDS criterion raises the existing TDS criterion of 100 mg/L to 138 mg/L in the Little River which is the level that represents no significant difference from the TDS levels one would find in a Gulf Coastal Plain Ecoregion least disturbed reference stream. See APCEC Regulation No. 2, § 2.511 (2014). Ecoregion reference streams are used to define natural background values for constituents that reflect concentrations due to non-anthropogenic sources. SWEPCO takes water out of the Little River for cooling water use and returns the water to the River. The same quantity of minerals taken in are discharged back to the River. The concentration of minerals in the water returned to the river is slightly higher due to the quantity of water evaporated in the cooling process. The concentration change proposed is not toxic and based on studies performed and documented in support of the proposed changes to TDS and temperature, there should be no adverse effect on the aquatic life. The proposed temperature criteria change is based on existing temperature levels upstream of the facility and will correct the existing temperature criterion which was set lower than existing conditions. The affected segment of the Little River is the segment between Millwood Lake and the Red River. The temperature criterion for Millwood Lake and for the Red River is 32° C (89.6° F) while the affected segment of the Little River has a lower temperature criterion of 30° C (86° F). The ambient temperature of that segment often exceeds its temperature criterion and SWEPCO's request is to bring the temperature criterion of that segment up to 32° C (89.6° F) to be consistent with the temperature criterion above and below the segment.

Comment 6: Two commenters expressed concern about the possibility that a temperature increase may impact aquatic life with one commenter suggesting that a biologist should be employed to study the effect of SWEPCO's effluent on the aquatic life.

Response 6: SWEPCO is not seeking to increase the temperature criterion for this reach of the Little River above what is already in the River. Rather it is seeking to increase the temperature criterion to reflect historic and ambient conditions. Historic temperature measurements of the Little River below Millwood Lake and above the facility discharge point show frequent exceedances of the current temperature criterion because of the shallow nature of Millwood Lake and the wide and primarily unshaded nature of that segment of the Little River. The temperature criteria in Millwood Lake and the Red River into which the Little River discharges are currently set at 32° C (89.6° F) which is the temperature criteria SWEPCO is seeking for the segment between Millwood Lake and the Red River. The Technical Justification for a Site-Specific Temperature Criterion (FTN 2014) included field studies conducted by biologists to evaluate the physical, chemical and biological characteristics of the Little River. See Section 3.0 of the Technical Justification. The Technical Justification established that setting the temperature criterion in the Little River below Millwood Lake at 32° C (89.6° F) should have no adverse effect on the aquatic life.

Comment 7: One commenter commented that SWEPCO should not be allowed to change water quality standards by this "end run" stating that if SWEPCO did not disclose its plans to seek a rulemaking in its plant permit application, the rulemaking should be denied and the permit application should be reopened.

Response 7: A third-party rulemaking seeking to amend water quality standards set forth in APCEC Regulation No. 2 is not an end run around the permit application process. The third-party rulemaking process is provided for under both state and federal law and regulations and is unrelated to the permit application process. Here, SWEPCO is seeking to change the water quality standards (minerals and temperature) to reflect long-standing historic ambient conditions or Ecoregion values. *See also* Response 10 below.

Comment 8: The Department of Arkansas Heritage expressed concerns about the implications of changes in TDS and temperature criteria to species of conservation concern known to occur in the Red River and the Little River. The Arkansas Natural Heritage Commission (ANHC) indicated the following species occurred in the referenced reaches of the Little River: *Arkansia wheeleri* (Ouachita rock pocketbook), *Cycleptus elongatus* (blue sucker), *Hiodon alosoides* (goldeye), *Quadrula apiculata* (southern mapleleaf), and *Quadrula metanervra* (monkeyface). ANHC also stated that the following species occurred in the Red River: *Ammonocypta clara* (western sand darter), *Atractosteus spatula* (alligator gar), *Cycleptus elongates*, (blue sucker), and *Polydon spathula* (paddlefish). The Ouachita rock pocketbook is a federally listed species while the remaining species are all of State concern. Specifically, the ANHC comment stated that higher levels of TDS could impair mussel feeding, interfere with fish spawning and prey identification and alter substrate. ANHC also stated that higher water temperature could decrease the dissolved oxygen resulting in shifts in the composition of aquatic organisms.

Response 8: As to TDS, SWEPCO is not proposing to raise TDS levels in the Red River above what currently occurs. The proposed criterion change to the Red River reflects existing concentrations of TDS and is based on years of measured TDS concentrations in the river obtained from the Arkansas Department of Environmental Quality Ambient Monitoring Network. As such, there will be no impact on the existing aquatic community due to the proposed TDS criteria for the Red River. SWEPCO is seeking to increase the TDS criterion in the Little River from 100 mg/L to 138 mg/L. 138 mg/L is a level that represents no significant difference from the TDS levels one would find in a Gulf Coastal Plain Ecoregion least disturbed reference stream. See APCEC Regulation No. 2, § 2.511 (2014). Ecoregion reference streams are used to define natural background values for constituents that reflect concentrations due to non-anthropogenic sources.

In its comment, the ANHC specifically expressed concern that higher levels of TDS in the Little River (up to 138 mg/L) could have adverse effects on the endangered *Arkansia wheeleri* (Ouachita rock pocketbook). Evaluating this potential requires the use of data from surrogate bivalve taxa because direct experimental evidence on *A. wheeleri* could not be found in the published scientific literature. Two published studies on unionid mussels used *Lampsilis siliquoidea* (fat mucket)¹ and *Elliptio complanata* (eastern elliptio)² mussels in 7 to 28 day laboratory toxicity tests to evaluate toxic thresholds to TDS as chloride (Cl) and sulfate (SO₄).

Blakeslee et al (2013) reported no significant adverse effect on adult *E. complanata* survival in 7-day exposures to 1,282 mg/L Cl as sodium chloride (NaCl) and no significant effect on metabolic rate in 28-day exposures to 641 mg/L Cl. Kunz et al (2013) reported no significant adverse effect on adult growth of juvenile *L. siliquoidea* in 28-day exposures up to 2,168 mg/L TDS (1,580 mg/L SO₄). Kunz et al also cited unpublished data showing the equivalent of no effect on growth of pink mucket (*L. abrupta*) exposed to 696 mg/SO₄. However, their results also showed a significant reduction in *L. siliquoidea* survival in 28-day exposures ranging from 298 to 643 mg/L TDS (116 to 386 mg/L SO₄, respectively).

Studies on other freshwater bivalve mollusk taxa (fingernail clams *Sphaerium simile* and *Musculium transversum*) have indicated no effects on survival (96-hr acute exposures) in Cl concentrations up to 1,903 mg/L (Soucek et al, 2011) and SO₄ concentrations up to 2,000 mg/L SO₄ (Soucek and Kennedy, 2009).³

¹ Kunz, J. L., Conley, J. M., Buchwalter, D. B., Norberg-King, T. J., Kemble, N. E., Wang, N. and Ingersoll, C. G. (2013), Use of reconstituted waters to evaluate effects of elevated major ions associated with mountaintop coal mining on freshwater invertebrates. *Environ. Toxicol. and Chem.* 32: 2826–2835.

² Blakeslee, C. J., Galbraith, H. S., Robertson, L. S. and St. John White, B. (2013), The effects of salinity exposure on multiple life stages of a common freshwater mussel, *Elliptio complanata*. *Environ. Toxicol. and Chem.* 32: 2849–2854.

³ Soucek, D. J. and Kennedy, A. J. (2005), Effects of hardness, chloride, and acclimation on the acute toxicity of sulfate to freshwater invertebrates. *Environ. Toxicol. and Chem.* *Environmental Toxicology and Chemistry*, 24: 1204–1210.

These studies indicate that sub-lethal TDS thresholds are well above the proposed criteria. Laboratory study results are less definitive regarding survival thresholds but still indicate thresholds above the proposed criteria. These results indicate that mineral concentrations at or near the proposed criteria should impose little, if any, limitation on the distribution and abundance of *A. wheeleri* in the Little River downstream of Millwood Dam.

In regard to temperature, SWEPCO is not proposing to raise the water temperature in the Little River above levels that are currently occurring. The proposed criterion change for temperature in the Little River is based on ambient data collected upstream of the SWEPCO plant discharge. Further, the proposed temperature criterion of 32° C (89.6° F) is consistent with the current temperature criteria of 32 ° C for Millwood Lake (upstream of the reference reach) and the Red River (downstream of the referenced reach). There will be no impact to aquatic life in the Little River due to the proposed temperature criterion.

As to the species of federal concern, small numbers of *Arkansia wheeleri* (Ouachita rock pocketbook) have been documented in the upper reach of the Little River below Millwood Lake, but no live *A. wheeleri* have been collected from the lower reach which extends from a short distance above the SWEPCO plant's intake downstream past the discharge location to the confluence of Little River with the Red River. See UAA Report, § 2.4 (FTN 2014). *A. wheeleri* has never been documented in the Red River downstream from the confluence with the Little River. Suitable habitat and water quality to support *A. wheeleri* is not present in the described reaches of these waterbodies due to construction of Millwood Lake on the Little River in the 1960s, which resulted in changes in flow, water temperature, sedimentation and water quality changes below the reservoir that can never be restored to pre-construction levels. There is little or no evidence that the proposed changes in TDS and temperature standards will further impact those species.

The federally listed Interior Least Tern (*Sterna antillarum athalassos*) which is mentioned by the ANHC is not an aquatic species. The Interior Least Tern is known from a large sandbar at the confluence of the Red River and the Little River. Nesting colonies of this species have been observed there, and at scattered downstream localities on the Red River, for a number of years. This species is found on terrestrial habitats associated with certain major stream channels. Successful nesting for this bird species occurs when predators are absent and when flood waters occur outside the nesting season. The proposed criteria would not be expected to impact terrestrial species such as the Interior Least Tern.

Comment 9: The US Fish and Wildlife Service (USFWS) commented that it had no concern with the proposal to increase the TDS water quality standard for the Red River from the mouth of the Little River to the Arkansas/Louisiana state line or on the Little River from Millwood Lake to the Red River and no concern with the proposal to remove the designation of domestic supply use on the Red River. The USFWS expressed a concern that a significant alteration in the thermal regime of the Little River could provide a potential to affect the Ouachita rock pocketbook (*Arcidens wheeleri*).

Response 9: SWEPCO is not proposing to raise the water temperature in the Little River above levels that are currently occurring. The proposed criterion change for temperature in the Little River is based on ambient data collected upstream of the SWEPCO plant discharge. SWEPCO fully understands the lack of information with regard to temperature thresholds of importance to the Ouachita rock pocketbook. SWEPCO believes, however, that the adverse water quality impacts that resulted from construction of Millwood Lake are irreversible and too extensive to expect recovery of the mussel population to preconstruction levels. The construction of Millwood Lake in 1966 on the Little River brought major changes in flow, water temperature, and sedimentation to the reach of Little River between Millwood and the Red River. The surface area of the lake at the top of the conservation pool is 29,200 acres (11,800 ha), and its shoreline length at the top of the conservation pool is 65 miles (105 km). This sizeable impoundment was large enough to cause major changes in water quality following its construction, which resulted in adverse impacts to *A. wheeleri* and its habitat and other aquatic fauna, both above and below the dam.

A change in the temperature criterion is not expected to have further adverse impacts on the Ouachita rock pocketbook. The requested modification of the temperature criterion from 30° to 32° C (from 86° to 89.6° F) would bring the temperature criterion in line with the temperature standard in Millwood Lake and in the Red River.

Comment 10: Some commenters suggested that SWEPCO was not following proper procedure and that the requested water quality criteria changes represented an end run around the permitting process.

Response 10: Both federal and state law and regulations provide procedures for a request to the Arkansas Pollution Control and Ecology Commission to amend water quality standards when there is a scientifically based reason to do so. See, e.g. Ark. Code Ann. §8-4-202(c); APCEC Regulation No. 2, §§ 2.303 Use Attainability Analysis and 2.308 Site Specific Criteria; APCEC Regulation No. 8, § 8.809 Third-Party Petition for Rulemaking; ADEQ's Continuing Planning Process § IX-1 WQS Review and Revision Process and § IX-11 through 15 Use Attainability Analysis; 33 U.S.C.S. § 1313. SWEPCO has followed all of the proper procedures and its request is based upon a Use Attainability Analysis and the Technical Justification which provided the required scientific basis for the rulemaking. *See also* Response 7 above.

Comment 11: International Paper Company (IP) commented on certain tables contained in the Use Attainability Analysis (UAA) supporting the requested TDS criterion change in the Red River. The tables are related to inputs into the Red River from the Sulphur River into which IP discharges from its Texas facility. IP provided replacement pages for the UAA.

Response 11: SWEPCO agrees with the replacement pages submitted by IP, but notes that both model simulations (i.e., low flow for Arkansas and harmonic mean flow for Louisiana criteria comparison) assume that the Arkansas TDS criteria is met in the Sulphur River at the Arkansas/Texas state line.

The effective date of this rule will be after the Arkansas Pollution Control and Ecology Commission's meeting on the rule and after ten (10) business days from when the rule was filed with the Office of the Secretary of State.

CONTROVERSY: This is not expected to be controversial.

FINANCIAL IMPACT: There is no financial impact.

LEGAL AUTHORIZATION: Pursuant to Ark. Code Ann. § 8-4-202(c), outside parties have the right to petition the Pollution Control & Ecology Commission (“Commission”) for the issuance or amendment to any rule or regulation. Ark. Code Ann. § 8-4-201 et seq. authorizes the Commission to promulgate rules and regulations concerning water pollution, which would include ADEQ Regulation No. 2.

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

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

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

1. What is the short title of this rule?
Arkansas Pollution Control and Ecology Commission, Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas
2. What is the subject of the proposed rule?
Modification of the Arkansas Water Quality Standards (WQS) for a segment of the Little River from Millwood Lake to the Red River and for the Red River from the mouth of the Little River to the Arkansas/Louisiana state line.
3. Is this rule required to comply with federal statute or regulations?
Yes___ No__X
4. Was this rule filed under the emergency provisions of the Administrative Procedure Act?
Yes___ No__X

If yes, what is the effective date of the emergency rule? N/A

When does the emergency rule expire? N/A

Will this emergency rule be promulgated under the permanent provisions of the Administrative Procedure Act? Yes___ No___ N/A

Is this a new Rule? Yes _____ No X

If yes, please provide a brief summary explaining the regulation.

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

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

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

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

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

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

The purpose of the proposed rule is to amend APCEC Regulation No. 2 to:

- modify the total dissolved solids ("TDS") water quality criterion and remove a designated, but not existing, drinking water use for a portion of the Red River from the mouth of the Little River to the Arkansas/Louisiana state line; and*
- modify the TDS and temperature water quality criteria for a portion of the Little River from Millwood Lake to the Red River.*

The rule is necessary to modify the TDS and temperature criteria to levels that reflect current and historic water quality conditions which are affected by naturally occurring conditions. The site-specific water quality criteria modifications will not adversely affect the aquatic life. There are no economically feasible treatment technologies capable of reducing the dissolved mineral concentration to levels of the current standards in the affected segments of the Little and Red Rivers.

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

Date: *November 17, 2014*

Time: *6:00 p.m.*

Place: *Washington Suite in Hempstead Hall, University of Arkansas Community College at Hope, 2500 South Main Street, Hope, Arkansas 71802.*

9. When does the public comment period expire for permanent promulgation? (Must provide a date.)
The period for receiving all written comments by the public shall conclude ten (10) business days after the date of the public hearing pursuant to Arkansas Pollution Control and Ecology Commission Regulation No. 8, Section 8.806(C), unless an extension of time is granted. Thus, unless extended, the public comment period will expire on December 3, 2014.
10. What is the proposed effective date of this proposed rule? (Must provide a date.)
The regulation becomes effective twenty days after filing of the final regulation as adopted by the Commission with the Secretary of State.
11. Do you expect the rule to be controversial? Yes _____ No X If yes, please explain.
12. Please give the names of persons, groups, or organizations that you expect to comment of these rules? Please provide the position (for or against) if known.

For or Neutral:

*Arkansas Department of Environmental Quality
Arkansas Department of Health
Arkansas Natural Resources Commission
Region VI, US Environmental Protection Agency
Arkansas Game and Fish Commission*

Against:

Unknown

EXECUTIVE SUMMARY

Southwestern Electric Power Company (“SWEPCO”) owns and operates the John W. Turk, Jr. Power Plant which discharges treated wastewater from a single outfall to the Little River under the provisions of NPDES Permit No. AR0051136 issued by ADEQ. The Little River flows approximately 2 miles from the facility’s discharge to the Red River.

The Red River contains elevated levels of dissolved solids caused by input from natural salt springs and seeps in Oklahoma and Texas. The states of Texas, Oklahoma, Arkansas and Louisiana each have established total dissolved solids (“TDS”) criterion for the river which are spatially inconsistent. Even within Arkansas the TDS criterion is inconsistent: 850 mg/L upstream of the confluence with the Little River; 500 mg/L downstream of the Little River. The segment of the Red River into which the Little River flows is listed as impaired for TDS and chlorides in the Arkansas 2008 303(d) list¹. The consequence of the listing is that the limitations set in the facility’s NPDES permit adversely impacts the operations of the facility preventing it from operating as designed despite the fact that the facility’s discharge at full operation will have no effect on the concentration of dissolved minerals in the Red River or on the aquatic life in the river.

The temperature water quality criterion on the Little River between Millwood Lake and the Red River is also spatially inconsistent with Millwood Lake and the Red River. The temperature criterion for Millwood Lake and for the Red River is 89.6°F while the Little River between Millwood Lake and the Red River has a lower temperature criterion of 86°F, however the Little River exceeds the 86°F criterion often enough to be placed on the 303(d) list as impaired.

SWEPCO evaluated alternatives through a Use Attainability Analysis (UAA) and a Site-Specific Temperature Study which included field studies, toxicity testing, mass balance modeling, engineering analysis of alternatives for discharge and treatment, and an analysis of designated uses for the Red River and the Little River.

Based upon the UAA and the Site-Specific Temperature Study, SWEPCO is requesting:

modification of the TDS and temperature water quality criteria for the Little River from Millwood Lake to the mouth of the Little River as follows: TDS from 100 mg/L to 138 mg/L; Temperature from 86° F to 89.6° F;

modification of the TDS water quality criterion for the Red River from the mouth of the Little River to the Arkansas/Louisiana state line from 500 mg/L to 860 mg/L; and

Removal of the designated, but not existing, domestic drinking water use from the Red River from the mouth of the Little River to the Arkansas/Louisiana state line.

SWEPCO’s proposed site-specific modifications are supported by the following:

- SWEPCO seeks site-specific TDS and temperature criteria which reflect current conditions, bring consistency to the criteria on the Red and Little Rivers, and allow the

¹ The 2008 Arkansas 303(d) list is the last such list approved by EPA. The Arkansas draft 2010 and 2012 303(d) lists did not include the chloride impairment and the draft 2014 lists removed the TDS impairment because of the completion of a TMDL in 2013.

Turk facility to operate as designed while protecting the attainment of the aquatic life, primary and secondary contact recreation, and industrial and agriculture water designated uses for Little River and Red River;

- Adjusting the temperature criterion for the Little River downstream of Millwood Lake to reflect current ambient conditions during the critical summer conditions will prevent the Little River from being inappropriately listed as impaired.
- TDS concentrations in the Red River historically exceed the TDS criterion due to elevated levels of dissolved solids caused by input from natural salt springs and seeps in Oklahoma and Texas.
- UAA data established that the requested changes should have no adverse effect on the aquatic life communities;
- The toxicity threshold based on tests of *Ceriodaphnia dubia* using the facility's effluent indicates that toxicity due to minerals is well above the anticipated mineral concentration in the effluent at the critical dilution;
- Setting the TDS and temperature criteria at the site-specific levels requested by SWEPCO in these segments of the Little River and the Red River should not cause acute or chronic toxicity;
- There is no current economically feasible treatment technology for the removal of the minerals. Reverse osmosis treatment technology does exist; however, this technology is not cost effective and generates a concentrated brine which is environmentally difficult to dispose of. The technology is not required to meet the designated uses and would produce no significant environmental protection.
- 40 CFR 131.11(b)(1)(ii) provides states with the opportunity to adopt water quality standards that are "modified to reflect site-specific conditions."
- The basis for site-specific standards is set forth in 40 CFR 131.10(g)(6) which provides that the state may establish less stringent criteria if naturally occurring pollutant concentrations, dams or other types of hydrologic modifications limit the use or if controls more stringent than those required by section 301(b) and 306 of the Clean Water Act if would result in substantial and widespread economic and social impact.

FINANCIAL IMPACT STATEMENT

[PLEASE ANSWER ALL QUESTIONS COMPLETELY]

Department: Arkansas Department of Environmental Quality
Division: Water Division
Person completing this Statement: Marcella Taylor, representing third-party petitioner,
Southwestern Electric Power Company
Telephone No.: 501-688-8851 Facsimile No.: 501-918-7851 e-mail: mtaylor@mwlaw.com

To comply with Act 1104 of 1995, please complete the following Financial Impact Statement and file two copies with the questionnaire and proposed rules.

Short Title of this Rule: A proposed change to Arkansas Pollution Control and Ecology Commission Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, to modify the water quality standards for the Little River from Millwood Lake to the Red River and for the Red River from the mouth of the Little River to the Arkansas/Louisiana state line (in Hempstead, Little River, Miller and Lafayette Counties).

- 1. Does this proposed, amended or repealed rule or regulation have a financial impact? Yes ___ No X
2. If you believe that the development of a financial impact statement is so speculative as to be cost prohibited, please explain. N/A
3. If the purpose of this rule or regulation is to implement a federal rule or regulation, please give the incremental cost for implementing the regulation. Please indicate if the cost provided is the cost of the program.

Table with 2 columns: Current Fiscal Year and Next Fiscal Year. Rows include General Revenue, Federal Funds, Cash Funds, Special Revenue, Other (Identify), and Total. Total values are \$0.

- 4. What is the total estimated cost by fiscal year to any party subject to the proposed, amended, or repealed rule or regulation? Identify the party subject to the proposed regulation, and explain how they are affected.

Table with 2 columns: Current Fiscal Year and Next Fiscal Year. Row includes Total cost, both showing \$0.

Southwestern Electric Power Company's John W. Turk, Jr. Power Plant is seeking a site-specific modification to amend Arkansas Pollution Control and Ecology Commission Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, to modify the total dissolved solids and temperature water quality criteria for Little River from Millwood Lake to the mouth of the Little River and to modify the total dissolved solids criterion and remove the designated, but not existing, domestic drinking water supply use for the Red River from the mouth of the Little River to the Arkansas/Louisiana state line.

5. What is the total estimated cost by fiscal year to the agency to implement this regulation?

Current Fiscal Year
\$ 0

Next Fiscal Year
\$ 0

**ARKANSAS POLLUTION CONTROL & ECOLOGY COMMISSION
ECONOMIC IMPACT/ENVIRONMENTAL BENEFIT ANALYSIS**

Rule Number & Title: APCEC Regulation No. 2; Regulation Establishing Water Quality Standards for Surface Water of the State of Arkansas

Petitioner: Southwestern Electric Power Company, John W. Turk, Jr. Power Plant

Contact/Phone/Electronic mail: Marcella Taylor, (501) 688-8851, mtaylor@mwlaw.com

Analysis Prepared by: Marcella Taylor, counsel for Southwestern Electric Power Company

Date Analysis Prepared: September 9, 2014

2A. ECONOMIC IMPACT

1. Who will be affected economically by this proposed rule? State: a) the specific public and/or private entities affected by this rulemaking, indicating for each category if it is a positive or negative economic effect; and b) provide the estimated number of entities affected by this proposed rule.

Only Southwestern Electric Power Company, John W. Turk, Jr. Power Plant is affected by this proposed rule. The effect on the facility is positive.

Sources and Assumptions: *Southwestern Electric Power Company Use Attainability Analysis for Dissolved Minerals in Little and Red Rivers Hempstead & Little River Counties, Arkansas* as Exhibit F to the Petition to Initiate Third-Party Rulemaking and *Southwestern Electric Power Company Technical Justification for a Site-Specific Temperature Criterion in the Little River Hempstead & Little River Counties, Arkansas* attached as Exhibit G to the Petition to Initiate Third-Party Rulemaking.

2. What are the economic effects of the proposed rule? State: The estimated increased or decreased cost for an average facility to implement the proposed rule; and 2) the estimated total cost to implement the rule.

There are no economic effects of the proposed rule. Adoption of proposed rule will allow the facility to operate as designed in compliance with its NPDES Permit through the site-specific modification of the total dissolved solids and temperature criteria for the affected segments of the Little and Red Rivers to levels that reflect current and historic water quality conditions, naturally occurring conditions and are appropriate for the operation of the facility.

3. List any fee changes imposed by this proposal and justification for each.

None

4. What is the probable cost to ADEQ in manpower and associated resources to implement and enforce this proposed change, and what is the source of revenue supporting this proposed rule.

None

5. Is there a known beneficial or adverse impact to any other relevant state agency to implement or enforce this proposed rule? Is there any other relevant state agency's rule that could adequately address this issue, or is this proposed rulemaking in conflict with or have any nexus to any other relevant state agency's rule? Identify the state agency and/or rule.

There is no known impact to another state agency nor is there another state agency's rule that could address the proposed change to APCEC Regulation No. 2. This rulemaking is not in conflict with, nor does it have a nexus to, any other relevant state agency's rule.

6. Are there any less costly, non-regulatory, or less intrusive methods that would achieve the same purpose of this proposed rule?

No

2B. ENVIRONMENTAL BENEFIT

1. What issues affecting the environment are addressed by this proposal?

There are currently no known technologically and economically feasible treatments capable of reducing the total dissolved solids concentration to levels that meet the current water quality criteria. This rule will prevent the impairment listing of the Little River between Millwood Lake and the Red River, eliminate the spatial inconsistency in the TDS criterion for the Arkansas segment of the Red River, and preserve the aquatic life, agricultural water supply, industrial water supply, and primary and secondary recreational contact designated uses of the segments of the Little and Red Rivers.

2. How does this proposed rule protect, enhance, or restore the natural environment for the well being of all Arkansas?

The Use Attainability Analysis supporting Southwestern Electric Power Company's requested site-specific modifications established that the requested changes will be protective of, and have no adverse effect on, the aquatic life communities in the affected streams. Toxicity testing showed no anticipated lethal or sub-lethal toxicity.

Sources and Assumptions: *Southwestern Electric Power Company Use Attainability Analysis for Dissolved Minerals in Little and Red Rivers Hempstead & Little River Counties, Arkansas as Exhibit F to the Petition to Initiate Third-Party Rulemaking and Southwestern Electric Power Company Technical Justification for a Site-Specific Temperature Criterion in the Little River Hempstead & Little River Counties, Arkansas attached as Exhibit G to the Petition to Initiate Third-Party Rulemaking.*

3. What detrimental effect will there be to the environment or to the public health and safety if this proposed rule is not implemented?

All other available treatment technologies for the removal of total dissolved solids are either economically infeasible, provide no significantly increased environmental protection, and would involve an initial capital investment of between \$5.1 million to \$6.9 million, and the annual operating and disposal costs from \$2.66 million to \$3.92 million.

Sources and Assumptions: *Southwestern Electric Power Company Use Attainability Analysis for Dissolved Minerals in Little and Red Rivers Hempstead & Little River Counties, Arkansas* as Exhibit F to the Petition to Initiate Third-Party Rulemaking and *Southwestern Electric Power Company Technical Justification for a Site-Specific Temperature Criterion in the Little River Hempstead & Little River Counties, Arkansas* attached as Exhibit G to the Petition to Initiate Third-Party Rulemaking.

4. What risks are addressed by the proposal and to what extent are the risks anticipated to be reduced?

The risks addressed by this proposal are the risk of an impairment listing for the Little River between Millwood Lake and the Red River, the continued impairment listing for the Red River, the continued protection of the Gulf Coastal Plains fishery, agricultural and industrial water supply, and primary/secondary contact recreational use designation of the affected stream segments and the economic risk to the Southwestern Electric Power Company should the total dissolved mineral and temperature criteria not be modified. Under this proposal the risks are substantially eliminated.