

DIVISION OF ENVIRONMENTAL QUALITY

SUBJECT: Arkansas Pollution Control and Ecology Commission, Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas (Vulcan Construction Materials, L.L.C.)

DESCRIPTION: Vulcan Construction Materials, LLC (“Vulcan”) owns and operates the Black Rock Quarry, a limestone quarry facility in Lawrence County, Arkansas, pursuant to NPDES Permit No. AR0046922. The Black Rock Quarry facility discharges groundwater and stormwater pumped from the quarry pit to Outfall 001 into a farm stock pond (at the request of the landowner), thence by an overflow weir to the UT, thence to Brushy Creek, and thence to Stennitt Creek.

Because Vulcan’s permit contains, or will contain, final discharge effluent limits for total dissolved solids (TDS) and sulfate (SO₄) based on Arkansas water quality standards (“WQS”) and ecoregion values for an Unnamed Tributary, Brushy Creek and Stennitt Creek, Vulcan evaluated alternatives through a Use Attainability Analysis (“UAA”), which included field studies to evaluate the physical, chemical and biological characteristics of the affected stream segments, toxicity testing, an engineering analysis of alternatives for discharge and treatment, evaluation of five separate methods for potential criteria development, and an analysis of designated uses for the UT, Brushy Creek and Stennitt Creek.

Based on the UAA, Vulcan is requesting the following amendments to APC&EC Regulation No. 2:

- Establish site-specific TDS and sulfate water quality criteria for the UT from Vulcan’s Outfall 001 to the confluence with Brushy Creek, as follows:
 - TDS - 725 mg/L
 - Sulfate - 260 mg/L
- Establish site-specific TDS and sulfate water quality criteria for Brushy Creek from the confluence with the UT to the confluence with Stennitt Creek, as follows:
 - TDS - 549 mg/L
 - Sulfate - 126 mg/L
- Establish a site-specific sulfate water quality criterion for Stennitt Creek from the confluence with Brushy Creek to the confluence with the Spring River, as follows:
 - Sulfate - 43.3 mg/L
- Remove the designated, but not existing, domestic drinking water use for the UT from Vulcan’s Outfall 001 to its confluence with Brushy Creek, and for a segment of Brushy Creek from its confluence with the UT to its confluence with Stennitt Creek.

Vulcan's proposed modifications to APC&EC Regulation No. 2 are supported by the following:

- The site-specific TDS and sulfate criteria requested by Vulcan reflect current conditions and allow Vulcan's Black Rock Quarry facility to operate as designed while protecting the aquatic life use, primary and secondary contact recreation use, and industrial and agriculture water designated uses for the UT, Brushy Creek and Stennitt Creek.
- Sulfate concentrations measured instream indicate that sulfate concentrations exceed 22.7 mg/L in the UT and Brushy Creek, which represents a "significant modification" of the water quality as compared to the Ozark Highlands ecoregion value for sulfate (17 mg/L).
- Mass balance calculations carried out for 7Q10 flow conditions, using TDS concentrations at Outfall 001 (95th percentile) and upstream concentrations from recent monitoring, indicate potential exceedance of the DWS criteria for TDS (500 mg/L) in the UT and Brushy Creek.
- The DWS use for the UT and Brushy Creek is not an existing or attainable use, and the Arkansas Department of Health has no current or future plans for using them as public water supplies.
- Water quality in the UT, Brushy Creek, and Stennitt Creek supports aquatic life uses based on ADEQ's assessment methodology.
- Vulcan's existing discharge supports the aquatic life uses, industrial and agricultural water supply uses, as well as primary and secondary contact recreation uses.
- Evaluation of TDS and sulfate in the Vulcan discharge indicates that the dissolved minerals will not reach concentrations that will cause acute or chronic toxicity.
- The proposed criteria are based on the preferred methodology, *i.e.* based on the reference macroinvertebrate community tolerance values from published field studies using EPA methodology and using a conservative assumption regarding the relationship between conductivity and dissolved minerals in the receiving streams.
- The recommended criteria are consistent with existing effluent and instream concentrations, which support fish and benthic macroinvertebrate communities.
- There is no current economically feasible treatment technology for the removal of minerals to meet the current criteria.
- 40 C.F.R. 131.11(b)(1)(ii) authorizes states to adopt water quality standards that are "modified to reflect site-specific conditions."

- The basis for removal of the designated use and the establishment of site specific criteria is set forth in 40 C.F.R. 131.10(g).

PUBLIC COMMENT: A public hearing was held in Walnut Ridge, Arkansas, on August 29, 2019. The public comment period expired on September 11, 2019.

Vulcan provided the following summary of the sole comment that was received and its response thereto:

On May 20, 2019, Vulcan filed a Petition to Initiate Third-Party Rulemaking to Amend APCEC Rule No. 2. The Arkansas Pollution Control & Ecology Commission granted Vulcan's Petition on June 28, 2019. Notice of the proposed rulemaking was published in the Arkansas Democrat-Gazette on July 14 and 21, 2019. A public hearing was held on August 29, 2019, in Walnut Ridge, Arkansas, and the public comment period ended on September 11, 2019. There were no oral comments and no members of the public attended the public hearing.

There was only one written comment filed during the public comment period, a letter from the Arkansas Department of Health ("ADH") dated September 3, 2019. The issues raised in the letter and Vulcan's responses to the issues appear below.

1. The Unnamed Tributary and Brushy Creek are tributaries of the Spring River in the watershed of the Northeast Arkansas Public Water Authority. ADH has consistently maintained that the domestic water supply use designation is appropriate and necessary for all streams within public supply watersheds.

Vulcan acknowledges ADH's policy and does not disagree with the policy as a general proposition. But Vulcan respectfully submits that strict application of the policy to the factual circumstances involved in this rulemaking would be inappropriate because the Unnamed Tributary's contribution to the flow of the Spring River is so small that it cannot realistically affect water quality at the Northeast Arkansas Public Water Authority intake.

2. Mineral pollution contributed to the Spring River by the Unnamed Tributary will have a direct effect on water quality of the water supply for the Northeast Arkansas Public Water Authority.

First, Vulcan acknowledges that the discharge from the Unnamed Tributary flows directly through Brushy Creek and Stennitt Creek to the Spring River. As a consequence, it is technically accurate to say that water quality in the Unnamed Tributary directly affects water quality in the Spring River. The effect is so small, however, that it is insignificant. The discharge from the Unnamed Tributary is less than 0.1% of the flow of the Spring River at the confluence with Stennitt Creek. Even if concentrations of minerals in the Unnamed Tributary increased or decreased dramatically, the effect on the Spring River would be undetectable. See Attachment 1 to this Response to Comments.

Second, the comment's use of the future tense, "will have a direct effect," suggests that a new discharge is proposed. That is not the case. Vulcan's Black Rock Quarry has been discharging essentially the same volumes of stormwater with essentially the same concentrations of minerals through the Unnamed Tributary for decades. No new discharge is proposed; only a continuation of the longstanding quarry stormwater discharge.

3. Dissolved chlorides can have deleterious effects upon plumbing corrosion rates even when concentrations are below secondary drinking water standards. This complicates drinking water systems' efforts to minimize consumer exposure to lead and copper and can also increase drinking water treatment costs.

Vulcan is not proposing any change in water quality criteria for chlorides. Water quality samples collected for the UAA showed chloride concentrations in the Unnamed Tributary and Brushy Creek immediately downstream of the UT well below the ecoregion value of 13 mg/L:

<u>Chloride Values from UAA Samples (2015-2016)</u>			
	<u>Maximum</u>	<u>Minimum</u>	<u>Average</u>
Sample Station UT-0A	10 mg/L	<0.1 mg/L	5 mg/L
Sample Station BC-1A	10 mg/L	<0.1 mg/L	3.6 mg/L

4. ADH requests that all documents in the rulemaking be revised to reflect ADH's opposition to the removal of the domestic water supply designated use from UT and Brushy Creek.

Vulcan acknowledges ADH's opposition. ADH's comment and this response document that fact. But the documents previously filed in the administrative record of the rulemaking cannot be altered.

5. ADH asks that the 2009 ADH letter included as Attachment A in the Final UAA Appendix A be removed because the public water intake described in that letter as planned now exists and is operational.

Vulcan acknowledges that the public water intake mentioned in the 2009 letter is now operational, but it cannot alter documents previously filed in the administrative record. ADH's comment and this response fully document that the public water intake in question is no longer merely proposed.

6. ADH did not oppose the removal of the drinking water designated use from Stennitt Creek in 1999 because there was no downstream drinking water supply in the watershed at that time, and because the revised standard for TDS in the 1999 rulemaking was less than the secondary drinking water standard. ADH now opposes the 1999 removal of the designated drinking water use from Stennitt Creek because there is a downstream public

water intake. ADH asks that all documents and exhibits in the rulemaking be revised to reflect ADH's opposition to the removal of the domestic water supply designated use for the Unnamed Tributary, Brushy Creek, and Stennitt Creek.

ADH's opposition is noted but Vulcan cannot alter documents previously filed in the administrative record of this rulemaking.

Attachment 1 to Vulcan Response to Comment

Unnamed Tributary's Contribution to Flow in Downstream Waterbodies

<u>Name of Waterbody</u>	<u>Flow*</u>	<u>UT's % of Flow</u>
Unnamed Tributary at Outfall	0.59 cfs	100%
Brushy Creek below confluence with Unnamed Tributary	1.26 cfs	47%
Brushy Creek above confluence with Stennitt Creek	2.11 cfs	28%
Stennitt Creek below confluence with Brushy Creek	3.98 cfs	15%
Spring River below confluence with Stennitt Creek	721.98 cfs	0.08%

	<u>Sulfate</u>	<u>TDS</u>
If UT increases 3 x the Max: Impact on Spring River:	260 mg/L→780 mg/L 4.02 mg/L→4.45 mg/L	725 mg/L→2,175 mg/L 220.3 mg/L→221.5 mg/L

	<u>Sulfate</u>	<u>TDS</u>
If UT decreases to ecoregion values: Impact on Spring River:	260 mg/L→22.7 mg/L 4.02 mg/L→3.82 mg/L	725 mg/L→240 mg/L 220.3 mg/L→219.9 mg/L

*Flow data based on harmonic mean flows as calculated in Mass Budget in Vulcan Revised UAA, Figure 10.3 at p. 10-20

The Division provided the following summary of the sole comment received and its response thereto:

On June 28, 2019, the Arkansas Pollution Control and Ecology Commission by Minute Order 19-08 granted the petition filed by Vulcan Construction Materials, LLC - Black Rock Quarry ("Vulcan") to initiate rulemaking to amend APC&EC Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas. A public hearing was held on August 19, 2019, in Lawrence County, Arkansas. No public comments were made at the public hearing. The public comment period ended on September 11, 2019. The Arkansas Department of Health submitted a written comment.

Commenter: Arkansas Department of Health

Arkansas Department of Health (ADH) objected to the removal of the domestic supply designated use for both the unnamed tributary and Brushy Creek as proposed because these creeks are tributaries of the Spring River in the watershed of Northeast Arkansas Public Water Authority (NEPWA), a source of drinking water to almost 4000 Arkansans. ADH stated that the domestic water supply use designation is appropriate and necessary for all streams within the watershed of a public water supply.

ADH cited to 40 C.F.R. § 131.10(b) which states, “In designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards for downstream waters.”

ADH noted that the drinking water designated use was removed for Stennitt Creek in 1999. ADH stated that it did not oppose the increase because no drinking water intake was located downstream on the Spring River and the proposed revised standard did not exceed the secondary maximum contaminant level.

Response: DEQ acknowledges ADH’s position on retaining the domestic water supply use in the unnamed tributary and Brushy Creek. The unnamed tributary flows into Brushy Creek, which flows into Stennitt Creek. Stennitt Creek does not have a domestic water supply designated use from the mouth of Brushy Creek to the confluence with the Spring River. The domestic water supply designated use on Stennitt Creek was removed before NEPWA began using water from the Spring River.

DEQ acknowledges the considerations outlined in 40 C.F.R. § 131.10(b). DEQ has considered the attainment and maintenance of the water quality standards for the segment of the Spring River where NEPWA has a drinking water intake. DEQ has concluded that the domestic water supply designated use is being maintained in that segment of the Spring River. The Use Attainability Analysis submitted by Vulcan states, “[the Mass Balance Results for 7Q10 Conditions] show that discharges from Outfall 001 have minimal impact on TDS and sulfate concentrations in the Spring River. Discharges from Outfall 001 will not cause exceedances of [domestic water supply] criteria in the Spring River for 7Q10 conditions.”

The proposed effective date is pending legislative review and approval.

FINANCIAL IMPACT: The agency states that the amended rule has no financial impact.

LEGAL AUTHORIZATION: This amendment to Regulation No. 2, Water Quality Standards, stems from a third-party rulemaking request made to the Arkansas Pollution Control and Ecology Commission (“Commission”) by Vulcan Construction Materials, LLC. Arkansas Code Annotated § 8-4-202(c)(1) bestows upon any person the right to petition the Commission for the issuance, amendment, or repeal of any rule. *See also*

Ark. Code Ann. § 8-4-102(6) (defining “person” as “any state agency, municipality, governmental subdivision of the state or the United States, public or private corporation, individual, partnership, association, or other entity”). Pursuant to Ark. Code Ann. § 8-4-202(a), the Commission is given and charged with the power and duty to adopt, modify, or repeal, after notice and public hearings, rules implementing or effectuating the powers and duties of the Commission and the Division of Environmental Quality. The Commission is further given and charged with the power and duty to promulgate rules, including water quality standards. *See* Ark. Code Ann. § 8-4-201(b)(1)(A). *See also* Ark. Code Ann. § 8-4-202(b)(3).

Executive Summary

Vulcan Construction Materials, LLC (“Vulcan”) owns and operates the Black Rock Quarry, a limestone quarry facility in Lawrence County, Arkansas, pursuant to NPDES Permit No. AR0046922. The Black Rock Quarry facility discharges groundwater and stormwater pumped from the quarry pit to Outfall 001 into a farm stock pond (at the request of the landowner), thence by an overflow weir to the UT, thence to Brushy Creek, and thence to Stennitt Creek.

Because Vulcan’s permit contains, or will contain, final discharge effluent limits for total dissolved solids (TDS) and sulfate (SO₄) based on Arkansas water quality standards (“WQS”) and ecoregion values for an Unnamed Tributary, Brushy Creek and Stennitt Creek, Vulcan evaluated alternatives through a Use Attainability Analysis (“UAA”) which included field studies to evaluate the physical, chemical and biological characteristics of the affected stream segments, toxicity testing, an engineering analysis of alternatives for discharge and treatment, evaluation of five separate methods for potential criteria development, and an analysis of designated uses for the UT, Brushy Creek and Stennitt Creek.

Based on the UAA, Vulcan is requesting the following amendments to APC&EC Regulation No. 2:

- Establish site-specific TDS and sulfate water quality criteria for the UT from Vulcan’s Outfall 001 to the confluence with Brushy Creek, as follows:
 - TDS - 725 mg/L
 - Sulfate - 260 mg/L

- Establish site-specific TDS and sulfate water quality criteria for Brushy Creek from the confluence with the UT to the confluence with Stennitt Creek, as follows:
 - TDS - 549 mg/L
 - Sulfate - 126 mg/L

- Establish a site-specific sulfate water quality criterion for Stennitt Creek from the confluence with Brushy Creek to the confluence with the Spring River, as follows:
 - Sulfate - 43.3 mg/L

- Remove the designated, but not existing, domestic drinking water use for the UT from Vulcan’s Outfall 001 to its confluence with Brushy Creek, and for a segment of Brushy Creek from its confluence with the UT to its confluence with Stennitt Creek.

Vulcan's proposed modifications to APC&EC Regulation No. 2 are supported by the following:

- The site-specific TDS and sulfate criteria requested by Vulcan reflect current conditions and allow Vulcan's Black Rock Quarry facility to operate as designed while protecting the aquatic life use, primary and secondary contact recreation use, and industrial and agriculture water designated uses for the UT, Brushy Creek and Stennitt Creek.
- Sulfate concentrations measured instream indicate that sulfate concentrations exceed 22.7 mg/L in the UT and Brushy Creek, which represents a "significant modification" of the water quality as compared to the Ozark Highlands ecoregion value for sulfate (17 mg/L).
- Mass balance calculations carried out for 7Q10 flow conditions, using TDS concentrations at Outfall 001 (95th percentile) and upstream concentrations from recent monitoring, indicate potential exceedance of the DWS criteria for TDS (500 mg/L) in the UT and Brushy Creek.
- The DWS use for the UT and Brushy Creek is not an existing or attainable use, and the Arkansas Department of Health has no current or future plans for using them as public water supplies.
- Water quality in the UT, Brushy Creek, and Stennitt Creek supports aquatic life uses based on ADEQ's assessment methodology.
- Vulcan's existing discharge supports the aquatic life uses, industrial and agricultural water supply uses, as well as primary and secondary contact recreation uses.
- Evaluation of TDS and sulfate in the Vulcan discharge indicates that the dissolved minerals will not reach concentrations that will cause acute or chronic toxicity.
- The proposed criteria are based on the preferred methodology, *i.e.* based on the reference macroinvertebrate community tolerance values from published field studies using EPA methodology and using a conservative assumption regarding the relationship between conductivity and dissolved minerals in the receiving streams.
- The recommended criteria are consistent with existing effluent and instream concentrations which support fish and benthic macroinvertebrate communities.
- There is no current economically feasible treatment technology for the removal of minerals to meet the current criteria.

- 40 C.F.R. 131.11(b)(1)(ii) authorizes states to adopt water quality standards that are “modified to reflect site-specific conditions.”
- The basis for removal of the designated use and the establishment of site specific criteria is set forth in 40 C.F.R. 131.10(g).

QUESTIONNAIRE FOR FILING PROPOSED RULES AND REGULATIONS
WITH THE ARKANSAS LEGISLATIVE COUNCIL

DEPARTMENT/AGENCY Arkansas Division of Environmental Quality
DIVISION Office of Water
DIVISION DIRECTOR Dr. Bob Blanz
CONTACT PERSON Dr. Bob Blanz
ADDRESS 5301 Northshore Drive, Little Rock, AR 72118
PHONE NO. 501/ 682-0929 FAX NO. 501/ 682-0880 E-MAIL blanz@adeq.state.ar.us
NAME OF PRESENTER AT COMMITTEE MEETING Allan Gates
PRESENTER E-MAIL agates@mwlaw.com

INSTRUCTIONS

- A. Please make copies of this form for future use.
- B. Please answer each question completely using layman terms. You may use additional sheets, if necessary.
- C. If you have a method of indexing your rules, please give the proposed citation after "Short Title of this Rule" below.
- D. Submit two (2) copies of this questionnaire and financial impact statement attached to the front of two (2) copies of the proposed rule and required documents. Mail or deliver to:

Jessica C. Sutton
Administrative Rules Review Section
Arkansas Legislative Council
Bureau of Legislative Research
One Capitol Mall, 5th Floor
Little Rock, AR 72201

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

1. What is the short title of this rule? Surface Waters of the State of Arkansas
- Establish Arkansas Water Quality Criteria for (a) a segment of the Unnamed Tributary from Vulcan Outfall 001 to the confluence with Brushy Creek, for a segment of Brushy Creek from its confluence with the UT to its confluence with Stennitt Creek, and for a segment of Stennitt Creek from its confluence with Brushy Creek to its confluence with the Spring River, and also (b) remove the designated, but not existing, domestic water supply use for the UT and Brushy Creek.*
2. What is the subject of the proposed rule? the UT and Brushy Creek.
3. Is this rule required to comply with a federal statute, rule, or regulation? Yes No X
If yes, please provide the federal rule, regulation, and/or statute citation. N/A
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

5. Is this a new rule? Yes No
If yes, please provide a brief summary explaining the regulation. N/A

Does this repeal an existing rule? Yes No

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. N/A

Is this an amendment to an existing rule? Yes No

If yes, please attach a mark-up showing the changes in the existing rule and a summary of the substantive changes. **Note: The summary should explain what the amendment does, and the mark-up copy should be clearly labeled "mark-up."**

See Attachments A (blackline of the affected pages of APC&EC 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.

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

The purpose of the proposed rule is to amend APC&EC Regulation No. 2, as follows:

- *Establish site-specific TDS and sulfate water quality criteria for the UT from Vulcan's Outfall 001 to the confluence with Brushy Creek, as follows:*

*TDS - 725 mg/L
Sulfate - 260 mg/L*

- *Establish site-specific TDS and sulfate water quality criteria for Brushy Creek from the confluence with the UT to the confluence with Stennitt Creek, as follows:*

*TDS - 549 mg/L
Sulfate - 126 mg/L*

- *Establish a site-specific sulfate water quality criterion for Stennitt Creek from the confluence with Brushy Creek to the confluence with the Spring River, as follows:*

Sulfate - 43.3 mg/L

- *Remove the designated, but not existing, domestic drinking water use for the UT from Vulcan's*

Outfall 001 to its confluence with Brushy Creek, and for a segment of Brushy Creek from its confluence with the UT to its confluence with Stennitt Creek.

The rule is necessary to establish dissolved minerals criteria for the above-listed stream segments to levels that reflect current and historic water quality conditions. The site-specific water quality criteria will not adversely affect the aquatic life. There are no economically feasible treatment technologies capable of reducing the dissolved mineral concentrations to levels of the current regulatory values in the affected segments of the UT, Brushy Creek, and Stennitt Creek.

8. Please provide the address where this rule is publicly accessible in electronic form via the Internet as required by Arkansas Code § 25-19-108(b).

https://www.adeq.state.ar.us/regs/draft_regs.aspx

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

Date: *August 29, 2019*

Time: *6:00 PM*

Lawrence County Meeting Room
115 West Walnut Street

Place: *Walnut Ridge, AR 72476*

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

September 11, 2019

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

The regulation becomes effective 20 days after filing of the final regulation, as adopted by the Commission, with the Secretary of State.

12. Please provide a copy of the notice required under Ark. Code Ann. § 25-15-204(a), and proof of the publication of said notice.

See Attachment C

13. Please provide proof of filing the rule with the Secretary of State and the Arkansas State Library as required pursuant to Ark. Code Ann. § 25-15-204(e).

Per APC&EC Regulation No. 8, filing with the Secretary of State does not occur until after legislative review and APC&EC consideration and adoption of the rulemaking.

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

None

FINANCIAL IMPACT STATEMENT

PLEASE ANSWER ALL QUESTIONS COMPLETELY

DEPARTMENT Arkansas Division of Environmental Quality

DIVISION Office of Water

PERSON COMPLETING THIS STATEMENT Allan Gates, representing third-party petitioner,
Vulcan Construction Materials, LLC

TELEPHONE 501/688-8816 **FAX** 501/682-0880 **EMAIL:** agates@mwlaw.com

To comply with Ark. Code Ann. § 25-15-204(e), please complete the following Financial Impact Statement and file two copies with the questionnaire and proposed rules.

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

1. Does this proposed, amended, or repealed rule have a financial impact? Yes No
2. Is the rule based on the best reasonably obtainable scientific, technical, economic, or other evidence and information available concerning the need for, consequences of, and alternatives to the rule? Yes No
3. In consideration of the alternatives to this rule, was this rule determined by the agency to be the least costly rule considered? Yes No

If an agency is proposing a more costly rule, please state the following:

(a) How the additional benefits of the more costly rule justify its additional cost;
N/A

(b) The reason for adoption of the more costly rule;
N/A

(c) Whether the more costly rule is based on the interests of public health, safety, or welfare, and if so, please explain; and;
N/A

(d) Whether the reason is within the scope of the agency's statutory authority; and if so, please explain.
N/A

4. If the purpose of this rule is to implement a federal rule or regulation, please state the following:

(a) What is the cost to implement the federal rule or regulation?

Current Fiscal Year

General Revenue _____
Federal Funds _____
Cash Funds _____
Special Revenue _____
Other (Identify) _____

Next Fiscal Year

General Revenue _____
Federal Funds _____
Cash Funds _____
Special Revenue _____
Other (Identify) _____

Total \$ 0 _____

Total \$ 0 _____

(b) What is the additional cost of the state rule?

Current Fiscal Year

Next Fiscal Year

General Revenue _____
 Federal Funds _____
 Cash Funds _____
 Special Revenue _____
 Other (Identify) _____
 Total \$ 0 _____

General Revenue _____
 Federal Funds _____
 Cash Funds _____
 Special Revenue _____
 Other (Identify) _____
 Total \$ 0 _____

5. What is the total estimated cost by fiscal year to any private individual, entity and business subject to the proposed, amended, or repealed rule? Identify the entity(ies) subject to the proposed rule and explain how they are affected.

Current Fiscal Year

Next Fiscal Year

\$ 0 _____

\$ 0 _____

6. What is the total estimated cost by fiscal year to state, county, and municipal government to implement this rule? Is this the cost of the program or grant? Please explain how the government is affected.

Current Fiscal Year

Next Fiscal Year

\$ 0 _____

\$ 0 _____

7. With respect to the agency's answers to Questions #5 and #6 above, is there a new or increased cost or obligation of at least one hundred thousand dollars (\$100,000) per year to a private individual, private entity, private business, state government, county government, municipal government, or to two (2) or more of those entities combined?

Yes No X

If YES, the agency is required by Ark. Code Ann. § 25-15-204(e)(4) to file written findings at the time of filing the financial impact statement. The written findings shall be filed simultaneously with the financial impact statement and shall include, without limitation, the following:

- (1) a statement of the rule's basis and purpose;
- (2) the problem the agency seeks to address with the proposed rule, including a statement of whether a rule is required by statute;
- (3) a description of the factual evidence that:
 - (a) justifies the agency's need for the proposed rule; and
 - (b) describes how the benefits of the rule meet the relevant statutory objectives and justify the rule's costs;

- (4) a list of less costly alternatives to the proposed rule and the reasons why the alternatives do not adequately address the problem to be solved by the proposed rule;
- (5) a list of alternatives to the proposed rule that were suggested as a result of public comment and the reasons why the alternatives do not adequately address the problem to be solved by the proposed rule;
- (6) a statement of whether existing rules have created or contributed to the problem the agency seeks to address with the proposed rule and, if existing rules have created or contributed to the problem, an explanation of why amendment or repeal of the rule creating or contributing to the problem is not a sufficient response; and
- (7) an agency plan for review of the rule no less than every ten (10) years to determine whether, based upon the evidence, there remains a need for the rule including, without limitation, whether:
 - (a) the rule is achieving the statutory objectives;
 - (b) the benefits of the rule continue to justify its costs; and
 - (c) the rule can be amended or repealed to reduce costs while continuing to achieve the statutory objectives.

Vulcan Construction Materials, LLC (“Vulcan”)

Response to Comments APCEC Docket No. 19-001-R

On May 20, 2019, Vulcan filed a Petition to Initiate Third-Party Rulemaking to Amend APCEC Rule No. 2. The Arkansas Pollution Control & Ecology Commission granted Vulcan’s Petition on June 28, 2019. Notice of the proposed rulemaking was published in the Arkansas Democrat-Gazette on July 14 and 21, 2019. A public hearing was held on August 29, 2019, in Walnut Ridge, Arkansas, and the public comment period ended on September 11, 2019. There were no oral comments and no members of the public attended the public hearing.

There was only one written comment filed during the public comment period, a letter from the Arkansas Department of Health (“ADH”) dated September 3, 2019. A copy of the letter is attached. The issues raised in the letter and Vulcan’s responses to the issues appear below.

1. The Unnamed Tributary and Brushy Creek are tributaries of the Spring River in the watershed of the Northeast Arkansas Public Water Authority. ADH has consistently maintained that the domestic water supply use designation is appropriate and necessary for all streams within public supply watersheds.

Vulcan acknowledges ADH’s policy and does not disagree with the policy as a general proposition. But Vulcan respectfully submits that strict application of the policy to the factual circumstances involved in this rulemaking would be inappropriate because the Unnamed Tributary’s contribution to the flow of the Spring River is so small that it cannot realistically affect water quality at the Northeast Arkansas Public Water Authority intake.

2. Mineral pollution contributed to the Spring River by the Unnamed Tributary will have a direct effect on water quality of the water supply for the Northeast Arkansas Public Water Authority.

First, Vulcan acknowledges that the discharge from the Unnamed Tributary flows directly through Brushy Creek and Stennitt Creek to the Spring River. As a consequence, it is technically accurate to say that water quality in the Unnamed Tributary directly affects water quality in the Spring River. The effect is so small, however, that it is insignificant. The discharge from the Unnamed Tributary is less than 0.1% of the flow of the Spring River at the confluence with Stennitt Creek. Even if concentrations of minerals in the Unnamed Tributary increased or decreased dramatically, the effect on the Spring River would be undetectable. See Attachment 1 to this Response to Comments

Second, the comment’s use of the future tense, “will have a direct effect,” suggests that a new discharge is proposed. That is not the case. Vulcan’s Black Rock Quarry has been discharging essentially the same volumes of stormwater with essentially the same

concentrations of minerals through the Unnamed Tributary for decades. No new discharge is proposed; only a continuation of the longstanding quarry stormwater discharge.

3. Dissolved chlorides can have deleterious effects upon plumbing corrosion rates even when concentrations are below secondary drinking water standards. This complicates drinking water systems' efforts to minimize consumer exposure to lead and copper and can also increase drinking water treatment costs.

Vulcan is not proposing any change in water quality criteria for chlorides. Water quality samples collected for the UAA showed chloride concentrations in the Unnamed Tributary and Brushy Creek immediately downstream of the UT well below the ecoregion value of 13 mg/L:

Chloride Values from UAA Samples (2015-2016)

	<u><i>Maximum</i></u>	<u><i>Minimum</i></u>	<u><i>Average</i></u>
<i>Sample Station UT-0A</i>	<i>10 mg/L</i>	<i><0.1 mg/L</i>	<i>5 mg/L</i>
<i>Sample Station BC-1A</i>	<i>10 mg/L</i>	<i><0.1 mg/L</i>	<i>3.6 mg/L</i>

4. ADH requests that all documents in the rulemaking be revised to reflect ADH's opposition to the removal of the domestic water supply designated use from UT and Brushy Creek.

Vulcan acknowledges ADH's opposition. ADH's comment and this response document that fact. But the documents previously filed in the administrative record of the rulemaking cannot be altered.

5. ADH asks that the 2009 ADH letter included as Attachment A in the Final UAA Appendix A be removed because the public water intake described in that letter as planned now exists and is operational.

Vulcan acknowledges that the public water intake mentioned in the 2009 letter is now operational, but it cannot alter documents previously filed in the administrative record. ADH's comment and this response fully document that the public water intake in question is no longer merely proposed.

6. ADH did not oppose the removal of the drinking water designated use from Stennitt Creek in 1999 because there was no downstream drinking water supply in the watershed at that time, and because the revised standard for TDS in the 1999 rulemaking was less than the secondary drinking water standard. ADH now opposes the 1999 removal of the designated drinking water use from Stennitt Creek because there is a downstream public water intake. ADH asks that all documents and exhibits in the rulemaking be revised to reflect ADH's opposition to the removal of the domestic water supply designated use for the Unnamed Tributary, Brushy Creek, and Stennitt Creek.

ADH's opposition is noted but Vulcan cannot alter documents previously filed in the administrative record of this rulemaking.