

**BEFORE THE ARKANSAS POLLUTION CONTROL
AND ECOLOGY COMMISSION**

IN THE MATTER OF REQUEST BY)
HALLIBURTON ENERGY SERVICES, INC.)
TO INITIATE RULEMAKING TO AMEND) **DOCKET NO. _____**
REGULATION NO. 2)

**PETITION TO INITIATE THIRD-PARTY
RULEMAKING TO AMEND REGULATION NO. 2**

Petitioner, Halliburton Energy Services, Inc. (“HESI”), for its Petition to Initiate Third-Party Rulemaking to Amend Regulation No. 2 (“Petition”), states as follows:

1. The Petition is submitted pursuant to Arkansas Pollution Control and Ecology Commission (“APCEC” or “the Commission”) Regulation No. 2, § 2.306, and APCEC Regulation No. 8, § 8.809, Ark. Code Ann. § 8-4-202, and the Arkansas Department of Environmental Quality (“ADEQ”) Continuing Planning Process. As set forth more fully below in paragraph 6, HESI is requesting a temporary modification to the dissolved minerals water quality standards for total dissolved solids (“TDS”), chloride, and sulfate in Chamberlain Creek and for TDS and sulfate in Cove Creek, Lucinda Creek, Reyburn Creek, Rusher Creek, and Scull Creek (which includes Clearwater Lake). The temporary modification is for the duration of an Environmental Improvement Project (“EIP”) for the Dresser Industries-Magcobar (“DIM”) former mine site located in Hot Spring County. The EIP was approved by the ADEQ on May 31, 2016, and is authorized pursuant to Ark. Code Ann. § 8-5-901 *et seq.* and by APCEC Regulation No. 2, § 2.105 and Appendix B.

2. This Petition is submitted in connection with HESI’s EIP. The provision for EIPs was first adopted by the Arkansas Legislature as Act 401 of 1997, now codified at Ark. Code Ann. § 8-5-901 *et seq.* The stated purpose of the legislation creating EIPs is to encourage long-term

environmental projects at former extraction sites that will require more than three years to complete. ADEQ has determined that the DIM former mine site qualifies for an EIP under Section 1 of Appendix B of APCEC Regulation No. 2 because it is a former mineral extraction site that would benefit from a long-term environmental remediation project that would otherwise be frustrated by rigid application of state water quality standards. HESI agreed in a Consent Administrative Order (LIS 16-043) with ADEQ to file this petition for initiation of a third-party rulemaking for temporary site-specific water quality criteria in connection with the EIP.

3. The DIM former mine site was the site of open-pit and underground barite mining from 1939 to 1977. After mining and associated dewatering activities at the site ended in 1977, the open pit filled with water that is acidic as a result of precipitation infiltrating through adjacent pyrite-rich spoil piles (acid rock drainage or “ARD”) before entering the pit, which is referred to as the Pit Lake. Today, the approximately 600-acre site consists of 90-acre Pit Lake, which is approximately 480 feet deep and contains approximately 3.7 billion gallons of water. Spoil piles border the Pit Lake on the north, east, and west sides. These piles consist of overburden removed during open-pit mining. Pyrite-rich shale comprises most of the approximately 20 million cubic yards of spoil. Tailings impoundments, the remnants of buildings, a water treatment plant, and alkaline sludge impoundments are also present at the site. Two reservoirs, Lucinda Lake and Clearwater Lake, were created in association with mining activities at the site but are not part of the site. The site lies on a surface water divide that drains west and east. Westerly drainage enters Cove Creek and then the Ouachita River approximately 5 miles downstream of the site. Easterly drainage via Reyburn Creek flows to Francois Creek approximately 7 miles downstream of the site, and then to the Saline River.

4. Pursuant to an Administrative Settlement (LIS 00-126) with ADEQ, HESI completed the following: (a) design and construction of Interim Remedial Measures, including among other things construction of a water treatment system that discharges to Chamberlain Creek subject to NPDES Permit No. AR0049794, (b) a Site Investigation, and (c) a Feasibility Study. Following receipt of the Feasibility Study, ADEQ prepared a Remedial Action Decision Document (“RADD”), which included ADEQ’s screening of alternatives and selection of a proposed remedial action for the site as well as selection of proposed remedial action levels and effectiveness monitoring requirements. The Remediation Plan for the EIP is the RADD prepared by ADEQ.

5. Reclamation of the DIM former mine site via the EIP is expected to address the low pH and elevated metals that affect drainages from the site. However, dissolved minerals in the receiving streams, which are also elevated due to former mining activities, will likely remain elevated above ecoregion reference stream values after remediation construction activities. In the case of Chamberlain Creek and Cove Creek, treatment and discharge of the Pit Lake water effectively neutralizes pH and removes dissolved metals, but it does not significantly reduce dissolved minerals concentrations in the effluent. In addition, minerals concentrations downstream of reclaimed areas are expected to remain elevated above background due to (a) the dissolution of minerals as water percolates through deeper spoil that is not affected either by active or passive reclamation, which subsequently enters downstream drainage pathways/receiving streams, and (b) runoff exposure to those isolated portions of the surficial spoil material that neither active nor passive reclamation specifically addresses. Depending upon the length of the subsurface flow path through which the percolation travels, dissolution of minerals and transport downstream may continue to occur for years. Accordingly, temporary water quality standards are necessary for a period of approximately 12 years through completion of the remediation construction activities,

stabilization of site conditions, and, if necessary, approval of permanent water quality standards for dissolved minerals through a Use Attainability Analysis (“UAA”) and pursuant to Appendix B of APCEC Regulation No. 2.

6. As more fully described in Section 6.2 of the Notice of Intent for the EIP, the proposed temporary criteria for Chamberlain Creek, to which Outfall 001 discharges, are based on the 95th percentile of the measured values of TDS, sulfate, and chloride that correspond to nine years of biomonitoring sampling events that resulted in no toxicity and the proposed temporary criteria for the other water bodies are based on the EPA secondary drinking water standards. Accordingly, the proposed temporary criteria are as follows:

- Chamberlain Creek: 2,261 mg/L for TDS; 1,384 mg/L for sulfates; 68 mg/L for chlorides.
- Cove Creek, Lucinda Creek, Reyburn Creek, Rusher Creek, and Scull Creek (including Clearwater Lake): 500 mg/L for TDS; 250 mg/L for sulfates.

The 95th percentile values for Chamberlain Creek are proposed for two reasons: (1) they represent conservative upper bounds of the data set without unreasonably biasing the proposed temporary standards to a higher value by using the maximum values measured, and (2) the 95th percentile values as a statistical representation of a site-specific criteria have been proposed and accepted as technically justifiable on numerous occasions by ADEQ and EPA in similar situations for permanent criteria changes.

7. A redline version of the relevant portions of APCEC Regulation No. 2 showing the proposed changes is attached hereto as Exhibit A.

8. Pursuant to Consent Administrative Order (LIS 16-043), if the proposed temporary site-specific water quality criteria changes are approved by the Commission and EPA, HESI shall submit an application for a major permit modification to revise the permit limits in National Pollutant Discharge Elimination System (“NPDES”) Permit No. AR0049794 for chlorides,

sulfates and TDS at Outfall 001 (i.e., discharge to Chamberlain Creek) based upon the approved temporary site-specific water quality criteria. If post-construction monitoring data indicate the need for post-project modified water quality standards for minerals, HESI will develop and submit a UAA report justifying revised post-remediation water quality standards and initiate a third-party rulemaking, the resulting standards of which will form the basis for revised NPDES permit limits for minerals, as necessary.

9. A copy of the Governor's approval consistent with Executive Order 15-02 is attached hereto as Exhibit B.

10. A copy of the Legislative Questionnaire is attached hereto as Exhibit C.

11. A copy of the Financial Impact Statement is attached hereto as Exhibit D.

12. A copy of the Economic Impact/Environmental Benefit Analysis required by APCEC Regulation No. 8, § 8.812 is attached hereto as Exhibit E and incorporated herein by reference.

13. A copy of HESI's Environmental Improvement Project Notice of Intent is attached hereto as Exhibit F. Pursuant to the EIP statute and Regulation No. 2, the Environmental Improvement Project Notice of Intent was published for public comment on November 26, 2014. No adverse comments were received.

14. A copy of the proposed Minute Order to initiate rulemaking is attached as Exhibit G.

15. HESI's site-specific modifications are supported by the following:

- HESI is not seeking a change from historical water quality conditions in the relevant waterbodies. Rather, HESI seeks temporary water quality standards that allow HESI to implement the EIP in compliance with applicable requirements, which is

expected to improve water quality especially in Chamberlin Creek, while protecting the designated uses for these waterbodies.


- There is no current economically feasible treatment for the removal of the minerals. Reverse osmosis treatment technology exists; but, it is not cost effective and generates a concentrated brine that is environmentally difficult to dispose of. It is not required to meet the designated uses and thus would produce no significant additional environmental protection.
- 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 proposed standards for Chamberlin Creek have been found to be not toxic based on approximately 34 whole effluent toxicity tests conducted on the treated water between June 2003 and June 2012.
- According to Arkansas Code Section 8-5-901 *et seq.*, the General Assembly has found that mineral extraction sites such as the one at issue would benefit from long-term environmental remediation projects, and ADEQ has concluded the EIP for the DIM Site qualifies.
- ADEQ sent a revised RADD proposing the EIP out for public comment in 2014. There were no adverse public comments to the performance of the EIP apart from two proposals from firms encouraging the use of their alternative, proprietary cleanup technology that ADEQ concluded were not proven.
- HESI and ADEQ will provide the Commission with annual reports regarding this project. Once the remedy is complete, HESI will conduct a Use Attainability Analysis (UAA) on the effected waterbodies that reflect the improvements resulting

from the EIP and will request from the Commission a permanent change in WQS in the relevant waterbodies as supported by the results of the UAA.

WHEREFORE, HESI requests that the Commission initiate a rulemaking to amend APCEC Regulation No. 2 in the manner requested in paragraphs 6 and 7 above.

Respectfully submitted

QUATTLEBAUM, GROOMS
& TULL PLLC
111 Center Street, Suite 1900
Little Rock, AR 72201
Telephone: 501-379-1777
Fax: 501-379-3877

By 

Michael Heister, Ark. Bar No. 2002091
William A. Eckert III, Ark. Bar No. 78045

Counsel for Halliburton Energy Services, Inc.

CERTIFICATE OF SERVICE

I hereby certify that on this 7th day of July, 2016, I served a copy of the foregoing Petition to Initiate Third-Party Rulemaking to Amend Regulation No. 2 on the following by United States Mail, first class postage prepaid and by email:

Michael McAlister
Acting Chief Counsel, Legal Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118



Michael B. Heister