BEFORE THE ARKANSAS POLLUTION CONTROL AND ECOLOGY COMMISSION

IN THE MATTER OF AMENDMENTS TO REGULATION NO. 2, REGULATION ESTABLISHING WATER QUALITY STANDARDS FOR SURFACE WATERS OF THE STATE OF ARKANSAS	)))))	**DOCKET NO. 13-006-R**

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY'S RESPONSIVE SUMMARY

Pursuant to Minute Order 13-23 and Minute Order 17-19, the Arkansas Department of Environmental Quality (ADEQ or Department) submits the following Statement of Basis and Purpose and Responsive Summary regarding proposed changes to Arkansas Pollution Control and Ecology Commission Regulation No. 2 (Reg. 2), Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, as required by Arkansas Pollution Control and Ecology Commission Regulation No. 8.

On July 26, 2013, the Arkansas Pollution Control and Ecology Commission (APCEC or Commission) granted City of Huntsville's (Huntsville) Petition to Initiate Rulemaking to amend APCEC Reg. 2. The third-party petition was filed pursuant to APCEC Reg. 8.809. Huntsville proposes to revise APCEC Reg. 2 by modifying the state water quality standards for Chloride, Total Dissolved Solids (TDS), and Sulfate. One public hearing was held in the City of Huntsville on October 28, 2013. The deadline for submitting written comments on the proposed changes was 4:30 pm, November 12, 2013, but the comment period was extended to December 2, 2013, by the Hearing Officer during the public hearing. The Commission received written comments from seven (7) entities during the public comment period. One (1) oral comment was received during the public hearing.

The Department advised Huntsville of its opposition to the calculation methods used to derive the proposed site-specific criteria (Attachment A). The Department's opposition to the calculation methods used in the initial petition was based on the following:

1) Use of 4 cfs as the critical background flow for Town Branch and Holman Creek is inappropriate because it does not represent actual background flow conditions.
2) The use of the effluent flow and effluent mineral concentration (Qe and Ce) in calculations for Holman Creek and War Eagle is inappropriate. Flow and minerals concentrations should reflect the entirety of the contributing waterbodies, not just the effluent.
3) The Department opposes use of ecoregion values as background concentrations for minerals when actual in-stream data exists for those stream segments.

In ADEQ's July 22, 2014 letter, ADEQ stated that it could support site-specific criteria values for chloride, sulfate, and total dissolved solids that are no higher than the 95th percentile of data submitted from the 2011 Section 2.306 Site Specific study and available ADEQ data. The

Department considers these values to be largely protective of the aquatic life use. (Attachment B).

In Huntsville's second petition to initiate rulemaking, Huntsville revised the proposed site-specific criteria using the observed instream data from the 2011 Section 2.306 Site Specific study and available ADEQ data. Huntsville's proposed site-specific criteria values for chloride, sulfate, and TDS are no higher than the 95th percentile of that data.

Due to the significant level of revision to the proposed site-specific criteria in Huntsville's Petition to Initiate Rulemaking, the Commission instructed Huntsville to proceed with a second public hearing and comment period. Huntsville submitted Minute Order 17-19 on August 25, 2017, and the Third Amendment to Petition to Initiate Third-Party Rulemaking to Amend Regulation No. 2 on October 10, 2017. The second public hearing was held on November 13, 2017, with no oral comments received. Twelve written comments were received during the public comment period.

COMMENTS RECEIVED DURING THE FIRST PUBLIC COMMENT PERIOD

ORAL COMMENTS (Huntsville public hearing)

Commenter: Colene Gaston on behalf of Beaver Water District

Comment: Request extension to public comment period to give time to review the supplemental report on alternate treatment technologies.

Response: Extension for public comment period was granted by the APCEC Hearing Officer until December 2, 2013.

WRITTEN COMMENTS

Commenter: Butterball, LLC

Comment: Butterball, LLC submits these comments for the Public Record in support of the 3rd Party Rule Making effort to amend the minerals Water Quality Criteria for Town Branch, Holman, and War Eagle Creeks. Butterball, LLC also supports removal of the non-existing but designated Domestic Water Supply use for Town Branch and Holman Creeks, as recommended in the City of Huntsville, Arkansas, Site Specific Water Quality Study.

Butterball continues to support the City of Huntsville's position during this 3rd Party Rule Making effort, and the process that Arkansas has in place for amending Water Quality Criteria. We have reviewed the Site Specific Water Quality Study, which concludes that the City of Huntsville's Wastewater Treatment Plant is not adversely impacting the above named Creeks. In addition, we note that an independent study performed by the United States Geological Survey (USGS) concludes that there are no adverse mineral impacts to Beaver Lake from the City of Huntsville's discharge.

As such, Butterball respectfully requests that the 3rd Party Rule Making be accepted and that mineral concentration limits not be imposed on the City of Huntsville Wastewater Treatment Plant.

Response: The Department acknowledges the comment.

Commenter: Beaver Water District

Comment: The following comments are in regard to the City of Huntsville's third-party rulemaking that proposes changes to the Arkansas water quality standards for minerals in Arkansas Pollution Control and Ecology Commission (APCEC) Regulation No.2 (hereinafter, "Reg. 2"). The City of Huntsville (hereinafter, "Huntsville') seeks, among other things, to increase the water quality criteria (WQC) for the minerals sulfate, chloride, and total dissolved solids (TDS) at Reg. 2.511 that apply to certain segments of Town Branch, Holman Creek, and War Eagle Creek. Huntsville discharges treated municipal wastewater into Town Branch approximately one-half mile above its confluence with Holman Creek. Holman Creek is a tributary of War Eagle Creek, a significant tributary of Beaver Lake. The comments are submitted on behalf of Beaver Water District (BWD), the largest of the four public drinking water utilities whose source of raw water is Beaver Lake and the second largest drinking water utility in Arkansas. BWD produces the drinking water for over 300,000 people and numerous businesses and industries in Northwest Arkansas.

BWD expressed concern at the June and July 2013 meetings of the APCEC when Huntsville sought to initiate its third-party rulemaking. BWD stated that, among other things, Huntsville's proposed rulemaking was premature given the ongoing uncertainty related to Arkansas Act 954 of 2013, which has since been repealed, and the changes to Reg. 2 proposed by the Arkansas Department of Environmental Quality (ADEQ) as part of its triennial review process and rulemaking. BWD recognized, however, that pursuant to provisions in Huntsville's National Pollutant Discharge Elimination System (NPDES) permit, any changes to the minerals WQC sought by Huntsville would need to be completed by the permit expiration date of May 31, 2014.

For that reason, BWD did not directly oppose Huntsville's request to initiate rulemaking at the July 2013 APCEC meeting. Nonetheless, BWD stated its belief that Huntsville's request to initiate rulemaking before the issues related to minerals were settled was inadvisable. BWD suggested that a better approach would to be to delay the third-party rulemaking under an ADEQ consent agreement or other appropriate mechanism that provided relief from the permit deadline, which BWD stated it would support.

The approach taken by Huntsville in its Section 2.306 Site Specific Water Quality Study (hereinafter, the "Study") is inconsistent with ADEQ's proposed changes to Reg. 2 and ADEQ's stated opposition to the APCEC regarding the use of four (4) cubic feet per second (cfs) as an automatic flow factor in the development and implementation of WQC for minerals. BWD, however, is not submitting detailed comments on this issue or the other variables that Huntsville utilized in its mathematical equations to derive its proposed changes to the minerals WQC. We simply point out that any proposed rulemaking premised on values that will not be utilized by ADEQ in the future and that are unlikely to be upheld by the United States Environmental Protection Agency can only lead to further conflict and confusion.

BWD's primary concern is with the proposed changes to the WQC applicable to War Eagle Creek.

War Eagle Creek flows approximately twenty-nine (29) miles from its confluence with Holman Creek to Beaver Lake. The War Eagle Creek watershed constitutes approximately one-third of the Beaver Lake watershed upstream of BWD. Huntsville proposes one set of increases to the minerals WQC for the approximately twenty (20) mile segment of War Eagle Creek from its confluence with Holman Creek to Clifty Creek and another set of lesser increases to the minerals WQC for the approximately nine (9) mile segment of War Eagle Creek from Clifty Creek to Beaver Lake. The proposed changes represent over a six hundred percent increase in the WQC for chloride, a thirty percent increase in the WQC for sulfate, and a sixty percent increase in the WQC for TDS.

BWD believes that the proposed changes to the WQC for War Eagle Creek are unnecessary and unsupported. Instead of focusing on an analysis of the mathematical equations and projections related to War Eagle Creek in the Huntsville Study, BWD believes that a review of the twenty (20) plus years of ADEQ and United States Geological Survey ambient water quality monitoring data on minerals in War Eagle Creek is sufficient to show that the proposed changes are not needed.

Out of almost four hundred samples taken since 1993, the *current* WQC for sulfate has never been exceeded. The *current* WQC for TDS has been exceeded only twice, and those values were much lower than Huntsville's proposed WQC for TDS on the upper reach of War Eagle Creek. ADEQ's assessment protocol for minerals currently allows a ten percent exceedence rate, and ADEQ informed the Minerals Subcommittee of the APCEC that it is considering raising the allowable exceedence rate to twenty-five percent for site-specific WQC for minerals. Approximately twenty percent of the chloride samples have exceeded the *current* WQC for TDS, but the proposed WQC for chloride on the upper reach of War Eagle Creek is still more than two and a halftimes the maximum concentration of chloride detected in War Eagle Creek in over twenty years of monitoring. The actual concentrations of chloride, sulfate, and TDS in War Eagle Creek measured by Huntsville during July 2011- June 2012 corroborate that the proposed changes are unnecessary (see Tables 5.1 and 5.2 and Appendix B of the Study).

The purpose of a study pursuant to Reg. 2.306 is to develop WQC that reflect site-specific conditions based on an investigation of those conditions. As the measured concentrations of chloride, sulfate, and TDS in War Eagle Creek demonstrate, the WQC proposed for War Eagle Creek do not reflect actual site-specific conditions. As a consequence, even though the biological field data in the Study may show that the aquatic life in War Eagle Creek is acceptable at the *existing* level of minerals in the stream, the impact on aquatic life if the in-stream concentrations of minerals are allowed to increase to the proposed levels is unknown. Because the proposed WQC for minerals for War Eagle Creek are much, much higher than historical and existing in-stream concentrations, the impact on aquatic life at the proposed levels must be addressed.

BWD understands the need to allow Huntsville's existing wastewater discharge in a manner consistent with the regulations and based on sound science. The proposed changes to the WQC for minerals for War Eagle Creek, however, go well beyond what is necessary to accommodate Huntsville's discharge, would potentially provide for new and increased discharges of minerals to War Eagle Creek, and are not scientifically justifiable. Thank you for your consideration of these comments.

Response: Concerning 4 cfs and other variables used to calculate proposed criteria:

Huntsville has revised its proposed site-specific criteria using the 95th percentile of data submitted in the site-specific criteria study and available ADEQ data. A background flow value of four (4) cubic feet per second (cfs) was not used to calculate the revised proposed water quality standards in Huntsville's Third Amendment to Petition to Initiate.

Concerning proposed Site Specific Criteria (SSC) on War Eagle Creek: Data were reviewed from ADEQ site WHI0116, which is located on War Eagle Creek downstream of the Holman Creek confluence. From May 1992 to November 2013, approximately 250 data points exist for chloride, sulfate, and TDS concentrations. For this period of record, the max recorded concentration for chloride, sulfate, and TDS are 49.1 mg/L, 15.4 mg/L, and 266 mg/L, respectively. Given the above-mentioned data, the Department notes that it may not be necessary to alter the SSC beyond these measured instream values.

Commenter: Debbie Doss

Comment: I am Debbie Doss conservation chair of the Arkansas Canoe Club. I am also chair of the Arkansas Conservation Coalition and recently served in the triennial review working group for Adeq.

The Arkansas Canoe Canoe has over 1400 members with seven chapters in three states. The club is deeply concerned about issues that affect water quality in the state of Arkansas.

The quality of Arkansas streams is greater than that of nearly any within the United States. In 2001 a study undertaken for the Congress of the United States found that Ozark Mountain streams contain some of the very highest levels of aquatic biodiversity in the country and the most intact ecological systems of their kind on the North American continent.

We are deeply concerned about the steady degradation of our streams in the state of Arkansas. Since 2001 numerous streams sections have been added to the states 303D list of impaired water bodies. This is a very troubling trend.

Is it possible to lower water quality standards without damaging streams? Possibly but, downgrading water quality standards for these creeks should be based on good science, not a "mother may I" system of arbitrarily changing numbers because the ones in the regulation are inconvenient.

-War Eagle is a classic Ozark Stream that is used for recreation and fishing.

-The War Eagle passes through Hobbs Creek State Park, and flows into Beaver Lake.

-Ozark streams, state parks, and lakes are an important part of our tourist economy.

-Many people enjoy the water quality present in these streams to float and swim.

-Protecting such high quality waters is important to Arkansas.

-The War Eagle is also important to wildlife.

-The War Eagle is home to the potentially threatened Rabbits Foot Mussell, and has been listed as potential critical habitat for that species.

There was a time when our state understood the value of what we have and was ready to protect importance of protecting water quality in the natural state. Our standards were even better than those required of us by federal law. Both water quality and biodiversity are destined become even more important in the future.

The important characteristics of the War Eagle or any of our streams can only be maintained with high quality water standards--this rulemaking does not further that objective.

Response: The Department acknowledges these comments and clarifies that changes to the Regulation must follow the process set forth in APCEC Reg. 2 and Reg. 8.

Commenter: Mary Cameron

Comment: Are there any federal limitations for the discharge of chloride, sulfate, and total dissolved minerals into streams such as Town Branch, Holman Creek, and War Eagle Creek?

Response: There are no federal limitations for the discharge of chloride, sulfate, and total dissolved minerals into streams such as Town Branch, Holman Creek, and War Eagle Creek.

Federal criteria for minerals have been adopted as secondary standards to protect public drinking water supplies, and are defined under the federal Safe Drinking Water Act. These secondary standards are 250 mg/L, 250 mg/L, and 500 mg/L for chloride, sulfate, and TDS, respectively. The same criteria have been adopted in Arkansas to protect domestic water supply use.

With respect to chloride, in 1988, EPA published the "Ambient Aquatic Life Water Quality Criteria for Chloride," recommending an acute value of 860 mg/L and a chronic value of 230 mg/L for chloride[1].

Commenter: Ross Noland

Comment: First, the City of Huntsville improperly seeks to remove the drinking water designated use from Town Branch, Holman Creek, and War Eagle Creek. The City contends in its Petition to Initiate Rulemaking that the drinking water designated use for these streams is "designated, but not existing." Existing uses cannot be removed. Designated, but not existing, uses can only be removed in limited circumstances. The drinking water designated use on these stream portions cannot be removed for the following reasons:

1-The receiving streams meet the water quality criteria for drinking water and their ecoregion found in APCEC Reg. 2.511. Because the criteria are met, the use is existing, and cannot be removed.

2-The receiving streams flow into Beaver Lake, which is used for domestic water supply. Thus, the drinking water designated use is existing, and cannot be removed.

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[1] EPA 440/5-88-001

3-Designated uses can only be removed when one of six specific conditions are present. See 40 C.F.R. § 131.10(g)(1)-(6). The documents submitted by the City of Huntsville do not demonstrate that one of those conditions is met. Huntsville contends that 40 C.F.R. § 131.10 requires a UAA to remove a fishable/swimmable use. This ignores the plain language of 40 C.F.R. § 131.10, which requires a UAA to remove any "designated use which is not an existing use." This language is not limited to the fishable/swimmable uses. Thus, the drinking water designated use cannot be removed unless one of the 40 C.F.R. § 131.10(g)(1)-(6) conditions are met.

Second, the City of Huntsville utilizes four cubic feet per second for its median flow in calculating mineral loads. This number is not based in science or fact. This practice must end due to its arbitrary application and lack of scientific or rational basis.

Response: *Concerning the removal of Domestic Water Supply designated use:*

Point 1: Huntsville asserts that the domestic water supply use designation for certain segments of Town Branch and Holman Creek is not an existing use, and therefore can be removed. Huntsville does not propose to remove the domestic water supply use designation from War Eagle Creek.

APCEC Reg. 2.106 defines Existing Uses as "Those uses listed in Section 303(c)(2) of the [Clean Water] Act (i.e., public water supplies, propagation of fish and wildlife, recreational uses, agricultural and industrial water supplies and navigation) which were actually attained in the waterbody on or after November 28, 1975, whether or not they are included in water quality standards." No public water supply intake exists on those segments of Town Branch and Holman Creek.

Point 2: Town Branch is a tributary of Holman Creek, which is a tributary of War Eagle, which is a tributary to Beaver Lake. 40 CFR § 131.10(b) states, "...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 of downstream waters." The Department has considered these downstream waters (War Eagle and Beaver Lake) and would not support removal of the Domestic Water Supply use designation in Town Branch or Holman Creek if removal would cause downstream segments to not meet their designated uses. The domestic water supply designated use is being maintained in War Eagle Creek and Beaver Lake.

Point 3: Huntsville does not propose to remove a designated use that requires a use attainability analysis (UAA) as described in 40 C.FR. 131.10(g). The Department acknowledges that a UAA may have been required at the time of this comment. Pursuant to 40 C.F.R. 131.10(k)(3), a UAA is not required to remove or revise a designated use that is a non-101(a)(2) use. Domestic water supply is not a use specified in 101(a)(2). Through this third-party rulemaking process, Huntsville must submit documentation that appropriately supports removal of Domestic Water Supply use in Town Branch or Holman Creek.

Concerning use of 4 cfs:

Huntsville has revised its proposed site-specific criteria using the 95th percentile of data submitted in the site-specific criteria study and available ADEQ data. A background flow value of four (4) cubic feet per second (cfs) was not used to calculate the revised proposed water quality standards.

Commenter: Arkansas Department of Health

Comment: 1. The Arkansas Department of Health (ADH) reiterates its previously submitted comments that the domestic water supply use designation should remain in place for Town Branch Creek, Holman Creek, and War Eagle Creek. It is the ADH's position that it is appropriate for streams within the Beaver Lake watershed to retain domestic water supply use designations considering that Beaver Lake is the source of drinking water for approximately 390,000 Arkansans.

2. Separate correspondence containing comments pertaining to both the second amended Water Quality Study (UAA) and the recent feasibility study is attached to this letter and has been provided to GBMc. A primary concern regarding the feasibility report is that full consideration of pretreatment of the waste stream by industry prior to acceptance of the flow by the municipal wastewater system is not explored. Pretreatment is generally accepted to provide greater efficiencies and potential cost savings when compared to combined waste streams for municipal treatment. Smaller volumes can be treated, and greater flexibility with regards to process modifications and treatment schemes can be achieved.

3. The Water Quality Study posted August 1, 2013 utilizes an assumed background flow of 4 cfs for determination of site specific criteria (sections 7.2.2, 7.2.3, and 7.2.4). ADH disagrees with the assumption that this is representative of stream conditions at the outfall. In reality, Holman Creek and Town Branch Creek are intermittent losing streams and Holman Creek is listed as an impaired stream on the 2008 303(d) list for impairments resulting from the City of Huntsville WWTP discharge of Total Dissolved Solids. Furthermore, assuming 4 cfs of background flow is contrary to the EPA-approved "State of Arkansas Continuing Planning Process" (CPP) dated January 2000. Page IX-7 of the CPP specifically says that 4 cfs "may be calculated ... after mixing." In Sections 7.2.2-4, 4 cfs was assumed upstream. Per the CPP and a Huntsville WWTP flow rate of 3.1 cfs, the maximum dilution available upstream would be 0.9 cfs. Given the losing stream status, 0 cfs would be most appropriate.

Response: 1. The Department acknowledges AHD's position on retaining the DWS use in Town Branch, Holman Creek, and War Eagle Creek, and agrees that the DWS use should not be removed from War Eagle Creek. See Response to Comments from Ross Noland.

2. The Department acknowledges this comment.

3. Huntsville has revised its proposed site-specific criteria using the 95th percentile of data submitted in the site-specific criteria study and available ADEQ data. A background flow value of four (4) cubic feet per second (cfs) was not used to calculate the revised proposed water quality standards.

Commenter: Arkansas Department of Environmental Quality

Comment: ***Criteria Development***

The Department opposes the calculated site specific criteria as presented in the Petition to Initiate Rulemaking – Second Amendment for the following reasons:

1. Use of 4 cfs as the critical background flow for Town Branch and Holman Creek is inappropriate because it does not represent actual flow conditions. 7Q10 is appropriate and protective of designated and existing uses within the waterbodies.
2. The use of the effluent flow and effluent mineral concentration (Qe and Ce) in calculations for Holman Creek and War Eagle is inappropriate. Flow and minerals concentrations should reflect the entirety of the contributing waterbodies, not just the downstream effluent.
3. The Department opposes use of ecoregion values as background concentrations for minerals used for all stream segments. Data collected during the study (Tables 5.1 and 5.2 in the UAA) show that mineral concentrations above the outfall/confluence generally average higher than the ecoregion value. See Table 1 below. Actual instream values, not ecoregion values, should be used and are protective of designated and existing uses within these stream segments.

Table 1. Ecoregion values and average instream concentrations (mg/L) from UAA study.

	Chloride	TDS	Sulfate
Ecoregion Value	6	143	6
TB-1	17.6	195	15.3
TB-2	120.2	468.3	51
HC-1	7.7	156.7	12.4
HC-2	81.5	365.4	33.8
WEC-1	3.9	103.8	7.3
WEC-2	15.4	145.6	10.4
Outfall 001	208	604	51.7

The Department does not recommend approval of the recommended Site Specific Criteria and requests that revised proposed site-specific mineral criteria be calculated using the background flow and concentrations mentioned above.

An alternate approach to generating Site Specific Criteria instead of using mass balance equations is a percentile of actual conditions for minerals.

Order within APCEC Reg. 2 for proposed amendments to War Eagle

The two entries for War Eagle Creek should be in the following order:

War Eagle Creek (downstream from the confluence with Clifty Creek to Beaver Lake)

War Eagle Creek (from the confluence with Holman Creek to Clifty Creek)

This also represents the proper wording in order to be consistent with the Petition to Initiate. See below.

Footnotes to APCEC Reg. No. 2

The footnote:

> *"# - At such time as Act 954 of 2013 is implemented using average flow and as average flow can be calculated for War Eagle Creek the site specific criteria shall revert to the Ecoregion Values."*

is unnecessary as Act 954 of 2013 was repealed on October 21, 2013 (Act 4 of the 2013 Extraordinary Session) and should be removed.

The footnote:

> *"+ - Based on critical background flow of 7.2 cfs and 10.9 cfs (7Q10) at Holman and Clifty Creek confluences, respectively)."*

is unnecessary and should be removed.

Discrepancies between Petition to Initiate – Second Amendment and amended APCEC Reg. 2-Second Amended

There are several discrepancies between the proposed amendments to Reg. 2 (Item 12. of Petition to Initiate Rulemaking - Second Amendment) and the proposed Reg. 2 markup.

1. The proposed Reg. 2 markup should be amended to the following to be consistent with the Petition to Initiate Rulemaking – Second Amendment:

War Eagle Creek (downstream from the confluence with Clifty Creek to Beaver Lake)

War Eagle Creek (from the confluence with Holman Creek to Clifty Creek)

Holman Creek (from the confluence with Town Branch downstream to the confluence with War Eagle Creek)

Town Branch (from Point of Discharge of the City of Huntsville WWTP downstream to the confluence with Holman Creek)

2. The proposed Regulation has a footnote (which ADEQ recommends be removed, see above) that is inconsistent with the text in Item 12. in the Petition to Initiate – Second Amendment:

Item 12 reads:

> *"A critical background flow of 4.0 cfs should be applied by Listing Town Branch, Holman Creek, and War Eagle Creek (with asterisks) in Reg. 2.511. Critical background flows of 7.2 and 10.9 the (7Q10 for War Creek [sic] at the Holman*

Creek and Clifty Creek confluence, respectively) should be applied to War Eagle Creek."

Amended Reg. 2 reads:

"+ - Based on critical background flow of 7.2 cfs and 10.9 cfs (7Q10) at Holman and Clifty Creek confluences, respectively)."

and is applied to both entries for War Eagle Creek.

Firstly, Item 12 is inconsistent with itself as it states to apply 4.0 cfs to War Eagle Creek, then restates to apply 7.2 cfs and 10.9 cfs for specific reaches.

Secondly, Item 12 is inconsistent with the proposed footnote in Reg. 2.511 as the footnote does not specify use of 4 cfs.

Again, the Department recommends omission of the footnote in its entirety for the reasons stated.

Response: No response necessary.

WRITTEN COMMENTS RECEIVED DURING THE SECOND PUBLIC COMMENT PERIOD

Commenter: Arkansas Department of Health

Comment: This letter serves to reiterate ADH's objection to the removal of the domestic supply designated use for both Town Branch and Holman Creek as proposed in the referenced rulemaking. As you know, Town Branch and Holman Creek are tributaries of War Eagle Creek in the watershed of Beaver Lake, a source of drinking water to over 400, 000 Arkansans. The Arkansas Department of Health has consistently maintained that the domestic water supply use designation is appropriate and necessary for all streams within the Beaver Lake watershed. Pollution that enters the lake from Town Branch and Holman Creek will have a direct effect upon water quality in this drinking water supply lake. While the water supply intake structures on Beaver Lake themselves are not located on either Town Branch or Holman Creek, they are nevertheless vulnerable to mineral pollution that might occur on those reaches.

Originally, the Secondary Drinking Water Standards for chlorides, sulfates, and total dissolved solids were included in the federal Safe Drinking Water Act based solely upon issues relating to palatability. However, recent events in Flint, Michigan have clearly demonstrated that dissolved chlorides can have deleterious effects upon plumbing corrosion rates even when concentrations are below the secondary standards. This complicates drinking water system efforts to minimize consumer exposure to lead and copper and can also increase drinking water treatment costs.

Additionally, with regards to the protection of downstream designated uses, the federal regulations state, "In designating uses of a waterbody 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" [40 C.F.R. §131.10(b)].

For these reasons, ADH requests that Exhibit E, Economic Impact/Environmental Benefit Analysis: 2B. ENVIRONMENTAL BENEFIT, be revised to reflect War Eagle Creek is a major tributary to Beaver Lake, a drinking water supply lake that serves a growing community of over 400, 000 Arkansans, and that costs associated with any future degradation of the watershed could result in increased treatment costs for the four community public water systems located there. Additionally, ADH requests that all Exhibits and documents mentioning ADH within the current proposed rulemaking reflect our opposition to the proposed rulemaking and the removal of the domestic supply designation for Town Branch and Holman Creek.

If public water supply sources—including Beaver Lake—are to remain high quality drinking water sources, it will require all relevant governmental bodies to include an awareness of and concern for drinking water protection as part of their decision-making processes. The Arkansas Department of Health will continue to be a voice for drinking water source protection and to encourage all stakeholders to adopt regulations protective of drinking water sources in their policy decisions.

Response: The Department acknowledges AHD's position on retaining the domestic water supply use in Town Branch, Holman Creek, and War Eagle Creek, and the Department agrees that the domestic water supply use should not be removed from War Eagle Creek.

The Department acknowledges ADH's citation of 40 C.F.R. §131.10(b). The Department has considered the attainment and maintenance of the water quality standards for these downstream waters (War Eagle and Beaver Lake). The Department has concluded that the domestic water supply designated use is being maintained in War Eagle Creek and Beaver Lake. To support this conclusion, the Department utilized a 2013 USGS report, "Ambient Conditions and Fate and Transport Simulations of Dissolved Solids, Chloride, and Sulfate in Beaver Lake, Arkansas, 2006-10."

This 2013 USGS report modeled increases in the estimated daily total dissolved solids, chloride, and sulfate loads. The 2013 USGS report demonstrated that a tenfold increase in total dissolved solids from War Eagle Creek would increase estimated daily total dissolved solids concentrations in Beaver Lake below Hickory Creek from a baseline of 86.1 mg/L to 264 mg/L at 2 meters below the surface. That tenfold increase TDS value would be below the Secondary Drinking Water Standard and APCEC Reg. 2.511(B) domestic water quality criteria of 500 mg/L TDS.

The baseline inflow conditions for War Eagle Creek used in the 2013 USGS report model were based on median values from 2006–2010 recorded near Hindsville. For this period, the median value for total dissolved solids in War Eagle Creek near Hindsville was 109 mg/L. The maximum total dissolved solids value in War Eagle Creek near Hindsville during this period was 275 mg/L. A tenfold increase of median values for War Eagle Creek from 2006–2010 near Hindsville would equate to a total dissolved solids value of greater than 1000 mg/L. Even with a tenfold increase, the Secondary Drinking Water Standard and APCEC Reg. 2.511(B) domestic water quality criteria of 500 mg/L TDS would be maintained in Beaver Lake. During this 2006–2010 period, Holman Creek was impaired for exceeding total dissolved solids and the values for total dissolved solids were influenced by effluent discharges from Huntsville. Thus, based on

baseline condition values, which account for historic Huntsville discharge, domestic water supply designated use in Beaver Lake is maintained. Based on DMR data, the effluent conditions for Huntsville have not increased to date.

Commenter: Ellis Collins

Comment: Writing to express my written disagreement on the proposed rule change found in APEC Docket No. 13-006-R. My comments are based on three concerns:

1. The drinking water designated use of these stream portions cannot be removed as the receiving streams meet the water quality criteria for drinking water and their ecoregion found in APCEC Reg. 2.511.
2. The receiving streams flow into Beaver Lake used for domestic water supply. The drinking water designated use is existing and should not be removed.
3. Designated uses can only be removed when one of six specific conditions are present per 40 C.F.R. 131.10(g)(1)-(6) and the documents submitted by the city of Huntsville do not demonstrate that one of those conditions is met.

Town Branch, Holman Creek and War Eagle Creek tributaries flow into Beaver Lake, the second largest drinking water utility in Arkansas. I understand the importance and economics of Butterball's production growth to Huntsville but opposed to the negative downstream impact on Arkansas streams, rivers and lakes due to the discharge water of poultry and/or hogs farms. If you will not consider for me, please consider on behalf of your grandchildren and their

Response: Huntsville asserts that the domestic water supply use designations for certain segments of Town Branch and Holman Creek are not existing uses, and therefore can be removed. Huntsville does not propose to remove the domestic water supply use designation from War Eagle Creek.

APCEC Reg. 2.106 defines Existing Uses as "Those uses listed in Section 303(c)(2) of the [Clean Water] Act (i.e., public water supplies, propagation of fish and wildlife, recreational uses, agricultural and industrial water supplies and navigation) which were actually attained in the waterbody on or after November 28, 1975, whether or not they are included in water quality standards." No public water supply intake exists on those segments of Town Branch and Holman Creek.

Town Branch is a tributary of Holman Creek, which is a tributary of War Eagle, which is a tributary to Beaver Lake. 40 CFR § 131.10(b) states, "...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 of downstream waters." The Department has considered the attainment and maintenance of the water quality standards for these downstream waters (War Eagle and Beaver Lake). The Department has concluded that the domestic water supply designated use is being maintained in War Eagle Creek and Beaver Lake. See Response to the Comments from the Arkansas Department of Health.

Huntsville does not propose to remove a designated use that requires a use attainability analysis (UAA) as described in 40 C.FR. 131.10(g). Pursuant to 40 C.F.R. 131.10(k)(3), a UAA is not required to remove or revise a designated use that is a non-101(a)(2) use. Domestic water supply is not a use specified in 101(a)(2). Through this third-party rulemaking process, Huntsville must submit documentation that appropriately supports removal of Domestic Water Supply use in

Town Branch or Holman Creek.

Commenter: Beaver Water District

Comment: The following comments are submitted on behalf of Beaver Water District (BWD), the largest of the four public drinking water utilities whose source of raw water is Beaver Lake and the second largest drinking water utility in Arkansas. BWD produces the drinking water for over 330,000 people, businesses, and industries in Northwest Arkansas. The City of Huntsville's third-party rulemaking proposes changes to the Arkansas water quality standards and criteria for minerals in Arkansas Pollution Control and Ecology Commission (APCEC) Regulation No.2 (hereinafter, "Reg. 2"). The City of Huntsville (hereinafter, "Huntsville") seeks to remove the designated drinking water supply use from certain segments of Town Branch and Holman Creek, to increase the water quality criteria (WQC) for the minerals chloride, sulfate, and total dissolved solids (IDS) at Reg. 2.511 that apply to certain segments of Town Branch and Holman Creek, and to increase the WQC for chloride and TDS at Reg. 2.511 that apply to War Eagle Creek from its confluence with Holman Creek downstream to Clifty Creek.

War Eagle Creek is a major tributary of Beaver Lake. Its watershed constitutes approximately one third of the Beaver Lake watershed upstream of BWD. Any pollution in the War Eagle Creek watershed has the potential to adversely impact the Lake's water quality and can have a direct bearing on what it costs us to provide our customers with drinking water that meets or exceeds all federal and state regulatory requirements. The current and future economic condition of Northwest Arkansas is dependent upon the protection of the water quality of Beaver Lake.

BWD acknowledges with appreciation that Huntsville has limited its proposed changes to the minerals WQC for War Eagle Creek as compared to what it proposed when it initiated its third-party rulemaking in 2013. It has reduced the length of the segment of War Eagle Creek to which the proposed changes would apply and it has eliminated its proposal to increase the sulfate WQC for that segment of War Eagle Creek. It still, however, proposes increases (although not nearly as large) to the WQC for chloride and TDS for War Eagle Creek. Incongruently, the proposed changes to the upstream WQC for chloride, sulfate, and TDS for Town Branch and Holman Creek are substantially higher than what Huntsville proposed in 2013.

Although somewhat difficult to parse out of the numerous documents that have been filed in this rulemaking docket,' the explanation for the changes from the WQC proposed in 2013 and those that are currently proposed is approximately three, double-spaced pages long and found at Section7.1 of the June 2017 Section 2.306 Site Specific Water Quality Study: Town Branch, Holman Creek, and War Eagle Creek (hereinafter, the "Revised Study") prepared for Huntsville by GBMc & Associates. There is no discussion of why the WQC currently proposed by Huntsville have changed so dramatically from what was proposed in 2013. Section 7.1 provides mostly "summary statistics" and notes that the data used for the "percentile calculations" are provided in Appendix I. The data in Appendix I, however, is very limited. It appears, for example, that only twelve measured data points were used in the percentile calculations for chloride and TDS for Town Branch and War Eagle Creek and that only four measured data points were used in the percentile calculations for sulfate for those two streams. The data for those two streams also was limited to the time period of July 2011 through June of2012.

BWD objects to the use of such limited data sets for making changes to the WQC in Reg. 2 and

also objects to the use of data that does not include current water quality analyses. The data used was primarily from samples collected by GBMc. Was all of the available water quality monitoring data collected by the Arkansas Department of Environmental Quality utilized? Why wasn't data collected by other entities, such as the United States Geological Survey, used? As reflected in the November 30, 2017, public comment letter filed in this proposed rulemaking by the Arkansas Department of Health, which BWD supports, changes to the WQC for minerals that apply to watersheds with a designated domestic water supply use[2] should not be undertaken lightly. At a minimum, the water quality data used should be reasonably current and the sample size should be large enough, when viewed conservatively, to justify the changes. We do not believe that is the case in this proposed rulemaking.

BWD understands the need to allow Huntsville's existing wastewater discharge in a manner consistent with the regulations and based on sound science. We question, however, whether that standard has been met in this proposed rulemaking. Thank you for your consideration of these comments.

Response: Huntsville has revised its proposed site-specific criteria based on revisions to the water quality standards and development of site-specific mineral criteria (Regulation 2). The site-specific criteria proposed in 2013 were developed using calculation methods that assumed a background flow value of four (4) cubic feet per second (cfs). The Department advised Huntsville of its opposition to the calculation methods used to derive the proposed site-specific criteria.

In ADEQ's July 22, 2014 letter, ADEQ stated that it could support site-specific criteria values for chloride, sulfate, and total dissolved solids that are no higher than the 95th percentile of data submitted from the 2011 Section 2.306 Site Specific study and available ADEQ data. The Department considers these values to be generally protective of the aquatic life use. (Attachment B).

In Huntsville's third petition to initiate rulemaking, Huntsville revised the proposed site-specific criteria using the observed instream data from the 2011 Section 2.306 Site Specific study and available ADEQ data. Huntsville's proposed site-specific criteria values for chloride, sulfate, and total dissolved solids are no higher than the 95th percentile of that data.

Regarding protection of downstream domestic water supply designated uses, please refer to the Responses to Comments from Ellis Collins and Arkansas Department of Health.

Commenter: White River Waterkeeper

Comment: The comments provided in this letter should be taken to reflect the opposition to the proposed removal of the domestic water supply designated uses for Holman Creek and Town Branch, and to the proposed criteria changes to Holman Creek, Town Branch, and War Eagle Creek.

Insufficient data and explanations have been provided to determine the necessity of removing the domestic water supply designated uses.

EPA requested that the City of Huntsville demonstrate that the domestic water supply uses for Holman Creek and Town Branch are "not attainable." While letters from Arkansas Department

of Health and Arkansas Natural Resources Commission addressed the lack of current or planned domestic water supply use, it has yet to be demonstrated that these uses are not attainable for these stream reaches.

The cost of alternatives, based on literature over twenty years old, is not representative of current technology costs. Also, please explain the relevance of using implicit price deflator data for the adjustment of technological treatment costs. Inflation may be a significant way of determining relevant cost differences across time periods for commodities that are relatively static in their production costs. It is not understood how technological advances that provide greater treatment costs at more affordable rates could in any way be accurately represented by this approach. There were no quotes obtained to comprehensively evaluate potential alternatives or references to costs of similar infrastructure upgrades from the last decade. This effort is not sufficient.

In response to comments it was stated that land application was not a viable option because "land application requires characteristics, remote location, etc.) land. Significant areas of suitable (slope, soil characteristics, remote location, etc.) land. Because Huntsville is situated in the Ozark Highlands, adequate nearby land having characteristics compatible with ADEQ restrictions for land application of treated effluent is not available." However, ADEQ has issued many land application permits within the Ozark Highlands. This alternative was not even remotely explored or considered.

Information provided by the Site-Specific Water Quality study are not sufficient to determine that existing uses will be maintained with the proposed criteria.

ADEQ has not developed unique mineral criteria specific to the protection of Agricultural Supply uses. The criteria used to assess those uses are the same as criteria for the assessment of Domestic Water Supply uses (250, 250, 500 for Cl, SO4, and TDS, respectively). Has there been any examination of whether these proposed criteria changes could impact livestock operations relying on water from these stream reaches? Are there any grazing cattle operations that could be negatively impacted by the proposed changes?

The aquatic life collections were not conducted in a fashion that allows for the evaluation of spatial or temporal differences to be examined (i.e., no replicate samples were collected). Without such, it is impossible to tell whether there are significant differences noted at upstream and downstream sampling locations on each stream.

While the selection of the reference reaches is suitable for determining the impacts from a particular point source in relation to other contributing factors, it does not mean that the reference reach was a suitable representation of least-disturbed streams in the Ozark Highland ecoregion.

There was no discussion of how reach length was determined.

It was stated that "the fish sampling was terminated when, in the opinion of the principal investigator, a representative collection had been obtained." This infers that the entirety of the stream reach used for habitat characterization was not sampled. Since there is no information provided in the report that indicates the habitat conditions of the area sampled; then it is impossible to determine how much habitat differences factored into metrics based on the fish community.

What fish species were categorized as tolerant, intolerant, and intermediate? No comments on

the appropriateness of such categorization can be provided without that pertinent information being included in the report.

Isn't WEC-1 the reference reach? Since the multimetric assessment is to be utilized to determine the impairment status of an impacted reach, then how was the % comparison to reference was only 94% and not 100%...seeing as how WEC-1 was the reference reach?

Are the biotic index values referenced in Appendix E the tolerance values for macroinvertebrate taxa utilized in the calculation of Hilsenhoff Biotic Index?

Proposed criteria are based on the 95th percentile of water quality data. However, the assessment of these streams allow for a 10-25% exceedance rate, depending on whether the Department is choosing to adhere to EPA approved water quality standards. Setting the criteria based on this percentile, along with allowing up to 25% exceedance of this standard, should in fact ensure that the City of Huntsville will not cause a future impairment listing to minerals to these stream reaches. This in no way translates to the protection of aquatic life, however.

Thank you for the opportunity to comment on this proposed rulemaking. I hope that ADEQ will prioritize the necessity to create standardized requirements for the review of aquatic life studies for Use Attainability Analyses. It appears that this has been a long process to propose these changes, and likely a costly endeavor for the City of Huntsville. However, this study design did not sufficiently evaluate the protection of aquatic life and inadequate consideration has been given to alternatives to removing domestic water supply uses.

Response: The Department acknowledges the commenter's specific questions on the site-specific study, protection of Agricultural designated uses, and documentation of the highest attainable condition and directs the commenter to Huntsville's Responsive Summary filed with the Commission on August 15, 2017. Please see Response to Comments to the Arkansas Department of Health.

Commenter: Vallie Graff

Comment: I OPPOSE the removal of the domestic water supply designated use from Holman Creek and Town Branch. Although domestic water supply use is not an existing use on these stream reaches, designated uses are meant to represent the goal of a particular waterbody. I feel strongly that the domestic water supply uses should remain a GOAL for these stream reaches.

I hope that your concern for the Well-Being of our Citizens will remain a priority over easy solutions for business.

Response: The Department acknowledges the commenter's concerns. Please refer to the Response to Comments to the Arkansas Department of Health and Ellis Collins regarding protection of domestic water supply designated use.

Commenter: Chuck Bitting

Comment: I OPPOSE the removal of the domestic water supply designated use from Holman Creek and Town Branch. Although domestic water supply use is not an existing use on these stream reaches, designated uses are meant to represent the goal of a particular waterbody. I feel

strongly that the domestic water supply uses should remain a GOAL for these stream reaches.

The change proposed will allow a reduction in water quality in Holman Branch and allow Butterball to expand their operations in NE Arkansas. This will impact additional streams with increased pollution. These impacts must be analyzed and modeled prior to any decision. It does not matter that these will mostly be non-point source impacts. They will become point source where they drain into the streams. Table Rock Lake is downstream and already has enough problems with water quality. This is a cross state issue.

Response: The Department acknowledges the commenter's concerns. Please refer to the Response to Comments to the Arkansas Department of Health and Ellis Collins regarding protection of domestic water supply designated use.

Commenter: Gordon Watkins

Comment: I OPPOSE the removal of the domestic water supply designated use from Holman Creek and Town Branch. Although domestic water supply use is not an existing use on these stream reaches, designated uses are meant to represent the goal of a particular waterbody. I feel strongly that the domestic water supply uses should remain a GOAL for these stream reaches.

ADEQ should not allow degradation of Waters of the State which by definition belong to all Arkansawyers, just to benefit a private corporation such as Butterball. Butterball should upgrade their pretreatment facilities as a cost of doing business and not pass this cost along to public citizens by way of lowered water quality.

Response: The Department acknowledges the commenter's concerns. Please refer to the Response to Comments to the Arkansas Department of Health and Ellis Collins regarding protection of domestic water supply designated use.

Commenter: Laura Timby

Comment: I OPPOSE the removal of the domestic water supply designated use from Holman Creek and Town Branch. Although domestic water supply use is not an existing use on these stream reaches, designated uses are meant to represent the goal of a particular waterbody. I feel strongly that the domestic water supply uses should remain a GOAL for these stream reaches.

Clean water is of the utmost importance for our communities and must be safeguarded. Industry must look to expand without jeopardizing our clean water sources.

Response: The Department acknowledges the commenter's concerns. Please refer to the Response to Comments to the Arkansas Department of Health and Ellis Collins regarding protection of domestic water supply designated use.

Commenter: Shawn Porter

Comment: I OPPOSE the removal of the domestic water supply designated use from Holman Creek and Town Branch. Although domestic water supply use is not an existing use on these stream reaches, designated uses are meant to represent the goal of a particular waterbody. I feel

strongly that the domestic water supply uses should remain a GOAL for these stream reaches.

ADEQ should be protecting (and improving) water quality..not enabling agriculture and industry to pollute and degrade our streams, lakes, and aquifers. Please do your jobs and live up to the name of your agency. Protect the quality of our environment.

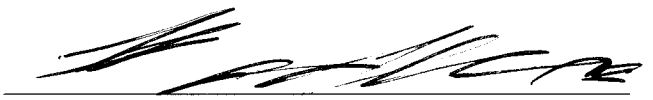
Response: The Department acknowledges the commenter's concerns. Please refer to the Response to Comments to the Arkansas Department of Health and Ellis Collins regarding protection of domestic water supply designated use.

Commenter: Brian Thompson, John Murdoch, Alethea Petty

Comment: I OPPOSE the removal of the domestic water supply designated use from Holman Creek and Town Branch. Although domestic water supply use is not an existing use on these stream reaches, designated uses are meant to represent the goal of a particular waterbody. I feel strongly that the domestic water supply uses should remain a GOAL for these stream reaches.

Response: The Department acknowledges the commenter's concerns. Please refer to the Response to Comments to the Arkansas Department of Health and Ellis Collins regarding protection of domestic water supply designated use.

Submitted by:



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