

EXHIBIT L

DEPARTMENT OF ENVIRONMENTAL QUALITY

SUBJECT: Regulation 2, Water Quality Standards; Third Party Rulemaking by UMETCO

DESCRIPTION: The UMETCO mine site is a former open-cut vanadium mine located north of Highway 270 and five miles east of Hot Springs, Garland County, Arkansas. The mine site is currently in reclamation which includes a water treatment facility designated as the East Wilson Pond. As part of the reclamation process, Wilson Creek has been diverted into the East Wilson Pond for treatment and release. ADEQ has previously issued an NPDES permit to UMETCO for discharges from East Wilson Pond into Wilson Creek at a discharge point designated as Outfall 001. Analytical data indicates the discharge from East Wilson Pond will not meet the existing permit limitations for chloride, sulfate, and total dissolved solids. Therefore, UMETCO seeks to amend the site specific mineral quality criteria for chloride, sulfate, and total dissolved solids (TDS).

Based on comments received from ADEQ, UMETCO submits the following revisions for the rulemaking:

(A) UMETCO withdraws its request to remove the Domestic Water Supply use designation for Wilson Creek.

(B) UMETCO proposes to amend the mineral criteria for Wilson Creek as follows:

(1) Wilson Creek from a point approximately 0.85 mile upstream of Outfall 001 to Outfall 001.

TDS from 142 mg/L to 500 mg/L *(previously requested 543 mg/L)*
Sulfate from 20 mg/L to 250 mg/L *(previously requested 260 mg/L)*
Chloride from 15 mg/L to 56 mg/L *(No change-within the National
Secondary Drinking Water Standards)*

(2) Wilson Creek downstream of Outfall 001 to its mouth

TDS from 142 mg/L to 500 mg/L *(previously requested 543 mg/L)*
Sulfate from 20 mg/L to 250 mg/L *(previously requested 260 mg/L)*
Chloride from 15 mg/L to 56 mg/L *(No change-within the National
Secondary Drinking Water Standards)*

These revisions to the proposed changes for site specific mineral quality criteria for chloride, sulfate, total dissolved solids are at or below the National Secondary Drinking

Water Standards and will be protective of the Domestic Water Supply use. This proposed rule change does not represent a change for current conditions or current water quality in Lake Catherine, which meets state water quality standards. The rulemaking will not increase the loading of Wilson Creek but will establish water quality criteria for Wilson Creek at a level consistent with the current conditions. The proposed rule change will not impact any agricultural or business usage of the affected water courses. There is no economically feasible treatment technology for the removal of minerals.

This revision to the proposed change in mineral criteria for Wilson Creek will not result in any changes in the original assessment of a financial impact due to this rulemaking.

PUBLIC COMMENT: A public hearing was held on August 16, 2010 in Hot Springs, AR. The public comment period expired on August 30, 2010. Public comments were as follows:

SECTION I: COMMENTS WITHIN THE SCOPE OF THE PROPOSAL

Comment 1: Comments were received asking that the Domestic Water Supply Designated Use be maintained for Wilson Creek.

Response 1: ADEQ agrees that the Domestic Water Supply Designated Use should be maintained for Wilson Creek. ADEQ will request that the third party amend their proposed rulemaking to retain the Domestic Water Supply Designated Use. In the alternative, the Department will request that the Commission deny the removal of that designated use for Wilson Creek.

Comment 2: Numerous general comments were submitted in opposition to the proposed standards revisions or requesting that ADEQ to deny the petition.

Response 2: ADEQ has reviewed these comments and acknowledges each commenters opposition.

COMMENTS REGARDING THE HUMAN HEALTH IMPACTS OF THE PROPOSAL

Comment 3: Several comments were submitted inquiring about potential risks to human health in regards to recreation in and consumption of water (and fish) from downstream of Wilson Creek if the limits of chlorides, sulfates, and TDS were raised.

Response 3: As stated above, ADEQ agrees that the Domestic Water Supply Designated Use should be maintained for Wilson Creek. If the designated use is maintained, water quality criteria for minerals in Wilson Creek could be increased to national secondary domestic water supply levels and remain protective of aquatic life and water quality in the stream. ADEQ will propose to third party that the proposed sulfate criteria be 250 mg/L and the proposed Total dissolved solids (TDS) criteria be 500 mg/L, in order to maintain the Domestic Water Supply Designated Use. The current proposed chloride criteria of 56

mg/L is below the secondary domestic water supply level and would be protective of water quality. In regard to fish consumption, minerals do not typically bio-accumulate in fish tissue and therefore do not pose a threat to human health.

Comment 4: A commenter stated that their family well was situated about one mile from the reclamation area and the retaining pond of the former Umetco mine and that they were not happy with the deterioration of the quality of their well water. The commenter wondered if they “could be confident that the deterioration in the quality is unrelated to the Umetco treatment and discharge?...The point is that the regulatory change requested is also directly related to the management of the retaining pond and stormwater management. Approving a higher level of permitted discharge via the regulation for Wilson Creek is not merited in and of itself; and approval will reduce the urgency of a more comprehensive solution.”

Response 4: Without more information regarding the well, ADEQ cannot speculate on the deterioration of the well water. Questions concerning drinking water should be directed to the Arkansas Department of Health.

<http://www.healthy.arkansas.gov/programsServices/environmentalHealth/Engineering/drinkingWater/Pages/default.aspx>

COMMENTS REGARDING THE AQUATIC LIFE IMPACTS OF THE PROPOSAL

Comment 5: Several comments were received concerning the impact on aquatic life and the quality of the water if Umetco’s limits were raised.

Response 5: As stated above, ADEQ agrees that the Domestic Water Supply Designated Use should be maintained for Wilson Creek. Maintaining that designated use and the water quality standards necessary to maintain that use is protective of aquatic life and the water quality necessary to protect aquatic life.

The Environmental Protection Agency (“EPA”) has stated the Criterion Maximum Concentration (CMC) for chloride is 860 (mg/L) and the Criterion Continuous Concentration (CCC) for chloride is 230 (mg/L). (See 53 Fed. Reg. 19028). The Illinois Pollution Control Board and The Iowa Department of Natural Resources have approved the following sulfate criteria protective of aquatic life:

If the hardness concentration of waters is less than 100 mg/L, or chloride concentration of waters is less than 5 mg/L, the sulfate standard is 500 mg/L.

<http://www.epa.gov/r5water/wqs5/IL-Sulfate%20Rationale%20of%20Decision.pdf>

http://www.iowadnr.gov/water/standards/files/ws_fact.pdf

Since TDS is composed of several ions, one number cannot be assigned to all waterbodies in all States. However, according to an internal EPA Region 6 memo, TDS concentrations greater than 2000 mg/L are needed in order to conclude that TDS is the source of toxicity.

All of these minerals values approved for the protection of aquatic life are higher than the proposed site specific minerals criteria for Wilson Creek proposed by Umetco.

Comment 6: A comment was made stating that “the 2009 Addendum repeats that the concentrations of TDS, sulfates and chlorides are not responsible for the limited aquatic life in Wilson Creek. But the discussion of the amount of TDS and sulfates it would take to be toxic is incomprehensible to the average person. Can’t this be explained so the public can understand how the conclusion was reached that TDS and sulfates are not the source of the toxicity observed in Wilson Creek?”

Response 6: Please see Response 5, above. The limited aquatic life observed in Wilson Creek may be a result of limited habitat and flow or other factors not studied as a part of the 2004 UAA and 2009 Addendum because those factors and parameters are not the subject of this proposed rulemaking.

Comment 7: A comment was made asking, “What does the fish sampling in Wilson Creek show? Does it show that water quality in Wilson Creek is impacted? If so, why doesn’t Wilson Creek impact water quality in Wilson Cove?”

Response 7: Due to the small watershed size of Wilson Creek it is difficult to determine what, if any, impacts the effluent and seeps may be having on the fish assemblage. Wilson Creek, prior to reaching Wilson Cove, WIL-6 supports the fisheries designated use; which is evident through both surveys. In their response to comments, Umetco should also address the specific conclusions that they reached based on the fish sampling results in Wilson Creek.

Comment 8: One commenter asked if “the ‘Biological Integrity’ (aquatic biota) of Lake Catherine and Ouachita remain un-impacted? Has the petitioner met the requirements of Reg. 2.405 for all waters with specific fisheries use designation? Reg. 2.405 appears to me to go beyond a study of the fish population, and if that is the case, the study has not been presented to the Commission. Umetco is looking for a Rule change that is related to its permit. But, nonetheless, this is a Rule change and the study should be conducted.”

Response 8: No specific fisheries use designations will be removed from Wilson Creek, therefore, the site-specific water quality criteria must maintain and protect those uses. Also, see Response 5 above. All of the minerals values approved for the protection of aquatic life are higher than the site specific minerals criteria for Wilson Creek proposed by Umetco.

COMMENTS REGARDING WATER QUALITY

Comment 9: Several commenters were concerned about the magnitude of the proposed criteria changes, e.g., TDS from 142mg/L to 543 mg/L would be an increase of 382%, Sulfates from 20mg/L to 260mg/L would be an increase of 1,300% (12 times increase), and Chlorides from 15mg/L to 56mg/L would be an increase of 375% (4 times increase).

Response 9: As stated above, ADEQ will request that the Domestic Water Supply Designated Use be maintained and any proposed criteria changes be set at levels to maintain that use. In that case, any increases will remain at levels necessary to protect human health and the environment.

Comment 10: A commenter asked, “When the sulfates, chlorides and total dissolved solids (TDS) are increased, what are the other elements that will increase in the water flow?”

Response 10: This proposed rule would change the water quality standards for Wilson Creek but it would not alter or increase the characteristics of the effluent discharged into Wilson Creek.

Comment 11: A comment was received stating, “[T]he proposed standards exceed the concentration limits for Lake Catherine beginning at Carpenter Dam for Cl, SO₄, and TDS of 50, 40, & 150. Lake Catherine’s standards are higher than the Ouachita Mountain ecoregion reference stream values. If the Commission changes the mineral concentrations for Wilson Creek, the changes should not be greater than the standards for Lake Catherine.”

Response 11: In the 2004 Use Attainability Analysis (“UAA”) and 2009 Addendum, Umetco states that the proposed rule would not “cause a measurable increase in minerals loading or affect uses or water quality standards of Lake Catherine, which is the downstream receiving stream.”

Comment 12: Several commenters asked, “What is in the TDS?”

Response 12: As per Regulation 2.106, TDS is defined as, “The total soluble organic and inorganic material contained in water; includes those materials, both liquid and solid, in solution and otherwise, which pass through a standard glass fiber filter disk and are not volatilized during drying at 180°C.”

Comment 13: The James Kimzey Regional Water Distribution District stated: [The District] provides water to a substantial number of households and businesses in the Ouachita River watershed, and is significantly impacted by any discharge of pollutants in the watershed above its Ouachita River intake structure and water treatment facilities.... Lake Catherine, into which Wilson Creek flows, is merely an impoundment of the Ouachita River, and Kimzey's water intake structure and water treatment facilities are the first such facilities on the Ouachita River below the Lake Catherine impoundment. Any discharge into Lake Catherine ultimately effects the quality of water utilized by Kimzey to supply water services to its customers. Kimzey provides treated water to retail customers in Hot Spring, Garland, Clark, and Montgomery Counties... Kimzey provides

water to Hot Spring Power Company, LLC, and Entergy's Lake Catherine Steam Electric Plant.

Because both Hot Springs Power Company and Lake Catherine Steam Electric must treat water supplied to ultra-pure standards before it can be used in the boilers and turbines to generate electricity, increasing the total dissolved solids, chlorides, and sulfates that are scale formers will require both Hot Springs Power Company and Lake Catherine Steam Electric to incur increased cost to remove these substances before the water can be utilized as boiler feed water. Kimzey opposes any rules change that decreases the water quality of Lake Catherine, which ultimately affects the raw water quality in the Ouachita River.

Response 13: This proposed rule would change the water quality standards for Wilson Creek but it would not alter or increase the characteristics of Umetco's effluent discharged into Wilson Creek, then Lake Catherine, and ultimately the Ouachita River. Furthermore, there are a total of eight NPDES permits currently authorizing discharges into Lake Catherine (either directly or via a tributary), and Lake Catherine is currently meeting all of its designated uses.

Comment 14: A commenter quoted Umetco's 2009 UAA Addendum, "there was a precipitate on rocks and what appeared to be compacted or consolidated precipitate covering the substrate."

Response 14: The Department acknowledges the comment, however, without more information regarding the precipitate, the Department can not speculate on the source or nature of the precipitate.

COMMENTS REGARDING POTENTIAL TOXICITY

Comment 15: Several comments were received concerning an increase in discharging or dumping of "toxic chemicals," "toxic substances," "poisons," "waste materials," or "unsafe" discharges to surface waters and seepage of "poison" into the groundwater.

Response 15: If adopted, this proposed rule would change the water quality standards for Wilson Creek but it would not alter or increase the characteristics of the effluent discharged into Wilson Creek. Umetco will still be required to meet permit limits. Water quality standards and permit requirements are designed to prevent effluent from reaching "toxic" or "poisonous" levels and protect designated uses.

Comment 16: Comments were received concerning the toxicity assessment at Section 4.2 of the Addendum. One comment noted, "[T]he...Addendum states this seep location reveals dissolved aluminum, manganese, and zinc that might be at acutely toxic levels. Might be acutely toxic? Either it is or it is not. Which is it?"

Response 16: The petition before the Commission is to remove the Domestic Water Supply designated use and establish appropriate site-specific criteria for Cl, SO₄, & TDS for Wilson Creek. The determination of metals toxicity is outside the scope of this proposed rulemaking.

Comment 17: A comment was received stating:

Umetco has proposed a change to remove the drinking water use for Wilson Creek. Umetco provides toxicity results for drainage into Wilson Creek. Page 4-2 of the 2009 Addendum states, "Results show that the unadjusted (seep) sample was acutely toxic to both test organisms." Even after the sample was "manipulated" the toxicity was not changed (page 4-3), i.e. the test organisms still died. Is toxicity one of the six reasons listed for removing a designated use not an existing use under the CPP or Regulation 2?

Umetco plans to remove the treatment system according to the Comprehensive Plan referenced in Comment Number 11. Because of this removal, won't the toxicity from the seeps have a direct route to Wilson Cove?

If there is something in the drainage to the creek that is toxic to living organisms, I would agree that the drinking water designated use should be removed. Residences are located all around Wilson Cove, except the point where Wilson Creek discharges into Wilson Cove. It should be a concern to the Commission that Wilson Cove is an area of primary contact recreation and adults with their children swim on a routine basis. What are the people who swim in Wilson Cove being exposed to (both in the water and the sediments)?

Response 17: The petition before the Commission is to remove the Domestic Water Supply use and establish appropriate site-specific criteria for Cl, SO₄, & TDS for Wilson Creek. As per the discussion in section 5.2.1 page 5-2 the language quoted from page 4-2 of the 2009 Addendum addresses possible toxicity from metals, which is not the subject of this proposed rulemaking. However, in agreement with the majority of comments, ADEQ believes that the Domestic Water Supply Designated Use should be maintained for Wilson Creek. If the designated use is maintained, water quality criteria for minerals in Wilson Creek could be increased to national secondary domestic water supply levels, which are protective of human health and would maintain aquatic life and water quality in the stream. ADEQ will propose to the third party that the proposed sulfate criteria be 250 mg/L and the proposed Total dissolved solids (TDS) criteria be 500 mg/L, in order to maintain the Domestic Water Supply Designated Use. The current proposed chloride criteria of 56 mg/L is below the secondary domestic water supply level and would be protective of water quality.

Comment 18: A commenter stated “Umetco’s current excessive discharge of sulfates, chlorides and TDSs, and the overall toxicity of Wilson Creek has a negative impact on the environment today. Not only is Wilson Creek currently much more acidic and toxic than allowed under Regulation No. 2, but Umetco also wishes to allow more sulfates into the creek, which will likely further decrease the pH levels, resulting in a corresponding suppression of aquatic life. In addition, allowing Umetco to continue discharging at its current unpermitted rates will only maintain, rather than correct, the acute toxicity of Wilson Creek.”

Response 18: This proposed rule would change the water quality standards for Wilson Creek but it would not alter or increase the characteristics of the effluent discharged into Wilson Creek. Additionally, as stated above, the minerals values approved by the EPA for the protection of aquatic life are higher than the site specific minerals criteria proposed by Umetco for Wilson Creek.

COMMENTS REGARDING METALS AND/OR HEAVY METALS

Comment 19: A commenter asked, “If the discharge values were corrected to meet the Ouachita standards, would the amount of heavy metals transported be reduced?”

Response 19: This proposed rule would change the water quality standards for Wilson Creek for minerals but it would not alter or increase the characteristics of the effluent discharged into Wilson Creek. The Department currently has no data to support a direct correlation between a known amount of TDS, Cl, and SO₄ with a specific known load of heavy metals for Wilson Creek.

Comment 20: A comment was received that stated the proposed changes would probably have little impact on Wilson Creek and that the commenter did not oppose removing water supply as a designated use. However, the commenter was concerned that the information available suggests that nickel, zinc, and possibly other metals were associated with the discharge and that heavy metal concentrations should be addressed.

Response 20: ADEQ acknowledges the comment. The petition before the Commission is to remove the Domestic Water Supply designated use and establish appropriate site-specific criteria for Cl, SO₄, & TDS for Wilson Creek. The determination of metals toxicity is outside the scope of this proposed rulemaking.

COMMENTS REGARDING THE ECONOMIC IMPACT OF THE PROPOSAL

Comment 21: A comment was received regarding the submittal of information concerning economic and social impacts, as required by Regs.2.303 and 2.306: [T]he Commission may allow a modification of water quality criteria to accommodate **important economic or social development in a local area**. Umetco has not provided the Commission any information to show how this change in water quality standards will provide important

economic or social development in the area.” (emphasis in original comment)

The justification required to show substantial and widespread economic and social impact to support changes under Regulation 2.303 and 2.306 is listed in the Continuing Planning Process, page IX-17, items 1-9. Umetco has not submitted this information. In failing to provide this information, Umetco did not provide adequate information in their petition to justify removing the drinking water designated use and site-specific mineral changes under Regulation 2.303 and 2.306.

In addition, another commenter noted that, “Umetco submitted an addendum to the 2004 Water Quality Evaluation but it fails to address the requirements of the Continuing Planning Process, pages IX-11-- IX-17 and Regulation 2.303 and 2.306 requirements.”

Response 21: As stated previously, ADEQ does not support the removal of the Domestic Water Supply designated use and will ask Umetco to remove that change from the proposed rulemaking. In the alternative, the Department will ask the Commission not to approve the removal of the Domestic Water Supply designated use. Regarding the 2004 UAA and 2009 Addendum, the Department determined that Umetco met the technical requirements to proceed with initiation of a third-party rulemaking to establish site-specific mineral standards for Wilson Creek.

Comment 22: Several comments were submitted expressing concerns that if Wilson Creek’s mineral standards were raised that their property values would decline due to increased pollution in Lake Catherine.

Response 22: The Department acknowledges the landowners concerns, however ADEQ does not have knowledge of all the factors that affect a piece of land’s potential property value. This proposed rule would change the water quality standards for Wilson Creek but it would not alter or increase the characteristics of the effluent discharged into Wilson Creek which flows into Lake Catherine.

Comment 23: Several comments were submitted expressing concerns that if Wilson Creek’s mineral standards were raised recreational activities would be limited due to increased pollution in Lake Catherine and in turn there would be a negative economic impact to the tourism of the Lake.

Response 23: This proposed rule would change the water quality standards for Wilson Creek but it would not alter or increase the characteristics of the effluent discharged into Wilson Creek. There is no available evidence of a negative economic impact as a result of changing the water quality standards in Wilson Creek.

Comment 24: Several comments were received concerning the economic impact on citizens and of increased cost to water treatment if Umetco’s limits were raised.

Response 24: In an April 20, 2010 letter, Patricia Nunn Brown, of the Arkansas Economic Development Commission, Small and Minority Business Division, stated “It is my determination that in drafting the proposed changes to the Arkansas Pollution Control and Ecology Commission Regulation No. 2, Umetco Mineral you have taken sufficient steps to protect the interests of the impacted small businesses.” According to Umetco’s Economic Impact/Environmental Benefit Analysis prepared June 10, 2010 “No other entities will be economically affected by this rule.”

This proposed rule would change the water quality standards for Wilson Creek but it would not alter or increase the characteristics of the effluent discharged into Wilson Creek. There is no available evidence of a negative economic impact as a result of changing the water quality standards.

Comment 25: Several comments were received stating that Umetco should “foot the bill” for treatment of water rather than asking for limits to be raised in order to comply with their permit. It has been stated that Umetco’s request for standard revisions is just a way for them to save money rather than treat their effluent and/or comply with current standards and permit limits.

Response 25: ADEQ acknowledges these comments. As provided in APCEC Reg.8.809, any person may petition the Commission for the issuance, amendment, or repeal of any regulation. The Department determined that Umetco met the technical requirements to proceed with initiation of a third-party rulemaking to establish site-specific mineral standards for Wilson Creek and Umetco proceeded with this proposed rule change.

Comment 26: A commenter was concerned about the effect the proposed change would have on agricultural and business use of the waterbody.

Response 26: The Agricultural and Industrial Water Supply Designated Uses are not proposed for removal. Water quality necessary to protect those designated used must be maintained. Additionally, Wilson Creek is currently attaining the Industrial Water Supply and Agricultural Supply uses. As noted above, ADEQ does not support the removal of the Domestic Water Supply Designated Use. As the standards for domestic water supplies are more stringent than for agricultural and industrial uses, those designated uses will be protected.

Comment 27: A comment was received stating, “Finally, Umetco has dismissed, rather than examined and reported, the technological or economic limits it faces, the alternatives, and the economic impact of the regulatory changes on the local area. That is, they failed to provide sufficient evidence for their position.” Specifically, the commenter discussed the letter regarding economic impact to small businesses submitted by the Arkansas Economic Development Commission (AEDC), Small and Minority Business Division.

[AEDC] determined that, “in drafting the proposed changes . . . you have taken sufficient steps to protect the interests of the impacted small businesses.”

One should understand the context and limits of the AEDC finding. These businesses are on the Hot Springs water supply which enjoys an upstream Ouachita River source, and the businesses usually do not see much of the creek that is hidden by highway culverts and the like. While the letter is important for what it says, the Commission cannot accept the letter as responsive to impacts on many other businesses and citizens; it is not responsive to the entities who actually use the water sources impacted by the discharge and who avail themselves of Lake Catherine and the Ouachita River (the area below the discharge). Umetco determined – by their own on-site inspection – that the regulation does not affect small businesses in the immediate area of Wilson Creek.

Response 27: ADEQ acknowledges this comment. However, ADEQ cannot respond to comments related to documents submitted by other state agencies under their independent statutory authority.

Comment 28: A commenter noted, “In response to the questions 1 and 2 in Petitioner’s “Economic Impact/Environmental Benefits Analysis” the petitioner cites the Water Quality Standards Evaluations as the Sources and Assumptions. These documents have insufficient information on economic impacts. In that the information is insufficient, should it result in a deferral of a decision on the petition?”

Response 28: Reg.8.813 states, “Following the public comment period, the Commission shall review all comments on the original impact/benefit analysis and include in the Statement of Basis and Purpose and Responsive Summary for the final rulemaking decision a discussion demonstrating reasoned evaluation of the relative impacts and benefits of the regulation.” These changes to the regulation were proposed by a third-party, not ADEQ or the Commission; therefore, the third-party petitioner shall submit a Statement of Basis and Purpose and Responsive Summary to the Commission. The Petitioner’s Responsive Summary should address all public comments regarding the Economic Impact/Environmental Benefits Analysis. All the public comments, along with the Statement of Basis and Purpose and Responsive Summary, will be part of the record before the Commission and serve as the basis for their decision to adopt or deny the proposed regulation change.

Comment 29: One commenter stated, “It can be argued that if petitioner was meeting current classification and uses of the Regulation, there would be an improvement in water quality, stream stabilization, and aesthetics. This could increase recreational values and business and residential property values in the Creek watershed and in the Lake Catherine

area. An independent study to determine the possible range in economic benefits (or protection from loss) by keeping and enforcing the current regulations is recommended. The economic study, if endorsed by petitioner, could examine the cost and benefits of the alternatives. Petitioner mentioned but did not discuss that the only alternative was ‘economically prohibitive.’”

Response 29: Reg.8.812 states, “The economic impact and environmental benefit analysis shall be prepared by the proponent of the rulemaking based upon information that is reasonably available.” Regulation No. 8 does not require an independent economic study. Also, the Petitioner discussed alternatives to the proposed rulemaking in the Use Attainability Analysis.

Comment 30: A commenter stated, “Umetco only employs five local people; however, if this Commission requires Umetco to comply with the current water standards and its current NPDES permit, Umetco alleges it will have to build additional treatment facilities. Both the construction and operation of those facilities will create more local jobs, thereby positively impacting the economy.”

Response 30: The Department acknowledges this comment.

COMMENTS REGARDING THE THIRD PARTY RULE MAKING REQUIREMENTS

Comment 31: A commenter questioned whether the “petitioner satisfactorily documented that the use being removed is not an existing use and that all other designated uses will be protected. The Commission should begin its review not from the level of contaminants today (discharge or stormwater run-off) but from where the regulations currently stand. It should look to what should be, and not what is.”

Response 31: ADEQ acknowledges the comment. The Commission, as an independent body from the Department, has the sole authority to review and promulgate changes to water quality standards. As stated previously, ADEQ has reviewed all of the documentation submitted by Umetco and does not support the removal of the Domestic Water Supply designated use and will ask Umetco to remove that change from the proposed rulemaking. In the alternative, the Department will ask the Commission not to approve the removal of the Domestic Water Supply designated use. As was also stated above, if the water quality criteria for chlorides, sulfates and TDS are set at levels to maintain the Domestic Water Supply designated use, those levels will be protective of human health and the environment.

Comment 32: A comment was received stating that Umetco is fixing its permit non-compliance by changing the water quality standards. This should be made clear in the petition to initiate rulemaking and in the public notice for the rulemaking.

Response 32: ADEQ acknowledges this comment. As provided in APCEC Reg.8.809, any person may petition the Commission for the issuance, amendment, or repeal of any regulation. The Department determined that Umetco met the technical requirements to

proceed with initiation of a third-party rulemaking to establish site-specific mineral standards for Wilson Creek and Umetco chose to proceed with this proposed rule change.

Comment 33: A comment was made stating that the proposed rule must also get legislative approval, prior to the Commission making a decision. This is an important step and should be included in the Commission's public notice. I ask the Commission to include a statement in public notices about this process to afford the citizens the opportunity to provide comments to the legislative committees.

Response 33: Paragraph 9 of Minute Order No. 23, which was adopted by the Commission to initiate rulemaking in this docket, states that ADEQ will seek review of the proposed rule from the Joint Rules and Regulations Committee and the Joint Public Health Committee. Prior to review by the legislative committees, the Committees require that ADEQ and Umetco provide them with a copy of responses to all comments. The process for review of proposed rules can be found in the Commission's Regulation Formatting and Drafting Guidelines posted on the Department's homepage. http://www.adeg.state.ar.us/regs/drafts/reg02_3rdParty_docket_10-005-R/reg02_3rdParty_docket_10-005-R_petition_to_initiate_regulation_2_umetco.pdf

Comment 34: A comment was received stating that the UAA performed by UMETCO in 2004 and the addendum in 2009 did not demonstrate that the Domestic Water Supply designated use is not attainable for one of the six reasons as required by Regulation Number 2.303 (B) 1-6 or Continuing Planning Process, page IX-2 (C).

Response 34: As stated previously, ADEQ has reviewed all of the documentation submitted by Umetco and does not support the removal of the Domestic Water Supply designated use and will ask Umetco to remove that change from the proposed rulemaking. In the alternative, the Department will ask the Commission not to approve the removal of the Domestic Water Supply designated use.

Comment 35: A comment was received asking why are the two actions (changes in stream standards and renewal of the permit for Outfall 001) requested by UMETCO separated? They should be reviewed and considered together to evaluate potential impact to the local aquatic systems and to not confuse the public any more than this subject does already.

Response 35: Under state law, ADEQ issues permits and the Commission adopts regulations. Thus, these actions are undertaken by two different administrative bodies and cannot be combined or reviewed as one action. The procedures for rulemaking and for permit renewals can be found in APCEC Regulation No. 8.

Comment 36: A comment noted that the "UMETCO petition lists several Arkansas state agencies involved in some aspect of a change in regulations. The petition represents that these agencies are in favor or neutral to the petition. These agency positions should be clarified and, in some cases, their positions should be submitted for the record.

Specifically...only some agency positions are reflected in the record. If no public statements are available from the agency listed by petitioner, should the positions of each agency be submitted for the records?"

Response 36: Letters from the Arkansas Department of Health and the Arkansas Economic Development Commission were submitted as exhibits to Umetco's Petition to Initiate Rulemaking. See Exhibits "D" and "I" to the Petition to Initiate Rulemaking. These documents can be found on the Commission's website at the following location: http://www.adeq.state.ar.us/regs/drafts/reg02_3rdParty_docket_10-005-R/reg02_3rdParty_docket_10-005-R.htm. However, the commenter does not state which state agency positions that they feel were missing from the record. Without more specific citations to the missing documents, ADEQ cannot provide a more detailed response to the comment.

Comment 37: One commenter stated that, "By letter, the Water Division had no additional questions about the UAA (i.e., the Standards Evaluation and Use Attainability study) at that time. The Division said it was appropriate to move forward with the third party petition process. ADEQ has not otherwise endorsed the petition, is that correct?"

Response 37: Yes, that is correct, the criteria to move forward with the 3rd party rulemaking is independent of the Department's endorsement of the petition. And as stated above, ADEQ does not support the removal of the Domestic Water Supply designated use, but would support changes to the water quality criteria that would maintain the designated use.

Comment 38: A commenter stated, "I take exception with their statement that the UAA satisfies Reg. 2.303, Reg. 2.306, and the 2000 State of Arkansas Continuing Planning Process Chapter IX. UMETCO may have met ADEQ's minimums for petitioner to proceed with a third party petition, but has petitioner met the standards required to adopt a change in regulations?"

Response 38: Adoption of regulation changes are under the authority of the Arkansas Pollution Control and Ecology Commission, not ADEQ. ADEQ found that Umetco met the technical requirements to move forward with initiation of a third-party rulemaking. The Commission initiated the rulemaking process on June 25, 2010. Based on the information submitted by the public during the public comment period and the responses to those comments, the Commission will make the final decision regarding the request to change the regulation.

Comment 39: One commenter request that ADEQ "outline how Reg. 2.303 relates to the petition (presumably Reg. 2.303 must be met to show that the discharge will not impact the fishable/swimmable classification for the creek or lake). Is the Use Attainability report used for other decisions of the Commission? I am trying to understand what requirements are being met with the report. That is, do the findings and conclusion weigh in other aspects of the regulatory change requested?"

Response 39: A third-party petitioner will generally use the Use Attainability Analysis (“UAA”) procedure found in Reg.2.303 as a framework for doing a study that would support site-specific water quality criteria changes or removal of designated uses. The information contained in an UAA report will also be used by the petitioner to support the removal of a designated use that is not the fishable/swimmable use under Reg.2.306.

Comment 40: A commenter stated that, “ADEQ should provide the public and the Commission with information documenting how UMETCO met the minimum requirements to provide the Director with (a) technological or economic limits of treatability and (b) economic analysis of the impact on the local area which are required in 2.306.”

Response 40: ADEQ found that the UAA discussed the limits of treatability and the economic impact to the local community. These portions of the UAA met the technical requirements for initiation of the rulemaking process. Based on the information submitted by the public regarding the UAA and the responses to these comments, the Commission will make the final decision regarding the request to change the regulation.

Comment 41: A commenter stated, “ADEQ or the Commission must file with the Bureau of Legislative Research a statement of financial impact for the rule. Will the financial impact statement provided by the Arkansas DEQ be one that it authors recommend, or will it be a copy of the statement prepared by the Petitioner? Will the Commission issue a concise statement available for legislative review of the principal reasons for overruling the considerations urged against its adoption? Arkansas law states that the scope of the financial impact statement shall be determined by the agency. Can we expect the financial impact statement to include more than the cost and benefits to UMETCO, as is presented in their submission?”

Response 41: According the Commission’s Regulation Formatting and Drafting Guidelines, the proponent of the rule (whether ADEQ or a third-party) will submit the Financial Impact Statement as part of a packet that is given to the Bureau of Legislative Research. Generally, this document is the same as the one filed with the Petition to Initiate Rulemaking; however, the proponent should file a revised Financial Impact Statement if “rule revisions or public comments have prompted changes to the [proponent’s] original statement.” Umetco, as the third-party petitioner, will make the determination as to whether or not the Financial Impact Statement should be revised based on the public comments.

Comment 42: A commenter asked if the requirements of Regulation 2.304, 2.409, and 2.508 were met by the Petitioner?

Response 42: The petition for site specific water quality for Wilson Creek does not propose any significant physical alterations of habitat; therefore, Regulation 2.304 does not apply.

Regulations 2.409 and 2.508 specify toxic substances standards present in the instream mixing zone of an effluent. The proposed site specific mineral quality standards are for the segment of Wilson Creek from its mouth to 0.85 upstream of Umetco's outfall 001, not for the Umetco effluent.

Comment 43: A commenter noted, "What is the petitioner's burden of proof here? What is the ADEQ and Commission's regulatory authority and reasoning to remove such a critical classification of a tributary to Lake Catherine/Ouachita River?" Specifically, the commenter questioned:

- a. Is it sufficient that the petitioner states that no one is drinking from the tiny stream (but with a significant watershed laden with mine tailings) or drawing water from an adjacent well?
- b. Is it sufficient that petitioner presents one or two studies showing that the few fish that are there are alive?
- c. Is it sufficient that only a few chemicals are measured, along with some overall measure of Total Dissolved Solids, even though this may conceivably be only a few of the overall chemicals discharged to the cove?

Response 43: At the time of public notice, and currently, the Commission has not approved the removal of the Domestic Water Supply designated use from Wilson Creek. Up to this point, the Commission has approved initiation of this third party rulemaking for Wilson Creek. The approval of initiation is independent of the decision to approve or deny the removal of a designated use. As stated previously, ADEQ does not support the removal of the Domestic Water Supply designated use and will ask Umetco to remove that change from the proposed rulemaking. In the alternative, the Department will ask the Commission not to approve the removal of the Domestic Water Supply designated use.

Comment 44: A commenter questioned if the proposed rule changes were the "largest variances permitted to date for any comparable environmental and business situation for discharges and/or stormwater runoff into the Ouachita River and its lakes? If approved, does this petition become the new "bar" for permits and changes to use and classification?"

Response 44: According to Reg 2.511(A), there are site specific mineral quality criteria for tributaries of the Ouachita River from Camden to Carpenter Dam similar in magnitude to those proposed for Wilson Creek. UAAs and requests for standards modifications are reviewed and handled on a case by case basis.

Comment 45: A commenter asked, "Is the Commission aware of any other permits that will be expanded on Lake Catherine or the Ouachita River in a similar manner as this one?"

Response 45: At this time, no other proposed rulemakings have been filed related to Lake Catherine or the Ouachita River.

Comment 46: A commenter asked if “the federal and State antidegradation laws and requirements are being met. Is the Commission decision bound by the anti-degradation laws for a decision that adopts the petition changes? Even if a decision of the Commission only relates (on paper) to the Wilson Creek itself, can this effectively bypass anti degradation requirements.”

Response 46: According to Reg. 2.201 “Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.” The Environmental Protection Agency (“EPA”) has stated the Criterion Maximum Concentration (CMC) for chloride is 860 (mg/L) and the Criterion Continuous Concentration (CCC) for chloride is 230 (mg/L). (See 53 Fed. Reg. 19028). The Illinois Pollution Control Board and The Iowa Department of Natural Resources have approved the following sulfate criteria protective of aquatic life:

If the hardness concentration of waters is less than 100 mg/L, or chloride concentration of waters is less than 5 mg/L, the sulfate standard is 500 mg/L.

<http://www.epa.gov/r5water/wqs5/IL-Sulfate%20Rationale%20of%20Decision.pdf>

http://www.iowadnr.gov/water/standards/files/ws_fact.pdf

Since TDS is composed of several ions, one number cannot be assigned to all waterbodies in all States. However, according to an internal EPA Region 6 memo, TDS concentrations greater than 2000 mg/L are needed in order to conclude that TDS is the source of toxicity. All of these minerals values approved for the protection of aquatic life are higher than the proposed site specific minerals criteria for Wilson Creek proposed by Umetco. As stated above, ADEQ does not support the removal of the Domestic Water Supply designated use for Wilson Creek. If the designated use is maintained, water quality criteria for minerals in Wilson Creek could be increased to national secondary domestic water supply levels and remain protective of human health and aquatic life and water quality in the stream.

COMMENTS REGARDING THE PUBLIC PARTICIPATION OF THE PROPOSAL

Comment 47: Comments were received requesting personal/individual notifications on this and future proposals.

Response 47: The Department provides first-class mail notification to all persons who have requested to be notified of proposals to change Commission Regulations. Anyone can be added to this mailing list by contacting the ADEQ Public Outreach and Assistance Division via phone, email, or U.S. mail.

Comment 48: Several comments were submitted stating that the public notice was not adequate in respect to exposure and timeliness. One comment acknowledged ADEQ following the requirements, but requested ADEQ go above these minimum requirements.

Response 48: ADEQ respectfully disagrees with the comment. The third party has met all federal and state requirements regarding public participation. 40 CFR § 131.20(b), State Review and Revision of Water Quality Standards Public Participation requires, "the state shall hold a public hearing for the purposes of reviewing water quality standards, in accordance with provisions of State law, EPA's water quality management regulation (40 CFR § 130.3(b)(6)) and public participation regulation (40 CFR part 25). The proposed water quality standards revision and supporting analyses shall be made available to the public prior to the hearing."

Likewise, APCEC Regulation No. 8, Administrative Procedures, sets forth the administrative procedures the third party and the Commission must follow regarding a proposed rulemaking decision. Reg.8.802 requires that the notice "shall be mailed to all persons requesting advanced notice. In addition, notice shall be published in appropriate industry, trade, professional or public interest publications chosen by the Commission and at least twice in a newspaper of statewide circulation."

The Department cannot compel nor has any control over the degree to which the public, local governments, state and federal government agencies, and other interested groups participate in the third party rulemaking process.

Comment 49: A comment was submitted requesting an increase in public meetings by ADEQ to advise the public about environmental and health impacts of regulation changes.

Response 49: It is the responsibility of the Commission to hold public hearings, not ADEQ. By state law, the Commission shall hold one public hearing on proposed regulation changes. When the Commission initiates rulemaking, they may decide to hold more than one hearing if requested by the public.

Comment 50: A request was made for a public listening session prior to the end of the comment period.

Response 50: The Commission held a public hearing on August 16, 2010. Umetco, as the third-party petitioner, voluntarily held a public meeting on September 16, 2010.

Comment 51: A request was made to grant an extension to the public comment period.

Response 51: The Commission granted a 20-day extension for the public comment period, extending the deadline from August 30, 2010 to September 20, 2010.

Comment 52: A commenter stated that, “[The] Petitioner and ADEQ should provide the public and the Commission with information documenting how UMETCO met the public participation in the Continuous Planning Process cited in Reg. 2.306.”

Response 52: The public notice and comment procedures set forth in APCEC Reg.8.801-806 and 8.811 satisfy the public participation requirements in the Continuous Planning Process (“CPP”). This third-party rulemaking has been conducted in accordance with Regulation No. 8.

COMMENTS REGARDING INSUFFICIENT RESEARCH

Comment 53: There were several comments concerning inadequate research to support the proposed changes.

Response 53: The third party met the technical requirements of Reg. 2.303 and the State of Arkansas Continuing Planning Process (“CPP”), part IX that are necessary to request initiation of a third party rulemaking. These studies can be found as part of rulemaking docket and the UAA for Wilson Creek

http://www.adeg.state.ar.us/regs/drafts/reg02_3rdParty_docket_10-005-R/reg02_3rdParty_docket_10-005-R.htm).

Comment 54: A comment was received stating that the Use Attainability Analysis (UAA) makes reference to a seep near Wilson Creek where low pH water is entering the creek. What is in this seep? Are there heavy metals present? Is the water coming from this seep included in the permit? If so, why is there no contaminant information?

Response 54: As stated above, the technical requirements to initiate a third party rulemaking have been met. The 2004 UAA and 2009 Addendum specifically address the proposed minerals changes that are the subject of this rulemaking. All comments concerning research and additional studies are outside the scope of this rulemaking for revised mineral standards on Wilson Creek. Additionally, the Department is currently addressing other issues related to the Umetco mine site through permitting and enforcement procedures.

Comment 55: Several commenters requested that additional studies be conducted to investigate long term impacts of the proposed changes, including, but not limited to, impacts to all bays, inlets, and dredging coves along Lake Catherine, the Ouachita River, and Malvern Draw. Commenters requested comprehensive analyses of impacts from point and nonpoint sources at the site; specifically, studies that include sediment and soil samples, core samples, water samples, and metals analysis. Another commenter requested that the Commission request ADEQ perform a study similar to the one conducted at Cove Creek that would assess water quality impacts from the UMETCO mine, including surface water runoff and discharges from the UMETCO mine to the receiving stream and Lake Catherine. A commenter also requested that data be presented and evaluated regarding the:

(1) timing of non-compliant UMETCO process water discharges with Rimmel Dam water releases; (2) situations that the discharges in (1) have been non-compliant; (3) toxicity tests on the UMETCO discharge constituents at both the levels currently permitted and the proposed levels; (4) levels of inorganics in the sediments in Lake Catherine (down-channel from Wilson Creek) and the section of the Ouachita River from Rimmel Dam to Rockport, including the off-river channel at Jones Mill wastewater treatment outfall, and Cove Creek confluence ; (5) water sampling data collected during various water release events from Rimmel Dam at the sites in (4); and,(6) levels of inorganic contaminants contained in fish and fish-eating wildlife (if available).

Some commenters suggested that these types of studies be conducted by an independent party not contracted by the petitioner.

Response 55: As stated above, the technical requirements to initiate a third party rulemaking have been met. The 2004 UAA and 2009 Addendum specifically address the proposed minerals changes that are the subject of this rulemaking. All comments concerning research and additional studies are outside the scope of this rulemaking for revised mineral standards on Wilson Creek. Additionally, the Department is currently addressing other issues related to the Umetco mine site through permitting and enforcement procedures.

Comment 56: Comments were received stating that data used for the UAA study is greater than 5 years old. This is not consistent with the Use Attainability Analysis procedure in the Continuing Planning Process, page IX-6.

Response 56: On August 28, 2009 UMETCO submitted an “Addendum to the December 2004 Wilson Creek Minerals Water Quality Standards Evaluation” While the NPDES permitting period of record is 5 years, standards revisions are not limited to data from the last 5 years. It is important to consider historical data as well as recently collected data.

Comment 57: A comment was received stating that no water quality data in Wilson Creek has been presented.

Response 57: Please refer to the water quality data contained in the following study reports: Wilson Creek Water Quality at Wilson Vanadium Mine Garland County, Arkansas, January 2003; Wilson Creek Minerals Water Quality Standards Evaluation, December 2004 (UAA); and Addendum to the December 2004 Wilson Creek Minerals Water Quality Standards Evaluation, August 28, 2009. The UAA and Addendum can be found at the following location, as part of the rulemaking docket.

http://www.adeq.state.ar.us/regs/drafts/reg02_3rdParty_docket_10-005-R/reg02_3rdParty_docket_10-005-R.htm

Comment 58: A comment was received that was concerned about the adequacy of a “fish report” that consisted of a “one day count of fish.”

Response 58: Without more detail, ADEQ is unable to determine the particular “fish report” discussed by the commenter and cannot provide a specific response. A technical memorandum summarizing a one day fish study conducted in Wilson Creek Cove was submitted as part of the proposed rulemaking. This memorandum was not the only study reviewed by the Commission when approving the initiation of this third party rulemaking. The Commission also reviewed the 2004 UAA and 2009 Addendum.

Comment 59: Comments were received concerning sampling of upper Wilson Creek watershed and the "Spaulding" area to compare with samples in Wilson Creek.

Response 59: During both the 2004 UAA and the 2009 Addendum water quality, macroinvertebrates, fish, and aquatic habitat samples were collected from site WILS. According to the 2009 Addendum, WILS is upstream of Oufall001 and not affected by former mine activities or seeps.

Comment 60: A commenter stated that the fishery data presented in the 2009 Use Attainability Analysis (UAA) for Wilson Creek shows that the fish species present in the creek are not the indicator species (except 1) for the Ouachita Mt. ecoregion. Were there samples taken in other watersheds in the area to support that the indicator species are simply not in the area? If this is a natural pollution, why would aquatic life be just above the area in question? Without comparing the fishery with another "typical" fishery (another cove on Lake Catherine), we do not have the data needed to assess the effects of Wilson Creek pollution on the fishery.

Response 60: The indicator species listed within Reg. 2 are lists of fish species that would be expected to be the dominant fish species within their taxonomic group. Streams with watersheds smaller than 10mi² were not considered during the original ecoregion work, as many of these streams are considered intermittent. Because of the nature of the hydrology one would not expect to find many of the indicator species in the smaller watershed streams. Therefore, while the 2004 UAA and 2009 Addendum do not indicate that samples were taken in other watersheds, if other samples were collected outside of the watershed in streams of equivalent drainage area, a similar assemblage of species would be expected.

Comment 61: A comment was received concerning the lack of recent data supporting UMETCO’s statement that Lake Catherine is currently meeting the state’s water quality standards. The commenter stated:

UMETCO says in the 2009 Addendum that the criteria proposed matches the conditions currently existing. UMETCO then claims that the changes proposed will not effect the water quality in Lake Catherine because Lake Catherine is currently meeting the state’s water quality standards which is

shown by the fact that Lake Catherine is not on the 2008 303(d) list of impaired water bodies.

I looked but didn't find any sampling data that supports UMETCO's claim that Lake Catherine currently meets the state's water quality standards, and UMETCO doesn't provide any such data in its UAA. I do not think UMETCO should be able to say that its impacts on Wilson Creek are not having any effect on Lake Catherine because Lake Catherine is not on the impaired water list when there is no current data in the rulemaking record to support that statement.

The only data I could find concerning Lake Catherine's water quality was data from 1989, 1994 and 1999 collected in the "epilimnion" and the "hypolimnion". I can't tell where the samples were collected but the data is reported to be from upper Lake Catherine and lower Lake Catherine. There was a study conducted in 1989 assessing the state's "significant publicly-owned lakes", which included Lake Catherine. I also found an ammonia investigation of Ouachita River that had sampling data from Lake Catherine dated April 1996. If there has been an assessment of water quality in Lake Catherine since 1999, I could not find it.

I do not believe UMETCO should be able to rely on 11-year-old data, especially for a lake with water that moves rapidly through it. They do raise a good point in commenting on the Lake Catherine water quality though. I believe that UMETCO should be required to study Lake Catherine's water quality to justify their claim that the lake meets current water quality standards and to show that Wilson Creek does not impact Lake Catherine's water quality.

Is UMETCO's statement that Lake Catherine is meeting the state's water quality standards because it is not listed on the 2008 impaired waters list really enough for the Commission and ADEQ to conclude that Wilson Creek is not having any impact on Lake Catherine? I don't think the historical data is helpful. UMETCO says in its UAA that the discharges from East Wilson Pond occurred in "batches"-large slugs 3 or 4 times a year. Even if the historical data was collected downstream of UMETCO's discharge, how do we know that the data obtained was collected during one of UMETCO's "batch" discharges? Especially considering how quickly water moves through Lake Catherine. If the sampling events didn't occur at the same time as UMETCO's discharge, then the data does not relate to Wilson Creek's impacts on Lake Catherine. And this type of information is needed before the water quality standards are changed.

Has UMETCO or anyone else adequately evaluated Wilson Creek's downstream effects on Lake Catherine? If so, when and how?

I believe a seasonal study (including during drawdown) of the water quality in Wilson Cove (Lake Catherine) is needed *while UMETCO is discharging from East Wilson Pond* to assure the Commission, ADEQ and the public that Wilson Creek is having no impact on Lake Catherine. I also believe a study of the sediments in Wilson Cove is needed to assure the Commission, ADEQ and the public that Wilson Creek is not impacting Wilson Cove.

Response 61: Although a report is not available on the ADEQ website, water quality data was collected in 2004 for Arkansas's Significant Publicly Owned Lakes. This data was used in the assessment of water quality and designated use attainment for the 2008 Impaired Waterbodies List (303(d) list). In addition, unless Lake Catherine was impaired for minerals (which is unlikely), the proposed site-specific water quality criteria would most likely not cause the lake to become impaired for minerals.

Comment 62: One commenter asked, "Is there evidence of loading on Lake Catherine that affects the Domestic Water Supply designation, for example, for ammonias and other products and/or by-products that are used to reduce acid toxicity of mining and mineral processing? What studies are available for the Commission?...[A]re we testing for the right discharges related to the change in classification?"

Response 62: In the 2004 UAA and 2009 Addendum, Umetco provided a study of Wilson Creek that met the technical requirements for initiating rulemaking to amend the site-specific minerals criteria for that waterbody. Those documents (which are part of the rulemaking docket) state that the proposed rule would not "cause a measurable increase in minerals loading or affect uses or water quality standards of Lake Catherine, which is the downstream receiving stream." Additionally, the rulemaking proposed to remove the Domestic Water Supply designated use from Wilson Creek, not Lake Catherine. ADEQ does not support the removal of this use in Wilson Creek and supports the maintenance of site-specific water quality criteria to protect the Domestic Water Supply designated uses in Wilson Creek and Lake Catherine.

COMMENTS REGARDING THE STUDY DESIGN OF THE UAA AND ADDENDUM

Comment 63: A comment was received stating that UMETCO has requested the change to the water quality standards for Wilson Creek to extend 0.85 miles above the UMETCO discharge point 001. There is not any information in the petition to explain why the standards need to be changed above the discharge 001. Another commenter stated that if the criteria change was necessary above the outfall that area might need its own treatment facility and individual NPDES permit.

Response 63: ADEQ acknowledges this comment. The Petition to Initiate Rulemaking was prepared by a third party, not the Department, so the Department cannot state with authority why the petitioner requested the particular change. Umetco should respond to this issue in their response to comments. However, based on a parenthetical in the Introduction paragraph of Umetco's Petition to Initiate Rulemaking, the Department assumes that 0.85 miles above Outfall 001 is Umetco's property line. Comments regarding treatment facilities and NPDES permits are outside the scope of this proposed rulemaking.

Comment 64: One commenter submitted several questions regarding fish sampling results from the 2009 Addendum, stating:

No fish or benthic sampling was conducted at WIL- 5 one of the sampling locations immediately downstream of Outfall 001. Fish and benthic sampling was conducted at this location for the 2004 UAA. Why was it not sampled on June 2, 2009?

No fish were recovered from WIL-2 during the June 2, 2009 sampling event due to the toxicity of the water and "the consolidated precipitate that provide poor substrate. What is causing the toxicity? What is the "consolidated precipitate"? Where does it come from and what are its constituents?

Only 4 species of fish were identified in the sampling conducted at 5 locations on Wilson Creek, which excluded WIL-2 for some reason. Only one of the four species identified was an ecoregion key species and it was found at only 2 of the 5 locations, one of which was the "reference site." The UAA suggests that this is due to the low pH (at WIL-1, WIL-2 and WIL-2.5 all of which are upstream of 001). But the UAA also recognizes that relatively low pH is typical for Ouachita Mountain ecoregion streams. Is the pH at WIL-1, WIL-2 and WIL- 2.5 so low to account for the very poor fish sampling results in the 2009 Addendum? (The 2004 UAA results for pH for these sites were 5.01 to 6.37.) Are these results really a pH problem or a toxicity problem or both? Shouldn't the factors causing the adverse impacts on aquatic life be identified/understood before the proposed changes to the water quality standards are adopted by the Commission? Especially if changes are allowed upstream of Outfall 001? I ask the Commission to deny UMETCO's proposed rulemaking or postpone its decision until the toxicity is understood and provided to the Commission and the public.

Were the June 2, 2009 samples run for other parameters besides those listed in Table 4.1? If so, what were the results? If not, why not and shouldn't they be?

Response 64: When reviewing the methods by which a UAA or related study was conducted, ADEQ determines if the study followed commonly accepted biological assessment protocol. ADEQ determined that the 2004 UAA and 2009 Addendum submitted by Umetco followed commonly accepted biological assessment protocol. Any comments regarding the decision by Umetco utilize specific methods should be addressed by UMETCO in their response to comments.

Comment 65: A comment was made stating that the "macroinvertebrate metrics" are not the same in the 2004 UAA and the 2009 Addendum. Why didn't the 2009 Addendum use the same metrics as in the 2004 UAA? How can you compare results when you don't use the same metrics?

Response 65: When reviewing the methods by which a UAA or related study was conducted, ADEQ determines if the study followed commonly accepted biological assessment protocol. ADEQ determined that the 2004 UAA and 2009 Addendum submitted by Umetco followed commonly accepted biological assessment protocol. While all metrics used are not identical in description, they are comparable in the function of describing the macroinvertebrate assemblage. Any comments regarding the decision by Umetco to utilize specific metrics should be addressed by Umetco in their response to comments.

Comment 66: A comment was received regarding the Lake Catherine Fish Sampling Results.

Is a snapshot of fish in Wilson Cove taken on a single day in June 2009 really reflective of the impact of Wilson Creek on Wilson Cove? Or does it just reflect that water moves through Lake Catherine fairly quickly for a lake, and the water moves fish along with it?

The study did not make any comparison with any other cove, stream or tributary of Lake Catherine, which would seem to make any assumptions based on the study meaningless.

The study also did not consider sediments. The absence of any sediment data from Wilson Cove is a serious and significant omission.

I ask the Commission to deny UMETCO's proposed rulemaking or postpone its decision until this information is provided.

Response 66: The Department determined that the 2004 UAA and 2009 Addendum submitted by Umetco met the technical requirements to proceed with initiation of a third-party rulemaking to change the site-specific mineral standards for Wilson Creek and notified Umetco by a letter dated March 5, 2010. This comment appears to be directed at a June 2010 technical memorandum from Umetco's consultant, FTN Associates, Ltd., regarding Lake Catherine Fish Sampling Results. This document was provided as part of

the rulemaking docket. The FTN memo was completed after the review by ADEQ. Any comments regarding the fish sampling results and the FTN memo should be addressed by Umetco in their response to comments.

Comment 67: A comment was made stating that there were fewer individual fish collected downstream of Outfall 001 in 2009 than in 2004. Does this suggest that water quality for fish is degrading?

Response 67: ADEQ did not conduct the studies that formed the basis of the 2004 UAA and 2009 Addendum and cannot address the specifics of those studies. However, as a general rule, overall abundance is not an accurate measurement of determining if a system is degraded or not. There may be several explanations as to the higher abundance in the 2004 sample versus 2009. It may be the level of effort (i.e. shock time), sampling efficiency of the crew present, or sampling of different habitats between years as these two surveys were completed by two different entities. Umetco should address this specific question in their response to comments.

EPA COMMENTS ON ADDENDUM TO THE DECEMBER 2004 WILSON CREEK MINERALS WATER QUALITY STANDARDS EVALUATION

Comment 68: The study uses calculations based on collected samples to derive toxic acute and chronic values for minerals. This data is beneficial, but no whole effluent toxicity (WET) data from outfall 001 was provided in the studies to verify that current loadings are not detrimental to aquatic life. Such testing is outlined as a component to demonstrate maintenance of aquatic life uses in the State of Arkansas's Continuing Planning Process Administrative Guidance Document. In addition, toxicity testing of ambient water with minerals spiked to proposed criteria levels would strengthen the case for the protection of aquatic life under the new criteria levels.

Response 68: This proposed rule would change the water quality standards for Wilson Creek but it would not alter or increase the characteristics of the effluent discharged into Wilson Creek and Lake Catherine.

The Environmental Protection Agency ("EPA") has stated the Criterion Maximum Concentration (CMC) for chloride is 860 (mg/L) and the Criterion Continuous Concentration (CCC) for chloride is 230 (mg/L). (See 53 Fed. Reg. 19028).

Since TDS is composed of several ions, one number cannot be assigned to all waterbodies in all States. However, according to an internal EPA Region 6 memo, TDS concentrations greater than 2000 mg/L are needed in order to conclude that TDS is the source of toxicity.

All of these minerals values approved for the protection of aquatic life are higher than the proposed site specific minerals criteria for Wilson Creek proposed by Umetco. Any comments regarding the decision by Umetco to utilize specific whole effluent toxicity (WET) data should be addressed by Umetco in their response to comments.

Comment 69: Toxicity testing of the seeps, as done in the current project, provides evidence to support that upstream effects are governed by the nature of the seeps and not minerals; however, the study lacks toxicity testing regarding current mineral loadings and/or proposed maximum values at outfall 001 to show with greater certainty that such concentrations are adequate to support the beneficial aquatic life use.

Response 69: See Response 68 above.

Comment 70: The 2004 and recent study both indicate that low diversity observed in Wilson Creek are due to the limited size and intermittent nature of the watershed. The detrimental nature of the seeps is also likely limiting biodiversity. Since a least-impacted reference stream was not used for comparison, the study would benefit from an evaluation of whether observed species in the studies are those found to be more tolerant of increased minerals concentrations. A composition of species that tend to be more hardy and salt tolerant would indicate that aquatic diversity may be limited in Wilson Creek.

Response 70: Without a taxa list, the Department cannot comment on the salt tolerance or tolerance of increased minerals concentrations of macroinvertebrates investigated within this study. After searching literature on tolerance values of fishes to TDS, chlorides, and sulfates, no conclusions could be reached on whether or not the specific fish community cited in the 2004 study was tolerant or intolerant to increased mineral concentrations or salts.

Comment 71: The addendum briefly mentions that current effluent loadings will be maintained and will not increase loads to Lake Catherine. The study does not evaluate loadings from other industries in the area to consider cumulative effects of minerals downstream.

Though Lake Catherine currently meets standards, it is imperative to ensure that downstream uses are not impacted by proposed criteria.

Response 71: This proposed rule would change the water quality standards for Wilson Creek but it would not alter or increase the characteristics of the effluent discharged into Wilson Creek and Lake Catherine. No water quality impairments have been observed in Wilson Creek or Lake Catherine as a result of effluent discharged by Umetco. Comments concerning additional studies are outside the scope of this rulemaking for revised mineral standards on Wilson Creek.

Comment 72: Beyond the scope of minerals, the study mentions the treatment of the seeps. Since the results of the toxicity identification evaluation (TIE) are inconclusive for metals, is UMETCO planning to address the source of the unknown toxicity? If the facility is planning to use technology to mitigate the toxic effects of the seeps, is it not possible to combine such efforts to mitigate minerals as well?

Response 72: Comments concerning additional studies are outside the scope of this rulemaking for revised mineral standards on Wilson Creek. Furthermore, any comments

regarding the decision by Umetco to seek the standards change or alternatives regarding their business operations should be addressed by Umetco in their response to comments.

COMMENTS REGARDING UMETCO'S OPERATIONS AND NON-UAA DOCUMENTATION

Comment 73: One commenter noted that UMETCO asked for comments from the Arkansas Department of Health (ADH) and, in an internal memo, ADH “expressed concerns for the two water intake structures downstream and body contact at the mouth of Wilson Creek into Lake Catherine.” The commenter also noted, “ADH expressed this concern and objection by letter of March 30, 2010. ADH withdrew their concerns by letter of May 6, 2010, based on comments from UMETCO about their discharge, whether ‘batch’ or ‘continuous.’” They further stated, “There was no technical justification provided to ADH to support their decision to withdraw their objection in the record.”

Response 73: ADEQ acknowledges the comment. As this proposed rule was submitted by a third party, the Department did not prepare any of the materials submitted to the ADH regarding the rule. The third party should address this issue in their response to comments.

Comment 74: One commenter stated:

In fact, Section 3.2 of the 2004 UAA prepared by Wright Water Engineers, Inc., for UMETCO states: “Discharges occur only when the pond reaches its full level. The amount of discharge from the East Wilson Pond has diminished in recent years with the completion of reclamation. The discharge is intermittent, and only occurs an average of 3.6 times each year, with an average of 4.04 million gallons per day each time.” This is consistent with the facility permit application dated 2-26-04.

Also, UMETCO was issued NPDES Permit AR 0048950 by the Arkansas Department of Environmental Quality to discharge to Wilson Creek, on January 31, 2006. Part III, No. 7 of this permit requires that the facility maintain continuous flow from East Wilson Pond and the design of this system shall be submitted to ADEQ for approval within 6 months of the effective date of the permit. In a letter to ADEQ dated May 24, 2007, UMETCO describes their current operations and proposed installation of pumps to maintain a continuous flow. While the old system was manually operated and discharges were based on pH, the new system seems to be based on levels in East Wilson pit. I am concerned that the new system may automatically discharge into Wilson Creek without adjustments to the pH. While ADEQ has approved the installation of new pumps for a continuous discharge how will the facility maintain adequate pH with this new system?

With reference to the “batch” or “continuous” flow, the 2004 UAA and the NPDES Permit AR 0048950 are conflicting. Which document is correct?...

How can ADEQ and the Commission consider changes to the water quality when the design for a continuous flow may continue to be somewhat intermittent and discharges may violate pH standards?

I ask the Commission to postpone a decision on this matter until ADEQ and ADH have had the opportunity to collaborate and completely review the proposal for the design of a continuous flow system, pursuant to the UMETCO NPDES Permit AR 0048950.

Response 74: This proposed rule would change the water quality standards for Wilson Creek but it would not alter or increase the characteristics of the effluent discharged into Wilson Creek and Lake Catherine. However, by letter of March 20, 2008, the Department granted approval to replace the two existing pumps with two vertical turbines that would allow for a continuous discharge from East Wilson Pond into East Wilson Creek throughout the year. Additionally, in a letter dated May 5, 2010 to ADH, Umetco provided the following information concerning the East Wilson Pond Outfall 001 Operating Limits:

The pumps shall be operated into the foreseeable future, to maintain, as far as practicable and while maintaining effluent limits, a continuous discharge (i.e. not a batch discharge) from the National Pollutant Discharge Elimination System (NPDES) AR0048950 authorized outfall (Outfall 001). Near continuous discharge from the East Wilson Pond is a requirement of the NPDES permit. The actual discharge rates will vary depending on the water level in the pond. Two vertical turbine pumps (EWP-1, a 15-horsepower (hp) pump, and EWP-2, a 75-hp pump) will be used to discharge water from the pond. The pumps are programmed to operate automatically, however they can be operated manually if necessary. The flow is routed via a 24-inch pipe to the outfall, to a weir box at the end of the discharge pipe, where it flows down a riprap-lined slope to Wilson Creek.

Depending on the pH of the effluent, valves are programmed to discharge to the outfall or recirculate to the Neutralization Plant. Under the NPDES permit, the pH of water discharged at Outfall 001 must remain within 6.0 to 9.0 to comply with the permit. In order to maintain a safety factor, discharge will generally occur when the pH of the water is consistently over 6.2 standard units (s.u.) or below 8.8 s.u. as measured by the pH

probe on the pump gantry. At times when the pH of the pond is not within the required discharge range, recirculation will occur for as brief a period of time as necessary to return the pH to the discharge range, and then discharge will resume. Discharge operations will not be operated as "batch flow.

Regarding any violations of pH limits and flow requirements in Umetco's NPDES permit or violations of water quality standards for pH, it is important to note that the petition before the Commission is to remove the Domestic Water Supply designated use and establish appropriate site-specific criteria for chlorides, sulfates, and Total dissolved solids for Wilson Creek. Umetco will be responsible for meeting all current permit limits and maintaining a discharge that does not violate the pH water quality standards.

Comment 75: One comment noted that, "In the event the changes in classification and use is approved, should the Commission adopt some conditional permit concerning petitioner stormwater and discharge management? ADH stated, "This understanding is based upon letter [of May 5, 2010] indicating that no changes to operational procedures nor change in treatment processes (pH adjustment) will occur."

Response 75: The Department, not the Commission, has the sole authority over permitting, including operation and construction permits. As stated above, Umetco modified their discharge process to include continuous discharges with adjustment for pH. Any future permit modifications based on water quality criteria changes and/or designated use removal must be pursued through the Department's permitting procedures that are found in APCEC Regulation No.8.

Comment 76: A comment was received stating, "[T]he Comprehensive Mine Reclamation plan calls for the dismantling of the treatment plant at East Wilson Pond by 2013 and termination of the NPDES permit. I thought the treatment in East Wilson Pond was causing the increased minerals in Wilson Creek. Why does UMETCO need the mineral changes proposed in this rulemaking if it is going to dismantle the treatment system causing the increased minerals?"

Response 76: The Department has determined that the 2004 UAA and 2009 Addendum submitted by Umetco met the technical requirements to proceed with initiation of a third-party rulemaking to change the site-specific mineral standards for Wilson Creek. Any comments regarding the decision by Umetco to seek the standards change should be addressed by Umetco in their response to comments.

Comment 77: A comment was received stating, "UMETCO will perform a UAA on Indian Creek to request changes to the water quality standards. UMETCO has provided to ADEQ for approval, a Comprehensive Plan developed for the mine. There does not appear to be any approval to date. UMETCO proposes a schedule in this plan for the removal of the treatment system at East Wilson Pond, proposes to reestablish the natural

flow of Wilson Creek, and proposes to terminate its NPDES permit for the Outfall 001. I understand that at present, the treatment plant at East Wilson Pond receives water from the area of Indian Creek. So it seems that UMETCO's current proposed rulemaking is only one small piece of the puzzle. Apparently, Indian Creek will also discharge directly into Lake Catherine, once the treatment system at East Wilson Pond is dismantled, creating a cumulative effect of the loading into Lake Catherine. If UMETCO proposes to change the water quality standards for the discharge of Indian Creek into Lake Catherine, both that proposal and this proposal should be submitted simultaneously, so the full effect of what they are proposing is made known to the Commission."

Response 77: On March 16, 2011, Umetco submitted an update to the November 2007 Comprehensive Reclamation Plan and Milestone schedule. This document is still under review by ADEQ staff. While the Plan addresses Indian Spring Creek, the petition before the Commission is to remove the Domestic Water Supply designated use and establish appropriate site-specific criteria for Cl, SO₄, & TDS for Wilson Creek. Any comments regarding the decision by Umetco not to seek standards changes for Wilson Creek and Indian Spring Creek simultaneously should be addressed by Umetco in their response to comments.

Comment 78: A comment was made asking if UMETCO anticipated any delays that are possible in the legislative process? Has UMETCO anticipated any delay for receiving Commission approval or non-approval? Does UMETCO plan to continue their current discharge in violation of their existing permit or existing water quality standards? Does UMETCO have an alternate plan in place in case the water quality standards changes are not granted? If so, what is it?

Response 78: Any comments regarding the decision by Umetco to seek the standards change or alternatives regarding their business operations should be addressed by Umetco in their response to comments.

Comment 79: Several comments were received concerning the truthfulness of statements contained in a "Fact Sheet" distributed by UMETCO at a public meeting sponsored by UMETCO on September 16, 2010.

Response 79: Neither ADEQ nor the Commission sponsored this public meeting or created the "Fact Sheet" and, therefore, cannot speak to the validity of the documents nor other information provided at the public meeting.

SECTION II: COMMENTS OUTSIDE THE SCOPE OF THE PROPOSAL

Introduction:

As many members of the public are aware, and outlined in their comments, the environmental issues related to the Umetco Minerals Corporation Wilson Mine site extend beyond the narrow focus of this proposed rulemaking. However, the Department limits its detailed responses to comments that are directly related to the proposed rulemaking. This introduction is intended to briefly describe the status of the matters

before the Department related to the Wilson Mine site and make the public aware of other opportunities to comment on those issues.

At the present time, ADEQ is negotiating an enforcement order to address violations of sulfates and Total Dissolved Solids (“TDS”) limits in NPDES Permit No. AR0048950. When an enforcement order is issued, the public will be able to comment on the terms of the order, including any penalties assessed. Enforcement orders are published on or about the 10th and 25th of each month.

Likewise, the Department is currently reviewing Umetco’s renewal application for NPDES Permit No. AR0048950. The Department received the renewal application on September 1, 2010. The permit expired on February 28, 2011. As Umetco timely filed the renewal application, they are operating under the terms and conditions of the expired permit while ADEQ completes the permitting process. When a draft renewal permit is issued, the public will have the opportunity to comment on the permit and request a public hearing concerning the permit.

The rights and responsibilities of the public regarding comments on enforcement matters or draft permits can be found in APCEC Regulation No. 8, Administrative Procedures.

Comment 1: A comment was received that was concerned about the gap between public understanding of water quality issues and the regulatory process. The commenter felt this led to much confusion concerning the specifics of this rulemaking and suggested the need for changes in that would limit confusion in future rulemakings.

Response 1: The Department recognizes this concern and has addressed specific points to this regard below.

Comment 2: Comments were received opposing regulation changes or water quality standard revisions for Wilson Creek Bay, Lake Catherine, and the Ouachita River.

Response 2: This third-party rulemaking does not include any proposed revisions for Lake Catherine, Wilson Creek Bay, or the Ouachita River water quality standards; rather, it is specific to Wilson Creek.

Comment 3: Comments were received concerning host responsibilities for the APCEC hearing and the public meeting hosted by Umetco.

Response 3: As per Reg.8.804, the APCEC held a public hearing on August 16, 2010 to allow public comments pertaining to the third-party rulemaking. Oral comments and comment cards received at this hearing became part of the public record, as well as any written comments received by September 20, 2010. Separate and independent from this, Umetco hosted a public meeting on September 16, 2010. This meeting was not sponsored by ADEQ nor APCEC.

Comment 4: Several comments were received concerning production/mining activities at the Umetco site.

Response 4: Umetco is a remediation site. Mining activities ended in 1984 and the site has been in the reclamation process since 1996.

Comment 5: A commenter recommended that Umetco's remediation plan be modified to address metals issues.

Response 5: Umetco's updated Reclamation Plan was received by ADEQ on March 16, 2011. The updated plan is currently under internal review.

Comment 6: A commenter asked that Umetco restore Wilson Creek Bay it to pre-mining conditions.

Response 6: Umetco's updated Reclamation Plan was received by ADEQ on March 16, 2011. The updated plan is currently under internal review.

Comment 7: Comments were received noting personal, historical accounts of water pollution and/or aquatic life concerns.

Response 7: The Department acknowledges these concerns and urges citizens to report any environmental concerns to their local ADEQ Inspector.

Comment 8: A comment was received concerning the SIC code under which Umetco is classified.

Response 8: The error in SIC code was found on the ADEQ website. This error is in the process of being corrected. Please note that all permits and related documents for Umetco contain the appropriate SIC code, 1094.

Comment 9: Comments were received concerning classification as a minor facility rather than a major and referenced docket # 06-003-p as justification.

Response 9: The facility is considered to be a minor industrial source. The NPDES Permit Rating Sheet (MRAT) score for Umetco at the time of the current permit renewal is only 35 points. To be considered a major industrial source, the facility's MRAT score must be a minimum of 80 points.

The APCEC Administrative Hearing Officer (AHO) issued a recommended decision on August 3, 2007, stating that Umetco does not discharge process wastewater, APCEC Docket No. 06-003-P, <http://www.adeg.state.ar.us/commissionlp.asp>. The AHO's recommended decision was upheld by the Commission on September 28, 2007, APCEC Minute Order No. 07-37, <http://www.adeg.state.ar.us/commissionlminuteorders.asp>. There have been no changes to the types of wastewater treated and discharged from this facility since that decision was made.

Comment 10: A comment was received stating that the NPDES permit requires "...Umetco to send two reports yearly concerning vanadium."

Response 10: NPDES permit parameters are either “report only” or “limitations.” A requirement of report does not necessitate an actual report, but rather reporting the value of the “report only” parameter on the DMR. In this case Umetco is required to conduct vanadium sampling twice a year and submit those values to ADEQ, not submit a written report twice a year.

Comment 11: Comments were received noting a pipe discharging into Lake Catherine.

Response 11: To the Department’s knowledge Umetco does not discharge via a pipe directly into Lake Catherine.

Comment 12: Several comments were received pertaining to permitting issues or Umetco’s permit renewal.

Response 12: Water quality standard revisions and NPDES permit renewals are separate processes. Umetco is currently in the process of renewing their NPDES permit. The draft permit renewal will be public noticed and will have a 30 day comment period.

Comment 13: A comment was made regarding “ADEQ’s third party applications for businesses.”

Response 13: The 3rd party rulemaking process falls under the jurisdiction of APCEC, not ADEQ. As per APCEC Reg.8.809, any person may petition the Commission for the issuance, amendment, or repeal of any regulation.

Comments 14: Comments were received stating that ADEQ should follow up and report back to the community on various claims.

Response 14: It is the practice of ADEQ’s Water Division Inspectors to report results of findings of any complaint received, provided that contact information is available.

Comment 15: A comment was received discussing the pH concerns in the Cove Creek watershed.

Response15: The Department acknowledges this comment. While Cove Creek watershed is outside the scope of this third party rulemaking, any comments concerning pH within Wilson Creek watershed are addressed in these responses to comments.

Comment 16: Comments were received concerning pH of the sample locations used during the UAA and Umetco’s ability to meet NPDES permit pH limits.

Response 16: Regarding any violations of pH limits in Umetco’s NPDES permit or violations of water quality standards for pH, it is important to note that the petition before the Commission is to remove the Domestic Water Supply designated use and establish appropriate site-specific criteria for chlorides, sulfates, and Total dissolved solids for Wilson Creek. Umetco will be responsible for meeting all current permit limits and maintaining a discharge that does not violate the pH water quality standards.

Comment 17: A comment was received requesting that discharges from the “sludge pond” or “tailings lake” on Umetco’s property be addressed.

Response 17: This proposed rulemaking concerns changes to water quality criteria for Wilson Creek. Discharges from the site are addressed through the NPDES permitting process.

Comment 18: A comment was received stating the endangered Arkansas Fatmucket mussel is found in the Ouachita River.

Response 18: According to Harris et al. (2009) the federal and state status for the Arkansas Fatmucket mussel is listed as “threatened” not “endangered”. Additionally, its range within the Ouachita River is limited to reaches upstream of Lake Ouachita. [Harris, JL, WR Posey II, CL Davidson, JL Farris, S Rogers Oetker, JN Stoeckel, BG Crump, M Scott Barnett, HC Martin, MW Matthews, JH Seagraves, NJ Wentz, R Winterringer, C Osborne, and AD Christian. 2009. Unionoida (Mollusca: Margaritiferidae, Unionidae) in Arkansas, Third Status Review. Journal of the Arkansas Academy of Sciences 63: 50-84.]

Comment 19: A comment was received stating that this site should have been classified a Superfund site.

Response 19: The Umetco Wilson Mine Site does not meet the specifications outlined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). CERCLA or Superfund Amendments and Reauthorization Act (SARA) <http://www.epa.gov/superfund/policy/remedy/sfremedy/regenfor.htm>.

Comment 20: There were several comments concerning Umetco’s failure to meet its current limits over the past several years.

Response 20: Prior to October 2010, Umetco’s effluent was in compliance with the interim limits outlined in the NPDES permit. ADEQ’s water enforcement section is currently developing a Consent Administrative Order (CAO) related to failure to meet final effluent limits.

Comment 21: Comments were received concerning flooding and runoff from the Indian Springs area and "discharge" from the Spaulding area into the Wilson Creek watershed.

Response 21: This proposed rulemaking concerns changes to water quality criteria for Wilson Creek. Discharges from the site are addressed through the NPDES permitting process.

Comment 22: A comment was received concerning the effect to Indian Springs Creek from water being pumped to the Wilson Creek watershed for treatment.

Response 22: This proposed rule would change the water quality standards for Wilson Creek but it would not alter or increase the characteristics of the effluent discharged into Wilson Creek or from Indian Springs Creek.

Comment 23: A comment was received concerning potential groundwater contamination from leaching from North Wilson Pond and East Wilson Pond, as well as from untreated water seeping into the groundwater from the Umetco site.

Response 23: Without more information regarding these issues, ADEQ cannot speculate on the affects to groundwater. As appropriate, the Department will address other issues related to the Umetco mine site through permitting and enforcement procedures.

Comment 24: A comment noted that vanadium was listed on the Toxic Release Inventory and was subject to Community Right-to-Know regulations.

Response 24: This proposed rulemaking concerns changes in water quality standards for chlorides, sulfates and total dissolved solids (TDS), not vanadium. As such, any applicable rules and regulations pertaining to vanadium do not apply to this rulemaking.

Comment 25: A comment was received asking if the Wilson Creek water has ever been tested for ammonia nitrogen? Could that be a problem? Please test and, if found, advise everyone where it is coming from and what should be done about it.

Response 25: While ammonia nitrogen is outside the scope of this third party rulemaking for site specific minerals criteria, the Department is unaware of ammonia nitrogen problem in Wilson Creek. In 2006 the Department collected water quality data from Wilson Creek, during these sampling events, the ammonia nitrogen in Wilson Creek met the Ammonia nitrogen criteria outlined in Reg. 2.512.

Comment 26: A comment was received opposing Umetco's "increase in its water discharge."

Response 26: This proposed rule would change the water quality standards for Wilson Creek but it would not alter or increase the characteristics of the effluent discharged into Wilson Creek.

Comment 27: A comment was received stating that "I found out that Umetco was polluting the lake with heavy metals. I have not eaten fish taken from the lake since." Another comment stated that Umetco has been allowed to pollute with heavy metals for years.

Response 27: According to the AR Department of Health, there is no fish consumption advisory for Lake Catherine or Wilson Creek.

Comment 28: A commenter stated that it is "well established that determining the cost associated with closure and accruing these costs during the life of the mining operation was a fundamental part of closure planning. Doing so helps ensure sufficient funds to close and that closure costs do not become a burden at later parts of mine life. Is this information available in an economic study or the CPP for the Umetco mine?"

Response 28: ADEQ acknowledges the comment. However, closure of the site is addressed by the 2007 Comprehensive Reclamation Plan and Milestone Schedule for the Wilson Vanadium Mine, not this rulemaking to change site-specific water quality criteria for chlorides, sulfates, and Total dissolved solids in Wilson Creek.

Comment 29: A comment was received stating that the cove has been dredged in the past (maybe several times). Has that material been placed in the Wilson Creek watershed? How is it adversely affecting the Wilson Creek watershed?

Response 29: ADEQ acknowledges this comment but, at this time, has no information regarding the dredging of the cove and placement of dredged material.

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

CONTROVERSY: This is not expected to be controversial.

FINANCIAL IMPACT: There is no financial impact.

Economic Impact

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

UMETCO Minerals Corporation is affected by this rule. The effect of the rule on UMETCO is positive. No other entities will be economically affected by this rule.

2. What are the economic effects of the proposed rule? State: 1) The estimated increased or decreased cost for an average facility to implement the proposed rule; and 2) the estimated total cost to implement the rule.

There are no net economic effects of the proposed rule from current conditions because the rule simply adjusts dissolved mineral criteria to reflect current conditions. Adoption of the proposed rule will allow UMETCO to remain in compliance with its NPDES Permit while protecting the aquatic life of Wilson Creek.

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

None.

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

None. Not applicable.

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

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

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

No.

Environmental Impact

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

This proposal, if accepted, will not adversely affect the environment because it allows current conditions to be maintained. This proposed rule will allow UMETCO to continue to serve the public, be in compliance with its NPDES permit, and continue to protect the aquatic life designated uses of the affected streams. The only available treatment technology for removal of dissolved minerals, reverse osmosis, is prohibitively expensive (\$8,400,000 for initial installation with annual operating costs of approximately \$2,700,000), generates a concentrated brine which is environmentally difficult to dispose of, and provides no significant, additional environmental protection. Construction of a pipeline from Outfall 001 to Lake Catherine would be required to cross Wilson Creek dirt roads and State Highway 270. The estimated cost of installation would be approximately \$420,000 and would also offer no significant, additional environmental protection vs. the proposal.

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

The Use Attainability Analysis supporting UMETCO's requested modifications established that the requested changes do not represent a change from current conditions or current water quality in Wilson Creek; therefore, the proposal protects the natural environment which supports the designated fishery use.

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

If treatment is required, the only available treatment technology for removal of minerals (reverse osmosis) generates a concentrated brine which is environmentally difficult to dispose of and provides no significant environmental protection.

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

The risk addressed by this proposal is the continued protection of the designated and existing uses of the affected stream segments. Under this proposal, the risks should be substantially eliminated.

LEGAL AUTHORIZATION: Ark. Code Ann. § 8-4-202(a) generally authorizes the Arkansas Pollution Control and Ecology Commission to "adopt, modify, or repeal, after notice and public hearings, rules and regulations implementing or effectuating the powers and duties of the Arkansas Department of Environmental Quality and the commission" under the Arkansas Water and Air Pollution Control Act. More specifically, Ark. Code Ann. § 8-4-202(b)(1) authorizes the commission to promulgate rules and regulations that prescribe "[e]ffluent standards specifying the maximum amounts or concentrations and the physical, thermal, chemical, biological, and radioactive nature of the contaminants that may be discharged into the waters of this state."