

Note: Two sets of workshops were held for this petition, May - June 2006 and November - December 2007

WORKSHOP Comments

Carson City, May 23, 2006

- 1 Why are there no standards for nitrate, nitrite, turbidity, and total suspended solids?
 - o *NDEP response: Class waters do not have standards for those parameters, but once we restructure the class waters, we will populate those parameters as the water quality standards of those waters are reviewed.*

Las Vegas, May 25, 2006

1. What class waters are in Clark County?
 - o *NDEP response: The only class water in Clark County is Bowman Reservoir.*

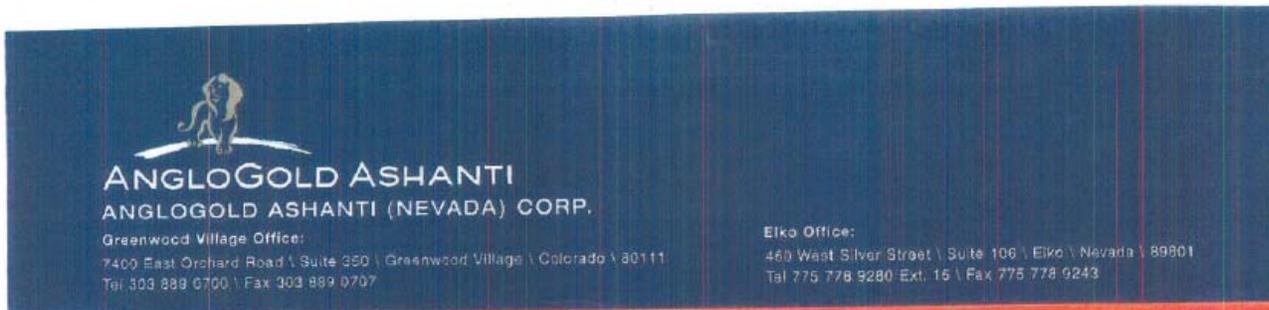
Elko, June 1 2006

1. By proposing E. Coli Standards does this mean that Fecal Coliform standards will be dropped?
 - o *NDEP response: No. Fecal Coliform standards will remain for the protection of non-contact recreation, irrigation, watering of livestock, municipal and domestic supply and propagation of wildlife.*
2. Will parameters be added to the waters during the class waters reorganization, for example nitrates or turbidity?
 - o *NDEP response: The only parameters that will be added during this petition will be Total Ammonia and E. Coli. Once the class waters are restructured, NDEP will add the appropriate water quality standards as the waters are reviewed.*
3. Based on past discussions with NDEP, is deletion of municipal and domestic supply for waters this included in this petition package?
 - o *NDEP response: NDEP is not removing any uses during this review. We are removing the qualifiers to municipal and domestic supply for class A, B and C (for example Municipal and Domestic Supply ~~with disinfection only~~). To remove a beneficial use a Use Attainability Analysis (UAA) is required.*
4. Why are there not standards for the protection of springs, along with intermittent streams? There is no protection for these waters.

- *NDEP response: Springs are protected by groundwater water quality standards. Once a spring forms a stream, perennial or intermittent, the stream would covered under surface water quality standards for that stream, or by the tributary rule. The tributary rule applies when a stream does not have specific standards, but if that stream is a tributary to a stream that does have standards, those standards apply.*
5. NDEP should set standards for the whole hydrographic basin; this would protect all waters within that basin.
- *NDEP response: It would be difficult for NDEP to set water quality standards that would be appropriate for a whole hydrographic basin. Water quality standards have to account for differing beneficial uses throughout the basin, when the beneficial uses or the hydrologic system changed, the standards should reflect those changes. Antidegradation standards (RMHQs) should also reflect the differing flow structure and conditions at each reach, and therefore would not be appropriate by basin*

Comment Letters 06/2006

Note: A number of the comments relate to another workshop petition.



Mr. John Heggeness
Mr. Paul Comba
Mr. Sam Stegeman
Nevada Division of Environmental Protection
Bureau of Water Quality Planning
9001 South Stewart Street, Suite 4001
Carson City, Nevada 89701-5249

Gentlemen,

AngloGold Ashanti (Nevada) Corp. ("AGANC") herein provides comments on the proposed changes by the Nevada Division of Environmental Protection ("NDEP") Bureau of Water Quality Planning ("BWQP") to the Nevada Administrative Code ("NAC") regarding surface water quality and Class waters. The basis for these comments are the information received and presentations at the June 1, 2006 workshop in Elko, Nevada and information posted on the NDEP website.

The comments are broken into two sections: 1) comments to the "changes to water quality standards for select inorganic toxic chemicals related to the protection of aquatic life beneficial use" and 2) comments to the "adjustments to the class waters and reorganization of the water quality standards tables." No comments to the "revisions to the Colorado River Basin Salinity Standards references" are proposed in this letter.

I. Comments to "changes to water quality standards for select inorganic toxic chemicals related to the protection of aquatic life beneficial use"

Selenium

Acute: The NDEP proposes to delete the Acute value of 0.02 mg/l for selenium in NAC 445A.144.

Chronic: The NDEP proposes to retain the Chronic value of 0.005 mg/l for selenium in NAC 445A.144.

The Environmental Protection Agency ("EPA") has recently considered substituting the chronic water column value with a fish tissue value. The current status of the proposed substitution is located at: <http://epa.gov/waterscience/criteria/selenium/fs.htm>. The date of the final chronic selenium revision has not yet been set by the EPA.

AGANC recommends the following:

- 1) AGANC concurs with the revision to the acute selenium standard.
- 2) NDEP should add language to NAC 445A.144 (as a footnote) that when the EPA finalizes the selenium guidance for the chronic selenium criterion based on fish tissue concentrations, that the regulated community can follow that guidance. An example footnote could read:

^{xx} An alternative chronic aquatic life selenium criterion based on fish tissue may be used when final guidance is published by EPA.

This would provide more flexibility to the NDEP and regulated community for the assessment of water quality in Nevada.

Cadmium

The Acute and Chronic cadmium criteria for protection of aquatic life are based on hardness-dependent equations.

Acute: The NDEP proposes to revise the Acute equation in NAC 445A.144.

Chronic: The NDEP proposes to revise the Chronic equation in NAC 445A.144.

The current and proposed equations are:

Acute	Current	$(0.85) \times e^{(1.128[\ln(\text{hardness})]-3.828)}$
Acute	Proposed	$(0.85) \times e^{(0.7852[\ln(\text{hardness})]-3.49)}$
Chronic	Current	$(1.136672 - [\ln(\text{hardness})(0.041838)]) \times e^{(1.0186[\ln(\text{hardness})]-3.824)}$
Chronic	Proposed	$(1.101672 - [\ln(\text{hardness})(0.041838)]) \times e^{(0.7408[\ln(\text{hardness})]-4.719)}$

The NDEP rationale is provided in the "Rationale for Proposed Changes to Select Water Quality Standards for the Inorganic Toxic Chemicals (NAC 445A.144) Related To Aquatic Life Beneficial Use" document published at the NDEP website.

The update to the cadmium equations was similarly considered by the state of Colorado in 2004-2005. Updated information and analysis of the cadmium testing work was undertaken by the regulated community and provided to the Colorado Department of Public Health and Environment ("DPHE") for consideration in the adoption of the new standard. Based on the updated scientific review, alternative acute and chronic cadmium equations were proposed. The proposed Colorado DPHE cadmium equations were:

Acute	Proposed	Acute = $(1.136672 - [\ln(\text{hardness}) \times (0.041838)]) \times e^{0.0151[\ln(\text{hardness})]-3.1485}$ Acute w/ trout = $(1.136672 - [\ln(\text{hardness}) \times (0.041838)]) \times e^{0.0151[\ln(\text{hardness})]-3.6236}$
Chronic	Proposed	Chronic = $(1.101672 - [\ln(\text{hardness}) \times (0.041838)]) \times e^{0.7998[\ln(\text{hardness})]-4.4451}$

The basis for the revisions was outlined in documents submitted to the Colorado DPHE. Two acute values were proposed, as noted above. One acute equation for streams with trout and one acute equation for streams without trout. These documents can be found at the Colorado DPHE website at the following locations:

[http://www.cdphe.state.co.us/op/wqcc/Archive\(RMHDocs\)/31/Responsive.html](http://www.cdphe.state.co.us/op/wqcc/Archive(RMHDocs)/31/Responsive.html)
[http://www.cdphe.state.co.us/op/wqcc/Archive\(RMHDocs\)/31/RPHSCMA31.pdf](http://www.cdphe.state.co.us/op/wqcc/Archive(RMHDocs)/31/RPHSCMA31.pdf)
[http://www.cdphe.state.co.us/op/wqcc/Archive\(RMHDocs\)/31/RPHSCMA31ex1.pdf](http://www.cdphe.state.co.us/op/wqcc/Archive(RMHDocs)/31/RPHSCMA31ex1.pdf)
[http://www.cdphe.state.co.us/op/wqcc/Archive\(RMHDocs\)/31/RPHSCMA31ex1apA.pdf](http://www.cdphe.state.co.us/op/wqcc/Archive(RMHDocs)/31/RPHSCMA31ex1apA.pdf)
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[http://www.cdphe.state.co.us/op/wqcc/Archive\(RMHDocs\)/31/RPHSCMA31testChadwick.pdf](http://www.cdphe.state.co.us/op/wqcc/Archive(RMHDocs)/31/RPHSCMA31testChadwick.pdf)
Selected documents are included in Attachment A.

The revised acute and chronic equations for cadmium were adopted by Colorado DPHE in 2006. The adopted acute and chronic equations are the same as listed in the above table. The published equations are on page 53 at:

<http://www.cdphe.state.co.us/op/regs/waterregs/100231basicstandards1205and1207.pdf>

A comparison of the current Nevada acute and chronic equations with the proposed Nevada equations and the current Colorado equations is provided in the attached plots.

AGANC recommends the following:

- 1) Based on the information provided to Colorado DPHE by the regulated community in Colorado and the decision by Colorado to adopt these equations, NDEP should review and consider the data and adopt the revised cadmium acute and chronic hardness-based equations. The BWQP should adopt the general acute equation. The trout based equation could be considered for surface waters where trout have been identified as an aquatic life species of concern.
- 2) NDEP also should add language to NAC 445A.144, as a footnote, that provides for site-specific and species-specific application of the acute and chronic cadmium equations where appropriate and adequately supported. An example footnote could read:

^{xx} Alternative acute and chronic aquatic life equations based on site-specific conditions and data and using approved Nevada and EPA methodologies may be proposed to NDEP for approval.

Chloride

Acute: The NDEP proposes to add the Acute value of 860 mg/l for chloride to NAC 445A.144.

Chronic: The NDEP proposes to add the Chronic value of 320 mg/l for chloride to NAC 445A.144.

Chloride is characterized by the EPA as a “non-priority pollutant” (see current references at: <http://epa.gov/waterscience/criteria/wqcriteria.html>). In Nevada, chloride is a secondary drinking water standard for municipal and domestic supplies, enforceable in the distribution system (<http://www.leg.state.nv.us/nac/nac-445a.html#NAC445A455>). The most recent EPA analysis of the acute and chronic toxicity is: <http://www.epa.gov/ost/pc/ambientwqc/chloride1988.pdf>.

Many natural factors will affect the chloride concentrations in Nevada surface waters. The natural factors will include:

- Naturally arid climate and periodic drought conditions in the Great Basin that will naturally increase chloride concentration in the runoff;
- Evaporation processes in the surface waters, floodplains, and in-stream reservoirs will naturally increase the chloride from the headwaters through to the terminal lakes (e.g. Humboldt Sink). Table 1 (attached) is a selection of chloride values from NDEP, USGS, and USFWS publications.

Other factors that can affect the chloride concentrations in Nevada surface waters include:

- Runoff from road salt
- Agricultural return flows
- Waste water and other treatment plant discharges

A brief review of the water quality criteria in other western states shows that the adoption of the EPA chloride criteria is not widespread.

State	Chloride criteria for Aquatic Life	Reference
Colorado	No	http://www.cdphe.state.co.us/op/regs/waterregs/100231basicstandards1205and1207.pdf
Idaho	No	http://adm.idaho.gov/adminrules/rules/idapa58/0102.pdf
Utah	No	http://www.rules.utah.gov/publicat/code/r317/r317-002.htm#T15
Arizona	No	http://www.azsos.gov/public_services/Title_18/18-11.htm
Oregon	Yes Acute = 860 mg/l Chronic = 320 mg/l	http://www.deq.state.or.us/wq/wqrules/Div041/OAR340Div041Tb133A.pdf

Note: these websites were reviewed in June of 2006. Additional water standard guidance may exist in other locations of the state homepages.

The states of Iowa (2003) and Wisconsin (1999) reviewed the chloride toxicity data in order to develop acute and chronic standards for aquatic life in their respective surface waters. The rationale for the revised standards included updated information and testing and consideration of state-specific standards based on the species present in that state. Wisconsin adopted their revised criteria. Iowa does not appear to have approved the chloride criteria based on a review of the current Iowa NAC.

The criteria are:

State	Chloride criteria for Aquatic Life	Reference
Iowa	No. Iowa considered the following values: Acute = 860 mg/l Chronic = 564 mg/l or Chronic = 372 mg/l	Analysis at: http://www.iowadnr.com/water/standards/files/cissue.pdf Reference at Iowa NAC: 567-61.3(455B) Surface water quality criteria.
Wisconsin	Yes Acute = 757 mg/l Chronic = 395 mg/l	http://www.legis.state.wi.us/cr_final/98-196.pdf

AGANC recommends the following:

The adoption of aquatic chloride criteria by Nevada should be deferred at this time by the BWQP for the following reasons:

- 1) BWQP should compile and publish a list of state waters and chloride concentration. This will provide a better basis to understand the chloride distribution in Nevada and determine whether additional standards are necessary.
- 2) BWQP should consider the potential outcome that numerous state waters in the terminal lakes and rivers will be out of compliance under the new chloride criteria. This may create a burden on the BWQP to identify and develop TMDLs for these waters.
- 3) BWQP should assess the reaches with elevated chloride to demonstrate that aquatic health issues are related to chloride and that the new chloride criteria will benefit the resident aquatic species. It is likely that the reaches with elevated chloride also have elevated metals due to evapoconcentration. The metals may be the more appropriate target parameter to study and mitigate.
- 4) If new chloride aquatic life criteria are determined to be necessary for the surface waters of Nevada, BWQP should undertake a literature review to establish the best acute and chronic criteria for Nevada, based on species present in Nevada surface waters.

Aluminum

The BWQP proposes to add acute and chronic aluminum aquatic life criteria to NAC 445A.144. The proposed acute and chronic criteria are 0.750 and 0.087 mg/l, respectively.

The update to the aluminum aquatic life criteria was similarly considered by the state of Colorado in 2004-2005. Updated information and analysis of the aluminum testing work was undertaken by the regulated community and provided to the Colorado DPHE for consideration in the adoption of the new criteria. Based on the updated scientific review, alternative acute and chronic aluminum values were proposed.

The proposed aluminum criteria were:

Aluminum	Value	Qualification
Acute	0.750 mg/l	none
Chronic	0.087 mg/l	pH<7 AND Hardness <50 mg/l as CaCO ₃

The basis for the revisions was outlined in documents submitted to the Colorado DPHE. The submitted information is included in Attachment A. These documents were printed from the Colorado DPHE website at the following locations:

[http://www.cdphe.state.co.us/op/wqcc/Archive\(RMHDocs\)/31/Responsive.html](http://www.cdphe.state.co.us/op/wqcc/Archive(RMHDocs)/31/Responsive.html)
[http://www.cdphe.state.co.us/op/wqcc/Archive\(RMHDocs\)/31/RPHSCMA31.pdf](http://www.cdphe.state.co.us/op/wqcc/Archive(RMHDocs)/31/RPHSCMA31.pdf)
[http://www.cdphe.state.co.us/op/wqcc/Archive\(RMHDocs\)/31/RPHSCMA31testChadwick.pdf](http://www.cdphe.state.co.us/op/wqcc/Archive(RMHDocs)/31/RPHSCMA31testChadwick.pdf)
[http://www.cdphe.state.co.us/op/wqcc/Archive\(RMHDocs\)/31/RSWQCD31ex17.pdf](http://www.cdphe.state.co.us/op/wqcc/Archive(RMHDocs)/31/RSWQCD31ex17.pdf)

The revised acute and chronic aluminum aquatic life criteria of 0.750 mg/l for acute and 0.087 mg/l for chronic (with pH and hardness criteria) were adopted by Colorado DPHE in 2006. The published standards are on page 53 at:

<http://www.cdphe.state.co.us/op/reggs/waterregs/100231basicstandards1205and1207.pdf>

AGANC recommends the following:

The adoption of aquatic aluminum criteria by Nevada should be deferred at this time by the BWQP the following reasons:

- 1) A review of the NDEP database shows few analyses for aluminum in Nevada waters. NDEP should analyze for aluminum for a three-year period before setting the criteria. This will allow for adequate review of the proposed criteria, review of toxicity data, and analysis of suspended transport of aluminum issues in the state.
- 2) Work is occurring in the scientific community on hardness based aluminum criteria.
- 3) If new aluminum aquatic life criteria are determined to be necessary for the surface waters of Nevada, BWQP should consider the Colorado criteria as appropriate for Nevada.

General comment to NAC 445A.144

AGANC also recommends that NDEP-BWQP add a footnote to NAC 445A.144 that provides the regulated community the option to develop site-specific water quality standards for parameters based on the observed aquatic species and in-stream conditions. The footnote would be similar to the following:

^{xv} Alternative acute and chronic aquatic life equations or values based on site-specific conditions and data and using approved Nevada and EPA methodologies may be proposed to NDEP for approval.

II. Comments to “adjustments to the class waters and reorganization of the water quality standards tables”

The proposed changes to the organization and structure to the class waters system (NAC 445A.148 through 445A.220) is a timely update and will result in clarification and simplification. The proposed changes that provide a “one page” summary of the water, the designated beneficial uses, and the applicable standards is the preferred approach.

Use Attainability Analysis

NDEP should consider the adoption of the Use Attainability Analysis (“UAA”) methodology. The UAA strategy to assess beneficial uses in stream reaches is supported by at least two states in the west: Colorado and Wyoming. This Wyoming website identifies recent UAA studies. <http://deq.state.wy.us/wqd/watershed/surfacestandards/>.

This Colorado website shows an example UAA.

<http://www.cdphe.state.co.us/op/wqcc/WOCClassandStandards/Regs34-35/35rebutWQCDex5.pdf>

Guidance has been published by EPA as well.

<http://www.epa.gov/waterscience/library/wqstandards/uaavol123.pdf>

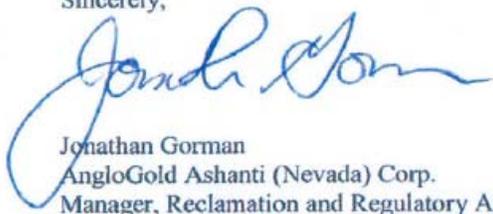
<http://www.epa.gov/Region8/water/wqs/UAAGUIDE.pdf>

AGANC recommends the following:

- 1) NDEP and BWQP consider the inclusion of narrative in the class waters section of the NAC that permits the application of the “use attainability analysis” concept to reaches of surface waters in the State of Nevada. This will provide NDEP and the regulated community with increased flexibility to address site-specific beneficial uses and water quality issues.

Thank you for the opportunity to comment. AGANC is available to meet with BWQP if there are any questions or if additional information is necessary to clarify our comments. Please contact Jonathan Gorman at (775) 778-9280 or by e-mail at jgorman@andlogoldashantina.com.

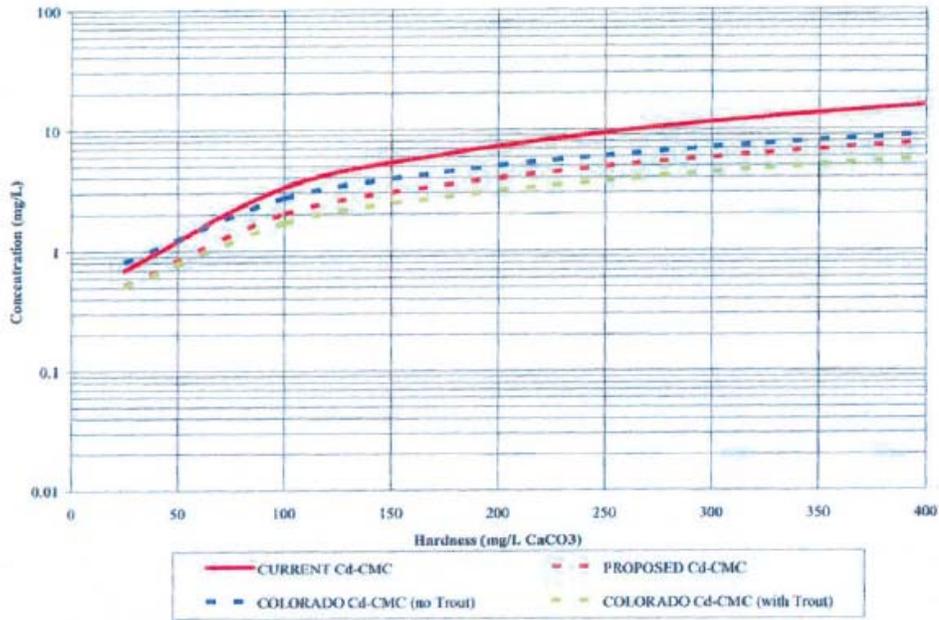
Sincerely,



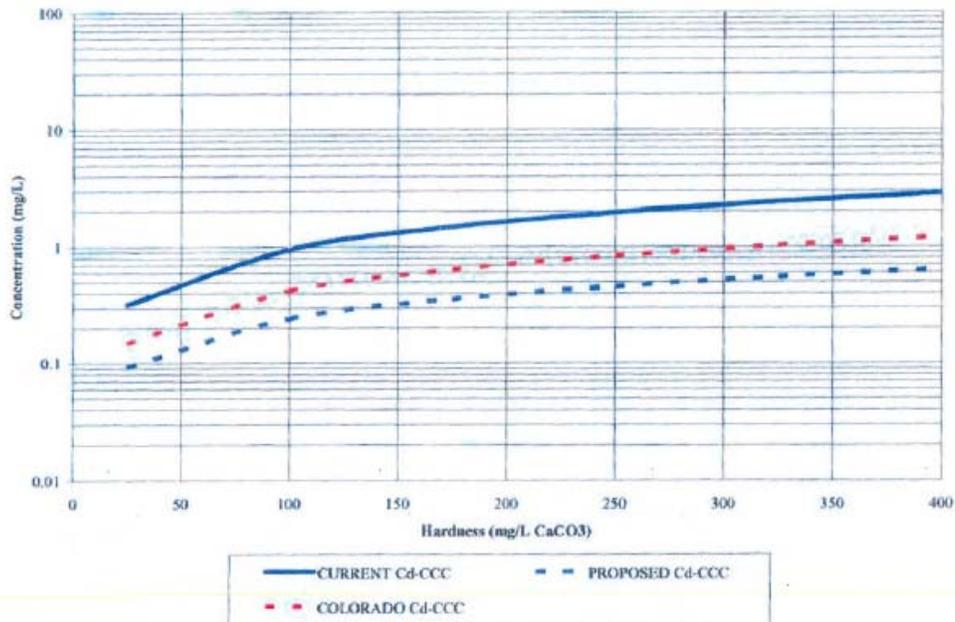
Jonathan Gorman
AngloGold Ashanti (Nevada) Corp.
Manager, Reclamation and Regulatory Affairs

cc: Scott Lewis

**Cadmium Criteria and Hardness
Acute (CMC) concentrations**

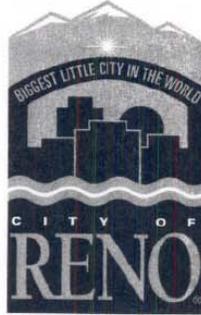


**Cadmium Criteria and Hardness
Chronic (CCC) concentrations**



PUBLIC WORKS DEPARTMENT

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RECEIVED JUN 22 2006

22 June 2006

Mr. E. Samuel Stegeman, P. E.
Supervisor, Water Quality Standards
Bureau of Water Quality Planning
901 S. Stewart Street, Suite 4001
Carson City, NV 89701

Subject: Comments to NDEP-BWQP petitions proposing NAC changes scheduled for public hearing before the SEC in September 2006

Dear Mr. Stegeman:

The City of Reno (City) welcomes the opportunity to comment on the proposed changes to the NAC standards presented at public workshop and made available on the website. The City supports reorganization of the class waters format to provide more flexibility in establishing criteria for the individual waters within each class group. Assigning individual waterbodies to the state's water resource hydrographic areas and providing the indexing is a user friendly approach. Although it creates a larger NAC, having individual tables for each waterbody is slightly preferred over the other option of having several "reference" tables throughout the NAC.

Review of the proposed restructuring of the waterbody tables offers the opportunity to highlight some topics of great interest to the City. Although we understand they are not at this time specific action items in the proposed petitions, the City would like to comment on them. These items are offered to the SEC (Commission) and NDEP-BWQP (Bureau) as a possible guide to priority setting for future standards review to bring before the Commission for action. It is understood that many topics throughout the state exist and deserve priority such that they can overwhelm the review and investigation capacity of the available Bureau resources.

Being able to appropriately and adequately accommodate the continuing pressures of regional growth dictates knowing what regulatory constraints must be addressed for managing Truckee River water quality and associated habitat necessary to support the prescribed beneficial uses. The City believes that it is imperative to review and possibly revise selected standards and/or beneficial uses for parts of the Truckee River system in the very near future so that responsible and properly coordinated facility planning and habitat decisions can be made. The following topics have a profound affect on the facility planning for the Truckee Meadows Water Reclamation Facility (TMWRF). The City would like to propose a direct working relationship with NDEP to resolve these issues in a manner beneficial to all parties including downstream water users. The City may be able to provide resources and

assistance in developing adequate science to resolve these issues.

The following is offered regarding the petitions before the SEC for action in September 2006 for the Truckee River:

1. Apparent disparity of standard for same beneficial use – While the beneficial use matrix for each appears to be the same for the Truckee, Carson and Walker River systems (NAC 445A.15018 – 165010), there is an apparent disparity in the Nitrate concentration standard set for the Truckee River that we would like to bring to your attention. While the Truckee River standard is ≤ 2.0 mg/l, the other systems have a Nitrate standard of ≤ 10 mg/l. Tributaries to Lake Tahoe also have a Nitrate standard of ≤ 10 mg/l (NAC 445A.159002 – 159017). Since the Truckee River flows out of Lake Tahoe, it does not make sense to have upstream concentrations higher than downstream concentrations. Is there something unique about the Truckee River requiring a significantly lower Nitrate standard?
2. East McCarran Bridge to the Lockwood Bridge (NAC 445A.159021) – This section of the Truckee River includes Reach “Y” (from approximately 50 meters downstream of East McCarran Bridge to the first railroad trestle bridge). Reach “Y” is severely degraded due to excavation, channelization, riparian vegetation removal and general lack of lotic process. As such, this reach is unsuitable as salmonid habitat. Is it possible to remove this reach from the section to reclassify it with a different beneficial use?
3. Derby Dam downstream to Wadsworth Gage (NAC 445A.159023) – A portion of this section, from Derby Dam to Gilpin Overflow Return can be dewatered when OCAP is in effect and significant flow of the Truckee River is being diverted to the Truckee Canal. When dewatered, this reach cannot support any life stage of salmonids. This is reflected in the wording under Beneficial Use – “depending on hydraulic conditions”. Is it possible for NDEP to further clarify what these “hydraulic conditions” may be?

Thank you in advance for considering the City’s comments on the proposed petitions and on the Truckee River topics of concern to the City. Please contact me at (775) 334-2165 if you have any questions regarding the provided comments.

Sincerely,



Greg Dennis, P.E.
Deputy Public Works Director, Sanitary Engineer

Cc: Mr. Leo Drozdoff, P.E. Administrator, NDEP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

**75 Hawthorne Street
San Francisco, CA 94105-3901**

June 22, 2006

Mr. John Heggeness
Nevada Division of Environmental Protection
Bureau of Water Quality Planning
901 S. Stewart Street, Suite 4001
Carson City, NV 89701

RECEIVED
JUN 23 2006
ENVIRONMENTAL PROTECTION

Dear Mr. Heggeness:

Thank you for the opportunity to review and comment on the Proposed Changes to the Nevada Administrative Code (NAC) concerning beneficial uses and water quality standards in NAC 445A.124 through 225. At this time, EPA is supportive of the proposed changes. We do have one comment which is outlined below.

1. The fecal coliform standard for Class C currently includes 3 footnotes where the more stringent of the 3 apply. We recommend that you delete the third footnote which is applicable to those waters used primarily for recreation involving contact with the water. This qualification is not defined and the intent for it to apply to beach areas is not clear in the footnote. This leaves the impression that not all Class C waters include recreation with contact as a beneficial use when that beneficial use is listed for Class C waters. In addition, the inclusion of the E. coli standard will provide the necessary level of protection for beach areas.

Please call me at (775) 885-6190 if you have any questions or need additional information. We appreciate your efforts to revise the water quality standards.

Sincerely,

Stephanie L. Wilson
Tribal Office

cc: Phil Woods, WTR-5

NEVADA

Mining Association

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June 16, 2006

Nevada Department of Environmental Protection
Mr. Leo Drozdoff, Administrator
901 South Stuart Street
Carson City Nevada 89701-5249

Dear Mr. Drozdoff:

The Nevada Mining Association (NVMA) appreciates the opportunity to comment on the proposed changes to Water Quality standards related to Aquatic Life and the Water Quality standards changes for Class Waters in Nevada. The NVMA submits the following comments regarding these proposed changes:

Comments to Proposed Changes to Water Quality Standards related to Aquatic Life listed in NAC 445A.144.

Aluminum

NVMA supports the NDEP proposal to regulate aluminum based on compliance with the acute standard where the pH is equal to or greater than 7.0 and hardness is equal to or greater than 50 mg/L. However, we are concerned that some of the data used to develop the proposed acute and chronic criteria may be inaccurate or interpreted inappropriately. More current information may be available and, if so, should be considered before changes to the existing standard are made. NVMA believes and propose that the acute standard should be revised from 750 µg/L to 825 µg/L and the chronic standard should be revised from 87 µg/L to 122 µg/L. The acute value should be revised to 825 µg/L because the existing acute criterion was derived from an incorrect database. The chronic value should be revised to 122 µg/L because the existing chronic criterion was based on an incorrect interpretation of results of two studies of chronic effects of aluminum on brook trout and striped bass.

General

Water quality standards should be based on only aquatic species that are present in Nevada. If a species is not present, the values used to determine aquatic standards should be deleted and only those species present should be used to develop criteria. We request that NVMA have the opportunity to review the species specific input used to generate the proposed standards or equations and modify the limits or equations to reflect only those species of aquatic life present in Nevada.

Comments to proposed changes to Class Waters NAC 445A.124 – 127 and NAC 445A.146 – 225:

The NVMA supports the Class Waters be Reordered in table format to utilize a specific table for each individual water as opposed to six (6) reference tables.

Again the Nevada Mining Association appreciates the opportunity to comment on proposed regulations which potentially impact the association members.

Sincerely,



Russ Fields
President
Nevada Mining Association

WORKSHOP COMMENTS

Elko - November 30, 2007

- 1 Move Willow Creek reservoir and Groves Lake in Lander County from light recreation to moderate contact recreation (E. coli).
 - *NDEP changed recommended E. coli standard (No/100 ml) for Willow Creek Reservoir and Groves Lake from Light (410) to moderate (298) protection.*
- 2 One person liked the new table format, the others did not comment.
 - *Comment noted*
- 3 When will NDEP be looking to start adding some new waters in the lower Humboldt - specifically the Reese River drainage?
 - *NDEP has just revised our monitoring program to target the upper Humboldt Basin. NDEP will be moving to target the lower Humboldt basin in two to three years and will look at possibly adding waters at that time. .*

Carson City - December 4, 2007

- 1 No comments on the E. coli levels of protection for Lakes and Reservoirs.
- 2 When will we be looking at methyl mercury standards on Steamboat Creek?
 - *USEPA does not have a recommended criterion for methyl mercury in the water column or in sediments at this time. NDEP does not have the expertise to develop a standard for methyl mercury and will wait until USEPA develops a criterion.*

USEPA does have methyl mercury criteria for the consumption of fish tissue. NDOW has been sampling fish tissue for mercury analysis at various sites through the state and the Nevada State Health Division has issued health advisories that recommend limiting consumption of fish species from six Northern Nevada waters due to elevated methyl mercury levels. Please see the NDOW website for a list of these waterbodies (<http://ndow.org/fish/health/index.shtm>).
- 3 Will we be looking to set standards for endocrine disruptors?
 - *USEPA does not have recommended criteria for the various endocrine disruptors at this time. NDEP does not have the expertise to develop standards for endocrine disruptors and will wait until USEPA develops a criterion.*
- 4 Consensus was the participants liked the new table format.
 - *Comment noted*
- 5 Why were we not putting OP standards as that affects the algal growth?
 - *NDEP is only adding ammonia and E. coli standards at this time. Other parameters may be needed, but it will be easier and more site specific to make necessary standards*

changes after this petition is adopted and individual tables are created for each class water.

- 6 How do we determine the 95th percentile, what data do we use, time period, all the data, what are the requirements...?
 - o *The amount and type of data needed to specify the 95th percentile will be reach specific. This will depend on the specific parameter, how variable it is and how much of an effect high and low flow conditions have on that parameter. Decisions on RMHQ's will probably be a "best professional judgment" recommendation by NDEP to be adopted by the State Environmental Commission.*
- 7 Are these changes administrative, will NDEP just be making the changes or is this approved by the legislature?
 - o *The changes proposed will not go the legislature. NDEP will present these proposed changes to the State Environmental Commission (Commission), who may adopt the proposed changes. If adopted by the Commission, the proposed changes are then submitted to the USEPA for approval. There is also a legislative review committee that oversees SEC actions.*
- 8 If a water body improves and a use is now possible that wasn't or wasn't protected before, what does NDEP do, do they change the standards?
 - o *If a waterbody improves, or a use is now possible that was not earlier, NDEP can protect the improved water quality and can add additional beneficial uses.*
- 9 How do these changes affect Tribal lands?
 - o *States and Tribes obtain authority from the USEPA to set water quality standards in their identified jurisdictions. Nevada has the authority to set water quality standards on Nevada state lands; it does not have authority to set standards on tribal lands that meet the requirements in the CWA section 518 Indian Tribes section (e) - Treatment of States. NDEP does have some reaches that extend onto tribal lands, but any water quality standards that NDEP has on tribal lands, are available for guidance purposes and are not regulated by NDEP.*

NDEP is working to remove or adjust the Nevada administrative code to reflect that any water quality standards that NDEP has on tribal lands are not regulated by NDEP.

Las Vegas - December 5, 2007

- 1 Surface waters - intermittent, ephemeral waters - what standards apply for regulatory purposes?
 - o *Generally NDEP does not set water quality standards on intermittent or ephemeral waters. If standards are present on one of these waterbodies, during low or high flow periods*

those standards do not apply. Nevada uses the 7Q10 calculation to designate extreme high or low events. However any surface water within a watershed may be subjected to water quality standards through the application of the "tributary rule," NAC 445A.145.

- 2 How is the 500 mg/l TDS standard applied, will we be changing it to the new secondary standard of 1000 mg/l?
 - o *NDEP will look at updating the secondary TDS standard where appropriate. Until the new standard is updated, the existing standard applies.*
- 3 Look at grammatical structure on 95th percentile for E. coli Class C, may want to rewrite.
 - o *Changed sentence to read: The fecal coliform concentration must not exceed the 95th percentile of the annual geometric mean or the 95th percentile of n, where n equals a certain number of single value samples as determined by the Division.*
- 4 NDEP should change Bowman Reservoir from Infrequent contact E. coli to light or moderate protection?
 - o *NDEP changed recommended E. coli standard (No/100 ml) for Bowman Reservoir from Light (410 number/100 ml) to moderate (298) protection.*
- 5 How does NDEP interpret temperature or D. O. standards in a lake...do they apply throughout, is it single value or averaging?
 - o *Generally the standards for temperature and dissolved oxygen (D.O.) apply to a single value anywhere in the lake. NDEP understands that in temperature and D.O. fluctuate daily and we are investigating using averaging and other methods within the standards process. Also D.O. does get depleted below the thermocline during lake stratification. NDEP has in the past specified that the D.O. standard does not apply to the hypolimnion during stratification.*
- 6 How does NDEP interpret the ΔT standard ($\Delta T = 0$)?
 - o *The current ΔT standard designation footnote reads:*

Maximum allowable increase in temperature above water temperature at the boundary of an approved mixing zone, but the increase must not cause a violation of the single value standard.

The ΔT would only apply at a designated mixing zone established by NDEP. We also understand that temperature fluctuates daily and that applying a strict change in temperature standard is unrealistic. NDEP will be developing a protocol in how we interpret a ΔT standard.
- 7 Consensus that new table format is logical and easier to understand.
 - o *Comment noted.*
- 8 Do these changes go to the legislature, what is the process for adoption?
 - o *The changes proposed will not go to the legislature. NDEP will present these proposed changes to the State Environmental Commission (Commission), who may adopt the proposed changes. If adopted by the Commission, the proposed changes are then*

submitted to the USEPA for approval. There is a legislative review committee that oversees SEC actions.

9 How do these changes affect Tribal lands?

- *States and Tribes obtain authority from the USEPA to set water quality standards in their identified jurisdictions. Nevada has the authority to set water quality standards on Nevada state lands; it does not have authority to set standards on tribal lands that meet the requirements in the CWA section 518 Indian Tribes section (e) - Treatment of States. NDEP does have some reaches that extend onto tribal lands, but any water quality standards that NDEP has on tribal lands, are available for guidance purposes and are not regulated by NDEP.*

NDEP is working to remove or adjust the Nevada administrative code to reflect that any water quality standards that NDEP has on tribal lands are not regulated by NDEP.

COMMENT LETTERS 12/2007

proposed WQS changes to NAC 445A

From: Daniel Fischer [DFischer@LasVegasNevada.GOV]

Sent: Thursday, December 06, 2007 11:48 AM

To: Sam Stegeman; John Heggeness

Cc: David L. Mendenhall; Scott Schiefer

Subject: proposed WQS changes to NAC 445A

Sam, John - Thanks for the information on the proposed changes to NAC 445A 124-127 and 146-225. The changes are breaking out the Class Waters, adding ammonia and E. coli standards to these waters, and administrative reorganization of the WQS tables. The City supports the changes. We recognize all the work that has gone into this effort. Congratulations. Good luck with the remainder of the process.

As we discussed yesterday, the $\Delta T \leq 0$ °C standard is troublesome for a number of reasons. We understand NDEP is looking into this issue. We would be happy to participate in any way that may help.

We are trying to schedule a visit to Carson City in January. So, see you then.

Dan Fischer

Laboratory Superintendent/Pretreatment Coordinator

Environmental Division Laboratory

City of Las Vegas Water Pollution Control Facility

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Pyramid Lake Paiute Tribe

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JAN 03 2008

ENVIRONMENTAL PROTECTION

December 31, 2007

Sam Stegeman
Nevada Division of Environmental Protection
Bureau of Water Quality Planning
901 S. Stewart Street, Ste 4001
Carson City, Nevada 89701

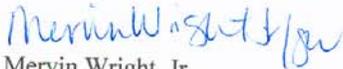
Re: Comments to the Class Water Quality Changes

Dear Mr. Stegeman:

Per your request, all final comments on the Revised Proposed Regulations are attached to this letter. Thank you again for allowing the additional time to make comments to your regulations.

If you have any questions in regards to our comments, please contact Dan Mosley or Beverly Harry at (775) 574-0101.

Sincerely,



Mervin Wright, Jr.
Tribal Chairman

MW/bh

cc: Dan Mosely, Environmental Specialist
Torey Byington, Environmental Director
John Heggeness, Water Quality Specialist

Reference	Pyramid Lake Paiute Tribe Comments
COMMENT 1	
<p>REVISED PROPOSED REGULATIONS</p> <p>Tables: Page 227-244</p>	<p>In the table, the Truckee River lists aquatic life species of special concern. All “sensitive” (threatened, endangered, and <i>indicator species</i>.) should be listed which are monitored by NDOW and USFWS.</p> <p>See the following Pyramid Lake Paiute Tribe notes below related to "<i>sensitive</i>", "<i>Semi-tolerant</i>", and "<i>tolerant</i>" fish species in the <u>Lower</u> Truckee River:</p> <p>“Sensitive”</p> <ul style="list-style-type: none"> • Cui-ui (when present in the river - spawning), • Lahontan Cutthroat Trout (LCT) are an <u>indicator species</u>. That is, LCT are indicators of really good water quality. LCT are the first of all salmonid species to disappear from the river as water quality conditions decline (warmer waters, low flow, higher nutrients, increase algae, lower dissolved oxygen levels, etc). LCT persisted in the <u>Lower</u> Truckee River from 1995-2000. They basically dropped out after that (2001 to present), even those LCT 'stocked' by PLPT/ NDOW/ FWS. • Mountain Whitefish - which are another <u>indicator species</u>. That is, indicators of really good water quality. Mountain Whitefish were found in the <u>Lower</u> Truckee River from 1997-1999 when electro-fishing. • Paiute Sculpin - indicators of really good water quality. <p>“Semi-tolerant” fish species in the <u>Lower</u> Truckee River are:</p> <ul style="list-style-type: none"> • Rainbows in the TR are not native, and primarily are of the "Tasmanian" strain, which is a hardy, warmer water tolerant fish. "Tasmanian" strain rainbows are sometimes purchased because they are more persistent even as water quality conditions decline. • Brown Trout are non-natives, and are the most tolerant to warm water and declining water quality conditions. <p>“Tolerant”</p> <ul style="list-style-type: none"> • Carp, sunfish, largemouth bass, buffalo head minnows, mosquito fish, etc...
<p>NDEP Response to Comment 1</p> <p>NDEP is not revising the Truckee River water quality standards at this time. NDEP will evaluate adding other species of concern when it does a water quality standards review of the Truckee River.</p>	

COMMENT 2

Table:
Page 227

NDEP should put the classification for waters to use. A certain water body can be grouped in a region (1-13); then **classified (A-D) waters**; then list the water body at **the top left part of the table** (i.e., *Nevada, Hydrographic Region 6, Classification B, Truckee River.*) In this way, the State would be able to **encapsulate and emphasize** its classification of graded waters for water quality purposes within their perspective regions. This may assist the State in identifying waters across the Nevada in its assessment of its performance management goals and objectives.

NDEP Response to Comment 2

The class waters system was originally set up as a way to group similar waters based on physical land form and the likelihood of impacts from man's activity. The class system was used to assign similar beneficial uses and water quality standards to a comparable set of waterbodies. The beneficial use and water quality standard of a water body from the class water group is retained during this proposed action to create an individual designated waterbody rather than to continue having it reside within a class group. In effect, there is only an administrative cosmetic change on how the waterbody is presented in the NAC by removing the class waters structure.

The class waters system was not intended to be used as a grading system for the quality of Nevada's waters. The evaluation of whether a water is meeting its beneficial uses and water quality standards is conducted during Nevada's 303d evaluation.

COMMENT 3

Handout:
Water Quality
Stds. Changes Page 3

For example, the Truckee River has multiple reaches defined and has a RMHQ. Is the integrity of the RMHQ maintained throughout the water body from beginning of the river to its terminus or is it dependent upon the beneficial uses related to that reach?

NDEP Response to Comment 3

An RMHQ may be developed when the water quality is better than a specific beneficial use standard. In other words, if a reach has a TDS standard of 500 mg/l but the water quality of the reach is actually 100 mg/l, then NDEP can petition the SEC to establish a RMHQ of 100 mg/l. The RMHQ is dependent on the beneficial use only to protect that use at the existing waters higher quality.

A RMHQ is expressly developed on a reach specific basis, and then that particular reach can be evaluated to see if the reach still meets the established RMHQ. This methodology supports Nevada's stated antidegradation policy authorized in NRS 445A.565.

This standards review did not evaluate the RMHQ's for the Truckee system (or any other of the river basins). A RMHQ evaluation will be performed during the basin water quality review.

COMMENT 4

Handout:
Water Quality Stds.
Changes Page 8

According to the handout, a TDS standard of 500 mg/L is set for Class A, B and C waters. If Class "D" waters are synonymous to low quality water, then what is the rationale for not having a TDS standard for Class D waters covered by narrative standards? If there is none established at this time, when will one be put into place?

NDEP Response to Comment 4

Class D waters are generally waters at the lower end of the watershed, and are generally of lower quality because they receive the runoff from all the watershed upstream. The class D designation is intended to indicate a set of beneficial uses and a set of water quality standards to protect those uses; it was not intended to necessarily indicate an impacted or degraded water body.

Generally, TDS would not be covered under Nevada's narrative standards (NAC 445A.121). NDEP does have the option to set a "natural condition" TDS standard on class D waters if it is deemed necessary. This proposed action, by separating out all of the class waters and creating an individual table for each water, would allow more flexibility for NDEP to set a "natural condition", or reach specific standard for any of the class waters.

COMMENT 5

General comment

Tables format needs to be changed because additional lines are not a good use of space and expensive when publication costs are incurred. The document is too long.

NDEP Response to Comment 5

NDEP understands that these changes greatly expand the document. We did examine other options on how to represent these changes in a more compact way. These options were presented to the public during the first set of workshops (May and June 2006) and approximately 75 % of the public preferred the proposed format as presented.

COMMENT 6

Page 257, Stds of Water Quality, Steamboat at the Truckee River

NDEP does not list a water quality standard for mercury for Steamboat Creek. What is the rationale? An enforceable mercury standard for the water or for the sediment should be promulgated to allow protection for fish, aquatic life and wildlife, as well as, human health and cultural resources.

Mercury has been heavily distributed throughout the Truckee River watershed and its ecosystem. During the Comstock era, six amalgamation mills apparently suitable for processing precious ore (gold and silver) had been placed in Washoe Valley. Steamboat Creek is a tributary which feeds into the Truckee River and terminates at Pyramid Lake, Nevada. Nonetheless, Steamboat Creek has other water pollution concerns that contribute its dismal state, these are: agriculture, urban runoff and effluent loading.

The Pyramid Lake Paiute Tribe uses the Truckee River and Pyramid Lake as a cultural resource. The cui-ui which is an endangered species and has historically provided subsistence living to the Tribe. Therefore, the Tribe was honored with a tribal culture affiliation; the “Kuiyuitokado” or the “cui-ui eaters”. Four other fish thrive within Pyramid Lake, these are: the Lahontan cutthroat trout, cui-ui, Tahoe sucker, tui-chub, and the Sacramento perch. Pyramid Lake is a fishery concerned about its fishery conservation, restoration and recreational efforts that are hindered by Steamboat Creek’s water pollution problems.

The Tribe pursued a study in 2001-2004 to better understand mercury bioaccumulation and the affects on the food chains within the Truckee River and Pyramid Lake. These food chains included some forage and predatory fish that spent much of their lifetime within multiple trophic levels. Furthermore, fish on the highest trophic level (predators) within Pyramid Lake were found to have the most concentrated amounts of mercury within their fillet muscle. Continual mercury loading of this contaminant could possibly threatened the vital fishery as well as cause economic impacts to the recreational fishery.

Flood events were also found to exacerbate mercury loading. Past scientific studies have shown mercury to be a *primary contaminant* to the Truckee River and have impacts from human-derived activities. Nonetheless, mercury is transported through water and deposited within sediments to be scoured up and found destined for a Pyramid Lake.

NDEP Response to Comment 6

NDEP does have a water quality standard for mercury for the protection of aquatic life. NAC

445A.144 lists Nevada's Toxic water quality standards (mercury in the water column is a 1 hour average of 1.4 µg/l and a 96 hr average of 0.77). NAC 445A.144 also lists mercury standards to protect for municipal and domestic supply and for the watering of livestock.

USEPA does have methyl mercury criteria for the consumption of fish tissue. NDOW has been sampling fish tissue for mercury analysis at various sites through the state and the Nevada State Health Division has issued health advisories that recommend limiting consumption of fish species from six Northern Nevada waters due to elevated methyl mercury levels. Please see the NDOW website for a list of these waterbodies (<http://ndow.org/fish/health/index.shtm>).



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

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DEC 21 2007

ENVIRONMENTAL PROTECTION

December 20, 2007

Mr. John Heggeness
Nevada Division of Environmental Protection
Bureau of Water Quality Planning
901 S. Stewart Street, Suite 4001
Carson City, NV 89701

Dear Mr. Heggeness:

Thank you for the opportunity to review and comment on the proposed changes to the Nevada Administrative Code (NAC) concerning beneficial uses and water quality standards in NAC 445A.124 through 225. These changes include adjustments and additions to the Class Waters and an administrative reorganization of the Water Quality Standards Tables. The changes include adding an *e. coli* standard and an ammonia standard to each water. These additions are consistent with EPA's recommendations. In the new table for each class water, the current beneficial uses and numeric standards are retained exactly as they were in the Class Waters format. At this time, EPA is supportive of the proposed changes. We do have one comment regarding the Class D waters.

As you know, the Class D waters are currently not identified as contact recreation waters. According to 40 CFR 131.20, any water body segment with water quality standards that do not include the uses specified in section 101(a)(2) of the Act shall be re-examined every three years to determine if any new information has become available. If there is no Use Attainability Analysis (UAA) on file for these waters, the review should include a UAA. We are aware that NDEP is currently undertaking that review and that you have targeted completion of the review for fall, 2008. When EPA reviews the Class Waters revisions' package, it is probable that we will exclude the Class D waters from our approval process pending completion of NDEP's UAA process.

Please call me at (775) 885-6190 if you have any questions or need additional information. We appreciate your efforts to revise the water quality standards.

Sincerely,

Stephanie L. Wilson
Tribal Office

Cc: Phil Woods, WTR-5

