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Ref: 8EPR-EP 9/30/09

Amanda Smith
Acting Executive Director
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168 North 1950 West
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Salt Lake City, Utah 84114-4870

RE: EPA Action on Revisions to Utah's Water Quality Standards

Dear Ms. Smith:

The U.S. Environmental Protection Agency (EPA) has completed its review of the revisions to "Standards of Quality for Waters of the State," R317.2, Utah Administrative Code. The revisions were adopted by the Utah Water Quality Board (Board) on November 10, 2008 and submitted to EPA for review with a letter dated April 8, 2009. A letter from the Office of the Attorney General, certifying that the revisions were adopted pursuant to State law, was enclosed with the submittal letter. Receipt of the revisions on April 29, 2009 initiated EPA's review pursuant to Section 303(c) of the Clean Water Act (CWA or the Act) and the water quality standards regulation. With one exception, EPA has now completed its review, and this letter is to notify you of our partial action.

We commend the Department of Environmental Quality (Department) and the Board for the significant improvements to Utah's water quality standards. Especially commendable were the revisions to:

- assign the Class 2A recreation use designation to several heavily-used waterbody segments,
- amend antidegradation requirements to better protect existing uses, expand the situations where a Level II review is required, and strengthen Utah's ability to protect the quality of surface waters used as municipal water supplies,
- refine the statewide dissolved oxygen criteria for protection of aquatic life,
- apply chronic total ammonia criteria to all Class 3C and Class 3D waters, and
- adopt new statewide aquatic life criteria for diazinon and nonylphenol.

Collectively, these revisions represent significant improvements to the State's water quality standards. We also want to recognize the excellent work by your staff to collaborate with stakeholders in drafting the proposal. The pre-rulemaking collaboration efforts resulted in resolution of many concerns and a more fully developed rulemaking proposal. Considerable progress was made as a result of this rulemaking action and we want to thank the Department and

the Division of Water Quality (Division) for their efforts to develop the new and revised water quality standards.

CLEAN WATER ACT REVIEW REQUIREMENTS

The Clean Water Act, Section 303(c)(2), requires States and authorized Indian Tribes[1] to submit new or revised water quality standards to EPA for review. EPA is to review and approve or disapprove the submitted standards. Pursuant to CWA Section 303(c)(3), if EPA determines that any standard is not consistent with the applicable requirements of the Act, the Agency shall, not later than the ninetieth day after the date of submission, notify the State or authorized Tribe and specify the changes to meet the requirements. If such changes are not adopted by the State or authorized Tribe within ninety days after the date of notification, EPA shall promulgate the needed standard pursuant to CWA Section 303(c)(4). EPA's goal has been, and will continue to be, to work closely with States and authorized Tribes throughout the standards revision process as a means to avoid the need for such disapproval and promulgation actions.

TODAY'S ACTION

Today, with three exceptions, EPA is approving the revisions to water quality standards adopted by the Water Quality Board on November 10, 2008. The exceptions include two provisions EPA is disapproving, and one provision for which EPA is taking no action at this time. Enclosure 1 presents a summary of the adopted revisions and the rationale for EPA's action.

The water quality standards approvals in today's letter apply only to water bodies in the State of Utah, and do not apply to waters that are within Indian country, as defined in 18 U.S.C. Section 1151. Today's letter is not intended as an action to approve or disapprove water quality standards applying to waters within Indian country. EPA, or authorized Indian Tribes, as appropriate, will address water quality standards for waters within Indian country.

ENDANGERED SPECIES ACT REQUIREMENTS

It is important to note that EPA's approval of Utah's water quality standards is considered a federal action which may be subject to the Section 7(a)(2) consultation requirements of the Endangered Species Act (ESA). Section 7(a)(2) of the ESA states that "each federal agency…shall…insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined to be critical…"

[1] CWA Section 518(e) specifically authorizes EPA to treat eligible Indian Tribes in the same manner as States for purposes of CWA Section 303. See also 40 CFR Section 131.8.

EPA has initiated consultation under ESA Section 7(a)(2) with the U.S. Fish and Wildlife Service regarding our approval of the new or revised water quality standards identified in category 2 immediately below. EPA also has a Clean Water Act obligation, as a separate matter, to complete its water quality standards approval action. Therefore, in approving these water quality standards revisions today, EPA is completing its CWA Section 303(c) responsibilities. However, because ESA consultation on EPA's approval of these standards is ongoing, EPA's approval is made subject to the outcome of the ESA consultation process. Should the consultation process with the U.S. Fish and Wildlife Service identify information regarding impacts on listed species or designated critical habitat that supports amending EPA's approval, EPA will, as appropriate, revisit and amend its approval decision for those new or revised water quality standards.

CATEGORIES OF EPA'S ACTION

The new or revised provisions fall into one of the following categories: (1) standards approved without condition, (2) standards approved subject to ESA consultation, (3) disapproved standards, and (4) standards for which EPA is taking no action.

1) STANDARDS APPROVED WITHOUT CONDITION

EPA is approving the following standards without condition:

- Revisions to R317-2-1C - Triennial Review.
- Revisions to R317-2-3 - Antidegradation Policy (except those disapproved revisions as noted herein).
- Revisions to R317-2-4 - Colorado River Salinity Standards.
- Revisions to R317-2-6 - Use Designations.
- Revisions to R317-2-12 - Category 1 and 2 Waters.
- Revisions to recreation and agriculture use designations for individual water segments in R317-2-13 - Classification of Waters of the State.
- Revisions to R317-2-14.1 - Numeric Criteria for Domestic, Recreation, and Agricultural Uses.
- All other revisions, with the exception of those listed below.

2) STANDARDS APPROVED SUBJECT TO ESA CONSULTATION

Certain revisions are approved, subject to ESA consultation. The revisions in this category include the following:

- Revisions to R317-2-7 - Water Quality Standards.
- Revisions to aquatic wildlife use designations for individual water segments in R317-2-13 - Classification of Waters of the State.

- Revisions to the Great Salt Lake use designations in R317-2-13 - Classification of Waters of the State.
- Revisions to R317-2-14.2 - Numeric Criteria for Aquatic Wildlife (except those disapproved and those where EPA is taking no action).

3) DISAPPROVED STANDARDS

R317-2-3. Antidegradation Policy

Today, EPA is disapproving the new Section R317-2-3.5(b)(5), which provides that in Category 3 waters, an antidegradation Level II review is not required in two situations:

(1) the proposed concentration downstream of the mixing zone would be equal to or less than 50% of the applicable criterion and the project would consume less than 20% of the remaining assimilative capacity, or

(2) the proposed concentration downstream of the mixing zone would be greater than 50% and less than 75% of the criterion and the project would consume less than 10% of the remaining assimilative capacity.

EPA is disapproving this new Utah provision because EPA believes that in at least some cases it would exempt from antidegradation review proposed water quality changes that cannot reasonably be considered *de minimis*.

R317-2-14.2 Numeric Criteria for Aquatic Wildlife

The submitted revisions included adoption of a new Gilbert Bay selenium criterion, which included a new Footnote (14) to Table 2.14.2. Footnote (14) provides the details of the new Gilbert Bay bird egg selenium criterion and several associated egg concentration triggers that identify Division responses if selenium in bird egg tissue reaches the specified concentration. Although EPA is taking no action on most of Footnote (14), today EPA is disapproving the egg concentration trigger which provides that:

> *6.4 mg/kg: Initiation of a Level II antidegradation review by the State for all discharge permit renewals to Great Salt Lake. The Level II antidegradation review may include an analysis of loading reductions.*

EPA is disapproving this egg concentration trigger because it would not adequately maintain and protect assimilative capacity for selenium in the eggs of aquatic dependent birds using Gilbert Bay.

4) STANDARDS FOR WHICH EPA IS TAKING NO ACTION

At this time, EPA is not acting on the new Gilbert Bay selenium criterion or the provisions of new Footnote (14), with the exception of the 6.4 mg/kg egg concentration trigger that EPA is disapproving. EPA plans to act on the remaining new Gilbert Bay selenium provisions as soon as the Agency completes its review of these provisions. EPA is continuing to review important issues associated with the development of water quality criteria for the protection of wildlife.

CONCLUSION

EPA thanks the Department, the Board, and the Division for their efforts to review and revise Utah's water quality standards. EPA looks forward to working with the State to make additional improvements to the State's water quality standards. If you have any questions concerning this letter, the most knowledgeable people on my staff are Lareina Guenzel (303-312-6610) and David Moon (303-312-6833).

Sincerely,

Carol L. Campbell

Carol L. Campbell
Assistant Regional Administrator
Office of Ecosystems Protection
and Remediation

Enclosure

cc: Walt Baker, Director, Division of Water Quality

Enclosure 1

RATIONALE FOR EPA'S ACTION ON THE REVISIONS TO UTAH WATER QUALITY STANDARDS

Today's EPA action letter addresses the revisions to Utah water quality standards adopted by the Water Quality Board (Board) on November 10, 2008. This enclosure provides a summary of the revisions and a rationale for the action taken by EPA. The discussion below covers the following categories of revisions: (1) revisions that are approved for purposes of CWA § 303(c), (2) revisions that are approved for purposes of CWA § 303(c), subject to ESA consultation, (3) revisions that are disapproved, and (4) revisions for which EPA is taking no action.

I. APPROVED REVISIONS

EPA has concluded that approval of certain revisions either will have no effect on listed or proposed endangered or threatened species, or is otherwise not subject to ESA consultation. For the revisions in this category, ESA consultation is not required. Major revisions in this category are discussed below.

R317-2-1C. Triennial Review

New section R317-2-1C was adopted to describe the triennial review process to be followed by the State. This new provision requires the State to review water quality standards at least once every three years; seek input from stakeholders regarding the development of proposed revisions to water quality standards using a process that may include informal public meetings; and adopt revisions as necessary pursuant to a formal rulemaking process that includes public hearings.

The Region has concluded that the new provision is consistent with the federal water quality standards regulation including the requirements at 40 CFR 131.20(a), which requires that States "from time to time, but at least once every three years, hold public hearings for the purpose of reviewing applicable water quality standards and, as appropriate, modifying and adopting standards." Accordingly, new provision R317-2-1C is approved without condition.

R317-2-3. Antidegradation Policy

Various revisions were made to the introductory paragraphs of section R317-2-3. For example, new language was adopted to:

- clarify that in addition to determining whether a Level II is required, Level I reviews also are conducted to ensure that existing uses will be maintained and protected; and
- establish that antidegradation reviews shall include opportunities for public participation as described in R317-2-3.5(e).

In addition, several changes were made to R317-2-3.5(b) to clarify and streamline the provisions and to expand the universe of situations where a Level II review is required. This was accomplished by re-organizing the previous language (e.g., by combining similar provisions), deleting some provisions, adding some provisions, and modifying other provisions. For example, the following changes were adopted:

- Because of their similarity, Sections (5)(b)(2), (b)(4), (b)(8), and (b)(9) of the previous Section 317-2-3.5 were combined into a new Section (5)(b)(2).
- Language was added to Section (5)(b)(5) (and the section re-numbered to (5)(b)(4)) to indicate that, in determining whether water quality effects are temporary and limited, the factors to be considered include whether fish spawning or the survival and development of aquatic fauna will be affected.
- Sections (5)(b)(6), (b)(7), and (b)(11) of the previous Section 317-2-3.5 were deleted for various reasons including the difficulty of implementing these provisions. An additional reason is that elimination of these provisions expands the universe of situations where a Level II review is required.
- Section (5)(b)(10) of the previous Section 317-2-3.5 was replaced by new Section (5)(b)(5). Although both provisions identify criteria for determining whether the water quality effects of a proposed activity are minor or *de minimis*, the old provision (5)(b)(10) used changes in pollutant loading as a basis for making the decision, whereas the new provision (5)(b)(5) uses projected loss of assimilative capacity. For a complete discussion of EPA's action on new Section (5)(b)(5), please see Section III of this enclosure.

Only minor changes were made to Section R317-2-3.5(c), which describes the Level II review requirements. For example, the Section (5)(c)(2) list of alternatives to be evaluated was modified to eliminate a redundant provision.

Revisions were also adopted to Section R317-2-3.5(d), which identifies additional antidegradation-based source water protection requirements that apply to segments with a Class 1C drinking water use designation. Most importantly, the previous language indicating that the additional Section 5(d) review requirements "may" be required by the Executive Secretary was replaced with language indicating that such review requirements "will" be required by the Executive Secretary. This change was made to eliminate the Executive Secretary's discretion and to ensure that an antidegradation review will be conducted for discharges to waters with a Class 1C drinking water use designation. EPA considers this to be an innovative use of Utah's antidegradation review program for the purpose of better protecting source water quality.

With the exception of new Section R317-2-3.5(b)(5), which is addressed in Section III of this enclosure, the Region has concluded that all revisions to the antidegradation requirements in R317-2-3 are consistent with federal antidegradation requirements in the water quality standards regulation (40 CFR Section 131.12). Accordingly, these revisions are approved without condition. Especially commendable were the changes to better protect existing uses, expand the situations where a Level II review is required, and strengthen Utah's ability to use antidegradation reviews as a means to protect source water quality on segments with a Class 1C drinking water use designation.

R317-2-4. Colorado River Salinity Standards

The revisions included updates to R317-2-4, which addresses salinity standards for the Colorado River Basin. Specifically, the reference to the Colorado River salinity water quality standards and implementation plan was expanded to include the 2005 and 2008 reviews. These revisions are approved without condition.

R317-2-6. Use Designations

Class 2A and 2B Recreation Use Designations

Revisions were adopted to the description of the Class 2A and Class 2B use designations to establish that:

- Class 2A is protected for frequent primary contact recreation where there is a high likelihood of ingestion of water or a high degree of bodily contact with the water. The description of Class 2A was also amended to identify swimming, rafting, kayaking, diving and water skiing as examples of activities that are considered primary contact recreation.
- Class 2B is protected for infrequent primary contact recreation, and also secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water.

Because these revisions clarify situations where it is appropriate to apply each recreation use designation, and because currently a large majority of waters in Utah are assigned to Class 2B, EPA expects that these revisions will facilitate an increase in the number of waters assigned to Class 2A. For example, as a result of this rulemaking several heavily-used waterbody segments were moved from Class 2B to Class 2A. See also the discussion below regarding revisions to R317-2-13.

With respect to the CWA § 101(a)(2) goal, sometimes referred to as the "fishable/swimmable" goal of the Act, EPA has previously issued guidance regarding options available to States and Tribes for assigning "swimmable" water quality standards. These options include assigning primary contact designated uses and criteria to protect such uses, or secondary contact designated uses but with criteria sufficient to protect primary contact uses. See Chapter 2 of EPA's Water Quality Standards Handbook (EPA823/B-94-005a, August 1994).

The Region has concluded that both Class 2A and Class 2B provide a "swimmable" level of protection that is consistent with the CWA Section 101(a)(2) goal. This conclusion is based on three factors. First, the description of both use designations requires the protection of primary contact recreation activities, albeit with a different expected frequency. Second, the criteria for both use designations provide a high level of protection that is appropriate for primary contact activities. Class 2A criteria are based on a target illness rate of 8 per 1000 swimmers, while Class 2B criteria are based on a similar target illness rate of 10 per 1000 swimmers. See EPA's

criteria document: *Ambient Water Quality Criteria for Bacteria – 1986* (EPA440/5-84-002, January 1986). Third, Section 131.10(c) of EPA's water quality standards regulation specifically acknowledges that States have discretion to adopt designated use sub-categories and to set criteria that reflect the varying needs of such designated use sub-categories.

Accordingly, the Region has determined that the revisions to the descriptions of Class 2A and Class 2B are consistent with federal requirements at 40 CFR Section 131.10. The revisions are approved without condition.

Class 5 Great Salt Lake Use Designations

Revisions were adopted to establish new sub-categories of the Great Salt Lake Class 5 use designation for (1) Gilbert Bay, (2) Gunnison Bay, (3) Bear River Bay, (4) Farmington Bay, and (5) transitional wetlands below an elevation of 4,208 feet. The revised approach is different from the previous Class 5 use designation that applied to the Great Salt Lake in several respects:

- For the entire lake, mineral extraction is deleted as a beneficial use that requires protection.
- For all portions of the lake except Gilbert Bay, the word "infrequent" was added to establish that these portions of the lake are expected to support primary contact recreation on an infrequent basis.
- For Gilbert Bay, the word "frequent" was added to establish that this portion of the lake is expected to support primary contact recreation on a frequent basis.

The Region considers deletion of mineral extraction as a beneficial use for the Great Salt Lake to be consistent with federal requirements including the requirements at 40 CFR Section 131.10(a). Because they are not mentioned in the Act or EPA's implementing regulation, the position of the Region is that mineral extraction designated uses are adopted at the discretion of States, and that such uses likewise can be deleted at the discretion of States. Further, because Utah has never adopted numeric water quality criteria for the protection of mineral extraction, the Region expects that this revision has little practical significance and does not, for example, change the level of water quality protection afforded to the Great Salt Lake.

Similarly, regarding the change to the primary contact recreation beneficial use, because Utah has never adopted numeric water quality criteria for the protection of Great Salt Lake primary contact uses, it is not clear that there are practical differences associated with the revisions. For example, it is not clear that the revisions will result in a relaxed level of water quality protection for any portions of the lake. However, it is clear that primary contact recreation remains a designated use for the entire Great Salt Lake, albeit with a difference in the expected frequency in Gilbert Bay versus the remainder of the lake. The Region suggests that it may be useful and appropriate to explore alternatives for clarifying the water quality protection requirements associated with Great Salt Lake primary contact recreation uses.

The Region has concluded that the adopted revisions to the Class 5 use designation are consistent with federal requirements at 40 CFR Section 131.10. The revisions are approved without condition.

R317-2-12. Category 1 and 2 Waters

Minor changes in terminology were adopted to replace the term "high quality waters" with "Category 1 waters" and/or "Category 2 waters." Complementary revisions were adopted to the antidegradation policy at R317-2-3.

The Region has concluded that these revisions are just minor changes in terminology that do not affect the level of water quality protection provided to Utah waters, and that the revisions are consistent with federal requirements including the requirements at 40 CFR Section 131.12. Accordingly, the revisions are approved without condition.

R317-2-13. Classification of Waters of the State

Revisions to Recreation Use Designations

The recreation use designation was changed from Class 2B to Class 2A for the following segments in the Upper Colorado River Basin:

- San Juan River and Tributaries, from Lake Powell to State Line
- Colorado River and Tributaries, from Lake Powell to State Line
- Green River and Tributaries, from confluence with Colorado River to State Line
- Green River and Tributaries, from Utah-Colorado State Line to Flaming Gorge Dam

These segment-specific revisions were adopted consistent with the changes to the description of the Class 2A use designation (discussed above). Because there are frequent existing primary contact recreation activities at these locations, the Class 2A use designation is appropriate. The Region expects that in the future it may be appropriate to assign the Class 2A use designation to additional segments based on information regarding existing uses and the frequency of primary contact recreation activities.

The Region has concluded that these revisions to segment-specific use designations are consistent with federal requirements including those found at 40 CFR Section 131.10. Accordingly, the revisions are approved without condition.

Revisions to Agriculture Use Designations

- A new segment was adopted for Salt Creek in Box Elder County (Lower Colorado River Basin) that includes the Class 2B, 3B and 3C use designations. Salt Creek was previously included in an all tributaries segment of the Bear River that also included the Class 4 agricultural use designation. Removal of the Class 4 use from the new Salt Creek segment is supported by evidence presented in a UAA that reports the average total dissolved solids concentration in Salt Creek is approximately 20,000 mg/L due to natural conditions. The UAA concludes that high naturally occurring TDS conditions prevent the attainment of agriculture uses.

The Region has concluded that these revisions to segment-specific use designations are consistent with federal requirements including those found at 40 CFR Section 131.10. Accordingly, the revisions are approved without condition.

R317-2-14.1 Numeric Criteria for Domestic, Recreation, and Agricultural Uses

E. coli

Revisions were adopted to the maximum criteria for *E. coli* applicable to Classes 1C, 2A and 2B and to the footnote associated with these criteria. The maximum criteria for Class 1C, 2A and 2B were revised from 940, 576, and 940 CFU per 100 ml, to 668, 409, and 668 CFU per 100 ml, respectively. In addition, Footnote (7) was revised to indicate that, for water quality assessment purposes, up to 10% of representative samples may exceed the applicable maximum criterion. No changes were made to the geometric mean criteria of 126 CFU per 100 ml (Class 2A) and 206 CFU per 100 ml (Class 1C and 2B)

The Region notes that the revised criteria are essentially 90th percentile values associated with the target geometric means of 126 CFU per 100 ml (for Class 2A) and 206 CFU per 100 ml (for Class 1C and 2B). In other words, in a statistical distribution with a geometric mean of 126 CFU per 100 ml and a log standard deviation of 0.4, you would expect the 90th percentile value to be 576 CFU per 100 ml. Similarly, in a statistical distribution with a geometric mean of 206 CFU per 100 ml and a log standard deviation of 0.4, you would expect the 90th percentile value to be 668 CFU per 100 ml. See the 1986 EPA criteria document. As such, the revised criteria are consistent with the target illness rates and geometric mean values. Expressing the same numeric values as "not to be exceeded" maxima would be inconsistent with, and more stringent than, the associated geometric mean criteria.

The Region has concluded that all revisions to *E. coli* criteria are consistent with federal requirements including the requirements at 40 CFR Section 131.11. Accordingly, the revisions are approved without condition.

Total Dissolved Solids

Revisions were adopted to the statewide total dissolved solids (TDS) criteria for the protection of the Class 4 agriculture use designation. Several new/revised site-specific criteria for protection of agriculture uses were also adopted.

The statewide criteria were revised by replacing the two TDS statewide agriculture criteria (1,200 mg/L for irrigation uses, and 2,000 mg/L for livestock uses) with a single value of 1,200 mg/L based on protection of the more sensitive irrigation use. In addition, Footnote (4) was revised to clarify the situations where site-specific criteria may be adopted.

For Quitchupah Creek from the confluence with Ivie Creek to U-10, the previously-adopted criterion of 2,600 mg/L was revised to 1,700 mg/L based on evidence that the revised criterion better describes the highest attainable water quality condition.

For South Fork Spring Creek from its confluence with Pelican Pond Slough Stream to US 89, new seasonal criteria were adopted as follows: 1,450 mg/L for April – September, and 1,950 mg/L for October – March. These new criteria are based on a site-specific justification that the adopted criteria will protect the livestock watering use and also irrigation of plants that are currently or were historically grown in the watershed. The Region notes that during the irrigation season, the adopted site-specific criterion (1,450 mg/L) is similar to the statewide criterion (1,200 mg/L). The Region also understands that TDS levels are elevated partly as a result of the treatment process to remove phosphorus from the JBS Swift discharge. The Region considers the slight relaxation of the TDS criterion during the irrigation season to be consistent with protection of agriculture uses on a site-specific basis.

The Region has concluded that all revisions to TDS criteria are consistent with federal requirements including the requirements at 40 CFR Section 131.11. Accordingly, the revisions are approved without condition.

II. APPROVED REVISIONS, SUBJECT TO ESA CONSULTATION

The remaining revisions are approved for purposes of CWA Section 303(c), subject to the results of consultation under Section 7(a)(2) of the ESA. Should the consultation process with the U.S. Fish and Wildlife Service identify information regarding impacts on listed species or designated critical habitat that supports amending EPA's approval, EPA will, as appropriate, revisit and revise its approval decision for the identified water quality standards. The discussion below identifies major revisions in this category and the basis for EPA's approval action.

R317-2-7. Water Quality Standards

A new provision was adopted pertaining to the exceedance frequency associated with the criteria for dissolved oxygen, pH, *E. coli*, total dissolved solids, and temperature:

> *For water quality assessment purposes, up to 10 percent of the representative samples may exceed the minimum or maximum criteria for dissolved oxygen, pH, E. coli, total dissolved solids, and temperature, including situations where such criteria have been adopted on a site-specific basis.*

This provision is consistent with long-standing EPA guidance to States regarding water quality assessments (e.g., for purposes of implementing CWA Section 305(b)). Guidance issued by EPA's national water quality assessment program has long recommended use of a 10% exceedance frequency for conventional parameters (e.g., dissolved oxygen, pH, temperature). In addition, the provision is consistent with Utah's current water quality assessment approach.

The Region has concluded that although the revision results in less-stringent requirements for the affected parameters, the adopted approach is within the State's risk management discretion and consistent with EPA guidance. The Region also believes the revision is consistent with federal requirements at 40 CFR Section 131.11. Accordingly, the revision is approved, subject to ESA consultation.

R317-2-13. Classification of Waters of the State

R317-2-13.1 Upper Colorado River Basin

Several site-specific changes to aquatic life use designations were adopted as follows:

- For the Escalante River mainstem from Boulder Creek to headwaters, the aquatic life use designation was changed from Class 3A to Class 3B based on a use attainability analysis (UAA). However, the Class 3A use designation was retained for all tributary streams above and including Boulder Creek. The UAA presents information that high summer temperatures preclude attainment of Class 3A standards in this portion of the Escalante River mainstem. The UAA notes that "the temperature regimes under relatively natural conditions along the Escalante River and tributaries at the lower elevations do not support sufficiently cold water temperatures to meet the statewide water quality criteria throughout the year." In addition, the fishery data presented in the UAA documents that salmonid fish occur only in the upper portions of tributary streams such as the spring-fed tributaries on the north side of the Escalante River between Pine Creek and Boulder Creek. The Region believes the data and analyses presented in the UAA support the revision to the use designation.

- For the Escalante River and Tributaries from Lake Powell to confluence with Boulder Creek, the aquatic life use designation was changed from Class 3C to Class 3B to more accurately reflect the highest attainable designated use category. Because this revision results in application of a use sub-category with more stringent water quality criteria, it does not trigger the federal requirement to conduct a UAA (40 CFR Section 131.10(j)).

R317-2-13.5. Utah Lake-Jordan River Basin

- For a new segment described as the State Canal from Farmington Bay to confluence with the Jordan River, Class 2B, 3B, 3D and 4 use designations were assigned. Because use designations were assigned for the first time, and because the assigned use designations are consistent with the CWA Section 101(a)(2) goal, this revision does not trigger the federal requirement to conduct a UAA (40 CFR Section 131.10(j)).

R317-2-13.11. National Wildlife Refuges and State Waterfowl Management Areas

- For the Great Salt Lake, the following changes to use designations were adopted:

- For all open water below approximately 4208 feet, the use designation was changed from Class 5 to Class 5A (Gilbert Bay), 5B (Gunnison Bay), 5C (Bear River Bay), or 5D (Farmington Bay). With the exception of Gilbert Bay (Class 5A), there are no changes in water quality criteria associated with this revision. For Gilbert Bay, a new numeric selenium criterion was adopted (see discussion in Section IV of this enclosure). Because this revision does not result in the application of a use sub-category with less stringent water quality criteria, it does not trigger the federal requirement to conduct a UAA (40 CFR Section 131.10(j)(2)). For waters within defined waterfowl management areas or national wildlife refuges, this action resulted in no changes to the previously-adopted use designations.

- For all transitional wetlands between approximately 4208 feet to open water, the use designation was changed from Class 5 to Class 5E. There are no changes in water quality criteria associated with this revision. Because this revision does not result in the application of a use sub-category with less stringent water quality criteria, it does not trigger the federal requirement to conduct a UAA (40 CFR Section 131.10(j)(2)). For waters within defined waterfowl management areas or national wildlife refuges, this action resulted in no changes to the previously-adopted use designations.

- For all open water above approximately 4208 feet, Class 2B, 3B and 3D use designations were adopted. For waters within defined waterfowl management areas or national wildlife refuges, this action resulted in no changes to the previously-adopted use designations. However, for waters outside of waterfowl management areas or national wildlife refuges, this action resulted in the adoption of use designations for the first time. Because use designations were assigned for the first time, and because the assigned use designations are consistent with the CWA Section 101(a)(2) goal, this revision does not trigger the federal requirement to conduct a UAA (40 CFR Section 131.10(j)).

Based on review of the adopted revisions and the supporting information, including the use attainability analyses, EPA has determined that the revisions to R317-2-13 are consistent with federal requirements at 40 CFR Part 131.10. Accordingly, EPA approves all revisions to use designations described above, subject to ESA consultation.

R317-2-14.2 Numeric Criteria for Aquatic Wildlife

The adopted revisions included several changes to numeric standards for protection of aquatic life classifications. Revisions in this category include:

- Dissolved Oxygen – Certain previously-adopted criteria expressed as 1-day averages were amended such that the criteria are now instantaneous minima. This change results in more stringent criteria for Class 3A, 3B, 3C and 3D waters by adjusting the duration (but not the magnitude) of the criteria. The revision is consistent with the instantaneous minima recommended by EPA in the criteria document: *Ambient Water Quality Criteria for Dissolved Oxygen* (EPA 440/5-86-003, April 1986). In addition, the site-specific dissolved

oxygen criteria previously assigned only to the Jordan River and the Surplus Canal were amended such that they now also apply to the State Canal.

- Total Ammonia – The 30-day average criteria that previously were applicable only to Class 3A and Class 3B waters were revised such that they now also apply to Class 3C and Class 3D waters. This change results in more stringent water quality requirements for Class 3C and Class 3D waters. These 30-day average criteria are the same criteria recommended by EPA in the criteria document: *1999 Update of Ambient Water Quality Criteria for Ammonia* (EPA 822-R-99-014, December 1999).

- Diazinon – New criteria were adopted for Class 3A, 3B, 3C and 3D waters based on the recommendations in the EPA criteria document: *Aquatic Life Ambient Water Quality Criteria for Diazinon* (EPA 822-R-05-006, December 2005).

- Nonylphenol – New criteria were adopted for Class 3A, 3B, 3C and 3D waters based on the recommendations in the EPA criteria document: *Aquatic Life Ambient Water Quality Criteria for Nonylphenol* (EPA 822-R-05-005, December 2005).

- Selenium – The revisions included adoption of new site-specific criteria for Gilbert Bay of the Great Salt Lake and a new Footnote (14). Please see the discussion in Sections III and IV of this enclosure.

With the exception of the new Gilbert Bay selenium criteria which are addressed in Section III and IV of this enclosure, EPA has determined that all revisions in this category are consistent with federal requirements at 40 CFR Section 131.11 because the adopted aquatic life standards describe a level of water quality that will protect the assigned aquatic life use designations. EPA approves all revisions to aquatic life numeric standards, subject to ESA consultation.

III. DISAPPROVED REVISIONS

R317-2-3. Antidegradation Policy

Summary of EPA's Action

Today EPA is disapproving new Section R317-2-3.5(b)(5), which provides that in Category 3 waters, an antidegradation Level II review is not required in two situations:

(1) the proposed concentration downstream of the mixing zone would be equal to or less than 50% of the applicable criterion and the project would consume less than 20% of the remaining assimilative capacity, or

(2) the proposed concentration downstream of the mixing zone would be greater than 50% and less than 75% of the criterion and the project would consume less than 10% of the remaining assimilative capacity.

Although EPA has previously approved adoption of State provisions (in Utah and elsewhere) to exempt proposed activities from antidegradation review where the proposed water quality changes are not significant (i.e., *de minimis*), EPA is disapproving Utah provision R317-2-3 because the provision will exempt from antidegradation review proposed water quality changes either individually or cumulatively that cannot reasonably be considered *de minimis*.

Background Information

EPA's water quality standards regulation requires that state-established water quality standards include an antidegradation policy. The purpose of an antidegradation policy is to maintain and protect existing uses and high quality waters. The antidegradation policy must, at a minimum, be consistent with certain federal standards contained in 40 C.F.R. § 131.12(a)(1-4). These federal standards establish three levels of water quality protection: Tier I, Tier II, and Tier III.

Tier II protection applies when ". . . the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water . . . ." (40 C.F.R. § 131.12(a)(2)). The regulation provides further that Tier II water "quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully." (*Id.*) This Tier II standard protects the water body's "assimilative capacity," which is the amount by which the water body exceeds the quality necessary to support its designated uses.

The text of 40 C.F.R. § 131.12(a)(2) does not provide directly for a *de minimis* exception. *De minimis* exceptions are created through an "administrative law principle which allows an agency to create unwritten exceptions to a statute or rule for insignificant or *de minimis* matters." (Kentucky Waterways Alliance v. Johnson, 540 F.3d 466, 483 (6th Cir. 2008)). The authority to create an exemption "is not an ability to depart from the statute, but rather a tool to be used in implementing the legislative design." (*Id.*) The implied exemption authority is "narrow in reach and tightly bounded by the need to show that the situation is genuinely *de minimis* or one of administrative necessity." (*Id.*). Accordingly, this authority only applies "when the burdens of regulation yield a gain of trivial or no value." (*Id.*). Finally, a "determination of when matters are truly *de minimis* naturally will turn on the assessment of particular circumstances, and the agency will bear the burden of making the required showing." (*Id.*).

Many States and Tribes have adopted such *de minimis* provisions with EPA approval. Such provisions have ranged from simple to complex, may involve qualitative or quantitative

measures or both, and may change for different categories of pollutants. *De minimis* provisions may allow States and Tribes to assign a greater proportion of available staff resources to high priority reviews which are likely to yield the greatest environmental benefits. In other words, *de minimis* provisions may allow States and Tribes to more effectively review those proposed activities that pose the greatest threats to ambient water quality conditions, and thereby better maintain and protect high quality waters.

The EPA has addressed the subject of *de minimis* exceptions. In 1993, EPA Region 8 issued comprehensive antidegradation guidance that addressed a variety of key implementation issues including adoption of *de minimis* provisions[2]. In 2005, EPA issued a national policy memorandum[3] that provided additional recommendations regarding significance thresholds[4] and lowering of water quality in high quality waters. Both of these EPA guidances generally recommended adoption of appropriate *de minimis* provisions that are consistent with the goal of maintaining and protecting high quality waters. The 2005 EPA memorandum noted that:

> *. . . it is important that states and tribes set their significance thresholds at a level that can be demonstrated to be consistent with the purpose of tier 2 antidegradation requirements. Otherwise, a new or increased discharge may result in significant degradation that will not be subject to antidegradation review, and decisions about lowering of water quality in high quality waters may be made without public consideration of necessity and importance, resulting in the loss or diminishment of a valuable natural resource.*

The 2005 EPA memorandum also recommended that States and Tribes adopt *de minimis* provisions that consider cumulative loss of water quality:

> *To address situations where there are multiple or repeated increases in discharges, OST recommends that states and tribes incorporate a cumulative cap on the use of total assimilative capacity (i.e., the baseline assimilative capacity of a waterbody established at a specified point in time). This approach creates a backstop so that multiple or repeated discharges to a waterbody over time do not result in the majority of the total assimilative capacity being used without a single antidegradation review. For instance, the state or tribe may choose to subject <u>any</u> lowering of water quality to antidegradation review after a certain percentage of the total assimilative capacity has been used. This ensures that where the ambient water quality is lowered closer to the criteria levels, the state or tribe will conduct an antidegradation review after a certain point to evaluate the necessity and importance of <u>each</u> lowering, regardless of the amount of assimilative capacity that would be used.*

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[2] U.S. Environmental Protection Agency Region VIII Guidance: Antidegradation Implementation. August 1993. http://www.epa.gov/region8/water/wqs/wqsdocs.html.

[3] U.S. Environmental Protection Agency memorandum dated August 10, 2005 from Ephraim S. King, Office of Science and Technology, to Water Management Division Directors, Regions 1-10.

[4] A significance threshold establishes when proposed degradation will be more than *de minimis* and triggers a full Tier II review.

In addition, the *de minimis* issue was considered at length in developing the water quality guidance and requirements for the Great Lakes[5]. Relying on input offered during the four year open public process involving environmental groups, industry representatives, and other experts, with numerous opportunities for public input, the directors of the eight Great Lakes states and EPA technical experts reached a consensus on a significance threshold value of ten percent of the available assimilative capacity, coupled with a cumulative cap. They determined that this threshold represented a reasonable balance between the need to limit the number of detailed antidegradation reviews and the need to maintain and protect high quality waters. They reached a consensus that any individual decision resulting in less than a ten percent loss of assimilative capacity represents minimal risk to the receiving water, and exempting such proposals from antidegradation review is fully consistent with the objectives and goals of the Clean Water Act.

A recent decision by the 6th Circuit Court of Appeals provides federal court direction regarding EPA approval of a state's water quality *de minimis* exception. (Kentucky Waterways Alliance v. Johnson, 540 F.3d 466 (6th Cir. 2008)). The court's decision appears to narrow somewhat EPA's and States' discretion in determining what constitutes "degradation" for purposes of Tier 2 analysis and requires a more complete justification by EPA and the State why any exemptions from Tier 2 review will not result in degradation.

On the merits, the court addressed the five insignificant or *de minimis* categorical exemptions from Tier 2 review adopted by Kentucky and approved by EPA. The court reversed the district court's decision, holding that EPA's antidegradation regulation "regulates degradation, not individual sources of degradation", and that "the legally relevant inquiry is whether Kentucky's Tier 2 review exemptions together permit significant degradation." (*Id* at 492). The court found that EPA's approval document, while containing detailed technical analyses, failed to analyze this key question. In addition, the court stated that EPA's approval must include the measurements resulting from the *de minimis* exemptions, i.e., EPA's estimate as to how much assimilative capacity would be lost due to each exemption's impact.

Rationale for EPA's Disapproval

EPA has concluded that new Section R317-2-3.5(b)(5) is deficient with respect to how it applies to projected water quality changes resulting from proposed activities on both an individual and cumulative basis.

Regarding individual proposed activities, EPA is concerned that allowing 20% of the remaining assimilative capacity to be consumed (i.e., in situations where the proposed concentration downstream of the mixing zone would be equal to or less than 50% of the applicable criterion) would provide an exemption from antidegradation review in a situation where the proposed water quality change cannot reasonably be considered *de minimis*.

[5] Final Water Quality Guidance for the Great Lakes Systems. Federal Register: March 23, 1995 (Volume 60, Number 56). http://www.epa.gov/EPA-WATER/1995/March/Day-23/pr-82DIR/pr-82.html

This conclusion is consistent with previous EPA guidance on this topic, including but not limited to guidance issued by EPA Region 8. In its 1993 guidance[6], the Region recommended an approach under which nearly all regulated activities that would result in increased loadings would be considered to pose significant degradation. Although the Region suggested that multiple factors should be considered, the Region recommended, for example, Tier II review of proposals that would reduce the available assimilative capacity by more than 5%.

> *The rationale for this approach is that only proposed activities that will result in truly minor impacts to existing water quality should be exempted from the tier 2 review requirements. EPA Region VIII believes that tests of significance represent a valuable means of focusing state resources appropriately; however, such tests should not unduly reduce the state's ability to pursue the primary function of tier 2, which is to ensure that non-degrading or less-degrading alternatives are identified and implemented.*
> EPA Region VIII Antidegradation Implementation Guidance, Chapter 4, page 55.

Regarding consideration of water quality changes on a cumulative basis, EPA's review of new Section R317-2-3.5(b)(5) included consideration of several scenarios.

For example, one scenario considered by EPA is when a watershed has a naturally-occurring pollutant at values that are near the applicable water quality criterion and would require an antidegradation review for all new or increased discharges. A pollutant occurring at values near the criterion is commonly seen for parameters such as temperature, total dissolved solids, and selenium. For these watersheds and parameters, a proposed discharge that results in a value greater than 75% of the applicable water quality criterion would require even the first proposal to lower water quality to be subject to antidegradation review. In this scenario, it would not be possible to consider any proposed changes in water quality to be *de minimis* even though the majority of the loading is from natural sources. EPA concludes that the Utah approach of requiring an antidegradation review for all such discharges would be highly effective at protecting the assimilative capacity in this scenario.

Other scenarios considered by EPA led EPA to conclude that the provision would not adequately protect assimilative capacity. For example, we considered a scenario where a proposed discharge of a parameter would result in an ambient concentration just above 50% of the applicable water quality criterion (due to natural sources, anthropogenic activities, or both). In such a situation, multiple proposals to degrade water quality could be approved without triggering a Tier II review, as long as no more than 10% of the assimilative capacity would be consumed by any individual proposal, and the proposed ambient concentration would not exceed 75% of the criterion. In this scenario, EPA is concerned that as much as 50% of the assimilative

[6] EPA Region VIII Guidance: Antidegradation Implementation. Requirements, options, and EPA recommendation pertaining to Stat/Tribal antidegradation programs. August 1993.
http://www.epa.gov/region8/water/wqs/wqsdocs.html

capacity could be consumed (i.e., the concentration could increase from 50% of the criterion up to 75% of the criterion) through multiple permitting actions without triggering an antidegradation review.

Yet another scenario considered by EPA is a proposed discharge of a man-made chemical to a waterbody where there are no other sources of the chemical (i.e., the chemical does not yet occur in the watershed). In such a situation, multiple individual activities could be approved as long as the amount of assimilative capacity to be consumed would not exceed the limit (either 20% or 10%), and the proposed ambient concentration would not exceed 75% of the criterion. In this scenario, EPA is concerned that as much as 75% of the assimilative capacity could be consumed (i.e., the concentration could increase from zero up to 75% of the criterion) through multiple permitting actions without triggering an antidegradation review, even though all of the loading is coming from anthropogenic sources.

Based on these considerations, today EPA is disapproving new Section R317-2-3.5(b)(5) because in at least some cases EPA believes that it would exempt from antidegradation review proposed water quality changes that cannot reasonably be considered *de minimis* both on an individual and cumulative basis.

Options for Resolving the Disapproval

There are several approaches that can be considered to resolve the disapproval issue and establish water quality standards that meet CWA requirements, including the following:

- Option 1 – Delete new Section R317-2-3.5(b)(5) and instead indicate that in Category 3 waters, all proposals to lower water quality are subject to Level II review requirements.

- Option 2 – Revise Section R317-2-3.5(b)(5) with respect to how it applies to proposed activities on both an individual and cumulative basis. For example, the provision could be modified to exempt individual proposed activities that would result in no more than a 5% loss of assimilative capacity, provided that loss of assimilative capacity would not exceed 10% on a cumulative basis without a Tier II review.

- Option 3 – Revise Section R317-2-3.5(b)(5) with respect to how it applies to proposed activities only on a cumulative basis, provided that a cumulative loss of assimilative capacity would not exceed 10%. How much of the 10% would be given to an individual discharger or split between multiple dischargers would be the State's discretion.

- Option 4 – Hybrid Approach - Adopt the approach described under Option 1 for some parameters or waterbodies, and the approach described under Options 2 or 3 for all other parameters or waterbodies.

R317-2-14.2 Numeric Criteria for Aquatic Wildlife

The revisions included adoption of a new Gilbert Bay selenium criterion including a new Footnote (14) to Table 2.14.2. Footnote (14) includes a new Gilbert Bay bird egg selenium criterion and several associated egg concentration triggers. Although EPA is taking no action on most of Footnote (14) - please see discussion in Section IV of this enclosure - today EPA is disapproving the egg concentration trigger which provides that:

> *6.4 mg/kg: Initiation of a Level II antidegradation review by the State for all discharge permit renewals to Great Salt Lake. The Level II antidegradation review may include an analysis of loading reductions.*

EPA's interpretation is that this egg concentration trigger applies in combination with the antidegradation policy provisions in R317-2-3, including the provisions in R317-2-3.5(b) describing situations where antidegradation reviews are not required. However, the egg concentration trigger essentially overrides the provisions of R317-2-3.5(b) once bird egg tissue concentrations of selenium reach or exceed 6.4 mg/kg. Thus, only for purposes of selenium discharges to Gilbert Bay, the 6.4 mg/kg trigger modifies the statewide approach by identifying a bird egg concentration at or above which antidegradation reviews are required for all discharge permit renewals.

Rationale for EPA's Disapproval

EPA concludes that the 6.4 mg/kg egg concentration trigger is deficient because it does not completely remedy the deficiencies in new *de minimis* provision Section R317-2-3.5(b)(5) and would not adequately maintain and protect assimilative capacity for selenium in the eggs of aquatic dependent birds using Gilbert Bay. EPA reached this conclusion by evaluating how the trigger applies, in combination with new Section R317-2-3.5(b)(5), to proposed activities on both an individual and cumulative basis.

It is important to understand that selenium tissue levels in the eggs of aquatic dependent birds using Gilbert Bay are currently lower than the adopted criterion. The adopted criterion is 12.5 mg/kg whereas the current mean selenium concentration measured in gull eggs was 2.9 mg/kg and 2.7 mg/kg in shorebird eggs[7]. The difference between the adopted criterion and these two bird egg tissue concentrations is the assimilative capacity that the State's antidegradation program is required to maintain and protect. Because multiple individual activities could be approved, as long as the amount of assimilative capacity to be consumed by each proposal would not exceed the limit (either 20% or 10%) and the proposed bird egg concentration would not exceed 6.4 mg/kg, EPA is concerned that bird egg tissue levels could increase to 6.3 mg/kg without triggering an antidegradation review. An increase from the current condition to 6.3

[7] Great Salt Lake Water Quality Studies. Development of a Selenium Standard for the Open Waters of Great Salt Lake. Final Report. May 2008.
http://www.deq.utah.gov/Issues/GSL_WQSC/docs/GLS_Selenium_Standards/index.htm

mg/kg, which would mean the loss of 33% to 38% of the assimilative capacity depending on the bird species, should not be exempt from antidegradation review. EPA believes this sort of cumulative lowering of water quality cannot reasonably be considered *de minimis*.

In addition, one of the key reasons for adopting a *de minimis* provision on a statewide basis – so that review efforts can be concentrated on those proposals that pose significant threats to water quality – is not applicable in this case because the egg concentration trigger applies only to Gilbert Bay and only to selenium discharges. Because there are not likely to be many new/increased discharges of selenium to Gilbert Bay, conducting antidegradation reviews of all such proposals would not be unduly burdensome and thus a key reason normally cited as justification for a *de minimis* approach is not applicable.

Options for Resolving the Disapproval

There are several approaches that can be considered to resolve the disapproval issue and establish water quality standards that meet CWA requirements, including the following:

- Option 1 – Require antidegradation reviews of all new/expanded selenium discharges to Gilbert Bay.

- Option 2 - Exempt individual activities that would result in a projected 5% loss of assimilative capacity, provided that bird egg tissue concentrations would not exceed 3.7 mg/kg in bird egg tissue, which equates to a 10% loss of assimilative capacity on a cumulative basis. Once bird egg tissue concentrations reach or exceed 3.7 mg/kg, require antidegradation reviews for all new selenium discharges and all renewal permits.

- Option 3 – Exempt proposed activities not projected to exceed 3.7 mg/kg in bird egg tissue, which equates to a 10% loss of assimilative capacity on a cumulative basis. How much of the 10% would be given to an individual discharger or split between multiple dischargers would be the State's discretion. Once bird egg tissue concentrations reach or exceed 3.7 mg/kg, require antidegradation reviews for all new selenium discharges and all renewal permits.

IV. REVISIONS FOR WHICH EPA IS TAKING NO ACTION

The revisions included adoption of a new Gilbert Bay selenium criterion including a new Footnote (14) to Table 2.14.2. Footnote (14) identifies a new Gilbert Bay bird egg selenium criterion and several associated egg concentration triggers. With the exception of the 6.4 mg/kg egg concentration trigger addressed in Section III above, today EPA is not acting on the new Gilbert Bay selenium criterion or the provisions of new Footnote (14). EPA plans to act on the new Gilbert Bay selenium provisions as soon as the Agency completes its review. EPA is continuing to review important issues associated with the development of water quality criteria for the protection of wildlife.