UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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Seattle, Washington 98101-3140

12 DEC 2008

Reply To
Attn Of: OWW-131

Barry Burnell
Water Quality Program Administrator
Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706-1255

Re: EPA Disapproval of Idaho's Removal of Mercury Acute and Chronic Freshwater Aquatic Life Criteria, Docket No. 58-0102-0302

Dear Mr. Burnell:

Pursuant to its authority under Section 303(c) of the Clean Water Act ("CWA") and the implementing regulations at 40 CFR Part 131, the U.S. Environmental Protection Agency ("EPA" or "Agency") has reviewed one provision of Idaho's revised water quality standards contained in Docket 58-0102-0302. In accordance with its authorities, EPA is disapproving the removal of acute and chronic numeric freshwater aquatic life criteria for mercury that were contained in columns B1 and B2 in the toxic criteria table and the addition of footnote "g" to that table found at IDAPA 58.01.02.210.01.

Background

In 2003, the Idaho Department of Environmental Quality ("IDEQ") began a negotiated rulemaking in response to a petition from Idaho Mining Association to update Idaho's mercury criteria (Docket No. 58-0102-0302). As a result of the negotiated rulemaking, IDEQ published a proposed rule on August 4, 2004, in the Idaho Administrative Bulletin. The rule proposed to update a selected group of numeric criteria for toxic pollutants. A 45-day public comment period was initiated and three public hearings were held. As part of this negotiated rulemaking, IDEQ proposed removing the acute and chronic numeric freshwater aquatic life criteria for mercury and adding footnote "g" to the toxic criteria table. Footnote "g" states in part that the narrative criteria for toxics apply and that the human health criterion for methyl mercury will be protective of aquatic life in most situations.

On September 20, 2004, EPA submitted comments to IDEQ on the proposed rule stating that the Agency's recommended 304(a) chronic freshwater aquatic life criterion (0.77 µg/l) for mercury may not be adequately protective in Idaho. EPA cited its *"1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water"* (September 1996), which stated that several important species of fish, including rainbow trout, coho salmon and bluegill may not be adequately protected by the

recommended chronic criterion (0.77 µg/l) for mercury. Several species of trout and salmon are native to and important in Idaho. At that time, EPA informed IDEQ that the Agency was unlikely to revise its 304(a) chronic aquatic life criterion for mercury any time soon and made three recommendations.

First, EPA recommended IDEQ retain the current chronic value of 0.012 µg/l, which EPA considered protective of aquatic species in Idaho based on our evaluation during consultation under the Endangered Species Act. Second, EPA recommended IDEQ retain the chronic 0.012 µg/l criterion while the State of Idaho or EPA develops a new chronic aquatic life mercury criterion that is adequately protective of aquatic species in Idaho. Third, EPA recommended IDEQ adopt the Agency's current 304(a) freshwater acute aquatic life criterion for mercury (1.4 µg/l) until the State of Idaho or EPA develops a new acute aquatic life mercury criterion that is adequately protective of aquatic species in Idaho.

In addition to its comments and recommendations, EPA also provided IDEQ a detailed discussion clarifying the distinction between EPA's action on May 18, 2000, promulgating toxic criteria for the state of California (California Toxics Rule or "CTR"), and IDEQ's removal of the previously adopted freshwater acute and chronic mercury criteria. EPA provided the additional discussion concerning the CTR because IDEQ had stated that its decision to remove the acute and chronic numeric mercury criteria was based in part on the CTR. In the CTR, EPA reserved the acute and chronic freshwater aquatic life criteria for mercury because of the U.S. Fish and Wildlife Service's opinion that those values were not protective of species in California. Under the CTR reservation, EPA agreed not to promulgate new numbers; rather it would reserve the acute and chronic freshwater aquatic life criteria for mercury with the understanding that the mercury human health water column value of 0.05 µg/l and 0.051 µg/l would be implemented as an interim approach to protect aquatic species until a more adequately protective approach/criteria were developed. In contrast to the CTR, Idaho has no equivalent interim number because IDEQ has not demonstrated that its human health methyl mercury criterion would protect aquatic life.

IDEQ did not revise the proposed rule in accordance with EPA's recommendations, and submitted the rule to the Idaho Board of Environmental Quality on November 18, 2004. The Idaho Board of Environmental Quality adopted the rule and submitted it to the Idaho Legislature in January 2005. The Idaho Legislature adopted the rule as final and made it effective on April 6, 2005. On August 8, 2005, IDEQ submitted the rule, along with several other revisions of the state's water quality standards, to EPA for review and approval.

EPA reviewed the submission and on September 30, 2005, approved numeric criteria for eight different toxic pollutants. However, EPA did not act on the removal of acute and chronic numeric freshwater aquatic life criteria for mercury and replacement of these values with footnote "g" to the table.

EPA's Decision

EPA has reviewed the revision removing the acute and chronic numeric freshwater aquatic life criteria for mercury and replacement with footnote "g" contained in Docket 58-0102-0302. In addition, EPA has reviewed IDEQ's supporting justification entitled *"Technical Justification, Adoption of Mercury Fish Tissue Criterion and Update to Selected Metals Criteria Recommended by EPA as of 2002, Idaho Rulemaking 58-0102-0302."* EPA also reviewed Chapter 7 of Idaho's Implementation Guidance for the Mercury Water Quality Criteria, entitled *"Implications of Criterion Implementation for Aquatic Species and Aquatic-dependent Wildlife Species."*

Section 303(c)(2)(b) of the Clean Water Act states:

> Whenever a State reviews water quality standards...such State shall adopt criteria for all toxic pollutants listed pursuant to section 307(a)(1) of this Act for which criteria have been published under Section 304(a), the discharge or presence of which in the affected water could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses. Such criteria shall be specific numerical criteria for such toxic pollutants.

In EPA's *"Guidance for State Implementation of Water Quality Standards for CWA Section 303(c)(2)(B)"* (December 1988), the Agency states:

> EPA believes that an effective State water quality standards program should include both the chemical specific (i.e., ambient criteria) and narrative approaches. ...The narrative standard can be the basis for limiting toxicity where a specific toxic pollutant can be identified as causing the toxicity, but there is no numeric criterion in State standards. The narrative standard can also be used to limit whole effluent toxicity where it is not known which chemical or chemicals are causing toxicity.
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> Section 303(c)(2)(B) addresses only pollutants listed as "toxic" pursuant to section 307(a) of the Act, which are codified at 40 CFR §401.15. The section 307(a) list contains 65 compounds and families of compounds, which potentially include thousands of specific compounds. The Agency has interpreted that list to include 126 "priority" toxic pollutants for regulatory purposes.

In addition, water quality standards regulations at 40 CFR 131.11(a)(1) state in part that States must adopt water quality criteria that protect designated uses. Criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. Regarding toxic pollutants, 40 CFR

131.11(a)(2) requires States to review water quality data and information on discharges to identify specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use, or where the level of toxic pollutants warrant concern and to adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use. Lastly, 40 CFR 131.11(b) states that in establishing criteria, States should set numerical values based on EPA's 304(a) Guidance, 304(a) Guidance modified to reflect site-specific conditions, or other scientifically defensible methods.

EPA has determined that the removal of the acute and chronic numeric freshwater aquatic life criteria for mercury and replacement with footnote "g" is inconsistent with Clean Water Act Section 303(c) and 40 CFR 131.11. The supporting documentation that Idaho submitted does not provide specific information which would demonstrate that the designated aquatic life uses in Idaho are assured protection from discharges of mercury that would adversely affect water quality and/or the attainment of the aquatic life uses. Although Chapter 7 of Idaho's Implementation Guidance for the Mercury Water Quality Criteria provides a comparative evaluation of the potential effects of 0.3 mg/kg methylmercury on aquatic species and aquatic dependent wildlife relative to the effects anticipated from aquatic life exposure, it does not provide a procedure or detailed implementation for the translation from a human health criterion to protective aquatic life criteria. The Guidance does not contain definitive information on how the State would translate the fish tissue criterion developed to protect human health to a value which can be used to protect aquatic life.

Therefore, EPA is disapproving the removal of the acute and chronic numeric freshwater aquatic life criteria for mercury from columns B1 and B2, as well as the addition of footnote "g" to the table found in the Idaho Water Quality Standards at IDAPA 58.01.02.210.01.

Remedies to Address EPA's Disapproval

The federal water quality standards regulations at 40 CFR 131.21 state in part that when EPA disapproves a State's water quality standards, EPA shall specify changes which are needed to assure compliance with the requirements of Section 303(c) of the Clean Water Act and federal water quality standards regulations. There are several options Idaho could consider in establishing mercury criteria that are based on scientifically defensible methods and protect Idaho's designated aquatic life uses, including:

1) evaluate the protectiveness of EPA's current recommended 304(a) numeric acute freshwater aquatic life criterion for mercury (1.4 µg/l);
2) evaluate the protectiveness of Idaho's previous numeric chronic freshwater aquatic life criterion for mercury (0.012 µg/l);
3) evaluate development of Idaho-specific numeric acute and chronic freshwater aquatic life criteria for mercury; and

4) evaluate the use of a combination of protective numeric water column values and numeric wildlife criteria appropriate for Idaho species (this approach is being used in the Great Lakes Initiative).

Please note that EPA has not recommended using the 304(a) numeric chronic freshwater aquatic life criterion for mercury (0.77 µg/l) in the above list of options. As discussed above, the 304(a) criteria may not adequately protect such important fishes as the rainbow trout, coho salmon and bluegill, and there are several species of trout and salmon present in Idaho. EPA suggests that further evaluation is needed when considering adoption of the chronic criterion for waters where salmonids are present. EPA recommends further analysis of whether the 304(a) chronic criteria would be protective of designated uses in Idaho because salmonids are a key component of many of the aquatic communities in Idaho's waters. If IDEQ pursues this option, EPA recommends that any analysis is prepared prior to public comment and made available to the public for review at that time. Furthermore, if this approach is used EPA will require a scientifically sound demonstration of the protectiveness of any criterion to be provided at the time of submission.

Freshwater Aquatic Life Criteria for Mercury Currently in Effect in Idaho

Until Idaho develops and adopts and EPA approves revisions to numeric acute and chronic aquatic life criteria for mercury, the numeric aquatic life mercury criteria applicable to the designated aquatic life uses in Idaho that are effective for Clean Water Act Purposes are the previously adopted acute (2.1 µg/l) and chronic (0.012 µg/l) mercury criteria which EPA approved in 1997.

Please feel free to contact me at (206) 553-7151 if you have questions concerning this letter or Lisa Macchio, Idaho Water Quality Standards Coordinator, at (206) 553-1834.

Sincerely,

Michael F. Gearheard
Director, Office of Water and Watersheds

cc: Michael McIntyre, IDEQ
Don Essig, IDEQ