UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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OFFICE OF
WATER AND WATERSHEDS

To: OWW-191

SEP 15 2016

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

Re: EPA Disapproval of Idaho's Arsenic Human Health Water Quality Criteria

Dear Mr. Burnell:

In June 2015, the Northwest Environmental Advocates ("NWEA") filed a complaint in U.S. District Court for the District of Oregon, arguing that the Environmental Protection Agency's 2010 approval of Idaho's arsenic human health water quality criteria was arbitrary and capricious, an abuse of discretion, and contrary to law. On June 7, 2016, the Court approved and entered a consent decree negotiated by NWEA and EPA that resolved the claims against the EPA and remanded the EPA's 2010 approval of Idaho's arsenic human health criteria back to the Agency for reconsideration. Under the consent decree, the EPA agreed to take a new action on Idaho's arsenic human health criteria by September 15, 2016.

Pursuant to the consent decree as well as the authority under Section 303(c) of the Clean Water Act ("CWA") and the implementing regulations at 40 CFR Part 131, the EPA has re-reviewed Idaho's arsenic human health criteria. In accordance with its authorities, The EPA disapproves Idaho's arsenic criteria for water plus organisms and organisms only of 10 µg/L to protect human health as contained in section 58.01.02.210.01 of Idaho's water quality standards regulations. In addition, the EPA disapproves Idaho's previously adopted arsenic criteria for water plus organisms and organisms only of 50 µg/L, which Idaho submitted to the EPA in 1999 but on which the EPA did not take action to approve or disapprove. The EPA has determined that Idaho's previous human health criteria of 50 µg/L and current criteria of 10 µg/L for the protection of human health from exposure to arsenic from the consumption of water and organisms and organisms only are not protective of Idaho's designated uses, including primary and secondary contact recreation and domestic water supply.

The EPA and NWEA jointly agreed in the consent decree to a reasonable timeframe for either Idaho or the EPA to adopt revised arsenic human health criteria in Idaho. Pursuant to the consent decree, if Idaho does not adopt replacement criteria that the EPA approves by November 15, 2018, the EPA shall sign for publication in the Federal Register a proposed regulation setting forth new human health arsenic criteria for Idaho by November 15, 2018. Furthermore, if Idaho does not adopt arsenic human health criteria that the EPA approves by July 15, 2019, the EPA will sign a notice of final rulemaking on the EPA's proposed arsenic criteria for Idaho by July 15, 2019.

This timeframe for Idaho to adopt revised criteria or for the EPA to sign for publication a proposed regulation, as well as a notice of final rulemaking, takes into consideration the EPA's plan to complete the final IRIS Toxicological Review of Inorganic Arsenic with an anticipated date of posting to the IRIS

database in 2017, which the EPA set forth in its December 2015 draft Assessment Development Plan for the Integrated Risk Information System ("IRIS") Toxicological Review of Inorganic Arsenic.[1] The results of this toxicological review could result in EPA updating its CWA section 304(a) recommended criteria for arsenic. Additionally, the EPA's Office of Science and Technology conducted a literature search to identify data available to derive a National Bioaccumulation Factor for arsenic in 2003 as an initial step in gathering information to revise the recommended criteria in accordance with the EPA's 2000 Human Health Methodology. The data collected is summarized in the document, *Technical Summary of Information Available on the Bioaccumulation of Arsenic in Aquatic Organisms* (EPA-822-R-03-032). EPA anticipates the need to carefully consider the outcome of the toxicological review and any more recent data on bioaccumulation prior to developing revised 304(a) human health criteria for arsenic.

Background

On December 22, 1992, EPA promulgated the National Toxics Rule (NTR), which established numeric toxic criteria for a number of States, including Idaho. The NTR arsenic criteria for the protection of human health are 0.14 µg/L for consumption of organisms only and 0.018 µg/L for consumption of water plus organisms. The NTR criteria are identical to the EPA's existing CWA section 304(a) recommended criteria for arsenic, published in 1992. On August 24, 1994, DEQ adopted its own water quality standards by incorporating the NTR into Idaho's rules by reference, except for arsenic for which the state adopted 6.2 µg/L to protect consumption of organisms only and 0.02 µg/L to protect consumption of water plus organisms. On June 25, 1996, the EPA approved Idaho's standards for toxics and subsequently withdrew Idaho from the NTR, effective November 10, 1997.

In 1997, the Idaho Department of Environmental Quality (DEQ) put forth a temporary rule request to the Idaho Board of Health and Welfare (the Board) to adopt temporary revised numeric arsenic human health criteria of 25 µg/L, for both consumption of water and organisms and consumption of organisms only. The Board chose to modify the temporary rule to 50 µg/L based on the rationale that this value was consistent with the maximum contaminant level ("MCL") established under the Safe Drinking Water Act ("SDWA") at that time. On January 7, 1998, DEQ published a notice of temporary and proposed rule in the Idaho Administrative Bulletin and initiated a 30-day public comment period (Docket No. 16-0102-9801). The proposed temporary rule revised both arsenic human health criteria to 50 µg/L from the previously EPA approved values of 0.02 µg/L for consumption of water and organisms and 6.2 µg/L for consumption of organisms only.

By letter dated February 5, 1998, the EPA submitted formal public comments to DEQ regarding the proposed rule. In the letter, the EPA recommended that Idaho retain the previously approved criteria (0.02 µg/L and 6.2 µg/L) as a prudent public health policy. At that time, the EPA was proceeding with a national research strategy to improve the Agency's scientific understanding of arsenic. The EPA was also in the process of reassessing the drinking water MCL (50 µg/L) established under the SDWA.

DEQ did not to revise the proposed rule in accordance with the EPA's recommendations and moved forward to adopt a rule revising both arsenic human health criteria to 50 µg/L. The rule became a pending rule in November 1998 and was sent to the Idaho legislature for their review in January 1999.

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[1] U.S. EPA. 2015. Assessment Development Plan for the Integrated Risk Information System (IRIS) Toxicological Review of Inorganic Arsenic [CASRN 7440-38-2]. Office of Research and Development. EPA/630/R-14/101. Available at http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=526109.

At the end of the 1999 legislative session, the Idaho legislature adopted the rule as final and by letter dated April 23, 1999, DEQ submitted the newly adopted arsenic human health criteria (50 µg/L) in Docket 16-0102-9801 to the EPA for review and action. The EPA did not act to approve or disapprove these revisions to Idaho's arsenic human health criteria. Instead, the EPA expressed its concerns with adoption of a MCL value that was likely to be revised in the next year and urged DEQ to revisit revising the arsenic human health criteria. On January 22, 2001, under the SWDA, the EPA promulgated a new drinking water MCL for arsenic of 10 µg/L.[2]

By letter dated July 7, 2008 the Idaho Conservation League ("ICL") provided a notice of intent to sue over the EPA's failure to act on Idaho's 1999 arsenic human health criteria revisions. In April 2009, the EPA signed a settlement agreement with ICL on this matter. In that settlement agreement, the EPA agreed, in part, to take action on Idaho's human health arsenic criteria (50 µg/L for both water and organisms and organisms only) if Idaho did not adopt and revise its arsenic human health criteria by July 15, 2009.

On May 6, 2009, DEQ proposed revising the arsenic human health criteria from 50 µg/L to 10 µg/L and initiated a 30-day public comment period. The EPA provided comments supporting the revision. On September 2, 2009, the Board adopted the revisions to the arsenic human health criteria as a proposed rule, which was subsequently submitted to the Idaho legislature as a pending rule in January 2010. The pending rule was adopted as a final rule at the end of the 2010 Idaho legislative session, effective March 29, 2010. By letter dated June 21, 2010, DEQ submitted the revised arsenic human health criteria to the EPA for review and action. On July 7, 2010, the EPA approved Idaho's arsenic criteria of 10 µg/L for the protection of human health. The basis EPA provided was that Idaho's criteria were consistent with EPA's current MCL for arsenic.

EPA's Decision

For today's CWA action, EPA reviewed Idaho's 1999 arsenic human health criteria for water and organisms and organisms only (50 µg/L) and re-reviewed Idaho's 2010 arsenic human health criteria for water and organisms and organisms only (10 µg/L). Idaho's 1999 and 2010 arsenic criteria were both based on the drinking water MCL established under the SDWA at the time when Idaho revised and adopted the arsenic human health criteria.

The EPA notes that there are significant differences between the allowable factors for developing SDWA MCLs and water quality criteria to protect designated uses under CWA section 303(c). For example, drinking water standards (*i.e.*, MCLs) do not factor in routes of human exposure other than drinking water, such as the consumption of fish and other aquatic organisms In addition, MCLs are partially based on feasibility considerations, including the availability of technology to achieve the regulatory level and the cost of such treatment.[3] In contrast, water quality criteria in water quality standards must be based on a sound scientific rationale and protect the designated use, and not on available treatment technology, costs, or other feasibility considerations.

The EPA's most recent guidance regarding use of MCLs for CWA criteria is found in the Federal Register Notice accompanying the EPA's 2000 Human Health Methodology.[4] In a discussion of the

[2] See 66 *Federal Register* 6976, January 22, 2001
[3] See National Toxics Rule. 57 *Fed. Reg.* 60885, December 22, 1992.
[4] See 65 *Fed. Reg.* 66444, November 3, 2000.

relationship between the EPA's Recommended 304(a) Water Quality Criteria and Drinking Water Standards, the EPA stated:

> *"The EPA no longer recommends that an MCL be used [i.e., adopted as a water quality criterion to protect designated uses that include consumption of aquatic organisms] where consideration of available treatment technology, costs, or availability of analytical methodologies has resulted in an MCL that is less protective than [a Maximum Contaminant Level Goal (MCLG)][5]."*

Furthermore, as stated in the Federal Register, the EPA recommends that States and authorized Tribes use the most recently published recommended Section 304(a) water quality criteria for "water and organisms" based on the 2000 Human Health Methodology[6] in order to protect CWA section 101(a) fishable uses and waters designated for drinking water.[7] This ensures that the water quality criteria adequately address fish consumption, bioaccumulation, and drinking water uses. When adopting water quality criteria to protect CWA section 101(a) fishable uses, States and authorized Tribes must ensure such criteria adequately address fish consumption as an exposure route.

The EPA recommends that States and authorized Tribes use the 2000 Human Health Methodology when they develop their own numeric water quality criteria for all pollutants of concern using the latest scientifically defensible data and principles. Sources of scientifically defensible toxicity data include peer reviewed published the EPA toxicological assessments, such as IRIS toxicity values and other sources as described in the EPA's most recently published recommended Section 304(a) water quality criterion or the SDWA MCLG.

Section 303(c)(2)(B) of the CWA 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.

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.

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. Finally, 40 CFR 131.11(b) states that in establishing criteria, States should set numerical values based on the EPA's 304(a) Guidance, 304(a) Guidance modified to reflect site-specific conditions, or other scientifically defensible methods.

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[5] See 65 *Fed. Reg.* 66444, 66450-51 November 3, 2000. Maximum Contaminant Level Goal (MCLG) for arsenic is zero.
[6] Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000). EPA-822-B-00-004, October 2000.
[7] See 65 *Fed. Reg.* 66444, 66450 November 3, 2000.

The EPA has determined that Idaho's previous human health criteria of 50 µg/L and current criteria of 10 µg/L for the protection of human health from exposure to arsenic from the consumption of water and organisms and organisms only are not protective of Idaho's designated uses (*e.g.*, primary and secondary contact recreation and domestic water supply) and, therefore, do not comply with CWA section 303(c) and 40 CFR 131.11. DEQ did not provide supporting information or analysis to demonstrate that the 50 µg/L or 10 µg/L criteria account for both consumption of water and consumption of organisms as exposure pathways for arsenic nor did DEQ demonstrate how the criteria were derived without regard for feasibility considerations. Therefore, the EPA is disapproving the numeric human health criteria for arsenic that Idaho adopted in 2010, which are contained in columns C1 and C2, of the Idaho Water Quality Standards at IDAPA 58.01.02.210.01, as well as Idaho's arsenic human health criteria of 50 µg/L that Idaho previously adopted in 1999.

Remedy to Address EPA's Disapproval

The federal water quality standards regulations at 40 CFR 131.21 state in part that when the EPA disapproves a State's water quality standards, the EPA shall specify changes that are needed to assure compliance with the requirements of CWA section 303(c) and federal water quality standards regulations.

- Adopt arsenic criteria that protect designated uses, including designated uses informed by tribal reserved fishing rights,[8] by accounting for both consumption of water and consumption of organisms as exposure pathways (without feasibility considerations) and considering local and regional tribal fish consumption data..
- Review the EPA's final IRIS Toxicological Review of Inorganic Arsenic (anticipated in 2017) and adopt arsenic criteria that protect designated uses (as described above) taking into consideration the updated scientific information.

Until Idaho adopts and the EPA approves revisions to numeric arsenic human health criteria, the EPA recommends that Idaho use the EPA-approved narrative water quality criteria and translate the narrative consistent with the most recent EPA approved numeric criteria for arsenic in Idaho (0.02 µg/L to protect consumption of water and organisms and 6.2 µg/L to protect consumption of organisms only).

Please feel free to contact me at (206) 553-1855 if you have questions, or have your staff contact Lisa Macchio, our Idaho Water Quality Standards Coordinator, at (206) 553-1834.

Sincerely,

Daniel D. Opalski, Director
Office of Water and Watersheds

cc: Mr. Don Essig, DEQ
Mr. Jason Pappani, DEQ

[8] *See* EPA Comments on Idaho Department of Environmental Quality's October 7, 2015 Proposed Rule Revisions to Idaho's Human Health Criteria for Toxics, Docket No. 58-0102-1201, pp. 6-8, November 6, 2015, *available at* http://www.deq.idaho.gov/media/60177521/58-0102-1201-epa-region-10-comment-1115.pdf.