UNITED STATES ENVIRONMENTAL PROTECTION AGENCYREGION 10
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WATER DIVISION

July 14, 2021

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Idaho Department of Environmental
Quality1410 North Hilton
Boise, Idaho 83706-1255

Re: EPA Comments on Idaho's Arsenic Negotiated Rulemaking Meeting on June 23, 2021 – Docket No. 58-0102-1801

Dear Jason:

Thank you for the opportunity to provide comments to the Idaho Department of Environmental Quality (DEQ) regarding the June 23, 2021 arsenic rulemaking meeting. DEQ requested comments on the options DEQ presented for the fish-only criterion. For the water + fish criterion, EPA understands DEQ is still considering preliminary draft rule language; therefore, EPA is reiterating comments previously provided regarding DEQ's draft rule language.

EPA continues to have many of the same concerns expressed to DEQ in our previous comment letters (January 11, 2021 and May 14, 2021). In addition, as EPA articulated in our May 14th letter and during the June 23rd negotiated rulemaking meeting, DEQ has not provided sufficient information to conclude that a fish-only criterion expressed as a fish tissue concentration alone will protect the applicable designated uses in accordance with 40 CFR 131.11(a)(1). There was good discussion during the June 23rd negotiated rulemaking meeting regarding potential approaches to deriving a water column value and EPA encourages DEQ to continue to explore all potential options.

Protection of Idaho's Primary and Secondary Recreation Uses

DEQ presented four options at the June 23rd negotiated rulemaking meeting: 1) Fish tissue only criterion, 2) Water column only criterion, 3) Tissue and water column elements; tissue supersedes, and 4) Tissue criterion; water column screening. As discussed in further detail below, EPA continues to support a water column only criterion. With regard to a combination of water column criterion and a fish tissue criterion, given the information that DEQ has presented thus far, EPA is still evaluating this option. As presented below, it appears that there are multiple lines of evidence to use in deriving a bioaccumulation factor (BAF) for arsenic that is used to translate between fish tissue and water column concentrations.

DEQ has not produced evidence to indicate that a fish tissue value alone will ensure that the designated use is protected. Therefore, for the same reasons articulated in EPA's May 14th letter, EPA continues to

conclude that a water column arsenic human health criterion is needed for the arsenic human health criteria. EPA based this conclusion on the following, which we shared during the June 23rd meeting discussion.

- There are numerous challenges associated with implementation of a tissue-only criterion, such as difficulty in deriving a water-based limit for permitted dischargers and resources involved in collecting fish tissue data, as well as assessing for surface water impairments and developing total maximum daily loads (TMDLs).
- Idaho has not established implementation procedures for deriving water quality-based effluent limits from fish tissue data. A water column criterion will best facilitate derivation of permit limits.
- Fish tissue data can be costly and difficult to collect, and Idaho, like many states, does not have an extensive fish tissue collection program. A water column criterion will best facilitate monitoring and assessment of Idaho's waters to ensure that impaired waters are identified and addressed in a timely way to protect human health.
- Because appropriate fish may not be available to collect in all waters, a water column criterion will facilitate any arsenic controls necessary in those waters to ensure protection of Idaho's designated uses along with protection of downstream water quality standards.
- Although inorganic arsenic does not appear to be highly bioaccumulative, it is possible that fish tissue samples may not adequately capture arsenic concentrations immediately on waters with increasing arsenic inputs/dynamics. A water column criterion will provide protection of human health in these scenarios.

BAF Options

A BAF is needed to derive a water column criterion for arsenic. DEQ evaluated its data and concluded that the data were too variable to derive a defensible BAF. While EPA recognizes the variability in DEQ's dataset and agrees with some commenters that additional study of arsenic bioaccumulation would be beneficial in the future, EPA believes that multiple lines of evidence suggest that a BAF of 1-2 L/kg is appropriate for arsenic in Idaho at this time, given the available information, as summarized below.

- One line of evidence is taking a geometric mean of all of Idaho's paired fish and water samples, setting non-detects equal to the applicable method detection limit (MDL), which results in a BAF of 1.1 L/kg.
- Another line of evidence is taking a geometric mean of paired fish and water samples for only certain lower trophic-level fish species for which there is a statistically significant relationship between fish and water concentrations (i.e. mottled sculpin, longnose dace, redside shiner, and mountain whitefish), setting non-detects equal to ½ of the applicable MDL, which results in a BAF of 1.4 L/kg.
- Paul Anderson from Arcadis put forth an approach that incorporates trophic level weighting or averaging in deriving a BAF. Given that DEQ used the trophic level weighting approach when deriving human health criteria for other pollutants in 2016, it would be reasonable for DEQ to explore that option for arsenic as well. Using this weighting approach and setting non-detects equal to either the MDL or ½ of the MDL, EPA calculates a BAF of 1.8 or 1.7 L/kg, respectively.

EPA recommends DEQ evaluate these and any other BAF options and provide a draft rationale/basis for each of the potential approaches for deriving a BAF for arsenic at a future rulemaking meeting.

Protection of Idaho's Domestic (Drinking) Water Supply Use

The narrative criterion for arsenic contained in footnote k references a numeric criterion in the form of the SDWA MCL. EPA notes that footnote k refers to IDAPA 58.01.08., which is a citation to the entirety of Idaho's Rules for Public Drinking Water Systems. The exact subsectionof Idaho's drinking water rules containing information on Idaho's drinking water MCLs is provided in subsection 58.01.08.050.01.b. However, this subsection does not include the actual MCL value for arsenic nor any other contaminants. Please consider revising footnote k to assist with the public's understanding of the proposed value for arsenic, including noting it is incorporated by reference, to make clear that the criterion is the SDWA MCL for arsenic.

Furthermore, footnote k to arsenic in Idaho's table of toxic criteria appears to be a narrative criterion that incorporates a numeric by reference. EPA recommends DEQ provides the numeric value in the table of criteria or if not, please articulate the rationale in writing so we can fully evaluate this approach.

EPA continues to recommend DEQ further evaluate the duration and frequency associated with the SDWA MCL During the June 23rd rulemaking meeting DEQ made mention of this, however DEQ did not provide clarity on language to be included in the proposed rule. EPA recommends DEQ develop draft rule language to address the frequency and duration components for the arsenic water + fish criterion so that this can be reviewed and discussed during a subsequent rulemaking meeting. EPA reiterates that if DEQ is proposing the MCL to be used in place of an ambient water quality criterion, it is important that the approach for determining compliance with MCLs should also be adopted. As others have recommended, EPA also recommends the use of the arithmetic mean for use with the MCL and recommend DEQ include this specificity in the proposed rule language.

Downstream Protection

In accordance with the requirements at 40 CFR 131.10(b), states must "take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters." It is important for DEQ to provide details on implementation of Idaho's arsenic human health criteria to ensure downstream protection.

During the negotiated rulemaking meeting DEQ stated that protection of downstream water quality standards occurs during implementation of arsenic criteria via an IPDES permit and/or development of TMDLs. It is important for DEQ to provide details describing how these programs would specifically implement the preliminary arsenic human health criteria under consideration given the criteria are orders of magnitude greater than the arsenic human health criteria in waters downstream from or shared with Idaho. EPA suggests DEQ consider providing these details at an upcoming rulemaking meeting using potential or real examples.

Below is a summary of the arsenic human health criteria applicable and relevant to the shared or downstream of Idaho waters for consideration in developing potential/hypothetical examples of permit limits or wasteload allocations that ensure protection of downstream water quality standards.

State or Tribe	Fish-only arsenic criterion	Water + Fish arsenic criterion
Kalispel	0.0023 (µg/L)	0.0020 (µg/L)
Washington	0.14 (µg/L)	0.018 (µg/L)
Oregon	2.1 (µg/L)	2.1 (µg/L)

EPA appreciates DEQ's continued efforts to evaluate potential approaches to revising Idaho's human health arsenic criteria. EPA looks forward to continuing to coordinate this effort with DEQ and provide technical support. Please do not hesitate to contact me at (206) 553-1834 or macchio.lisa@epa.gov if you have any questions.

Sincerely,

Lisa Macchio

Digitally signed by Lisa Macchio
Date: 2021.07.14 14:20:00 -07'00'

Lisa Macchio
Water Quality Standards Coordinator

cc: Michelle Dale, Idaho DEQ