

November 9, 2015

Consulting
Engineers and
Scientists

Paula Wilson
Idaho Department of Environmental Quality
1410 North Hilton Street
Boise, ID 83706

**Re: Comment on Copper Standards Update, Preliminary Draft Negotiated Rule
(Draft No. 1) Docket No. 58-0102-1502**

Dear Ms. Wilson,

Thank you for this opportunity to provide comments on Idaho Department of Environmental Quality (IDEQ)'s proposed rulemaking for updates to the aquatic life water quality criteria for copper, on behalf of our client, the Copper Development Association (CDA). CDA played a significant role in sponsoring scientific research used in the development of the freshwater Biotic Ligand Model (BLM) for copper, which was adopted by the United States Environmental Protection Agency (USEPA) as the basis for its latest nationally recommended freshwater aquatic life ambient water quality criteria for copper (USEPA 2007).

It is our understanding that IDEQ is in the process of considering several options for adopting the USEPA 2007 BLM-based copper criteria as a state-wide replacement of Idaho's current hardness-based copper criteria (which are based on USEPA 1985). In general, CDA supports the use of the BLM because it addresses metal bioavailability more thoroughly and generates criteria more accurately than hardness-based approaches alone. IDEQ's inclusion of reference values of acute and chronic BLM-based copper criteria concentrations based on the stated BLM water quality parameters is consistent with the approach used by Idaho and other states in providing reference values for hardness-based metals criteria. It should be made clear that such reference values are examples and are not to be applied directly to a particular location or across a region.

However, IDEQ's current proposal to adopt the USEPA 2007 copper criteria by only referencing the BLM software version 2.2.3 in Idaho water quality standards language will be problematic because we understand rulemaking will be required to change standards language when BLM software versions change. In contrast, other states have adopted more flexible water quality standards language that simply provides a reference to the USEPA 2007 freshwater copper criteria document (e.g., Kansas). A more flexible option, therefore, may be to add the USEPA 2007 copper criteria document in Idaho's proposed footnote xx to the numeric criteria table in Section 210 of 58-01-02, i.e., that "Aquatic life criteria for copper are derived from the Biotic Ligand Model software version 2.2.3 or the most recent software version

that derives criteria consistent with USEPA copper criteria (EPA-822-R-07-001 February ~~June~~ 2007).”

The USEPA provides a website for their 2007 copper criteria at http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/copper/2007_index.cfm. This website provides a link to BLM software v2.2.3 (http://www.hydroqual.com/wr_blm.html). However, this EPA link to BLM software points to an obsolete Hydroqual website. The most current BLM software, v3.1.2.37, was released on 11/3/15 and is available at <http://www.windwardenv.com/biotic-ligand-model>, and provides many enhancements by using the most up-to-date version of the BLM “engine” (2.37). It also provides the basic capability to generate freshwater aquatic life water quality criteria consistent with USEPA 2007 using engine 2.12, which was used in software v2.2.3, and is distinguished as 2.12 in output file headers. Earlier versions of BLM software have also generated copper criteria consistent with USEPA 2007 and certain versions have provided other research tools such as toxicity predictions for various metals and organisms.

It is important to note that the software developer of the BLM, Robert Santore from Windward Environmental, has updated the version numbering system for the BLM software such that the first two numbers indicate changes to the user interface, and the second two numbers indicate changes to the BLM calculations, or “engine.” The approach to the software version updates has been to make more explicit whether or not the criteria calculations have changed, as opposed to less critical refinements to the user interface and other functionality added beyond generating copper criteria consistent with USEPA 2007. As a result, new version numbers of the USEPA-specific BLM packages will be indicative of the underlying toxicity database and criteria calculations intended in the USEPA’s nationally recommended criteria documents, such as USEPA 2007 or its successors. “Research Mode” releases of the BLM software may indicate higher version numbers for the engine due to an updated engine being used with organism-specific and non-EPA-approved HC5 calculations. However, the Research Mode release will still perform the USEPA-approved calculation and indicate the appropriate version numbers in the output file header when the “US EPA WQC” option is selected. We believe this would provide IDEQ with increased confidence as to which version of the BLM software is officially sanctioned by state rule for use in derivation of water quality criteria, and would give stakeholders additional flexibility to use other software updates and enhancements to the BLM software. We would appreciate the opportunity to work with IDEQ to help answer any questions related to the new version numbering, and its implementation as a tool for deriving statewide copper criteria.

Since the updates to the copper criteria are a high priority issue for IDEQ, we believe replacement of the outdated model (i.e., hardness-based equations) with a

more accurate model (i.e., BLM) to be the simplest and most efficient path forward from the standpoint of the initial rulemaking. Adoption of the BLM by reference to the 2007 Criteria and associated components of the software version number, as necessary, would be the most direct way of addressing the issues raised in the National Marine Fisheries Service's (NMFS) Biological Opinion regarding Idaho's water quality standards. This will also still leave room for IDEQ to explore other implementation options, such as simplified BLMs or use of the Fixed Monitoring Benchmark (FMB) approach, in the future.

We appreciate the opportunity to provide comments on the proposed water quality standards. Please let us know if you have any questions. We look forward to discussing this with you further.

Sincerely,

GEI CONSULTANTS, INC.



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RWG

cc: Carrie Claytor, CDA
Steven Canton, GEI
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David DeForest, Windward Environmental
Robert Santore, Windward Environmental
Eric Van Genderen, International Zinc Association

References

U.S. Environmental Protection Agency (USEPA). 2007. Aquatic Life Ambient Freshwater Quality Criteria – Copper. EPA-822-R-07-001. U.S. Environmental Protection Agency, Washington, D.C.