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INDEPENDENT REGULATORY REVIEW COMMISSION

August 13th, 2012

Geotechnical
Environmental
Water Resources
Ecological

Pennsylvania Environmental Quality Board
Rachel Carson State Office Building
16th Floor, 400 Market Street
Harrisburg, PA 17101-2301

Re: Proposal to Recommend State-wide Use of the Biotic Ligand Model for Copper Aquatic Life Criteria in Pennsylvania

Dear Environmental Quality Board:

We contacted you in the fall of 2010 on behalf of our client, the International Copper Association and Copper Development Association (ICA/CDA) to request information concerning Pennsylvania's water quality criteria for copper. ICA/CDA played a significant role in sponsoring scientific research used in development of the freshwater Biotic Ligand Model (BLM) for copper, which was adopted by the United States Environmental Protection Agency (EPA) in its latest national ambient water quality criteria (EPA 2007). ICA/CDA is now interested in encouraging efforts by states and tribes to incorporate these latest recommended EPA national criteria for copper into their water quality standards programs. While we understand Pennsylvania currently allows use of the BLM to derive site-specific water quality standards, we recommend taking the next step to consider full state-wide implementation.

It is our understanding that Pennsylvania is in the early stages of its next triennial review and is currently in the process of soliciting pre-rulemaking written comments for water quality standards issues to be addressed in the next review. Suggestions for topics for this upcoming review are due August 21st, 2012. Thus, the purpose of this letter is to urge the Pennsylvania Environmental Quality Board (Board) to consider updating its state-wide aquatic life criteria for copper to use the BLM as currently recommended by EPA. GEI and ICA/CDA would like to support the Board in this process.

While the BLM is a currently acceptable approach to deriving site-specific standards in Pennsylvania, the current state-wide aquatic life criteria used to derive copper standards, like most states' criteria, only take into account hardness as a factor that modifies toxicity. Using only hardness as a modifying factor for metals criteria is an outdated approach that excludes a substantial body of peer-reviewed scientific literature demonstrating that additional modifying factors can and should be incorporated into regulatory benchmarks or standards, while providing the same levels of aquatic life protection required under the Clean Water Act (EPA 1985, 1994, 2001, 2007). Copper toxicity is a function of its bioavailability, which in

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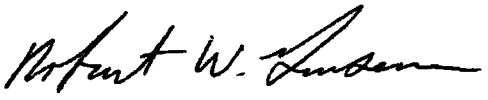
addition to being controlled by hardness, is also strongly related to other important factors such as dissolved organic carbon (DOC), alkalinity, pH, and temperature. The key strength of the BLM is that it accounts for multiple factors—in addition to hardness—that mitigate or exacerbate copper's toxic effect on aquatic life. There also are practical advantages for using the BLM: it is a cost effective regulatory tool compared to other site-specific toxicity test procedures (e.g., water-effect ratios), and the BLM software is publicly available, sanctioned by EPA, and requires only brief training to generate rapid and useable output. Therefore, BLM-based criteria provide a practical means of deriving demonstrably more accurate levels of aquatic life protection across a broad range of water quality conditions.

In addition, please let us know if we can provide assistance regarding use of the BLM. GEI or ICA/CDA could help in a variety of ways, including providing thoughts or guidance on application of the BLM to water quality criteria, and how one might summarize surface water quality data to derive protective criteria using the BLM. ICA/CDA has also sponsored BLM training sessions over the past several years, and they have been well-attended by both regulators and the regulated community. If desired, it may be possible to provide this course or related education materials if you would find that helpful.

We appreciate the opportunity to provide you with this request. Please let me know if you have any questions, and we look forward to discussing this with you further.

Sincerely,

GEI CONSULTANTS, INC.



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RWG
cc: Joe Gorsuch, CDA
Steven Canton, GEI
Stephanie Baker, GEI

References

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