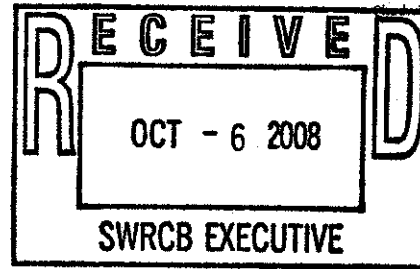


Geotechnical  
Water Resources  
Environmental and  
Ecological Services



**To:** Jeanine Townsend, Clerk to the Board  
State Water Resources Control Board

**From:** Steve Canton

**CC:** Steve Camacho, Valerie Housel, Ed Filadelfia, Rod Cruze, Rudy Fandel, Jack Nelson,  
and Phil Markle

**Date:** 10/6/2008

**Re:** Comment Letter – Water Quality Objectives for Cadmium and Related  
Implementation Methods

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At the request of members of the Santa Ana River Dischargers Association and Los Angeles County Sanitation District, GEI Consultants, Inc. is providing comments on the *Proposed Amendment to the Policy for Implementation of Toxics and Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California to Establish Water Quality Objectives for Cadmium and Related Implementation Methods*. In summary, the State Water Resources Control Board staff has proposed three general options for this update of cadmium objectives.

1. No Action – retain existing CTR Cd objectives
  - a. USEPA 2001 Cd update could be adopted by Regional Boards, OR
  - b. USEPA could promulgate 2001 Cd objectives
2. Adopt USEPA 2001 Cd update
  - a. Based on default hardness for freshwater
  - b. Adopt revised saltwater values
3. Adopt USEPA 2001 Cd update
  - a. Based on adopting hardness-based equations
  - b. Requires guidance for choosing “representative” hardness
    - i. Such guidance applied to other metals, as appropriate
  - c. Adopt revised saltwater values

The State Water Board staff is recommending Option 3, as summarized in the Scoping Document. However, we would like the State Water Board to understand that a "Fourth" Option is available.

4. *Adopt Cadmium Objectives based upon Updated USEPA Cadmium Equations*

We would note that revisions to the USEPA 2001 Cadmium Criteria document have been developed over the past few years and adopted by other states, such as Colorado (2005) and Idaho (2006). These updates include new toxicity data on important sensitive species from literature published after the 2001 document was released, as well as new toxicity studies conducted to help validate reported values for key species (e.g., *Daphnia*).

These updates would be worth consideration for adoption by the State Water Board, as they represent the most "up-to-date" science for this metal. Of course, this option would still require guidance for choosing "representative" hardness and would also include adoption of the revised saltwater values.

More specifically, these updated cadmium objectives offer a number of key improvements over the outdated 2001 cadmium criteria document. For example, the updated toxicity databases include 30+ new acute and 19 new chronic data points. These database updates provide new data for species already in the database, as well as data on species new to the database - greatly increasing the taxonomic representation.

In addition, these new data allowed reevaluation and recalculation of the acute and chronic hardness slopes, providing yet another improvement to the current EPA equations.

Lastly, as part of this update, it became clear that ecologically/recreationally important biota (e.g., trout) were potentially not fully protected with the current USEPA 2001 acute equation. The updated criteria provide better protection for different aquatic ecosystems through the creation of "with trout" and "without trout" (default) acute equations.

Technical documentation of these criteria updates would be provided at the October 23, 2008 comment deadline. Meanwhile, a comparison of the current proposal and how the values would look using our proposed updated equations is presented below at a hardness = 100 mg/L (We are certainly not recommending using a default hardness value - this is simply presented as an example).

Should you have any questions regarding these comments, please feel free to contact me at address above or [scanton@geiconsultants.com](mailto:scanton@geiconsultants.com).

State Water Board Staff Proposed New Cadmium Objectives		Proposed Alternative, Updated Cadmium Objectives		
Acute	Chronic	Acute	Acute "with trout"	Chronic
2.01*	0.25*	2.48*	1.70*	0.43*

*\*At hardness = 100 mg/L. Actual cadmium objectives would be in the form of hardness-based equations.*