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Richard Woodard
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Dear Rich:

Since you invited comments at the CALFED water quality workshop held on February 4, 1997 and since I have an interest in seeing that CALFED proceeds in a technically valid, cost-effective manner in addressing real water quality issues as part of managing the state's water resources that are associated with Sacramento - San Joaquin River Delta, I wish to provide you with the following comments on apparent problems with some of the statements that were made at this workshop by CALFED staff.

By far the greatest area of concern was the discussion of the approach that you indicated that CALFED management plans to follow with respect to the use of water quality standards in formulating CALFED programs. As I understand CALFED's position on this matter, it would be inappropriate for CALFED, in its EIR, to discuss the appropriateness of the water quality standards that serve as the basis for the water quality management program on which CALFED could be spending state of California taxpayers' funds to address. As I commented at the meeting, those familiar with water quality criteria and standards know that there are a wide variety of factors other than technical reliability that influence standards. I have worked throughout most of my 35-year professional career on these issues. While for political reasons CALFED cannot be possibly recommending different standards than exist based on current regulatory approaches, CALFED as part of developing a credible EIR must discuss the appropriateness of the standards in those situations where there are significant questions about using the standards as a goal for water quality management in CALFED programs.

It appears that there may be a lack of understanding of true "water quality." I saw some of this in some of the statements made at the meeting where it appeared that some of the CALFED management is using the term "water quality" to be synonymous with "chemical concentrations of constituents." Those who understand the issues know that this approach is technically invalid and that it has previously led and could readily lead again to massive waste of public and private funds. In order to address water quality issues properly, one must understand the fields of aquatic chemistry, aquatic toxicology, biology and water quality and the interrelationships among the basic science and engineering in each of these areas. Water quality is not a list of chemical constituents and cannot be judged by a mechanical comparison to a set of criteria/standards. The

public who voted for Prop. 204 are entitled to know and be reasonably certain that appropriate standards are being used as the basis for expenditure of funds for water quality management.

During your discussions you used copper as an example of a constituent that CALFED could devote funds for its control. I have worked on the aqueous environmental chemistry of copper in both fresh and marine systems for about 30 years. I have had several students do their master's theses and PhD dissertations on the topic. In addition, I have been involved in a variety of investigations specifically addressing the issue of the relationship between the measured concentrations of copper in water and sediments and their impacts on the issues of concern to the public, i.e. the aquatic life-related beneficial uses of the numbers, types and characteristics of the aquatic life in the waterbody. To assume that the current water quality standard for copper is to be used without questioning it is highly inappropriate and contrary to wise use of public funds. Most of the forms of copper in aquatic systems are non-toxic and non-available. To simply throw Prop. 204 funds at total copper without regard to whether the copper present is in a toxic, available form and therefore significantly adverse to the beneficial uses of the waterbody is inappropriate. Prop. 204 funds should be directed toward solving real water quality problems and not those which arise out of overly simplistic regulatory approaches that have been developed at the federal and/or state level.

Just the opposite situation occurs with chromium VI. The chromium VI standard is a factor of 10 too high based on what is known about the toxicity of chromium VI to key forms of aquatic life such as zooplankton. This same situation of the unreliability of the current standards is well understood in the field by those familiar with the topic area. It is important that CALFED incorporate this knowledge into its formulation and implementation of its water quality management programs and not mechanically use existing standards as a basis for formulating management goals, especially in light of the fact that the current US EPA administration has acknowledged that there are significant problems with its water quality standards that need to be addressed and is proposing to address at least some of them.

Before spending funds for copper or for that matter any other constituent control to meet either an overly-protective or underly-protective standard, it is important to evaluate the reliability of the standard and the potential for it to be changed to a more reliable value in the foreseeable future.

Since coming back to California in 1989, I have been involved on behalf of a number of water utilities and other groups in review of EIRs for environmental projects. I have become familiar with CEQA requirements and the typical approaches that are used by project proponents in EIRs to support their projects, irrespective of the science and engineering that should have been used in review of the project. One of the areas of CEQA requirements that has relevance to CALFED's development of a credible EIR is CEQA Section 15151 which states,

"An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account

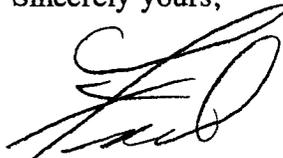
of environmental consequences. An evaluation of the environmental effects of proposed projects need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."

Clearly, as part of full disclosure requirements of CEQA the reliability of the water quality standard serving as an appropriate goal for CALFED projects can and must be discussed. Failure to do so could result in the CALFED EIR be judged inadequate. I have observed situations where the court has ruled EIRs that do not provide full disclosure as inappropriately certified and required that those who prepare them address the deficiencies.

I urge, as part of CALFEDs management's formulation of its water quality management program, and the development of an EIR covering proposed water quality management activities that a full disclosure discussion of the reliability of the water quality standards that are used as the management goal for a particular constituent be discussed.

If you or others have questions on these comments please contact me. Let me know if I can be of help in this regard.

Sincerely yours,



G. Fred Lee, PhD, DEE

copy to: L. Snow

GFL:djc