

Issue Update Bromides Expert Panel

Summary

A draft report on the significance of bromide in the selection of a CALFED project alternative was discussed at the May 1, 1998 Policy Group meeting. Policy Group discussed the establishment of an expert panel to provide further information on the bromides issue and its relationship to selection of a preferred alternative. Staff was asked to provide additional information at the June Policy Group meeting regarding the proposed tasks/questions for the panel and a draft list of panel members. The list of tasks described in this memo was provided to the Management Team at their May meeting and is also being reviewed by the Water Quality Technical Group for refinement. Comments by the WQTG will be available at the June Policy group meeting.

Detailed Discussion

Background. Bromide is a salt that enters the delta from the ocean and bay. It is of particular significance to drinking water suppliers because it has the potential to react with chemicals used in drinking water treatment to produce byproducts that are thought to cause cancer and, possibly, other effects such as increased incidence of reproductive failure in humans. The storage and conveyance alternative chosen as a result of the circulation of the Draft Programmatic EIS/R could directly effect the concentration of bromide in drinking water taken from the south delta.

Bromides Panel. The panel is likely to be composed of three to five persons who have appropriate technical expertise in the field, who are widely recognized authorities, and who have a reputation for independence. It is envisioned that the panel may convene for about three days, probably in July, and will be asked to submit a report of their findings to CALFED management by mid-August. A list of potential panelists was sent to the Water Quality Technical Group, a shareholder group, for recommendations on panel membership.

Potential Panel Tasks. Three storage and conveyance alternatives exist in the Draft Programmatic EIS/R. The selection of an alternative could directly impact beneficial uses. An Expert Panel will answer questions that will enable CALFED to select an alternative with minimal drinking water impacts.

The following tasks have been tentatively identified, based on input from WQTG participants. This list will be pared down to enable the panel to complete its work in the available time.

- Describe the role of bromide in the formation of disinfection byproducts in drinking water.

- Discuss findings of current health effects research and future directions of research activities. Present information on health risks associated with brominated disinfection byproducts, as compared to chlorinated disinfection byproducts. Also predict when information from studies planned for the near term may be available to CALFED.
- Discuss how concerns over health effects of brominated disinfection byproducts should be balanced with the need for adequate disinfection of drinking water supplies taken from the Delta. Also discuss how health effect concerns associated with bromide compare to health concerns associated with other characteristics of Delta water quality.
- Discuss current trends in treatment process research and development. Discuss technical feasibility, reliability, and costs of potential new treatment technologies.
- Discuss the concentrations and sources of bromide at Delta intakes supplying drinking water systems, in relation to concentrations encountered by other drinking water systems across the nation. Discuss source control options, including those that may be available through maximizing CALFED Common Programs. Discuss the implications of source control measures on treatment costs.
- Evaluate the opportunities for operating water supply systems in such a way as to minimize bromide presence in the source water. Also evaluate the potential effects of such operational changes on treatment costs.
- Evaluate capabilities of existing drinking water treatment facilities to meet a reasonable range of possible standards for disinfection byproducts, and estimate costs for meeting this range of possible standards. Describe additional treatment processes and associated costs that may be required.
- Recommend what information CALFED should collect during the first years of program implementation to enable a fuller understanding of the significance of bromide to the CALFED decision.

Potential Panelists Agencies and stakeholders have recommended the following persons for consideration. Candidates appropriate for the panel should be balanced in terms of their expertise relative to the tasks to be performed, their reputation in the field, and their reputation for independence. None of the listed parties have been contacted. Their names will be confidential until a "short list" has been generated and we have had the opportunity to determine whether the preferred persons would be available.

George Akin - USGS (analytical chemistry)
Gary Amy - University of Colo. (Br compound formation)
Bevin Beaudet - CH2M Hill, President AWWA
Douglas Crawford-Brown, U.of N.Carolina (health effects of DBPs)
Richard Bull, Batell, Pacific NW Laboratory (health effects of DBPs)
Jon Bureau - USGS, (modeling)
Francis Chung - DWR - (modeling)
Harvey Collins - Former Chief, DHS Office of Drinking Water (regulations development)
Carol James (Delta water quality and treatment)
Mike Kavanaugh, Malcolm-Pirnie (water treatment)
John List
Steve Monosmith - Stanford, (modeling)
Daniel Okun, University of North Carolina (source water quality)
Brian Ramaley, P.E., Director Newport News Waterworks (water treatment, reg. compliance)
Verne Ray - CH2MHill
Dave Reckhow
Stig Regli, USEPA Cincinnati (regulations development)
Philip Singer, University of North Carolina (water treatment)
Scott Summers - UC
Kenneth Tanji, UC Davis, (agricultural and soil science)
Paul Westerhoff - Arizona State University (Br compound formation)

Action Item

The CALFED Policy Group will be asked to comment and concur in the proposed tasks and general makeup of the panel.