

# Final DRAFT

January 7, 2005

Ms. Debbie Irvin, Clerk to the Board  
State Water Resources Control Board  
P.O. Box 100  
Sacramento, CA 95812

**RE: Support for CALFED Drinking Water Quality Program**

Dear Ms. Irvin:

The California Bay-Delta Public Advisory Committee's (BDPAC) Drinking Water Subcommittee (DWS) appreciates this opportunity to provide input to the State Water Resources Control Board (SWRCB) on the Periodic Review of the 1995 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (1995 Plan). The Periodic Review process is an important opportunity for the SWRCB to review the increasing challenges urban water agencies face in providing drinking water that meets all treatment regulations and fully protects public health. The Drinking Water Subcommittee is specifically charged with reviewing and advising the BDPAC and the Bay Delta Authority on the CALFED Drinking Water Quality Program (DWQP). The SWRCB was one of the original signatories to the Memorandum of Understanding for implementation of the DWQP.

The CALFED Record of Decision adopted "continuously improving Delta water quality for all uses" as a general target for Delta water quality. With respect to drinking water quality, the CALFED target for providing safe, reliable, and affordable drinking water in a cost-effective way is described in the August 28, 2000 Record of Decision (ROD, page 65):

.... to achieve either: (a) average concentrations at Clifton Court Forebay and other southern and central Delta drinking water intakes of 50 µg/L bromide and 3.0 mg/L total organic carbon, or (b) an equivalent level of public health protection using a cost-effective combination of alternative source waters, source control and treatment technologies.

Management of disinfection byproduct (DBP) precursors in source water and control of DBPs in treated water are key issues that California drinking water providers are addressing. The specific bromide and organic carbon targets were based on the findings of an expert panel convened in 1998 by the California Urban Water Agencies<sup>1</sup>. The expert panel determined the source water quality needed to ensure urban agencies treating Delta water with conventional drinking water treatment technology could meet reasonably foreseeable future drinking water regulations.

Since 2001, the DWS has worked to define an "Equivalent Level of Public Health Protection" (ELPH), and how it can be achieved. A major component of this strategy is development of

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<sup>1</sup> Owen, D.M., P.A. Daniel, and R.S. Summers. June 1998. Bay-Delta Water Quality Evaluation Draft Final Report. California Urban Water Agencies  
<http://www.cuwa.org/publications.html#drinkingwaterquality>

Regional ELPH Plans, in which local agencies work at a regional level to determine the suite of local, regional, state and federal actions needed to achieve an equivalent level of public health protection as would be provided with attainment of 50 µg/L bromide and 3.0 mg/L total organic carbon in Delta source waters in combination with conventional treatment processes. The ELPH also recognizes that water quality in source waters and water quality regulations protecting consumers are dynamic, and that the CALFED ROD drinking water quality target is best met with flexible plans that look at all points in a drinking water system, from source to tap.

The 1991 Water Quality Control Plan for Salinity (1991 Plan) recognized this same strategy with the following conclusion (page 5-5):

Due to concerns with DBPs in treated water from the Delta and in keeping with the goal (not objective) of obtaining the best available drinking water, the Board finds that, wherever feasible, municipal water supply agencies should strive to obtain bromide levels of 0.15 mg/l [0.15 mg/l is equal to 150 µg/l] or less (about 50 mg/L chloride in the Delta). Appropriate actions by these supply agencies include encouraging DWR and USBR to work with the SWRCB to ensure development of facilities to make maximum use of uncontrolled flows through off-stream storage, encouraging those agencies to move water supply intakes to better locations, working with the State and Regional Boards to eliminate problem discharges within the Delta, and continuing the development of alternative water treatment technologies.

This conclusion was based on the findings of the Delta M&I workgroup, convened by the SWRCB as part of the development of the 1991 Plan<sup>2</sup>. The focus in 1991 was on the U.S. Environmental Protection Agency (USEPA) drinking water regulations for total trihalomethanes (THMs, a class of DBP). The SWRCB's 1991 Plan noted: "while THMs are the DBP of current concern, further studies may indicate that other DBPs are of greater concern." This has proven to be the case, as concern over THM formation motivated utilities treating Delta water to convert to ozone-based disinfection in the years following the 1991 Plan. As a result, bromate formation in water treated by ozone has become a major concern. In 1998, the USEPA Stage 1 Disinfectants/Disinfection Byproduct Rule established new Maximum Contaminant Levels (MCLs) for bromate, haloacetic acids and chlorite (other DBPs) and reduced the allowable THM concentrations. The USEPA Stage 2 Disinfectant-DBP rule, which is expected to be finalized in 2005, will continue the current bromate and other MCL requirements for DBPs, and will require more stringent compliance based on specific locations throughout the distribution system.

The United States Environmental Protection Agency did not approve a number of the 1991 Plan objectives for fish and wildlife and, consequently, the primary emphasis in the changes incorporated in the 1995 Plan was fishery protection. The 1995 Plan did not alter the 1991 Plan's M&I standards or expand on its underlying concern and conclusions regarding DBPs. The SWRCB's review of the 1995 Plan offers the opportunity to update and reiterate this important area of concern.

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<sup>2</sup> Report from the Delta Municipal and Industrial Water Quality Workgroup to the California State Water Resources Control Board, October 17, 1989

The Subcommittee encourages the SWRCB to support a drinking water quality update to the 1995 Plan through a discussion based on the CALFED ROD drinking water quality target and ELPH actions to improve drinking water quality, and text from the 1991 Plan. For example, the discussion could state:

Due to concerns with disinfection by-products in treated water from the Delta and in keeping with the target of obtaining the best available drinking water, the Board finds that, wherever feasible, municipal water supply agencies should strive to achieve either: (a) average concentrations at Clifton Court Forebay and other southern and central Delta drinking water intakes of 50 µg/l bromide and 3.0 mg/l total organic carbon, or (b) an equivalent level of public health protection using a cost-effective combination of alternative source waters, source control and treatment technologies, consistent with the CALFED Bay-Delta Program's target for providing safe, reliable, and affordable drinking water in a cost effective way. Consistent with this approach, appropriate actions to improve Delta water quality and treated drinking water quality may include some or all of the following: making maximum use of high-quality uncontrolled flows through off-stream storage, elimination of agricultural drainage in the vicinity of drinking water intakes, relocation of urban drinking water intakes, modification of Franks Tract to reduce intrusion of saltier water into the Delta, source control of wastewater discharges, projects to improve water quality on the San Joaquin River, advanced treatment technology studies, implementation of additional or advanced treatment, and water quality exchanges.

Recognition of the need for these actions continues the State Water Board's acknowledgement of the importance of protecting and improving source water quality in the Delta.

A second area that merits recognition in the Water Quality Control Plan is the effort of the Central Valley Regional Water Quality Control Board to develop a Central Valley Drinking Water Policy (Policy). Development of the Policy is a multi-year effort that is currently underway to address drinking water constituents of concern from a variety of urban, industrial, agricultural, and natural sources as the water flows out of the foothills and into the Central Valley, leading to drinking water treatment challenges and potential public health concerns.

The objective of the Central Valley Drinking Water Policy Project is to develop the technical studies needed to amend the Basin Plan to protect the municipal beneficial use, if such protection is warranted by the underlying science. The Central Valley Regional Water Quality Control Board manages this Project through a broadly representative stakeholder group that regularly reports on progress through the DWS meetings. The first accomplishment was Regional Board Resolution (R5-2004-0091) in support of the project.

Future study-topics include pollutant load evaluations, the range of water quality goals and policy options, and potential control alternatives. These studies are currently focused on providing the technical support for a Basin Plan Amendment. The work is currently funded through a joint agreement of the California Urban Water Agencies, the Sacramento Regional County Sanitation District (who financially support the CVRWQCB staff), and through a DWQP

Prop 50 grant administered by SWRCB and through the USEPA and the Sacramento River Watershed Program. The technical studies are scheduled to conclude in 2007.

The CALFED Drinking Water Quality Program (DWQP) supports scientific studies of the relationship between source water, its conveyance, treatment and treated water disinfection by-products. These scientific investments will result in a better understanding of the chemistry of the Delta and inform water quality objectives that are the most relevant to public health, while also assuring that such objectives do not conflict with aquatic ecosystem protections.

The DWQP considers a wide range of projects, due to its ELPH (or multiple barrier) approach, and its performance-based focus. The final achievement of an equivalent level of public health protection may result in the need for more stringent water quality objectives, or it may not. There are numerous opportunities to improve drinking water quality throughout the system, from source waters to the tap. It is anticipated that regional planning will yield a clearer picture on these opportunities and their economics, and inform all levels of government as to the best portfolio of drinking water quality protection and improvement. There are a number of studies and programs looking at potential Delta water quality improvements, such as Delta Cross Channel Re-operation Studies, Through Delta Facility Studies, Franks Tract Studies, and the San Joaquin River Water Quality Management Plan. These are being coordinated through the CALFED Delta Improvements Package<sup>3</sup>, along with a monitoring and assessment effort to track implementation effects. Implementation of these projects, as well as the large-scale water supply and ecosystem restoration projects being studied, could significantly change current water quality conditions and drinking water quality considerations.

The subcommittee looks forward to working with the SWRCB on this important review of the 1995 Plan.

Sincerely,

Greg Gartrell  
Chair  
Drinking Water Subcommittee  
Bay-Delta Public Advisory Committee

GG/MM

cc: Gary Hunt, Chair, BDPAC  
Attachment

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<sup>3</sup> <http://www.calwater.ca.gov/DeltaImprovements/DIP/DeltaImprovementPackage.shtml>

# Final DRAFT

## Attachment

### Supplemental Materials Regarding CALFED Drinking Water Quality Program and the Central Valley Drinking Water Policy

1. CALFED Bay-Delta Program Final Environmental Impact Statement/Environmental Impact Report Technical Appendix: Water Quality Program Plan, July 2000.  
(<http://calwater.ca.gov/Programs/DrinkingWater/DrinkingWaterQualityProgramPlan.shtml>)
2. CALFED Bay-Delta Program Programmatic Record of Decision, August 28, 2000. (<http://calwater.ca.gov/Archives/GeneralArchive/rod/ROD8-28-00.pdf>)
3. Equivalent Level of Public Health Protection Decision Tree, August 28, 2002  
([http://calwater.ca.gov/BDPAC/Subcommittees/DrinkingWater/ELPH\\_Decision\\_Tree\\_8-28-02.pdf](http://calwater.ca.gov/BDPAC/Subcommittees/DrinkingWater/ELPH_Decision_Tree_8-28-02.pdf))
4. CALFED Drinking Water Quality Conceptual Framework, Drinking Water Subcommittee, Bay-Delta Public Advisory Committee, revised December 12, 2002  
([http://calwater.ca.gov/BDPAC/Subcommittees/DrinkingWater/DWQP\\_Meeting\\_Notes\\_1-31-03/ELPHStrategy\\_Revised\\_12-18-02.pdf](http://calwater.ca.gov/BDPAC/Subcommittees/DrinkingWater/DWQP_Meeting_Notes_1-31-03/ELPHStrategy_Revised_12-18-02.pdf))

### Central Valley Drinking Water Policy:

1. Fact Sheet ([http://www.swrcb.ca.gov/rwqcb5/available\\_documents/dw-policy/dwp-fact-sheet.pdf](http://www.swrcb.ca.gov/rwqcb5/available_documents/dw-policy/dwp-fact-sheet.pdf))
2. Technical Work Plan, December 2003.  
([http://www.swrcb.ca.gov/rwqcb5/available\\_documents/dw-policy/DWP-Work-Plan.pdf](http://www.swrcb.ca.gov/rwqcb5/available_documents/dw-policy/DWP-Work-Plan.pdf))
3. CVRWQCB Resolution R5-2004-0091 in Support of Developing a Drinking Water Policy for the Sacramento-San Joaquin Delta and Upstream Tributaries ([http://www.swrcb.ca.gov/rwqcb5/available\\_documents/dw-policy/R5-2004-0091.pdf](http://www.swrcb.ca.gov/rwqcb5/available_documents/dw-policy/R5-2004-0091.pdf)) and Staff Report  
([http://www.swrcb.ca.gov/rwqcb5/available\\_documents/dw-policy/DWP\\_Staff\\_Rpt\\_Jul04.pdf](http://www.swrcb.ca.gov/rwqcb5/available_documents/dw-policy/DWP_Staff_Rpt_Jul04.pdf))
4. Identification of Existing Data and Planned Monitoring, August 10, 2004  
([http://www.swrcb.ca.gov/rwqcb5/available\\_documents/dw-policy/CUWA-FINAL-AUG-04.pdf](http://www.swrcb.ca.gov/rwqcb5/available_documents/dw-policy/CUWA-FINAL-AUG-04.pdf))