ENCLOSURE TO LETTER TO REPRESENTATIVE GEORGE MILLER

RESPONSES TO COMMENTS, QUESTIONS, AND OBSERVATIONS FROM LETTER OF AUGUST 26, 1999

For context, the following material repeats the statement, comment or question presented in the August 26, 1999, letter (displayed in bold type), followed by CALFED's response or observation (in plain type).

I know that you are aware of the recent press reports that the CALFED documents released on June 25, 1999 indicate that CALFED is strongly considering policies that may lead to construction of a significant conveyance facility between Hood and the Mokelumne River, beginning perhaps as early as year 5 of Stage 1. Specifically, the "Preferred Program Alternative" discussion on page 109 of the "Revised Phase II Report" identifies "a screened diversion of up to 4000 cfs" as a component of the Conveyance Program. This project is referred to in several other locations in the CALFED documents as a diversion at Hood or a "pilot screened diversion" (PSD).

I understand that no final decisions have been made, no funds have been committed, and that many conditions and findings would have to precede construction of such a facility. However, the financial, environmental, and political implications of building such a large canal in this area of the Delta are substantial and troubling.

Your observations are correct – no final decisions have been made, no funds have been committed, and many conditions and findings would have to precede construction of a diversion facility. Further, the implications of building any large facility are substantial.

Obviously, the comparisons of the PSD to the first reach of a Peripheral Canal (of any size) are inevitable if for no other reason than the proposed canal alignments are quite similar.
If CALFED is proposing construction of *any* new diversions and conveyances from the Sacramento River, of whatever size, I want to be sure I have a clear understanding of exactly what projects are on the table, and why CALFED planners believe construction might be justified. As exemplified by the proposed 4,000 cfs pilot screened diversion, it appears decisions on conveyance projects are being driven primarily by the desire of CALFED planners to satisfy drinking water agency demands for increased supplies, including substantial amounts of Sacramento River fresh water.

As mentioned in our letter of September 16, 1999, comparisons between a Hood-Mokelumne diversion and the 1982 Peripheral Canal and the isolated facility element in the Dual Delta Conveyance Alternative are probably inevitable. Even so, I believe these comparisons miss a significant point – both the functioning and the political implications of the diversion and the facility are sharply different. The diversion would improve in-Delta water quality and maintain the common pool principle; the isolated facility would do neither.

We appreciate your wish to clearly understand what projects are on the table, and why CALFED planners believe construction might, under appropriate conditions, be justified. We believe this letter will help provide that understanding. Additionally, we are prepared to discuss any matter regarding the CALFED Bay-Delta Program in greater detail at your convenience.

CALFED conveyance project proposals will not be made simply to satisfy demands from drinking water agencies for increased supplies. We are proposing actions and studies to address four inter-related water and environmental topics – levee system integrity, water quality, ecosystem restoration, and water supply reliability. We have designed our proposals for studies of conveyance options to develop information needed to determine the most appropriate conveyance, consistent with addressing these four issue areas simultaneously.

This letter identifies significant issues affecting CALFED's decision to include the 4,000 cfs "pilot screened diversion" (page 130, Revised Phase II Report, June, 1999) as part of the "Preferred Program Alternative". I have referenced the CALFED documents to indicate how it is possible to conclude that CALFED policies appear to many to virtually presume the construction of a large water diversion and conveyance facility on the Sacramento River near Hood, and perhaps even to the Peripheral Canal.

As a point of clarification, the draft Preferred Program Alternative calls for studies to be conducted and evaluated before a decision is made on whether to proceed with construction of a pilot diversion facility. These studies will consider the effect of a range of sizes of diversion facilities up to 4,000 cfs. [1]

We appreciate the reference to CALFED documents. We have reciprocated with references to our documents where possible to provide a full picture of the draft preferred program alternative.

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[1] CALFED Bay-Delta Program. *Revised Phase II Report.* (June 1999). p. 130.

1 **CALFED's June, 1999 reports clearly show that construction of a 4,000 cfs diversion at Hood is planned for Stage 1; assuming certain conditions are met. The capacity of this proposed canal is significantly larger than the largest water supply canals serving the largest Bureau of Reclamation Projects (for example, the Central Arizona Project), and it is nearly as large as the capacity of the Delta-Mendota Canal (4,600 cfs).**

As a matter of clarification, the June 1999 report indicates that studies will be conducted before a decision is made on whether to proceed with construction of a pilot diversion. The studies will consider the effect of a range of diversions up to 4,000 cfs. 4,000 cfs is not a fixed size for the possible diversion.[2]

1.1 **How was the diversion rate of 4, 000 cfs determined? What agencies and/or stakeholder representatives participated in selecting this diversion rate?**

As discussed in my letter of September 16, 1999, the Hood-Mokelumne diversion facility is being discussed as a water quality offset for increased closures of the Delta Cross Channel. The 4,000 cfs diversion rate is somewhat greater than the design flow that passes through the Delta Cross Channel, although actual flows through the Delta Cross Channel frequently exceed this flow value. The 4,000 cfs diversion rate is an upper limit for analysis purposes. This diversion rate, as with all elements of the draft preferred alternative, is the result of the collective effort of all CALFED agencies. Stakeholder representatives did not participate in selecting the diversion rates to be analyzed.

1.2 **By what specific method would CALFED measure whether the Hood diversion could be constructed without "adversely affecting fish populations, " within the meaning of paragraph 3 of the North Delta Improvements section on page 130 of the 6/99 Revised Phase II Report? Does this language mean, for example, that if any developmental stage of an endangered species would be entrained or injured by a Hood diversion that neither that diversion nor the remainder of the peripheral Canal (also called the Isolated Conveyance Facility) would be constructed?**

The CALFED Bay-Delta Program draft preferred alternative is a programmatic document, comprised of actions and plans for additional studies. Specific methods for evaluating program actions are being developed. The National Marine Fisheries

[2] CALFED Bay-Delta Program. *Revised Phase II Report.* (June 1999). p. 130.

Service, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game will be the primary agencies for this determination.

1.3 Please explain exactly how the Hood diversion would improve the North Delta.

The potential diversion at Hood would be an offset for increased closures of the Delta Cross Channel, which was built to address water quality concerns. The potential diversion at Hood would improve water quality in the channels of the north Delta under low flow conditions with the Delta Cross Channel closed. In these circumstances, Mokelumne River flows are insufficient to dilute and transport accumulating contaminants, including salinity.

1.4 Of what specific benefit would the Hood diversion be to drinking water quality? Please provide copies of all expert opinions and supporting documents with references to page numbers.

Drinking water quality can be affected by a variety of factors, including conditions in the source supply and treatment technologies. As we note in the June 1999 draft EIS/EIR, drinking water standards are designed to protect human health and to maintain the aesthetic qualities of appearance, taste and odor, and color. Some of these standards are designed to apply at the drinking water source, some at the treatment plants, and some at the customer's tap.[3] High salinity adversely affects the quality of drinking water.[4] On pages 5.3-31 through 5.3-36 of the June draft EIS/EIR, we present our analysis of the draft preferred program alternative's potential water quality effects (with an emphasis on salinity effects as a general indicator of water quality effects). This analysis explicitly assumes that a diversion facility is in place.[5] As mentioned in my letter of September 16, the Delta Cross Channel was built to address water quality concerns. In summary, our analysis indicates that the draft preferred program alternative "...is projected to improve in-Delta and export water quality and dependent beneficial uses because of the resultant increases in the flow of good-quality water from the north Delta."[6]

1.5 What is the anticipated cost of a 4,000 cfs North Delta Improvement Pilot Project Hood diversion, including fish screen and, if applicable, pumps? Please show all individual cost items and the bases for these calculations.

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[3] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (June 1999). *Main Document.* p. 5.3-9.
[4] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (June 1999). *Main Document.* p. 5.3-7.
[5] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (June 1999). *Main Document.* p. 5.3-31.
[6] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (June 1999). *Main Document.* p. 5.3-32.

As noted above, we are considering analysis of a range of diversion capacities for a Hood-Mokelumne facility. Based on information published in 1998 for a 5,000 cfs facility[7], our current total project cost estimate (including design, construction, contingencies, and mitigation) for a 4,000 cfs Hood-Mokelumne diversion facility is $690 million. This amount would include $420 million for fish screens and $50 million for a pump station. Comparable estimates for a 2,000 cfs facility would be $350 million in total, including $210 million for fish screens and $25 million for a pump station.

1.6 Specifically locate the endpoints and alignment of a 4,000 cfs Hood diversion, provide plot maps and exact property descriptions including all County Recorder parcel numbers, identify the current owners of the property, and state whether, in what manner, and at what cost they have made or would make this property available to CALFED or to a construction agency acting pursuant to a CALFED directive.

Please see response below for Question 1.8.

1.7 Specifically locate the endpoints and alignment of the Isolated Conveyance Facility, provide plot maps and exact property descriptions including all County Recorder parcel numbers, identify the current owners of the property, and state whether, in what manner, and at what cost they have made or would make this property available to CALFED or to a construction agency acting pursuant to a CALFED directive.

Please see response below for Question 1.8.

1.8 If there is any significant difference between the endpoint and/or alignment of the 4,000 cfs Hood diversion and the endpoint and/or alignment of the first segment of the Isolated Conveyance Facility, describe those differences in detail and provide maps which specifically depict those differences.

Regarding Questions 1.6, 1.7, and 1.8, we note that the CALFED Bay-Delta Program draft preferred alternative is a programmatic document. A Hood-Mokelumne diversion and the northern-most portion of an isolated facility would probably follow the same route between Hood and Lost Slough (which runs east-west from the eastern edge of Snodgrass Slough). As mentioned in my letter of September 16, Hood is the proposed diversion location due to advantageous site conditions, which would tend to minimize effects on Delta smelt migration,

[7] CALFED Bay-Delta Program. *Storage and Conveyance Component Cost Estimates. Appendix C.* (April 1998).

diversion of sediment from the river, and tidal influences on fish screen effectiveness, while providing topographic and geologic conditions that would allow a diversion structure to be constructed near sea level, on mineral soils, and through mostly agricultural lands. The channel alignments would be similar because some properties along this alignment are already in State ownership. This property includes the potential diversion site at Hood, which was acquired by the Department of Water Resources in a process begun in 1990. Additionally, as indicated in my letter of September 16, a diversion route leading to Snodgrass Slough was set aside because some interested parties are concerned about the potential adverse effects on a warm-water fishery in Snodgrass Slough caused by commingling Sacramento River water with Snodgrass Slough water.

1.9 Please describe specifically the sources for all monies CALFED intends using to evaluate, plan, and construct the 4,000 cfs Hood diversion, including fish screen and, if applicable, pumps, and state the dollar amount anticipated from each source and the fiscal year of each expected receipt and expenditure.

The CALFED Bay-Delta Program draft preferred alternative is a programmatic document. We are currently addressing financing approaches.[8] No specific arrangements have been settled on regarding funding sources for various elements of the draft preferred program alternative. Financing arrangements may differ for different activities.[9] The draft preferred alternative proposes a possible study of a diversion at Hood. We anticipate that financing arrangements for any proposed physical facilities would be developed in that study.

1.10 Describe the specific measurement process CALFED intends to use to determine whether or not there has been "fisheries recovery" within the meaning of the Isolated Facility Component section on page 131 of the 6/99 Revised Phase II Report and identify the document and page where this methodology appears in the EIS/EIR.

Specific methods for evaluating program actions are being developed. The National Marine Fisheries Service, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game will be the primary agencies for this determination.

2 The 4,000 cfs pilot conveyance facility was not identified as part of the Draft Implementation Plan and Revised Phase II Report dated December 18, 1998.

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[8] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (June 1999). *Implementation Plan.* p. 89.
[9] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (June 1999). *Implementation Plan.* p. 108.

That document contemplates a facility half the size of the June, 1999 project, and it is shown as an evaluation, not as a construction project for Stage 1:

"9. Evaluate whether a 2,000 cfs screened diversion from the Sacramento River at Hood to the Mokelumne River can be constructed to improve or maintain central Delta water quality, without compromising fish protection achieved by operation of the Delta Cross Channel or creating other adverse fishery impacts." (pages 110-111, Revised Phase II Report, December 18, 1998).

This statement combines two topics – the nature of CALFED's efforts and the size of the diversion facility. On the nature of CALFED's efforts, the statement overlooks text in the December 1998 report calling for evaluation of construction and "appropriate action" based on that evaluation.[10] On the size of the potential facility, the statement is correct but incomplete. The size of the potential diversion did increase from 2,000 cfs to a maximum of 4,000 cfs. The statement has oversimplified matters, though, by assuming that the facility would be discussed solely in terms of maximum capacity. The June 1999 report clearly indicates that the evaluation would be for a facility up to 4,000 cfs.[11]

We have addressed this topic in greater detail in our letter of September 16, 1999.

2.1 Who made the decision between December 18, 1998 and June, 1999 to double the size of this facility? How was it decided that the project "would be constructed" beginning perhaps as early as Year 5 of Stage 1, rather than simply "evaluated?"

The 4,000 cfs diversion rate for a potential Hood-Mokelumne is a maximum for analysis purposes. All elements of the CALFED Bay-Delta Program draft preferred alternative are results of collaborative efforts by all participating CALFED agencies. The possibility of construction, rather than only evaluation, was set forth in December 1998[12] and was the result of CALFED agencies' collective efforts to address water quality effects that would result from necessary, additional regulation of the Delta Cross Channel to protect fisheries when using a through-Delta conveyance strategy.

2.2 Was BDAC consulted regarding these decisions? Which stakeholder groups, including representatives of urban drinking water supply agencies, were consulted, and when were meetings or conversations conducted?

[10] CALFED Bay-Delta Program. *Revised Phase II Report* (December 1998). pp. 110-111.
[11] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 130.
[12] CALFED Bay-Delta Program. *Revised Phase II Report* (December 1998). pp. 110-111.

The Bay-Delta Advisory Council discussed the CALFED's proposed through-Delta strategy at its January 21, 1999, meeting. Meeting summaries indicate that the discussion explicitly addressed the connection between conveyance arrangements and water quality effects.[13]

3 **Information provided to Congressional offices and staff following the release of the CALFED Draft Programmatic Environmental Impact Statement/Environmental Impact Report (June, 1999) failed to highlight the 4,000 cfs pilot screened diversion project. In fact, a document distributed to Congressional staff entitled "Recent CALFED Program Refinements", dated June 23, 1999, identified eleven distinct and substantive changes that were made between December 18, 1998 and June, 1999, but the 4,000 cfs pilot screened diversion at Hood was not included in this list.**

CALFED staff forwarded a copy of the Executive Summary to the June 1999 draft EIS/EIR to all Congressional offices promptly upon release of the draft programmatic EIS/EIR. Page ES-10 displays a map labeled "General Features of the Preferred Program Alternative." This map shows a "Potential Pilot Screened Diversion" on the Sacramento River immediately south of Hood and a "Potential Shallow Channel Isolated from Snodgrass Slough," running from the Sacramento River to Lost Slough (unlabeled but immediately east of Snodgrass Slough).[14]

3.1 **Why were the substantial changes to this facility between the December and June drafts not identified or discussed when the June, 1999 documents were released?**

The June 1999 draft programmatic EIS/EIR is a legal document that includes a description of a draft preferred program alternative. Throughout the many months of developing the CALFED Bay-Delta Program, we have made hundreds of changes to various aspects of the proposed program. We have concentrated on trying to develop an integrated program and on maintaining that integration as the program changes to address various concerns. We have assumed that interested parties would review our documents and reach their own conclusions on which changes were substantial. We have not been disappointed. Interested parties repeatedly cite CALFED documents to support their points of view. Regarding this

[13] CALFED Bay-Delta Program. *Bay-Delta Advisory Council Meeting Package.* March 24-25, 1999. "Meeting Summary, January 21, 1999". p. 2.
[14] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (June 1999). *Executive Summary.* p. ES-10.

particular facility, we believe that the June report provides further clarification without a major policy shift by the CALFED agencies.

4 **The decision to proceed with construction of the 4,000 cfs screened diversion pilot project will be based in large part on whether CALFED attains its own drinking water goals:**

"If the Water Quality Program measures are consistently not achieving drinking water quality goals, and the evaluation demonstrates that a screened diversion of up to 4000 cfs would help achieve those goals without adversely affecting fish populations; [sic] a pilot screened diversion would be constructed. " **(Page 109, Revised Phase 11 Report, June, 1999)**

This requirement creates a clear linkage between CALFED's own drinking water quality goals and construction of the 4,000 cfs pilot screened diversion and naturally invites questions on the validity of this linkage and whether CALFED's measures will or will not achieve its drinking water quality goals.

This statement raises several topics. First, the statement characterizes the potential diversion facility as a 4,000 cfs facility. The June 1999 draft clearly indicated that 4,000 cfs is a maximum size for analysis purposes, rather than a fixed, pre-determined capacity for construction of a facility.[15]

Second, this statement overlooks other, equally important linkages that are identified in the description of the draft preferred alternative and conditions that would have to exist before a pilot diversion facility is constructed. For example, the draft preferred alternative calls for re-evaluation of operation of the Delta Cross Channel to determine if different operational modes will preclude anticipated deterioration in Delta water quality from channel closure.[16] Additionally, as mentioned in my September 16 letter, a thorough assessment of the feasibility of a Hood-Mokelumne diversion and resolution of fisheries impact concerns would be completed before a decision is made on a diversion facility.

Third, the draft preferred alternative includes studies of improvements in drinking water treatment technology and of substitution of non-Delta water sources.[17] Although the June report is not explicit on this matter, we envision a linkage between these studies and a decision on a Hood-Mokelumne diversion facility,

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[15] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 130.
[16] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (June 1999). *Executive Summary.* p. ES-10.
[17] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 117.

based on the deliberations of an expert panel.[18] The three studies mentioned above, as well as the studies of enhanced treatment and substitute sources, would commence in mid-2000. In the June report, we propose to convene an expert panel in 2003.[19] We fully expect this panel to consider information from all these studies – which may still be in progress – when they make recommendations on future actions to improve drinking water quality. Moreover, the studies specifically concentrated on the Hood-Mokelumne diversion will probably not be completed until 2004 (year 4 of the program), after the first session of the proposed expert panel.[20] I should note that this expert panel will differ from the proposed Delta Drinking Water Council, which will be comprised of representatives from urban water agencies, environmental groups, business, Delta interests, and public health agencies, and which will provide continuous oversight over the drinking water quality strategy.

Finally, in further recognition of the principle of adaptive management as applied to drinking water quality, the drinking water targets themselves will be reevaluated if significant information is developed regarding treatment, health risks, or regulatory decisions that would substantially alter the health protection assumptions on which those targets are based.

5 **Appendix "D" to CALFED's 6/99 Water Quality Program plan and other portions of the June, 1999 documents contain a Stage I source water target for bromide of <50 micrograms per liter. According to Footnote "*ll*" on page D-8 of the Water Quality Program Plan, this target for bromide levels at the drinking water intakes was recommended by a panel of experts convened by the California Urban Water Agencies (CUWA).**

For clarification, CALFED's long-term target for drinking water quality is a level of public health protection equivalent to bromide source drinking water quality of 50 micrograms per liter. [21]

5.1 **Why has CALFED decided to focus almost exclusively on source water constituent levels rather than on treatment measures which could also afford protection of the quality of drinking water?**

CALFED has adopted a multi-faceted approach to addressing drinking water quality issues associated with use of Delta water supplies as drinking water sources.

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[18] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 44.
[19] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 44.
[20] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 130.
[21] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 43.

This approach explicitly includes enhanced treatment as well as pollutant source reduction, alternative sources of water, and conveyance and storage improvements.[22]

5.2 Why does CALFED characterize its source water goals, which would measure not the quality of post-treatment drinking water but in-Delta constituent levels, as drinking water goals and drinking water quality targets?

This question appears to be an inquiry about terminology that has a legal context. "Goal" has a specific meaning in statutes and regulations governing drinking water standards. [23] We did not intend to suggest that our source water goals are based on statutory or regulatory requirements. When we included reference to drinking water goals in the description of North Delta Improvements, we intended to indicate that drinking water concerns would be the sole water quality issue that would be considered in deliberations regarding a possible Hood-Mokelumne diversion facility.

Additionally, our source water quality goals have been expressed in a two-fold manner since December 1998, to reflect the larger point that the underlying objective is affordable public health protection at the consumers' tap:

> CALFED is committed to achieving continuous improvement in the quality of waters of the San Francisco Bay-Delta estuary with the goal of minimizing ecological, drinking water, and other water quality problems, and to maintaining this quality once achieved.[24]
>
> CALFED's target for providing safe, reliable, and affordable drinking water in a cost effective way is to achieve either: a) average concentrations at Clifton Court Forebay and other south and central Delta drinking water intakes of 50 ug/L bromide and 3.0 mg/L total organic carbon; or b) an equivalent level of public health protection utilizing a cost effective combination of alternative source waters, source control, and treatment technologies.[25]

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[22] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 43. Additionally, treatment approaches are mentioned on pp. 43, 45, 102, 117, and substitution of source supplies is mentioned on pp. 43, 45, 102, 117.

[23] For example, California Health and Safety Code §116365 (c) directs the Office of Environmental Health Hazard Assessment to adopt a public health goal for each for each drinking water contaminant regulated, or proposed to be regulated, by the State Department of Health Services pursuant to a primary drinking water standard.

[24] CALFED Bay-Delta Program. *Revised Phase II Report* (December 1998). p. 53.

[25] CALFED Bay-Delta Program. *Revised Phase II Report* (December 1998). p. 54.

5.3 Has the Environmental Protection Agency promulgated any standards or criteria for bromide levels at the intakes of water supply systems?

We are not aware of any standards or criteria promulgated by the Environmental Protection Agency for bromide levels at the intakes of water supply systems.

5.4 Are the Drinking Water Quality Targets for Parameters of Concern, which are listed in Appendix D of CALFED's 6/99 Water Quality Program Plan Report, the same as CALFED's drinking water quality goals referred to in paragraphs 2 and 3 of the North Delta Improvements section on page 130 of the 6/99 Revised Phase II Report? If not, set forth those drinking water quality goals, and identify the documents and pages where they are they listed in the EIS/EIR.

The Drinking Water Quality Targets for Parameters of Concern, listed in Appendix D of CALFED's 6/99 Water Quality Program Plan Report, are not the same as CALFED's drinking water quality goals referred to in paragraphs 2 and 3 of the North Delta Improvements section on page 130 of the 6/99 Revised Phase II Report.

The CALFED Bay-Delta Program drinking water quality goals, referred to in paragraphs 2 and 3 on page 130, are articulated on page 40 of the June 1999 *Revised Phase II Report*:

> "CALFED is committed to achieving continuous improvement in the quality of waters of the San Francisco Bay-Delta estuary with the goal of minimizing ecological, drinking water, and other water quality problems, and to maintaining that quality once achieved."[26]

This goal statement is reiterated, with some variation and elaboration, on page 43 of the June 1999 *Revised Phase II Report*:

> "The CALFED drinking water quality objective is to continuously improve source water quality that allows for municipal water suppliers to deliver safe, reliable, and affordable drinking water that meets, and where feasible, exceeds applicable drinking water standards. The CALFED strategy for improving drinking water quality is to reduce the loads and/or impacts of bromide, total organic carbon, pathogens, nutrients, salinity, and turbidity through a combination of measures including source

[26] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 40.

reduction, alternative sources of water, treatment, and storage and conveyance improvements."[27]

5.5 Describe the specific measurement process CALFED would use to determine whether or not it has made "adequate improvements toward CALFED's drinking water quality goals" within the meaning of paragraph 2 of the North Delta improvements section on page 130 of the 6/99 Revised Phase II Report, and identify the document and page number where this methodology appears in the EIS/EIR.

The CALFED Bay-Delta Program draft preferred alternative is a programmatic document, comprised of actions and plans for additional studies. Specific methods for evaluating program actions will be better developed by the time of the ROD.

5.6 Describe the specific measurement process CALFED would use to determine if its Water Quality Program measures "are consistently not achieving drinking water quality goals, " within the meaning of paragraph 3 of the North Delta Improvements section on page 130 of the 6/99 Revised Phase II Report, and identify the document and page number where this methodology appears in the EIS/EIR.

Specific methods for evaluating program actions will be better developed by the time of the ROD.

5.7 State why in the Isolated Facility Component section on page 131 of the 6/99 Revised Phase II Report, constituent parameters are set forth for total organic carbon and bromide while neither parameter was previously stated in the parallel section of the December 18, 1998 Draft of the Revised Phase II Report. Explain the origin of these constituent parameters and how they were derived.

As mentioned in our letter of September 16, 1999, many of the changes from the December 1998 report to the June 1999 draft were intended to provide additional specificity or clarity. This question relates to one of those clarifying changes. The December 1998 report contains unbulletted text on the Isolated Facility that describes studies on continuous improvement in public health through improved drinking water quality:

> *Stage I studies relating to continuously improving public health through improved drinking water quality (see **Water Quality** section and **CMARP** section in this chapter) will be considered in determining whether those*

[27] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 43.

goals and objectives have been achieved without an isolated facility and/or other means of providing better quality source water.[28]

To be more specific about what goals and objectives we were referring to in this section, we explicitly referred, in the June 1999 draft, to our drinking water quality target of public health protection equivalent to 50 ppb bromide and 3 ppm total organic carbon.[29]

These parameters originated and were derived from consultation with drinking water quality experts. For example, the March 1998 *Water Quality Program Technical Appendix* suggests two overlapping CALFED draft water quality targets for bromide at drinking water intakes. The two targets indicated are < 50 µg/l. (or < 50 parts per billion) and 50 to 150 µg/l (or 50 to 150 parts per billion).[30] The 50 ppb target was based on a report prepared by nationally recognized water treatment experts (Bay-Delta Water Quality Criteria, December 1996).[31] The 50-150 ppb target was a recommendation of July 24, 1997, from Mr. Bruce Macler of USEPA's Water Division.[32] Additionally, *Appendix E* to the June 1999 *Water Quality Program Plan* contains a lengthy report on bromide-related topics by an independent panel convened by CALFED. Although this report does not explicitly recommend a numerical target for bromide or total organic carbon, the panel did recommend that "the CALFED Program should strive to deliver the highest possible raw-water quality to the sources used for drinking water supply. This effort will minimize treatment costs and the threat to public health from drinking water."[33]

5.8 State whether or not the constituent parameters for total organic carbon and bromide which appear in the Isolated Facility Component section on page 131 of the Revised Phase II Report and are referred to in that section as "measurable water quality goals," are among the "drinking water quality goals, " referred to in paragraphs 2 and 3 of the North Delta Improvements section on page 130 of the 6/99 Revised Phase II Report. If not, state

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[28] CALFED Bay-Delta Program. *Revised Phase II Report* (December 1998). p. 111 (italics and bold in the original).
[29] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 131.
[30] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (March 1998). *Water Quality Program.* p. 42.
[31] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (March 1998) *Water Quality Program.* pp. 42, 47, 48. [fn. gg,hh, *ll.*]
[32] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (March 1998) *Water Quality Program.* pp. 42, 48. [fn. uu.]
[33] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (June 1999) *Water Quality Program Plan, Appendix E.* §4.5 (unnumbered page 38).

CALFED's specific drinking water quality goals for total organic carbon and bromide, identify the document and page number of the EIS/EIR where they are set forth, and state the origin of these drinking water quality total organic carbon and bromide goals and how they were derived.

The long-term CALFED drinking water quality target for providing safe, reliable, and affordable drinking water in a cost effective way is to achieve either: a) average concentrations at Clifton Court Forebay and other south 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. These source water parameters are the same in the Isolated Facility Component section and in the North Delta Improvements section. However, the decision criterion we have proposed for North Delta Improvements is "adequate improvements."[34] We have noted in response to Question #5.5 that we have not yet defined how to measure "adequate improvements."

I think it is important, at this point, to reiterate some of my earlier comments. We expect the deliberations of the expert panel in 2003 and again in 2007 to consider information from several studies when they make recommendations on future actions to improve drinking water quality. We have proposed that these panels will assess the continued appropriateness of the water quality targets.[35] It appears reasonable that a panel with a broad charge, such as we have described, will be able to make recommendations on whether we have achieved "adequate improvements" relative to our drinking water goals.

6 **CALFED's June, 1999 Water Quality Program Plan concludes (page 3-46) that it is unlikely that the bromide target can be met:**

"it appears unlikely that Water Quality Program actions can be expected to greatly reduce bromide concentrations in drinking water supplies from the Delta."

Thus, the acknowledged inability of CALFED's own Water Quality Program measures to meet one of CALFED's most-discussed drinking water goals makes it almost a certainty the diversion project will be constructed, assuming that it can be constructed and operated "without adversely affecting fish populations."

[34] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 130.
[35] CALFED Bay-Delta Program. *Revised Phase II Report* (June 1999). p. 44.

This statement recognizes that construction of a Hood-Mokelumne diversion facility is contingent on addressing possible adverse affects on fish populations. As described in our letter of September 16, 1999, at least one other contingency also exists – the possibility that reoperation of the Delta Cross Channel can preclude water quality deterioration in the interior Delta. Moreover, our letter of September 16, 1999, discusses the significant concerns that exist about the potential for "back of the screen" effects from any screened diversion into the interior Delta. In short, these conditions, with greater specificity, will define the contingency that will be applied to the decision on whether or not to construct a Hood-Mokelumne diversion.

Moreover, you correctly note that the *Water Quality Program Plan* (June 1999) indicates that it appears unlikely that Water Quality Program actions can be expected to greatly reduce bromide concentrations in drinking water supplies from the Delta. A complete reading shows that the next section of the Plan recommends several actions. Among these recommended actions are "investigate alternative sources of high-quality water supply for urban users of Delta water."[36] and "investigate advanced treatment technologies for the removal of salt, bromide, TOC, and pathogens from urban water supplies."[37]

6.1 Why has CALFED linked construction of the 4,000 cfs pilot screened diversion project directly to achieving source drinking water quality goals for bromide that cannot be met?

CALFED recognizes that source water quality is an important component to the quality of drinking water actually delivered to consumers. A Hood-Mokelumne diversion facility is a contingent option for addressing concerns about Delta water as a source for drinking water. Other options also exist. We believe a properly-sequenced evaluation of these options is the most sound approach to decision-making in the face of uncertainty about the costs, economics, and environmental consequences of each of these approaches.

Moreover, the CALFED program goal regarding drinking water quality is continuous improvement, and the decision criterion (or linkage) that we have tried to articulate is improvement but not achievement of the long-term public health protection goals.

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[36] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (June 1999) *Water Quality Program Plan.* p. 3-47.

[37] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (June 1999) *Water Quality Program Plan.* p. 3-48.

6.2 Was the linkage between source water protection and the 4,000 cfs pilot screened diversion project reviewed and approved by stakeholder representatives and/or BDAC before it was included in the EIS/EIR as part of the "Preferred Program Alternative?"

The CALFED Bay-Delta Program is a product of the collective efforts of federal and State agencies. We solicit stakeholder comment and opinion, and we adjust the program when appropriate in response to those comments and opinions. No arrangements exist for formal BDAC or stakeholder approval for any individual element of the CALFED Bay-Delta Program.

7 CALFED's own documents show that bromide source water target levels are not necessary to protect drinking water quality. Bromide is an abundant and harmless constituent of sea water. It is not bromide which raises health concerns, but rather some brominated byproducts formed when Delta waters are disinfected through chlorination or ozonation. For this reason, EPA's criteria under the Safe Drinking Water Act describe levels for *post-treatment tap water* brominated constituents, not for naturally occurring bromide. Extensive discussion of the bromide and disinfection issues are included in the CALFED Bromide Report, included as Appendix E to the June, 1999 Water Quality Program Plan.

CALFED's documents do not speak to the necessity of bromide source water target levels to protect drinking water quality. CALFED documents indicate that bromides in drinking water sources are a matter of concern and that various approaches are available to address these concerns.[38]

7.1 Given the infeasibility of controlling naturally occurring bromides in Delta waters, why has CALFED established stringent targets for bromide rather than promoting the use of alternative treatments to diminish the disinfectant byproducts themselves?

CALFED has established a program goal of continuous improvement in Delta water quality. We have seen no evidence that achieving public health protection equivalent to 50 ppb bromide and 3 ppm TOC in source waters is stringent. Moreover, CALFED proposes to evaluate and, where warranted, implement a variety of techniques for achieving improved drinking water quality. We believe a thorough study of the public health, economic, and environmental consequences of all these approaches, including alternative treatment, is more appropriate at this

[38] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR (June 1999). *Water Quality Program Plan.* Appendix E.

time than promoting one approach to the exclusion of other approaches. We have proposed to conduct the needed studies in our preferred program alternative. We do not see the solution to the multiple issues in the Bay-Delta system as a matter of making either/or choices. Instead, we believe most issues will be addressed through several approaches.

7.2 Has CALFED considered abandoning its attempt at setting source water targets for bromide and instead considered funding or other incentives to implement treatment alternatives that would assist in meeting post-treatment tap water criteria?

As with Question #7.1, we do not see solutions to Bay-Delta issues as either/or choices, and we're pursuing multiple approaches.

7.3 State whether or not CALFED will expend any funds to research and implement advanced water treatment technologies, including ultraviolet irradiation, during Stage 1, and if so identify the document and page number of the EIS/EIR where this intention is set forth, and for each fiscal year state the dollar amount, source of funds, and specific manner in which the funds are to be used. If CALFED will not expend funds for this purpose, please explain how that position was arrived at. Has CALFED engaged in discussions with several urban water districts that reportedly are contemplating substantial efforts at expanded treatment as a feasible means for addressing water quality targets?

The June 1999 draft Implementation Plan for the draft preferred program alternative indicates CALFED's intent, in Stage 1, to "investigate, as needed, advanced treatment technologies for the removal of salt, bromide, total organic carbon, and pathogens in urban water supplies (yr 1-7)."[39] We have not yet adopted a financing plan for the program.

CALFED has discussed water treatment approaches with many urban water agencies, including those who are considering substantial investment in advanced treatment to address regulatory-based water quality requirements. The report of our independent drinking water quality panel includes discussion of the current practices of water agencies in treating Bay-Delta water.[40] Extensive CALFED research may or may not be needed in light of the great deal of nationally-organized research planned or underway on treatment issues.

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[39] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR. *Implementation Plan.* p. 10.

[40] CALFED Bay-Delta Program. Draft Programmatic EIS/EIR. *Water Quality Program Plan. Appendix E.* §1.6 (unnumbered pages 13-14).

As is evident by this letter, the public concerns about the Pilot Screened Diversion exist on two serious levels. The emphasis on source water quality as a trigger for such a controversial project appears unrealistic given CALFED's own documentation that strongly suggests the impossibility of meeting its bromide goal. Therefore, the "option" of the PSD, or as some view it, a mini-Peripheral Canal, has the appearance of a foregone conclusion. Some understandably view such a construct as a cynical maneuver to guarantee failure and thus justify the isolated facility.

> CALFED's drinking water quality goal is continuous improvement. CALFED has proposed to move toward that goal through several different actions, as warranted by further study. These actions could include enhanced treatment, substitution of non-Delta water sources, conveyance improvements, and periodic reevaluation of its long-term drinking water quality targets. We have proposed – perhaps imperfectly and with less than perfect clarity – to implement this approach through a sequenced set of decisions.
>
> Given the sequenced decision-making process we have described, construction of the Hood-Mokelumne diversion facility can appear to be a foregone conclusion only if one believes that reoperation of the Delta Cross Channel is not feasible; that federal and State agencies charged with implementing laws protecting fisheries will acquiesce in proposals that damage fisheries; that an independent expert panel will make unjustified recommendations; and that nationally-developed information and regulatory decisions will not be incorporated into this process.

Secondly, there are the serious and justified concerns that the sudden appearance of such a volatile proposal late in the CALFED process, with little or no apparent consultation with deeply interested and affected interests in Washington and in California, does serious damage to CALFED's credibility and undermines its claim to be a stakeholder driven process.

> For historical context, I would like to note that public discussion of a new diversion from the Sacramento River has been part of CALFED Bay-Delta Program deliberation from the beginnings of our planning efforts. For example –

- the *Phase I Final Documentation Report* (September 1996) identifies a new diversion into modified channels as part of the Modified Through Delta Conveyance Alternative.[41]

- the *Phase II Interim Report* (March 1998) identifies a screened intake on the Sacramento River near Hood with 10,000 cubic-feet-per-second diversion facility and a new channel from Hood to McCormack Williamson Tract as major structural features of the Modified Through Delta Conveyance Alternative.[42] The alignment of this facility is roughly depicted in a map of Alternative 2.[43]

- the *Revised Phase II Report* (December 1998) identifies CALFED's strategy as "to develop a through-Delta conveyance alternative based on the existing Delta configuration with some modification, evaluate its effectiveness, *and add additional conveyance* and/or other water management actions *if necessary* to achieve CALFED goals and objectives."[44] The report elaborates on this general statement by indicating that CALFED proposed to "evaluate whether a 2,000 cfs screened diversion from the Sacramento River at Hood to the Mokelumne River can be constructed to improve or maintain central Delta water quality, without compromising fish protection achieved by operation of the Delta Cross Channel or creating other adverse fishery impacts"[45] and "based on the above evaluations, take appropriate action to provide a balanced solution to water quality, flood control, water supply reliability, and fisheries concerns."[46]

- the *Revised Phase II Report* (June 1999) reiterates CALFED's conveyance strategy (p. 80). The June report elaborates on this statement by indicating that "proceeding with a pilot screened diversion facility at Hood on the Sacramento River is a potential additional action that could proceed after project-level documentation, feasibility studies, and successful resolution of project-specific fishery impact issues." (p. 81). Additional detail is provided on page 84, where the report indicates that "if the Water Quality Program measures are consistently not achieving water quality goals, and the evaluation demonstrates that a screened diversion of *up to* 4,000 cfs would help achieve those goals without adversely affecting fish populations; a pilot screened diversion would be constructed." (italics added).

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[41] CALFED Bay-Delta Program. *Phase I Final Documentation Report* (September 1996). p. 53.
[42] CALFED Bay-Delta Program. *Phase II Interim Report* (March 1998). p. 94.
[43] CALFED Bay-Delta Program. *Phase II Interim Report* (March 1998). p. 97.
[44] CALFED Bay-Delta Program. *Revised Phase II Report* (December 1998). p. 87, italics added.
[45] CALFED Bay-Delta Program. *Revised Phase II Report* (December 1998). pp. 89 and 110.
[46] CALFED Bay-Delta Program. *Revised Phase II Report* (December 1998). pp. 90 and 111.

In short, consideration of a Hood-Mokelumne diversion facility is neither sudden nor late.

Additionally, the consideration of a Hood-Mokelumne diversion facility as part of the draft preferred alternative was set forth in a public document in December 1998. Ample opportunity existed between December 1998 and June 1999 for interested parties to come forth with concerns, points of view, comments, and opinions regarding this feature before the release of the June 1999 draft preferred program alternative.

Moreover, the CALFED process is stakeholder-driven as all of our government is stakeholder-driven. Government agencies, not stakeholders, are charged with implementing laws. In the development of a complex government program like the CALFED Bay-Delta Program, stakeholders offer comment and advice – but at the end of the process, government agencies, operating under the powers given them by Congress and the Legislature, must act to implement the laws.

I remain convinced that a strong CALFED Program can serve as a workable and effective means for identifying options for the long term resolution of California's water quality and quantity issues, while retaining a full commitment to enforcement of existing state and federal laws. I look forward to your timely response to the questions raised herein which will help preserve the integrity of the CALFED process and explain how this controversy developed and how we can assure that it does not do severe damage to the future of CALFED.

I share your optimism about the CALFED Program. We certainly hope that the many months of effort spent by literally thousands of people both inside government and in stakeholder groups in developing the CALFED Bay-Delta Program will result in implementation of actions – not mere identification of options – to move forward on resolution of long-standing environmental and water management issues.