CR 21 Non-structural Solutions

This is a response to comments that non-structural solutions to water management issues should be utilized before structural solutions. The CALFED Bay-Delta Program is a progressive process, and at this stage is at the programmatic level, not an absolute listing of projects that have to be built. Each action alternative is in fact a range of possible actions and projects that are carried out until the Program objectives are met, ranging from no action to the completion of actions described in the alternatives to meet the objectives. The programs evaluated in the PEIS/EIR contain hundreds of possible actions and projects that could be constructed over a lengthy time period. Because of the many complex interactions within the Bay-Delta system, successfully implementing a water management strategy requires careful balancing of actions to address a wide range of concerns. The understanding of the complex hydrodynamic, biological, and chemical interactions of the Bay-Delta system is still incomplete so it will be necessary to approach the optimization of CALFED's strategy with a high degree of cooperation, rigorous monitoring, scientific analysis, and an open-minded approach to solution options. Staged implementation and adaptive management provide the flexibility and the means to select and implement future actions or projects to meet Program objectives.

CALFED's strategic approach for implementation includes staged implementation and staged decision making. The selection of a Preferred Program Alternative provides the broad resource framework and strategy for implementing a comprehensive Bay-Delta program. The programmatic decision sets in motion the implementation of some actions, as well as additional planning and investigation to refine other actions. Throughout the implementation period, monitoring will provide information about conditions in the Bay-Delta and results of our actions. CALFED has decided to implement the Program through stages. The Preferred Program Alternative is composed of hundreds of individual actions that will be implemented and refined over time. The challenge in implementing the Program in stages is to allow actions that are ready to be taken immediately to go forward, while assuring that everyone has a stake in the successful completion of each stage. Linkages and assurance mechanisms will facilitate successful implementation.

Another important part of CALFED's implementation strategy is adaptive management. No long term plan for management of a system as complex as the Bay-Delta can predict exactly how the system will respond to our efforts, or foresee events such as earthquakes, climate change, or the introduction of new species to the system. CALFED has adopted an adaptive management approach because it will allow the Program to be flexible. CALFED will be able to identify if proposed solutions are working, and choose future projects based on scientific information and monitoring. Monitoring key system functions (or indicators), completing focused research to obtain better understanding, and staging implementation based on information gained are all central to the adaptive management process.

Adaptive management acknowledges that we will need to adapt the actions that we take to restore ecological health and improve water management. These adaptations will be necessary as

conditions change and as more is learned about the system and how it responds. Pursuit of the Program's objectives will continue, but our actions may be adjusted over time to assure that the solution is durable. In essence, adaptive management calls for designing and monitoring actions such that they improve the understanding of the system while at the same time improving the system itself. Adaptive management is an essential part of implementing every CALFED Program element.

The Integrated Storage Investigation is an example of how phased implementation and adaptive management will allow CALFED to pursue non-structural solutions to water management issues before structural solutions. New groundwater and/or surface storage will be developed and constructed, together with aggressive implementation of water conservation, recycling and a protective water transfer market, as appropriate to meet CALFED Program goals. The CALFED Integrated Storage Investigation (ISI) will provide the comprehensive framework for evaluation of storage implementation and management opportunities through Stage I and beyond. The ISI will include evaluations of north of Delta off-stream storage, in-Delta and adjacent to Delta storage, on-stream storage enlargement, groundwater and conjunctive use, power facilities reoperation, and fish migration barrier removal evaluations. The Preferred Program Alternative includes a groundwater and surface storage component that ranges in capacity from 0 to 6 million acre-feet. Surface storage water options included development of new off stream storage reservoirs or expansion of existing storage reservoirs. Development of new on-stream surface water storage reservoirs is not proposed as a storage reservoir option.

A range of water storage options is included in the Preferred Program Alternative because it appears that some level of ground water or surface water storage or both, are necessary to meet the CALFED mission to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. Based on preliminary evaluation of potential water supply benefits and practical consideration of acceptable levels of impacts and total costs, the range of total new storage considered for evaluation in preparing the PEIS/EIR was from zero up to about 6 MAF. This amount of new storage was considered a reasonable range for study purposes; much more detailed study and significant interaction with stakeholders will be required before specific locations and sizes of new storage are proposed. For the purposes of the PEIS/EIR evaluation, an inventory of potential new storage projects was compiled. Those projects that appeared most feasible were evaluated to provide representative information on costs, benefits, and environmental consequences. A more complete screening process, taking into account potential environmental impacts, engineering feasibility, costs, and benefits, will proceed in Stage 1.

The ISI will provide the analyses necessary for CALFED's determination of the proper mix of groundwater and surface storage facilities, and CALFED's Water Management Strategy will rely on these analyses as it identifies an appropriate combination of water management tools for attaining CALFED's water supply reliability goals and objectives. Decisions to construct groundwater and/or surface water storage will be predicated upon complying with all program linkages. Continuing analysis of all factors, including engineering feasibility, costs and benefits,

and environmental effects; will occur during the initial implementation stage of the CALFED Preferred Program Alternative. Demonstrated progress in meeting the Program's water use efficiency, water reclamation and water transfer program targets must be shown before construction of surface storage is proposed. Detailed environmental documentation, feasibility studies, permitting, and construction activities would be initiated as appropriate.

CALFED's Delta conveyance strategy is another example of how phased implementation and adaptive management will allow CALFED to pursue non-structural solutions to water management issues before structural solutions. CALFED's strategy is to develop a through-Delta conveyance alternative based on the existing Delta configuration with some modifications, evaluate its effectiveness, and add additional conveyance and/or other water management actions if necessary to achieve CALFED goals and objectives. The initial through-Delta conveyance will be continually monitored, analyzed, and improved to maximize the potential of the through-Delta approach to meet CALFED goals and objectives, consistent with the CALFED Solution Principles. If the through-Delta conveyance fails to meet the CALFED goals and objectives, there will be a reassessment of the reasons and the need for additional Delta conveyance and/or water management actions. In the event of a finding that a through-Delta conveyance system is inadequate to achieve CALFED goals and objectives, additional actions, including an isolated facility, source water blending or substitution, and other actions will be intensively evaluated through supplemental programmatic analysis for their ability to solve these problems, and a decision made to proceed with the most appropriate actions. An isolated conveyance facility would only be constructed if there is a future demonstrated need to improve export water quality or to improve operational flexibility which could reduce the impacts of diversions on fish. The isolated facility is not part of the Preferred Program Alternative. Additional actions to enhance the CALFED water management strategy, so that CALFED goals and objectives could be achieved, would require consideration of a variety of alternatives and evaluation of available new information.

Please consult Chapter 1 of the PEIS/EIR, Project Description, for information concerning the objectives and purpose of the CALFED Bay-Delta Program and a description of the Program alternatives development process. Please refer to Chapter 2 of the PEIS/EIR for descriptions of the common programs and alternatives. Please consult the Implementation Plan, Comprehensive Monitoring and Assessment Review Program Report and the Revised Phase II Report Appendices to the PEIS/EIR for more detailed discussion of phased implementation and adaptive management. Please refer to: Common Response 1 for a discussion of the programmatic nature of the PEIS/EIR, Common Response 4 for a discussion of water storage issues in the Program, Common Response 5 for a discussion of the Program alternatives development process, and Common Response 16 for a discussion of isolated facility issues in the Program.