

**CONSIDERATION OF A RESOLUTION AUTHORIZING  
THE DIRECTOR, OR HIS DESIGNEE, TO SIGN AN INTERAGENCY  
AGREEMENT WITH THE DEPARTMENT OF WATER RESOURCES TO  
PROVIDE SCIENTIFIC REVIEW, PROGRAM MANAGEMENT SUPPORT  
AND TECHNICAL SUPPORT FOR SURFACE STORAGE INVESTIGATIONS**  
**Agenda Item: 10**

**Meeting Date: 8-14-03**

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**Summary:** This resolution would authorize the Director, or designee, to sign an interagency agreement with the Department of Water Resources (DWR), to provide to DWR technical services, program management support, and science review for surface storage investigations.

**Recommended Action:** Adopt Resolution 03-08-16.

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**Staff Recommendation:** Staff recommends the Authority adopt the attached resolution, approving the proposed interagency agreement with DWR.

**Background**

DWR is the State implementing agency for the Bay-Delta Program's Storage Program element. The passage of Proposition 50, Chapter 7, Water Code Section 79550(a) made \$50,000,000 available to DWR for surface water storage planning and feasibility studies. DWR seeks to enter into an interagency agreement with the Authority to provide a portion of these funds to the Authority for technical services, project management support, and science review for surface storage investigations.

The focus of the surface storage investigations is to complete planning and feasibility studies, and environmental documentation for the five surface storage projects identified in the CALFED ROD:

- In-Delta Storage (Delta Wetlands)
- Shasta Lake Expansion
- Los Vaqueros Reservoir Enlargement
- North-of-the-Delta Off-stream Storage
- Upper San Joaquin River Basin Storage

These studies are intended to determine the costs, benefits, and impacts of each of these potential projects in a technically rigorous and defensible manner.

DWR has proposed that the Authority assist with these general tasks. First, to facilitate comparison among these projects and potentially to other water management options (e.g. groundwater conjunctive use), it is important to define a common set of input data. The process of defining this data has been called the “Common Assumptions” activity and will, among other things define the following baseline conditions:

- Existing condition
- 2030 no-action condition
- Alternative 2030 no-action condition

Second, in addition to “Common Assumptions,” the surface storage investigations need the creation of a Science Standing Board to provide an advisory role for the five surface storage investigations and review water quality and flow regime studies for In-Delta Storage and North-of-the-Delta Off-stream Storage.

Third, project management support for North-of-the-Delta Off-stream Storage and Upper San Joaquin River Basin Storage will also be needed to continue and advance the storage investigations.

DWR proposes using up to \$1,313,600 during the fiscal year 2003/2004 to obtain these services from the Authority.

Performance of this work is consistent with the Authority’s statutory responsibilities to coordinate and oversee projects addressing multiple program elements of the Bay-Delta Program. The science functions fall within the Authority’s role as the implementing agency for the Science Program.

### **Fiscal Information**

**Funding Source:** Proposition 50  
**Term:** July 1, 2003 through June 30, 2004  
**Total Amount:** \$1,313,600.00

### **List of Attachments**

Proposed Scope of Work

### **Contact**

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**CALIFORNIA BAY-DELTA AUTHORITY**  
**RESOLUTION NO. 03-08-16**

CONSIDERATION OF A RESOLUTION AUTHORIZING THE DIRECTOR, OR HIS DESIGNEE, TO SIGN AN INTERAGENCY AGREEMENT WITH THE DEPARTMENT OF WATER RESOURCES TO PROVIDE SCIENTIFIC REVIEW, PROGRAM MANAGEMENT SUPPORT AND TECHNICAL SUPPORT FOR SURFACE STORAGE INVESTIGATIONS

**WHEREAS**, the August 2000 CALFED Record of Decision (ROD) stated that expanding water storage capacity is critical to the successful implementation of all aspects of the Bay-Delta Program; and

**WHEREAS**, the ROD identified five surface storage projects to be pursued in Stage 1 to expand storage capacity; and

**WHEREAS**, the Department of Water Resources (DWR) is the lead State agency implementing the Bay-Delta Program's Storage Program; and

**WHEREAS**, Chapter 7 of Proposition 50, passed in November 2002, made available to DWR \$50,000,000 for surface water storage planning and feasibility studies; and

**WHEREAS**, all appropriations pursuant to Chapter 7 of Proposition 50 shall include money for independent scientific review; and

**WHEREAS**, the ROD established a Science Program, which develops the best scientific information possible to guide decisions and evaluate actions for all elements of the Bay-Delta Program, and the California Bay-Delta Authority Act requires the Authority to implement the Science Program; and

**WHEREAS**, the California Bay-Delta Authority Act directs the Authority to provide oversight and coordination to Bay-Delta Program agencies in implementing the Storage Program;

**NOW, THEREFORE, BE IT RESOLVED** that the Authority authorizes the Director, or his designee, to sign an interagency agreement with the Department of Water Resources to provide scientific review, program management support, and technical support for surface storage investigations, as generally described in the attached proposed Scope of Work, for an amount not to exceed \$1,313,600.00, subject to appropriation of adequate funds.

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CERTIFICATION

The undersigned Assistant to the California Bay-Delta Authority does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the California Bay-Delta Authority held on August 14, 2003.

Dated:

Heidi Rooks

Assistant to the California Bay-Delta Authority

**Attachment 1**  
**Science Program for Integrated Surface Storage Investigations**  
**Proposed Scope of Work**

**Task 1. Science Standing Board Review**

**Subtask 1.1. Creation of a Science Standing Board**

The Science Program will create a Science Standing Board for the Integrated Surface Storage Investigations Program with an advisory role for the five surface storage projects identified in the Programmatic ROD and also help improve the exchange of information between the Science Program and agencies conducting studies. The Science Standing Board may set up Steering Committees for specialized areas of study for each storage project.

**Subtask 1.2. Science Program Review for Studies for In-Delta Storage and North-of-the-Delta Off-stream Storage**

In-Delta Storage

In July 2003, the Science Program and the Science Standing Board will be asked to review the following studies for In-Delta Storage:

- a. Results of the State Feasibility Water Quality studies with information on uncertainty and a new write up on water quality evaluations
- b. A brief response of the agencies to the Review Panel August 2002 Summary Review Report
- c. A description of the Conceptual Model to further reduce uncertainties

North-of-the-Delta Off-stream Storage

In the fall of 2003, the North-of-the-Delta Off-stream Storage (NODOS) will submit to the Science Panel for review the draft report on the Sacramento River flow regime studies developed with the Flow Regime Technical Advisory Group. The draft report will include recommendations to minimize impacts of NODOS diversions and ways to use NODOS to improve the Sacramento River water supply reliability.

**Subtask 1.3. Workshop and Long-Term Conceptual Model Reviews**

Science Program and Review Panel members will continue interim discussions with DWR Surface Storage Branch and Bureau of Reclamation on the development of a long-term conceptual model for In-Delta reservoir islands.

Science Program will arrange a public Science Standing Board Workshop in August 2003 using the August 2002 Summary Review Report as a first document of the overall review framework

and the new information submitted by agencies in July 2003. The Science Standing Board will entertain presentations from the study teams, may hold break-out sessions for discussions and will make recommendations on further action and long-term Conceptual Model studies to reduce uncertainties.

## **Task 2. Project Management Support for North-of-the-Delta Off-stream Storage**

The Authority Contractor will serve as an advisor on process formulation and implementation to carry out the North-of-Delta Off-stream Storage Investigation in a manner that meets National Environmental Policy Act, Clean Water Act Section 404, and California Environmental Quality Act requirements, as well as engineering feasibility requirements. In addition, the Contractor will coordinate activities of this investigation with those of the other storage investigations to help assure a consistent approach to modeling assumptions and environmental documentation among all of the storage investigations. Finally, the Contractor will work with the North-of-Delta Off-stream Storage Project Management Team (PMT) to develop and produce a Purpose and Need Statement and Project Description that incorporates advantages of infrastructure and other resources available to local agencies, optimizes use of water resources in the Sacramento Valley, complements Bay-Delta Program objectives, and complies with NEPA, CEQA, and CWA Section 404.

The Contractor will provide individual and small group consultation with members of the PMT and with stakeholders to develop and implement a plan allowing implementing agencies and local partners to evaluate the benefits, costs, and environmental impacts of NODOS project alternatives. Contractor will perform the following activities:

- Attend monthly PMT meetings and provide staff support for those meetings.
- Prepare materials for and attend strategic planning team meetings at least monthly. These meetings will be with representatives of the Authority and implementing agencies: DWR, USBR, DFG, USFWS, NMFS, The Resources Agency.
- Meet with individuals and small groups of the PMT, as requested.
- Meet with individuals and small groups of CALFED stakeholders as requested by them in coordination with representatives of the Bay-Delta Program and the implementing agencies (as listed above).
- Assist with developing and writing agreements among Bay-Delta Program agencies and local agencies in accordance with the Sites Memorandum of Understanding (signed by certain agencies and local agencies in December 2000 and referred to as the MOU Partnership). This activity includes attending meetings with representatives of implementing agencies and local agencies as necessary to develop the agreements.
- Provide communications, outreach, and coordination services and materials to maintain information exchange among DWR, USBR, and other members of the PMT or their representatives to keep them up-to-date about progress toward achieving major milestones in completing the Investigation and meeting environmental documentation requirements.

### **Deliverables**

The contractor shall provide the deliverables outlined below:

Contractor will:

- Provide summaries of salient issues discussed at the strategic planning team meetings.
- Provide copies of materials presented at meetings with individuals or small groups representing the PMT, State, federal and local agencies and stakeholders.
- Provides summaries of the issues or action items discussed at the meetings with individuals or small groups representing the PMT, State, federal and local agencies and stakeholders.

### **Task 3. Project Management Support for Upper San Joaquin River Storage**

DWR is the lead State agency in evaluating additional storage in the Upper San Joaquin River Basin as part of the Bay-Delta Program. The objectives for new storage in the basin are to contribute to restoration of and improve water quality for the San Joaquin River, and facilitate conjunctive management and water exchanges that improve the quality of water deliveries to urban communities. In order for the Integrated Storage Investigations projects to be successful in meeting these objectives, the Surface Storage Program and conjunctive management efforts must be closely coordinated. Presented below are specific tasks that will be required to provide the level of coordination necessary during Phase II of the Upper San Joaquin River Basin Storage Investigations for integrating conjunctive use programs with surface storage options identified in Phase I.

Contractor will:

- Attend biweekly management team meetings with federal and State representatives. Most of the meetings will be in the Sacramento area.
- Attend related stakeholder meetings as necessary. Most of the meetings will be in the San Joaquin–Fresno area.
- Attend the Bi-monthly workshops held in Fresno for the Upper San Joaquin River Basin Storage Investigation.
- Review pertinent documents from the Surface Storage and Conjunctive Management programs, as well as stakeholder produced documents.
- Coordinate conjunctive management efforts with the Surface Storage Program and with stakeholders in the San Joaquin River Basin study area.
- Develop conjunctive management and groundwater storage strategies to be included in the Upper San Joaquin River Basin Storage Investigation.

## **Deliverables**

The contractor shall provide the deliverables outlined below:

Contractor will:

- Attend biweekly and monthly meetings and provide summaries of salient issues discussed
- Attend stakeholder/agency meetings upon request and provide pertinent summaries
- Submit comments on all draft documents reviewed.
- Submit strategy documents on integration of conjunctive management and groundwater storage with the Upper San Joaquin River Basin Storage Investigation.

## **Task 4. Common Assumptions Development and Coordination**

### **Subtask 4.1. Characterize Baseline Conditions for Surface Storage Investigations**

The August 2000 CALFED Record of Decision (ROD) stated that the objectives of the CALFED Program are ecosystem restoration, drinking water quality, levee stability, and water supply reliability. Water supply reliability is characterized not just by the gross quantity of water available in California, but more appropriately as the ability of California's collective water system (both natural and man-made) to meet water demands under various conditions. These demands are affected by many factors including the weather, population, location, and time.

The purpose of this subtask is to characterize the baseline conditions for surface water models to be used by implementing agencies to evaluate surface storage projects. Since the surface storage projects will be evaluated using a variety of numerical (computer) models, the characterizations created under this subtask must be consistent with the input needs of those models. This subtask includes computing and documenting these characterizations. The following subtask includes creating specific storage model input files containing the characterizations. These characterizations must be compatible with the following storage project evaluations which are being conducted by implementing agencies:

DWR (lead) and USBR

- North-of-the-Delta Off-Stream Storage (NODOS)
- In-Delta Storage

USBR (lead) and DWR

- Enlarged Shasta Reservoir
- Upper San Joaquin Storage

Contra Costa Water District (lead), DWR, and USBR

- Expanded Los Vaqueros Reservoir



The characterization of baseline conditions is multi-dimensional table of values that represents estimates of water demand (or changes in demand) under various conditions. Under the direction of the Authority's Task Coordinator, the Contractor shall use accepted engineering practice to estimate water demand for each element in the following multi-dimensional array:

- Baseline scenarios: Existing condition, 2030 no-action condition, and Alternative 2030 no-action condition
- Water year type: critical, dry, below normal, above normal, and wet
- Months: January, February, March, ... December
- Location: region or modeling node where demand is represented
- Sector: agricultural, urban, environmental (stream flows and delta outflow)
- Water Management options:
  - Agricultural water conservation
  - Urban water conservation
  - Water recycling
  - Water transfers
  - Desalination
  - Conjunctive use of groundwater

Following is a brief description of the baseline scenario and water management options.

***Baseline Scenarios:*** represent conditions during specific points in time:

- Existing condition – the timeframe of the existing condition is expected to be January 1, 2003 and will be defined by staff of the Authority.
- 2030 No-Action condition – the no-action condition will be based on projections of the level of population, land use, water demand, and water development expected to occur if none of the surface storage projects are constructed.
- 2030 Alternative No-Action condition – the alternative no-action condition represents an aggressive level of demand management options including conjunctive use of groundwater, water conservation, water recycling, desalination, and water transfers. This condition is currently being defined by the DWR Water Plan Update study team. The Contractor shall develop this scenario to be consistent with the DWR Water Plan Update definition.

***Water Management Options:*** represent the six options (in addition to surface storage) that were identified in the ROD as follows:

- Ag Conservation – the Contractor shall finalize existing conditions for Common Assumptions and Water Plan Update regions; Create and distribute to DWR District staff the cultural practices; estimate savings potential at different conservation investment levels based on the economic factors used to develop Agricultural Quantifiable Objectives as part of the Bay-Delta Program's Water Use Efficiency program; and create tables and graphics depicting potential conservation at different investment levels per region.

- Urban Conservation – the Contractor shall quantify savings potential based on the approach presented by the Urban Conservation Quantification Ad Hoc work group consistent with the study entitled *Urban Water Conservation Potential Final Report* (August 2001).
- Recycling – the Contractor shall obtain a regional breakdown of recycling data and assumptions used by DWR to produce current Water Plan statewide estimates; use 2007 incremental value to represent potential 2030 No-Action condition; and use ROD investment levels to determine 2030 Alternative Future No-Action quantity of recycling by comparing to cost/quantity represented in current draft Water Plan documents.
- Conjunctive Use of Groundwater – The Contractor shall refine the Consumptive Use Inventory (DWR, 2001) database with the latest information from the DWR State Water Plan; and finalize criteria used to determine what projects are to be included in “No-Action” and which may be used to characterize the ROD value of 0.5 to 1 MAF.
- Water Transfers – The Contractor shall query the On-Tap water transfer database (DWR) and sort results by year, by hydrologic region and sum the associated quantities to portray the approximate quantities of water transferred out of or within a region; finalize Water Transfer Tool input tables including changes to the database structure; develop data representing the quantities of water available for transfer by year type by region and the quantities of water transfers demanded by entities by region; characterize pumping priorities at Delta pumps; and characterize storage availability to shift timing.
- Desalination – The Contractor shall work with staff of the DWR Water Plan Update to translate their current estimates into a No-Action condition.

The Contractor shall prepare a Technical Memorandum describing the results of this Subtask. The Technical Memorandum shall summarize results and methods used to compute characterizations and shall include all input and output data in appendices.

#### **Subtask 4.2. Formulate Baseline Input Files**

The purpose of this subtask is to create specific storage model input files containing the baseline characterizations developed in Subtask 4.1 (above). The Contractor shall create data input files for the following digital (computer) models in the format specified by each model:

- Least Cost Projection Simulation Model (LCPSIM) – The custodian and operator of LCPSIM is DWR Statewide Water Planning Branch. In addition to formulating input files representing the baseline characterization, the Contractor shall also gather and codify historical delivery; provide new 2030 urban demand for the No-Action scenario; adjust other inputs to reflect current characterization of conservation, recycling, desalination, conjunctive use and transfers; query DWR’s Consumptive Use Database for South Coast and Bay Area and determine subset of projects that meet No-Action condition; determine the quantity of storage available for non-local supplies; determine

assumed recycling supply under No-Action and modify remaining “options” available for recycling to reflect the No-Action quantities.

- Consumptive Use Model (CU Model) – The custodian and operator of the CU Model is DWR Modeling Support Branch. The CU Model has two versions: 1) San Joaquin Valley and 2) Sacramento Valley. The Contractor shall develop input files reflecting the baseline characterizations from Subtask 4.1.
- California Simulation Model (CALSIM) – The custodian and operator of CALSIM is DWR Modeling Support Branch. However, the USBR Modeling Branch also operates CALSIM. The Contractor shall modify 2030 baseline values to reflect the baseline characterization from Subtask 4.1. This shall include editing CALSIM Table 1 summary of assumptions. The Contractor shall also perform iterative analyses of CALSIM with MWD operations data to reflect Bay-Delta demands.
- California Agricultural Production Model (CALAG) – The custodian and operator of CALAG is DWR Statewide Water Planning Branch. The Contractor shall develop input files reflecting the baseline characterizations from Subtask 4.1.
- Integrated Water Resources Demand Management Suite (IWR-Main) – The custodian and operator of IWR-Main is DWR Statewide Water Planning Branch. The Contractor shall develop input files reflecting the baseline characterizations from Subtask 4.1.
- Integrated Groundwater Surface Water Model (IGSM) - – The custodian and operator of IGSM is DWR Modeling Support Branch. However, the USBR Modeling Branch also operates IGSM. The Contractor shall modify 2030 baseline values to reflect the baseline characterization from Subtask 4.1.
- Other Models – The Contractor shall identify other model inputs that are necessary to complete the Surface Storage Investigations.

### **Subtask 4.3. Strategic Planning for Common Assumptions**

Under the direction of the Authority’s Task Coordinator, the Contractor shall perform the following strategic planning activities related to the Common Assumptions activities. Some of the issues that the Contractor will take into account include: 1) the demarcation between Existing and 2030 No-Action conditions; 2) possible strategies for storage investigations to tier off Programmatic EIR/S; 3) possible strategies for approaching COE 404(b)(1) permit requirements; 4) consistency of model interaction for all storage/conveyance investigations; 5) inclusion and characterization of increasing export pumping capacity to 8500 cfs in baselines; and 6) the relative consistency among storage investigations in determination of purpose, need and beneficiaries.

The Contractor shall engage in the following activities to guide the Authority's Common Assumptions actions:

- Describe the approach to the Common Assumptions effort including a general description of how surface storage, groundwater storage and water use efficiency analyses will each use the Common Assumptions data. This task shall be staffed by the Contractor's senior water management professionals. Contractor shall summarize this activity in a memorandum.
- Develop at least 3 presentations on the Common Assumptions approach with the target audience of agency modelers and project managers. Each presentation shall be in MS PowerPoint format.
- Prepare at least 2 presentations on the Common Assumptions approach with the target audience of informed stakeholders such as the Bay-Delta Public Advisory Committee or its Subcommittees. Each presentation shall be in MS PowerPoint format.
- Describe at least 4 options for extending the Common Assumptions to be part of a Water Management Evaluation Framework. This description should include relative advantages and disadvantages of each method including the expected costs, time for implementation, and expected stakeholder concerns. Contractor shall summarize the results of this activity in a memorandum.

### **Deliverables**

Contractor will:

- Prepare documentation establishing the basis for baseline characterization.
- Develop materials as needed to promote coordination of Common Assumptions activities with efforts of DWR's Water Plan Update and implementing agencies' preparation of the Year-4 Comprehensive Evaluation of Water Use Efficiency.
- Preparation of meeting and presentation materials, agendas, and meeting notes for at least 12 meetings.

This work assignment includes the production of documents which may include technical memoranda, memoranda, reports, presentations, and surveys. For each deliverable listed, the Contractor shall provide the following interim deliverables to the Authority's Task Coordinator in the listed sequence:

- Outline
- Preliminary Draft
- Final Draft
- Final Document

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The contractor shall solicit review comments from the California Water Plan Advisory Committee, the BDPAC Water Supply Subcommittee, and the BDPAC Water Use Efficiency Subcommittee, Storage Investigations staff of implementing agencies, and Water Use Efficiency staff of implementing agencies on each interim deliverable in this sequence. The Contractor shall summarize all review comments in a memorandum to the Authority's Task Coordinator. The Authority's Task Coordinator will provide direction to the Contractor on how best to incorporate the variety of review comments (some of which may be contradictory) into the next interim deliverable in this sequence. Per the direction of the Authority's Task Coordinator the Contractor shall incorporate review comments on each of these interim deliverables. The Contractor shall obtain approval from the Authority's Task Coordinator for each step in this sequence.