

Information Item

Update on Delta Plan Amendment for Conveyance, Storage, and Operations

Summary: Staff will brief the Council on progress in the development of the Delta Plan amendment to promote options for new or improved conveyance, storage and the operation of both to further the coequal goals. In Nov. 2015 the Council adopted *19 Principles for Water Conveyance in the Delta, Storage Systems and for the Operation of Both to Achieve the Coequal Goals (19 Principles)*. In March 2016 the Council asked staff to further consider what projects might be affected by an amendment and what existing agency regulations/authorities relate to the *19 Principles* as a next step in translating the principles into near and long-term goals. Council staff will discuss results of this analysis.

Background

The Delta Reform Act provides:

“The Delta Plan shall promote options for new and improved infrastructure relating to the water conveyance in the Delta, storage systems, and for the operation of both to achieve the coequal goals.”

— Water Code section 85304

Cognizant of the Delta Reform Act provisions that would have, with certain caveats, incorporated the Bay Delta Conservation Plan (BDCP) into the Delta Plan, with the May 2013 adoption of the Delta Plan, the Council addressed this Reform Act provision with recommendations to promptly complete both the BDCP (including evaluation of a range of conveyance options) and studies of large new or enlarged reservoirs begun during the CALFED Bay-Delta Program. The CALFED storage studies have since been completed. The Delta Plan also recommended surveying other potential storage opportunities, a task which has also been completed. Following the Administration’s May 2015 decision not to pursue the BDCP as originally intended, the Council followed through on a Delta Plan commitment to revisit the issue of conveyance and assess the need for an amendment to the Delta Plan.

“However, should the BDCP process not be completed by January 1, 2016, the Council intends to revisit the issue of conveyance to determine how to facilitate improved conveyance facilities without the BDCP. If the Council then decides to amend the Delta Plan to include regulatory policies regarding conveyance, the Council would do so only after extensive analysis of the conveyance options and associated detailed environmental review.”

— Delta Plan, Appendix A

At the Oct. 2015 Council meeting, staff presented a draft set of principles for conveyance, storage, and operations to guide development of a potential Delta Plan

amendment. The principles were accompanied by a summary of the best available science related to conveyance, storage, and operations, to help fulfill Water Code section 85302(g). The following month, Nov. 2015, the Council approved the *19 Principles* (Attachment 1). The *19 Principles* reflect the advice and input of expert panels, Council members, and the public and provide direction to staff on the scope of a potential Delta Plan amendment.

In March 2016, staff proposed to the Council a three-step process, outlined below, to develop a potential Delta Plan amendment guided by the *19 Principles*.

Step 1: Define Problem and Identify Goals and Objectives

Step 2: Develop Draft Amendment and Solicit Input and Review

Step 3: Council Vote on Proposed Amendment and California Environmental Quality Act (CEQA) Document and Direction on Seeking Regulatory Approval, if Necessary

The Council approved the three-step process and directed staff to move forward with development of a potential Delta Plan amendment that might include new recommendations or regulatory policies and performance measures based on the *19 Principles*.

The Council asked staff to consider the following in development of the amendment:

- What projects might we seek to influence?
- What existing authorities apply to conveyance, storage, and operations and how do they apply to the principles? Are there conflicts and, if so, where?
- How can the *19 Principles* be translated into long-term goals, identifying near-term and mid-term actions necessary to achieve the long-term goals?

Discussion

Today's discussion is intended to promote dialogue about the considerations outlined above, and to provide staff with additional guidance in pursuing this amendment.

- A. *What types of foreseeable projects are likely to be influenced by Delta Plan policies and recommendations related to conveyance, storage, or their operation?*

Staff considered a wide variety of foreseeable project actions that could be affected by Delta Plan options for conveyance, storage or their operation. These are summarized below by project category:

Conveyance

- New conveyance projects within the Delta where both the physical facilities and their operations will occur within the Delta. Examples include the facilities and

operations associated with California WaterFix and the long-planned North Bay Aqueduct alternate intake project.

- New conveyance projects whose physical facilities are located outside the Delta, but whose operations have the potential to affect conditions in the Delta (flow, temperature, hydrodynamics). Example include the variety of cross-valley conveyance projects under consideration in the San Joaquin Valley that could affect Delta operations.
- The Delta Plan defines conveyance¹ broadly; thus conveyance projects also could include projects such as installation of operable gates to control flows in Delta channels, or installation of weirs to convey water to floodplain restoration sites.

Storage

- Storage projects upstream or downstream of the Delta that may influence in-Delta water supplies, Delta exports, flows, water quality, or other ecosystem processes. One example is the proposed Sites Reservoir, which could affect the Delta through changes in Delta inflow and water quality and operational flexibility and water supply reliability for the State's water system (Sites Joint Power Authority, March 2016 Water Storage Investment Program Concept Paper).
- Other major storage projects could influence conditions on tributaries that support Delta fisheries, while also increasing water supply reliability for the State's water systems. For example, Temperance Flat Reservoir could provide opportunities to manage stored water supplies in a way that affects temperature and flow conditions in the San Joaquin River downstream from Friant Dam to support salmon fishery survival and restoration (San Joaquin Valley Water Infrastructure Authority, March 2016 Water Storage Investment Program Concept Paper); and, Los Vaqueros Reservoir expansion could provide water supplies for San Joaquin Valley wildlife refuges and add operational flexibility to Delta water management facilities (Contra Costa Water District 2016 Water Storage Investment Program Concept Paper).
- Groundwater banking and conjunctive use projects also have the potential to influence conditions in Delta tributaries and within the Delta under certain hydrologic conditions.

¹ "The movement of water from one place to another. Conveyance infrastructure includes natural watercourses as well as canals, pipelines, and control structures including weirs. Examples of natural watercourses include streams, rivers, and groundwater aquifers. Conveyance facilities range in size from small, local, end-user distribution systems to large systems that deliver water to or drain areas covering multiple hydrologic regions. Conveyance facilities require associated infrastructure including pumping plants, power supply, diversion structures, fish ladders, and fish screens." (Delta Plan 2013, pp. 305)

Reoperation

- Reoperation of existing conveyance/storage systems that could occur in as a result of changes to the existing physical facilities. For example, California WaterFix, which would add new diversion and conveyance facilities and change operations of the current State Water Project system.
- Reoperation of existing reservoirs to support conjunctive surface-groundwater management. For example, the Regional Water Authority’s proposed American River Basin Conjunctive Use Project would integrate operation of the CVP (particularly Folsom Lake) to improve ecosystem and water quality conditions along the American River and within the Delta.
- Reoperation of upstream reservoir facilities as a result of Federal Energy Regulatory Commission relicensing that could have impacts to water conveyed to the Delta.
- Changes in operation of State Water Project (SWP) and non-SWP facilities in response to changes in precipitation patterns (more rain, less snow) resulting from climate change.

B. *What roles may the Council play to influence and promote options for conveyance, storage, and the operation of both to further the coequal goals?*

The Delta Reform Act assigns the following roles to the Council:



The Council and its staff currently carry out these roles through several actions:

Coordinate: The DPIIC facilitates Delta Plan implementation through increased coordination and integration in support of shared national, statewide, and local goals for the Delta.

Ensure Consistency: The Delta Reform Act requires a State or local public agency that proposes to undertake a covered action to prepare a written

certification of consistency (Water Code section 85225²). The Delta Reform Act defines a covered action as: "...a plan, program, or project as defined pursuant to section 21065 of the Public Resources Code that meets all of the following conditions:

1. Will occur, in whole or in part, within the boundaries of the Delta or Suisun Marsh;
2. Will be carried out, approved, or funded by the State or a local public agency;
3. Is covered by one or more provisions of the Delta Plan;
4. Will have a significant impact on the achievement of one or both of the coequal goals or the implementation of government-sponsored flood control programs to reduce risks to people, property, and State interests in the Delta." (Water Code section 85057.5(a)).

Council staff assist project proponents through early consultation on the consistency review and covered action process.

Inform: The Council's Delta Science Program works closely with the science community to identify and prioritize research, monitoring, modeling needs and gaps, and organize independent peer-review panels for scientific reports. For example, the recent, pending, and forthcoming reviews on Delta inflows, Delta outflows, current and future operational plans, methodologies for calculating Net Delta Outflow, as well as work on temperature modeling for fisheries management, and much more.

Comment: The Council provides comments on activities of interest in the Delta, as well as projects outside the Delta that may have a significant impact on the Delta. This includes the California WaterFix, the California Water Commission's (CWC) Water Storage Investment Program, and the State Water Resources Control Board's Water Quality Control Plan update process.

Ensure Accountability: The Delta Reform Act requires the Council to develop performance measures to measure progress toward achieving the coequal goals (Water Code section 85308(d)). Council staff track and report on the performance measures included in the Delta Plan..

² If in the future the federal government approves the Delta Plan as provided in Water Code section 85300(d)(2), federal agencies would also need to certify their actions' consistency with the Delta Plan.

Council staff are seeking input on the role or roles the Council seeks to play (or continue to play) in order to influence and promote options for ongoing and future conveyance, storage, or operations decisions. For example:

- The Council may want to place additional emphasis on using the Delta Plan Interagency Implementation Committee (DPIIC) to coordinate agency actions affecting storage and conveyance.
- The Delta Reform Act gives the Council authority to request reports from State, federal, and local governmental agencies on issues related to implementation of the Delta Plan (Water Code section 85201 (h)). The Council could consider the types and frequency of reports that might aid in tracking accountability in meeting specified objectives related to conveyance, storage, and operations.
- The Council could consider adopting new or modified regulatory policies to specify requirements that a conveyance, storage, or reoperation project would need to ensure consistency with the coequal goals, and/or it could develop a set of focused recommendations aimed at influencing other agencies' authorities and programs.

C. What existing State and federal agency authorities, regulations or other controls and oversight actions help ensure that new or improved conveyance, storage, or their operation will achieve the coequal goals?

A list of State and federal agencies that have regulations generally relevant to conveyance, storage, or operations was presented to the Council in March 2016 (Attachment 2). The list included the State Water Resources Control Board (SWRCB), which influences conveyance siting and operations through water rights and water quality criteria, and California Department of Fish and Wildlife (DFW), which influences siting and operations through its Lake and Streambed Alteration permitting (Fish and Game Code section 1602) and Endangered Species Act (Fish and Game Code sections 2050-2069) authorities.

At the March 2016 meeting, the Council asked staff to do further analysis of how existing State and federal authorities or programs relate to the *19 Principles*. Staff's analysis, presented here, includes regulatory authorities as well as authorities related to planning, funding, implementing, and operating future conveyance and storage projects.

The analysis allows the Council to better understand an important aspect of the context in which we are pursuing a conveyance, storage, and operations amendment to the Delta Plan. Better understanding of the planning and regulatory landscape allows the Council to see where its influence can best be wielded to promote options to further the coequal goals. In its review staff identified (1) areas where minimal authority or activities exists to further the *19 Principles*; (2) areas where substantial authorities and guidance exist to further the *19 Principles*; and (3)

areas where there are existing authorities or approaches, but they appear to only partially address the Council's *19 Principles*.

A summary of the staff review is presented below. The *19 Principles* are attached (Attachment 1) for your convenience.

- Delta Conveyance Principles (*19 Principles* – Numbers 1-5):
 - Resiliency and flexibility. Principles 2-4 relate to increasing the resiliency of the water system with respect to climate change and ecosystem needs and providing flexibility and integration to adapt to a variety of changing conditions. While larger implementing agencies such as the California Department of Water Resources (DWR) and U.S. Bureau of Reclamation (Reclamation) have policies and guidelines that require consideration of climate change in planning, and CEQA requires effects analysis related to climate change, there are no apparent provisions that would require achievement of these principles for new conveyance systems. However, the Delta Plan includes a regulatory policy that would require a significant conveyance project to have a detailed and funded adaptive management plan to better ensure projects adapt to changing conditions so that project objectives are met.
 - Ecosystem restoration and water quality improvement. Principles 1 and 5 relate to enhancing the Delta ecosystem and improving water quality. Several agencies such as the SWRCB, DFW, National Marine Fisheries Service, and U.S. Fish and Wildlife Service have authority (e.g., Clean Water Act, Endangered Species Act (ESA)) to protect these resources. In addition, the Delta Plan includes WQ R1 *Protect Beneficial Uses*; WQ R2 *Identify Covered Action Impacts*; and WQ R3 *Special Water Quality Protections for the Delta* that would apply to significant conveyance projects and augment existing authorities. The ESA requires avoidance and mitigation to “protect species” or “avoid jeopardy” whereas the *19 Principles* call for “enhancement” of the ecosystem. The Council may want to consider what role it would like to play in achieving the objective for ecosystem enhancement.
- Water Storage Principles (*19 Principles* – Numbers 6-10):
 - Project evaluation. The CWC's Proposition 1 Water Storage Investment Program addresses some of the Council's storage principles in its proposed funding regulations. For example, the CWC proposed regulations would require applicants to assess the net physical and economic public and non-public benefits that would be provided by a proposed project. Of relevance to the Council's work, the CWC proposes to rate projects which apply for funding on several metrics, including (but not limited to): relative environmental value, magnitude of water system improvements,

- implementation risk, and project resiliency. While the CWC's proposed funding regulations are a significant step toward requiring the type of information that is valuable in assessing whether a project furthers the Council's storage principles, they only apply to project proponents applying for, and ultimately receiving Proposition 1 funding. The Council may want to consider how these assessments, where appropriate, could be applied to future non-Proposition 1 projects or to conveyance projects.
- Comprehensive management. Principles 9 and 10 relate to providing a comprehensive management approach that provides both immediate and enduring benefit. At the planning stage, implementing agencies such as DWR and Reclamation have policies and guidelines that require consideration of climate change, and CEQA requires effects analysis related to climate change. The California Water Plan and Governor's Water Action Plan, both high-level policy plans, address the integrated nature of water planning at different scales and consider both surface and groundwater. Draft CWC funding regulations require, in the pre-application, that projects include a summary of how a proposed project will integrate with existing projects. The Council could consider how this requirement could be applied to other storage and conveyance projects.
 - Cost effectiveness. Principle 7 asserts that storage projects should be cost effective. While a project's cost effectiveness would be evaluated under CWC proposed funding regulations for projects that apply for Proposition 1 funding, a traditional cost-benefit analysis may present challenges for projects with express environmental benefits, or for projects that require additional investment in order to be more resilient to climate change. The CWC has done some analysis of calculating "relative environmental values," and quantification (and in some instances, monetization) of other public benefits that may provide a model. The Council could consider how to influence cost-benefit analyses for all storage and conveyance projects to ensure credit is given to projects that are resilient to climate change, or otherwise provide non-traditional, yet desirable, benefits.
 - Delta Water System Operational Principles (*19 Principles* – Numbers 11-19):
 - Ecosystem restoration and water quality improvement. In general, there are many existing authorities and regulations related to operations of current and new conveyance and storage in the Delta. The SWRCB sets water quality criteria to protect "beneficial uses" in the Delta and, under the State and federal Endangered Species Acts, the fish and wildlife agencies issue biological opinions that set requirements on operations. In addition, the Delta Plan includes WQ R1 *Protect Beneficial Uses*; WQ R2 *Identify Covered Action Impacts*; and WQ R3 *Special Water Quality Protections for the Delta* that would apply to significant new conveyance and storage operations and augment existing authorities. As discussed above, however, this current

approach may not completely meet the goals of the Council's *Principles* as these authorities typically "protect" or "avoid jeopardy", whereas the principles call for "enhancement" and "improvement" of the ecosystem and water quality, respectively.

- Multi-year planning. Principle 15 promotes the adoption of a multi-year planning horizon for water storage operations. The CWC's proposed funding regulations require applicants to consider operations under a range of hydrologic conditions, including wettest and driest years and multiple dry years. The Council may wish to consider how this could be applied to non-Proposition 1 storage operations and to significant conveyance operations.
- Best available science. Principles 13 and 18 relate to using best available science and accurate, timely, and transparent data in operational decisions. There appear to be multiple existing regulations and associated efforts related to this issue and progress is being made. DWR, Reclamation, and the U.S. Army Corps of Engineers are cooperating on the development of forecast-based operations strategies for existing facilities. Fish and wildlife agencies and the SWRCB are utilizing the Delta Science Program to facilitate peer reviews to ensure best available science is used in their regulatory documents. The DPIIC has had success in highlighting and acting on priority science to support management decisions. The Delta Plan regulation GP 1 requires that project proponents demonstrate use of best available science for all applicable covered actions. The Council may consider if additional actions are needed to support these efforts.
- Reoperations. Principle 14 relates to improving efficiency through reoperation of existing infrastructure. DWR has conducted a reoperations study and presented results to the Council. While small benefits to water supply may be derived from reoperations, DWR concluded that those benefits, given current system constraints, are somewhat limited and generally picked up by system operators already. The Council may want to consider options to promote integrated operation of new or significantly improved conveyance and storage infrastructure.

Next Steps

Council staff will take feedback on which role(s) the Council would like to use or further explore to promote options related to conveyance, storage, and operations of both in order to develop a discussion draft for Council reaction and public input. Staff will bring two items to the Council for future discussion:

1. A discussion draft amendment for conveyance, storage and operations; and
2. The plan for public engagement in development of subsequent drafts.

At the Council meeting, Deputy Executive Officer Cassandra Enos and senior engineer Anthony Navasero, will brief the Council on the additional analysis prepared in response

to the March 2016 Council meeting described herein. Council consultants Kari Shively and Jamil Ibrahim of MWH will be present to support and expand on the discussion as needed.

Fiscal Information

Not applicable.

List of Attachments

Attachment 1: *19 Principles for Water Conveyance in the Delta, Storage Systems and for the Operation of Both to Achieve the Coequal Goals* (Adopted at the November 2015 Council Meeting)

Attachment 2: Regulatory Context for Water Conveyance, Storage, and Operations in California (Originally prepared for March 2016 Council Meeting)

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