1. Call to order.

2. Roll call – determination of quorum.

3. Public comment – opportunities for members of the public to address the Committee on matters within the Committee’s jurisdiction.

4. Chair’s report.

I. CONSENT CALENDAR

II. ACTION/DISCUSSION

1. Presentation on Bay-Delta Conservation Plan: Governance. (Discussion)     Glenn Farrel

2. Presentation on Bay-Delta Conservation Plan: Infrastructure Review. (Discussion)     Bill Rose/Gary Bousquet

III. INFORMATION
IV. CLOSED SESSION

V. ADJOURNMENT

NOTE: This meeting is also called and noticed as a meeting of the Board, but will be conducted as a meeting of the Imported Water Committee. Members of the Board who are not members of the Committee may participate in the meeting pursuant to Section 2.00.060(g) of the Water Authority Administrative Code. All items on the agenda, including information items, may be deliberated and become subject to Committee action. All public documents provided to the Committee or Board for this meeting including materials related to an item on this agenda and submitted to the Board of Directors within 72 hours prior to this meeting may be reviewed at the San Diego County Water Authority headquarters located at 4677 Overland Avenue, San Diego, CA 92123 at the reception desk during normal business hours.
February 7, 2014

Attention: Imported Water Committee

Bay-Delta Conservation Plan: Governance (Discussion)

Purpose
The purpose of this memo is to provide information relative to the institutional structure and organizational arrangements that will be established to govern Bay Delta Conservation Plan (BDCP) implementation.

Background
Since the 1930s, the state and the federal government have invested significant resources in the development and operation of the Central Valley Project (CVP) and the State Water Project (SWP) to help meet the water needs of Californians. About two-thirds of residents and more than 40 percent of irrigated farmland in California receive at least some of their water supplies from the CVP and SWP. Both projects utilize the Sacramento-San Joaquin Bay-Delta (Delta) to convey a significant portion of their project water to their respective water contractors. The Delta, therefore, is an important water supply source for many Californians. The Delta is also the largest west coast estuary in North and South America, supporting many fish, wildlife, and plant species; and it is one of four major North American pathways for migratory birds. Over the years, in part due to increased water exports for human use, the Delta habitat has deteriorated, increasing concerns over ecosystem viability.

Water from the Delta makes up about 20 percent of San Diego County’s annual water supply. Given the significance of a Delta water supply for San Diego County’s water supply reliability and diversification, the Water Authority has long been a proponent of a Delta fix. The Water Authority is also a strong advocate for its ratepayers. The Delta Reform Act of 2009 – in Section 85089(a) and (b) of the Water Code – provided that the costs for a new water conveyance facility will be paid by water users, and as such, the Water Authority continues to advocate for a Delta solution that not only would provide improved water supply reliability for water exporters, but also one that is right-sized to match demand and includes firm, long-term financial commitments from water agencies, including member agencies of the Metropolitan Water District (MWD), to pay for the project.

In addition to the BDCP Proposed Action, which the Brown Administration and state agencies are pursuing, other stakeholders have proposed variations of Delta fix strategies. Last July, Water Authority management convened a multi-disciplinary team of Water Authority staff to evaluate four Delta fix strategies (including a no action approach) with an aim to assess how these strategies would address the Water Authority’s Bay-Delta Policy Principles and meet supply diversification and reliability goals expressed in the 2010 Urban Water Management Plan. The goals of this review are two-fold: to provide input during the BDCP environmental review process, and to provide technical assessments on various proposals sufficient enough to assist the Board in making policy decisions regarding the BDCP.
Discussion

The efforts to resolve water supply and ecosystem conflicts in the Delta have a long history in California water policy (described in detail in a Board memorandum dated July 17, 2013).\(^1\)

Measures to protect threatened and endangered species in the Delta in recent years have significantly impacted both projects’ capability to export water through the Delta. The latest effort to address the conflict is a joint effort of state and federal agencies to develop a BDCP.

The BDCP is a habitat conservation plan, intended to result in long-term permits from regulatory agencies authorizing take of covered species so the export facilities may be operated in a more stable and reliable manner. Included in the BDCP are 22 conservation measures collectively meant to achieve the BDCP’s overall goal of “restoring and protecting ecosystem health, water supply, and water quality within a stable regulatory framework” (described further in a Board memorandum dated September 18, 2013).\(^2\) A central component of the BDCP strategy for water exporters is Conservation Measure 1 (CM1), Water Facilities and Operations. Conservation Measures 2 through 22 (CM2 through CM22) cover natural community restoration and protection and other stressors, which are intended to restore and protect the natural communities and species.

BDCP implementation will be very complicated and challenging, with competing interests constantly in-play, as efforts to achieve the co-equal goals are pursued over the life of the permit term. As a result, the governance structure that is outlined in the BDCP Public Draft – in Chapter 7, Implementation Structure – to govern BDCP implementation is complex with many different components.

Current Governance Structure

Under the existing SWP operations, the Department of Water Resources (DWR) owns and operates the SWP, holds all the water rights for the SWP, and holds all of the permits required to operate the SWP. DWR has contracts with 29 individual state water contractors, including MWD, the largest contractor holding 45.8 percent of the SWP supply under its contract. MWD also pays a corresponding share of costs on the SWP. The contracts provide, among other things, that the contractors will pay all SWP costs, except recreation, fish and wildlife enhancement, and flood control costs.

The California Water Commission was created at the same time in California’s water history that DWR was created, and is directed (pursuant to Water Code Section 161) to “confer with, advise, and make recommendations to the director [of DWR] with respect to any matters and subjects under his jurisdiction. The rulemaking power of the department shall be exercised in the following manner. All rules and regulations of the department, other than those relating exclusively to the internal administration and management of the department, shall be first presented by the director to the commission and shall become effective only upon approval thereof by the commission.”

Other provisions of state law grant additional powers and authorities to the California Water Commission with respect to the SWP. State law requires the Commission to:


• Conduct an annual review of the progress of construction and operation of the SWP, and make a report on its findings to DWR and the Legislature, together with whatever recommendations it deems appropriate.

• Hold public hearings on all additional facilities proposed to be added to the SWP by DWR.

Similar to the existing governance structure relative to DWR and the SWP, the U.S. Bureau of Reclamation (USBR) owns and operates the CVP, holds all of the water rights for the CVP, and holds all of the permits necessary to operate the CVP. Additionally, the USBR has individual contracts with water agencies that govern the financing of the CVP.

A background report for an informational hearing held on August 13, 2013 in the Senate Natural Resources and Water Committee identified two significant differences regarding the governance structures of the SWP and CVP:

• The CVP includes a number of distinct contracting “units,” many of which do not require moving water through or around the Delta (such as the Sacramento Canals Unit, north of the Sacramento Valley and the Friant Unit, on the east side of the San Joaquin Valley). On the other hand, all but three of the SWP contractors (City of Yuba, County of Butte, Plumas County Flood Control and Water Conservation District) rely on moving water through or around the Delta.

• The cost allocation and financing system of the SWP ensures that the SWP contractors pay all costs of the SWP, whereas the CVP’s system does not guarantee full repayment and there is some question as to whether the costs will ever be fully repaid3.

Because both the SWP and CVP convey water from the Sacramento River and the Delta, facility operations are coordinated between the two projects based on a Coordinated Operating Agreement. HR 3113, authored by Representative George Miller and signed into law by President Ronald Reagan in 1986, was a milestone in water management in California, providing for the coordination of operations between the state and federal water projects in the diversion of water from the Delta. The Coordinated Operating Agreement and the various additional ancillary agreements are intended to ensure that both projects operate consistent with operating conditions and requirements, water rights conditions, endangered species requirements, and other permits. These operations are presently overseen by an Operations Group (Ops Group). The Ops Group is comprised of both state – Department of Fish and Wildlife (DFW), DWR, and State Water Resources Control Board (SWRCB) – and federal – Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), USBR, and Environmental Protection Agency (USEPA) – representatives, and this group meets monthly to discuss operations issues. The three areas of project operations overseen by the Ops Group include:

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3 Report for an informational hearing by the Senate Governance and Finance Committee and the Senate Natural Resources and Water Committee – The Governance and Financing of the Bay Delta Conservation Plan: Overview of the Issues – August 2013
- Adjustment of export limits to minimize endangered species’ take or to improve fishery conditions in general
- Operation of the Delta cross-channel
- Changes in the point of diversion to improve fishery conditions or make up losses to water supply caused by previous operational changes to improve fishery conditions

Figure 1.

The graphic above depicts the governance arrangement that is in place today. The existing structure is clearly delineated between the SWP and CVP, and there is only a single line of formal coordination between the two water projects through the Ops Group.

**BDCP Proposed Governance Structure**

The BDCP Public Draft documents present a significantly modified proposed governance structure. The BDCP proposes to entirely eliminate the segregated and disconnected governance structure and replace it with a more centralized structure over both projects. The BDCP Public Draft identifies five new organizational entities that, together, would be responsible for ensuring that the BDCP is implemented:

- Implementation Office
- Authorized Entity Group
- Permit Oversight Group
- Adaptive Management Team
• Stakeholder Council

Under the proposed new BDCP governance structure, DWR, the USBR, and those state and federal water contractors who receive take authorizations for activities covered under the BDCP, will have ultimate responsibility for compliance with the provisions of the BDCP and the associated regulatory authorizations. The implementation of the BDCP will be organized around a newly-created BDCP Implementation Office, which will be managed by a Program Manager and governed by a newly-created Authorized Entity Group. The USFWS, NMFS, and DFW (the state and federal fish and wildlife agencies) will maintain an ongoing role in BDCP implementation, including participation in the Permit Oversight Group, to ensure that implementation proceeds in a manner consistent with the BDCP and its associated regulatory permits.

The chart below, found in Chapter 7 of the BDCP Public Draft, depicts the scope of the BDCP implementation activities that would be centralized within the new Implementation Office.

Figure 2.

**Implementation Office:** The new Implementation Office would be led by a Program Manager, who would be selected by, and report to the Authorized Entity Group. The Program manager would manage, coordinate, oversee, and report on all aspects of BDCP implementation, subject to oversight by the Authorized Entity Group. The Program Manager, with the assistance of the Implementation Office staff, would ensure that the BDCP is properly implemented throughout the duration of the project operations. The Program Manager would coordinate with the appropriate designated state or federal official to ensure that necessary functions are carried out. The Program Manager may be a state employee, a federal employee, or a person retained under a personal services contract.
The Program Manager would direct, oversee, and select staff for the Implementation Office. The Implementation Office, which would not be a legal entity authorized to enter into contracts directly or hold property in its own name, would administer the implementation of the BDCP under the existing legal authorities of the Authorized Entities. The Implementation Office would assume responsibility for implementing a broad range of actions, including:

- Overseeing and coordinating the administration of program funding and resources, including budgets and work plans
- Overseeing and/or implementing conservation measures
- Technical and logistical support to the Adaptive Management Team with respect to administration of the Adaptive Management and Monitoring Program
- Coordinating with Delta-wide governance entities, including the Delta Stewardship Council, the Delta Science Program, the Delta Protection Commission, and the Delta Conservancy

Not only would the Implementation Office be the centralized point of all BDCP implementation activities under the governance of the Authorized Entity Group, but the chart below, also found in Chapter 7 of the BDCP Public Draft, depicts that the Implementation Office is expected to be the central linchpin for all BDCP-related activities and the coordinator and facilitator of the various BDCP implementation groups.

Figure 3.
While broadly responsible for many of the implementation aspects of the BDCP program over the course of the permit term and project life, the Implementation Office would not be an independent body. It is important to note and understand the role of the newly-created Authorized Entity Group within the proposed BDCP governance framework.

**Authorized Entity Group:** The Authorized Entity Group is a four-member body that would consist of:

- Director of DWR
- Regional Director for USBR
- A representative of the participating state water contractors
- A representative of the participating federal water contractors

The purpose of the Authorized Entity Group is to provide program oversight and general guidance to the Implementation Office Program Manager regarding the implementation of BDCP. The Authorized Entity Group would be responsible for ensuring that the management and implementation of the BDCP are carried out consistent with its provisions, the Implementing Agreement, and the associated regulatory permits. The Authorized Entity Group would meet on a schedule of its own choosing, but would meet in public at least quarterly to review issues that arise during BDCP implementation. The BDCP Public Review Draft indicates that all meetings of the Authorized Entity Group would be conducted in public, but is silent with respect to requirements under California’s public record laws.

A significant level of decision-making authority would be granted to the Authorized Entity Group under the proposed BDCP governance framework. For many of the decisions outlined in Table 1 below, the Authorized Entity Group is identified as having a primary decision-making authority. Additionally, for many BDCP implementation decisions, it appears that the Authorized Entity Group is being granted substantial decision-making authority. Even for those decisions where the Authorized Entity Group is not identified as the party making decisions on implementation issues, the dispute resolution process, outlined below, proposes to grant substantial deference to the Authorized Entity Group. For disputes that must be resolved by the Authorized Entity Group and Permit Oversight Group together, it should be noted that there is a lack of balance in the membership of the two groups – four members of the Authorized Entity Group and three members of the Permit Oversight Group. There is nothing in the Public Review Draft BDCP that provides for anything other than a one member-one vote structure for actions undertaken by the Authorized Entity Group and the Permit Oversight Group, and for joint decision-making actions by both groups together. Additionally, there are no provisions within the Public Review Draft BDCP that require “consensus” decisions between the Authorized Entity Group and the Permit Oversight Group, except for those joint decisions relating to adaptive management, as described further below.

The BDCP dispute resolution process outlines a nonbinding review process for unresolved disputes between the Authorized Entity Group and the Permit Oversight Group; however, it remains unclear how that nonbinding review process would be executed in a situation where the Authorized Entity Group (controlled by the water export interests) is able to out-vote the Permit Oversight Group (controlled by the fish and wildlife interests).
Permit Oversight Group: This group would be comprised of state and federal fish and wildlife agencies. Proponents of BDCP anticipate that the USFWS, NMFS, and DFW will issue regulatory authorizations for BDCP activities pursuant to the federal Endangered Species Act and the National Communities Conservation Planning Act. Consistent with existing law, the fish and wildlife agencies would retain responsibility for monitoring compliance with the BDCP, working with the Authorized Entity Group to approve certain implementation actions, and enforcing the provisions of their respective regulatory authorizations. In addition to fulfilling those regulatory responsibilities, the state and federal fish and wildlife agencies would also provide technical input on a range of implementation actions that would be carried out by the Implementation Office. The Permit Oversight Group would not be a separate legal entity, nor would it be delegated any authority by its three member agencies – those statutory and regulatory authorities would remain with each individual fish and wildlife agency, as provided in existing law. The Permit Oversight Group would meet publicly with the Authorized Entity Group at least quarterly. The BDCP Public Review Draft is silent with regard to the Permit Oversight Group’s requirements with respect to complying with California’s open meeting and public records laws.

Adaptive Management Team: This team would be chaired by a newly-selected Science Manager (selected by the Program Manager and working within the Implementation Office), and would consist of representatives of DWR, USBR, DFW, USFWS, and NMFS; a Delta Science Program representative; and the State and Federal Contractors Water Agency Science Manager. This team would have primary responsibility for administration of the adaptive management and monitoring program, development of performance measures, proposed changes to conservation measures, and proposed modifications to the biological objectives.

The Adaptive Management Team would operate by consensus. (Under the Public Review Draft BDCP, “consensus” is considered to be achieved if either all members of the Adaptive Management Team agree to a proposal or no member of the team dissents from a proposal). In the event that consensus is not achieved, the matter would be elevated to the Authorized Entity Group and the Permit Oversight Group for resolution. Any proposed changes to conservation measures or biological objectives would be elevated to the Authorized Entity Group and the Permit Oversight Group for their concurrence or for their own determination regarding the matter. If concurrence is not achieved between the Authorized Entity Group and the Permit Oversight Group, then the entity or entities with the statutory or regulatory decision-making authority under existing law would make the decision. The team would hold public meetings at least quarterly. The BDCP Public Review Draft indicates that all meetings of the Adaptive Management Team would be conducted in public, but is silent with respect to requirements under California’s public record laws.

As it has been identified in previous Board memos, the BDCP Public Review Draft provides that a “Decision Tree” process will be used to determine the initial operations for spring outflow under CM1 once construction is completed. According to the Public Review Draft BDCP at Section 5.5.2.1.1 – Spring Outflow Decision-Tree Process – “the fish and wildlife agencies will make the final decision about which...criteria will be applicable when the conveyance facilities become operational pursuant to the decision-tree process. The fish and wildlife agencies’ determination will be based on best available science at the time of CM1 operation. The determination will include updated analysis of historical data and other appropriate scientific information that exists at the time of the decision.” Following this decision-tree process, the Adaptive Management Team will then play the main role in managing performance of the BDCP Program relative to achieving...
the intended objectives, and thus will become an important component of the BDCP governance structure.

Stakeholder Council: This council would consist of representatives from entities and organizations with an interest in BDCP-related issues or otherwise engaged in BDCP matters. At a minimum, representatives of the following entities would be invited to participate on the Stakeholder Council:

- Representatives of DWR and USBR
- Representatives of SWP and CVP water contractors
- Representatives of other authorized entities
- Representatives of USFWS, NMFS, and DFW
- Representatives of other state and federal regulatory agencies, including the U.S. Army Corps of Engineers, USEPA, and SWRCB
- A representative of the Delta Stewardship Council
- A representative of the Delta Protection Commission
- A representative of the Delta Conservancy
- A representative of the Central Valley Flood Protection Board
- Representatives of San Joaquin, Sacramento, Solano, Yolo, and Contra Costa Counties

Additional members would be selected from the following categories by the Secretary of the California Natural Resources Agency, in consultation with the Directors of DWR and DFW:

- Conservation groups with expertise in fish and wildlife management (at least three)
- Local government agencies within the Delta (at least three)
- Fishing organizations (at least one)
- Hunting organizations (at least one)
- Recreation organizations (at least one)
- Delta reclamation districts (at least two)
- Delta agriculture (at least two)
- Scientists with expertise in the management of natural lands and native plant and animals species (at least three)
- Water agencies located in the Sacramento Valley (at least one)
- Water agencies located in the San Joaquin River watershed (at least one)
- Organized labor working in the building trades (at least one)
- Representative of state-employed scientific or engineering professionals (at least one)
- Other stakeholders whose assistance will increase the likelihood of the success of BDCP implementation, including Delta civic organizations and members of the general public

The Program Manager would convene and facilitate the Stakeholder Council at least quarterly, to exchange information and provide input to the Program Manager concerning the current significant issues at-hand. Stakeholder Council meetings would be open to the public. The BDCP Public Review Draft indicates that all meetings of the Stakeholder Council would be conducted in public, but is silent with respect to requirements under California’s public record laws. The Stakeholder
Council will develop its own internal organization and process to consider and provide input regarding the various aspects of BDCP implementation, including matters related to:

- Work plans and budgets
- Water operations plans
- Implementation of conservation measures
- Adaptive management changes
- Monitoring and reporting activities
- Scientific research and review processes
- Annual reports

For matters considered by the Stakeholder Council, the BDCP expects that the Council will make reasonable efforts to provide input to the Program Manager and the Authorized Entity Group that reflects the general agreement of the members of the Council. However, according to the BDCP Public Review Draft, in Section 7.1.10.3 – Dispute Resolution - “any member of the Council will have the right to object to any proposal of the Program Manager concerning the annual work plans, annual reports, budgets, the acquisition of land and water interests, or the major elements of the adaptive management program...Any member may also object to any prior implementation action taken by the Program Manager.” According to the BDCP Public Review Draft, the only real authority provided to the Stakeholder Council relates to exchanging information and providing input to the Program Manager concerning current significant BDCP implementation issues.

**Decision-Making Processes**

The following table summarizes the governance process for key decisions expected during BDCP implementation. Among other things, the Program Manager will manage and/or monitor implementation actions associated with the protection and restoration of habitat, reduction of ecological stressors, management of conserved habitat, and operation of the water projects, including the development of infrastructure. This table clearly demonstrates the role that the Authorized Entity Group will have in the decision-making process relative to BDCP implementation and the oversight of the BDCP Implementation Office and Program Manager.

<table>
<thead>
<tr>
<th>Decision</th>
<th>Who initiates?</th>
<th>Who has input?</th>
<th>Who makes decision?</th>
<th>Who has final authority to decide the matter?</th>
<th>Final decision subject to review process?</th>
</tr>
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<tbody>
<tr>
<td>Selection of Program Manager (Section 7.1.1.1)</td>
<td>Authorized Entity Group (AEG)</td>
<td>Permit Oversight Group (POG); Stakeholder Council</td>
<td>AEG</td>
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<td>Selection of Science Manager (Section 7.1.1.2)</td>
<td>Program Manager</td>
<td>POG; AEG; Stakeholder Council</td>
<td>Program Manager</td>
<td>Program Manager</td>
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<tr>
<td>Oversight and administration of program funding and resources and of contracting (except for water conveyance infrastructure)</td>
<td>Program Manager</td>
<td>Stakeholder Council</td>
<td>Program Manager in conjunction with designated State and Federal agents</td>
<td>AEG</td>
<td>No</td>
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<tr>
<td>Oversight and implementation of conservation measures (except</td>
<td>Program Manager</td>
<td>AMT, Stakeholder Council</td>
<td>Program Manager</td>
<td>AEG</td>
<td>No</td>
</tr>
</tbody>
</table>

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4 Section 7.1.10.2 – Function – of the BDCP Public Review Draft
5 Chapter 7 – BDCP Public Review Draft – pp. 7-3
<table>
<thead>
<tr>
<th>water operations</th>
<th>Implementation of outreach, compliance monitoring and reporting requirements</th>
<th>Program Manager</th>
<th>Stakeholder Council</th>
<th>Program Manager</th>
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<td>Annual Work Plan (Section 7.1.3.1)</td>
<td>Program Manager</td>
<td>AEG; POG; Stakeholder Council</td>
<td>AEG review and approval. POG concurrence that plans are consistent with past decisions that involve the POG</td>
<td>AEG</td>
<td>Yes</td>
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<td>Annual Progress Report/Annual Water Operations Report</td>
<td>Program Manager</td>
<td>AEG; POG; Stakeholder Council; Real Time Operations Team</td>
<td>AEG review and approval</td>
<td>POG</td>
<td>No</td>
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<td>Formal amendment (Section 7.2.11)</td>
<td>Program Manager</td>
<td>AEG</td>
<td>AEG review and approval</td>
<td>POG</td>
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<td>Adaptive Management and Monitoring</td>
<td>Adaptive management change to a conservation measure (water operations and non-water related measures)</td>
<td>AMT (proposals may be submitted by any party or stakeholder)</td>
<td>AEG; POG; Stakeholder Council (Technical Facilitation Subgroup)</td>
<td>AEG and POG</td>
<td>Regional director of relevant federal agency(ies) USFWS or NMFS and/or CDFW director</td>
<td>Yes</td>
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<td></td>
<td>Adaptive management change to a biological objective</td>
<td>AMT (proposals may be submitted by any party or stakeholder)</td>
<td>AEG; POG; Stakeholder Council</td>
<td>AEG and POG</td>
<td>Regional director of relevant federal agency(ies) USFWS or NMFS and/or CDFW director</td>
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<td>Adaptive management change to problem statement and model refinement</td>
<td>AMT</td>
<td>AEG; POG; Delta Science Program; Interagency Ecological Program; Stakeholder Council</td>
<td>AEG and POG; if no consensus among AMT</td>
<td>POG</td>
<td>Yes</td>
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<td></td>
<td>Development and modification of monitoring and research plans</td>
<td>Program Manager</td>
<td>AMT, AEG; POG; Delta Science Program; Interagency Ecological Program; Stakeholder Council</td>
<td>AEG and POG</td>
<td>POG</td>
<td>Yes</td>
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<td>Science Review initiation and panel selection (independent and internal)</td>
<td>AMT and/or AEG/POG</td>
<td>AMT; AEG; POG; Stakeholder Council</td>
<td>AEG and POG</td>
<td>POG</td>
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<td>Water Operations</td>
<td>Annual Delta Water Operations Plan (Sections 7.1.4 and 7.3.2.1)</td>
<td>DWR and Reclamation</td>
<td>Implementation Office; POG; AMY; Stakeholder Council; Real Time Operations Team</td>
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<td>DWR and Reclamation</td>
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<td>Real-time operations changes</td>
<td>Real Time Operations Team</td>
<td>Case-by-case, as needed</td>
<td>Real Time Operations Team</td>
<td>Real Time Operations Team</td>
<td>Regional director of relevant federal agency(ies)</td>
</tr>
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</table>
Dispute Resolution Process
The BDCP Public Draft presents two distinct dispute resolution processes – one for disputes arising from within the decision-making hierarchy of the Authorized Entity Group and Permit Oversight Group, and one for disputes arising from members of the Stakeholder Council.

In the context of disputes arising from within the decision-making hierarchy of the structure, the BDCP Public Draft presents a dispute resolution process for the following situations:

- The Authorized Entity Group and the Permit Oversight Group are unable to reach agreement on a BDCP implementation matter over which they have joint decision-making authority

- A member(s) of the Authorized Entity Group and/or Permit Oversight Group does not agree with the resolution of a matter by the entity with authority over the matter

A member of either the Authorized Entity Group or the Permit Oversight Group may initiate the nonbinding review process with a written notice of dispute that describes the nature of the dispute and a proposed approach to resolution. The notice must be provided to the parties within 14 days of the memorialization of the disputed issue.

Within 14 days of the issuance of the written notice of dispute, the parties, with the administrative assistance of the Implementation Office, will form a three-member panel of experts. One member of the panel will be selected by the Authorized Entity Group, one member will be selected by the Permit Oversight Group, and a third member will be selected by mutual agreement of the first two panel members. The panel may meet and confer with any of the parties regarding the matter and gather whatever available information it deems necessary and appropriate. Within 14 days of the submittal of the written positions of the parties, a non-binding recommendation will be issued by a majority of the panel, in writing, which will include a statement explaining the basis for the recommendation.

Within 14 days of the panel’s non-binding recommendation, the entity with the statutory or regulatory decision-making authority over the matter, in existing law, will consider the recommendation, as well as any other relevant information concerning the issue, and convey its final decision regarding the matter to the Authorized Entity Group and the Permit Oversight Group. The BDCP Public Review Draft identifies this as being the final stage of the dispute resolution process, with the entity having existing statutory or legal authority over the matter at-hand making the final decision. The availability of this review process provided for within the BDCP Public Review Draft is not intended to have an effect on the ability of a party to pursue legal remedies that may otherwise be available regarding a disputed matter.
The BDCP Public Draft also identifies a dispute resolution process for issues arising through the Stakeholder Council process. As provided in the BDCP Public Draft, any member of the Stakeholder Council may object to any implementation action taken by the Program Manager. Any objection of that nature must be made on the basis that the proposed or prior action will not adequately contribute to achievement of the goals and objectives of the BDCP, or is inconsistent with the requirements of the BDCP and/or the permits and authorizations.

When a member of the Stakeholder Council makes an objection to a proposal or prior action related to BDCP implementation, the Council will make reasonable efforts to resolve the dispute by general agreement. The Stakeholder Council will take action on a dispute within 60 days, and if the dispute is not resolved within the 60-day period, the issue in dispute will be elevated to the Authorized Entity Group for its consideration. If the issue remains unresolved between the Authorized Entity Group and objecting member(s) of the Stakeholder Council for more than 90 days, it will be referred for decision by the entity with primary responsibility for the matter in dispute.

The BDCP Public Draft provides that: “This dispute resolution process, however, does not create a legal right nor does it give rise to a right of action with regards to the members of the Stakeholder Council nor may it be used by any member of the council to delay, or otherwise impede, the proper implementation of the BDCP.”

Summary and Observations
The BDCP Public Draft proposes a significant restructuring of and departure from the existing institutional governance arrangements to undertake and oversee BDCP implementation. The proposed governance model would be centralized around the Implementation Office, which would be operated by a BDCP Program Manager, who would be selected by and report to the Authorized Entity Group, representing the water exporters’ interests. Based on evaluation of the proposed governance model, decision-making framework, and dispute resolution process, it is evident that the Authorized Entity Group would have substantial authority and would be granted significant deference in the BDCP implementation process. Governance is a particularly important component of the BDCP, given that the various BDCP implementation elements and the adaptive management model to be employed following completion of the construction work for the conveyance system, would be subject to this BDCP governance framework.

Next Steps
Staff is continuing to undertake its multidisciplinary evaluation and analysis of the four Delta fix options. Following staff’s review of the preliminary engineering report, more in-depth analyses of the economic issues, including sensitivity analyses on construction costs, supply yields, and rate impacts on the Water Authority will be produced.

Prepared by: Glenn Farrel, Government Relations Manager
Reviewed by: Amy Chen, Director of MWD Program
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February 7, 2014

Attention: Imported Water Committee

Bay-Delta Conservation Plan: Infrastructure Review. (Discussion)

Purpose
The purpose of this memo is to provide an assessment of the Bay-Delta Conservation Plan (BDCP) facilities to the Committee.

Background

Over the past several months, staff has been providing the Board with background information on key issues relating to the BDCP. This memorandum provides comment on the proposed facilities associated with the preferred alternative included in the BDCP’s EIR/EIS document.

Key documents reviewed by staff are the Final Draft Delta Habitat Conservation and Conveyance Program Conceptual Engineering Report, dated October 1, 2013, and the draft Geotechnical Data Report, dated April 2013. Additional cost information is provided in the BDCP.

At the Special Imported Water Committee meeting on January 9, 2014, staff reviewed the status of the BDCP design as well as the Water Authority’s methodology for the construction cost review. The objective of staff’s review is to indicate the areas we believe the BDCP engineering team needs to focus on as they move forward with the next phases of the project’s design. The areas noted have the potential to impact the project schedule and cost and are typically addressed in a risk registry. Uncertainty should be reflected in the project’s contingency and schedule and as the project becomes better defined, risks are addressed and contingency can be reduced. This assessment is consistent with the Water Authority’s internal Gate Process, by which senior management tracks and reviews ongoing Capital Improvement Program projects.

Discussion

Description of BDCP Proposed Facilities\(^1\)
The Conceptual Engineering Report (CER) describes the Modified Pipeline/Tunnel Option or EIR/EIS preferred alternative to include:

- Three Intake Facilities (including fish-screened on-bank intake structures and pumping plants)
- An intermediate forebay to receive flow from each Intake Facility
- Approximately 14 miles of intake tunnels
- 60 miles of dual main tunnels (2 x 30 miles)

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\(^1\) Delta Habitat Construction and Conveyance Program, Conceptual Engineering Report, Volume 1, October 1, 2013, Executive Summary, pgs ES-1 through ES-2.
Existing Clifton Court Forebay modifications (dividing into two parts; one for existing State Water Project water that will continue to be delivered through the Delta, and one receiving the water from the proposed tunnels)

Figure ES-1 showing the proposed tunnel location is attached. The preferred alternative is sized to deliver 9,000 cubic feet per second from the Sacramento River in the North Delta to the South Delta pumping plants. The Conceptual Engineering Report states the preferred alternative will be engineered to protect against a 200-year flood event with sea level rise predicted from climate change, and use gravity to flow through the main tunnels. CER Figure ES-2 identifies the Conveyance Schematic for the preferred alternative.

**Description of Gate Process – Lens of Review**
Using the Water Authority’s Gate Process as a guide to review the BDCP, staff focused on potential risk areas. For example, what elements would we be looking at to form a risk registry as part of an overall risk management plan? Based on our review of the subject documents, we have identified them below.

**Construction Scheduling**
The CER identifies a nine-year equipment procurement and construction schedule beginning in 2017. However, a conceptual level schedule, included as an appendix to the document, shows start up and commissioning activities for the main tunnels ending in December 2028. Scheduling disconnects such as this need to be confirmed and corrected.

**Property Acquisition**
The detailed project schedule included in the CER, Appendix C, indicates right of way acquisition will occur over an approximately five-year period, beginning a few months after 30 percent design has been completed. Given the sheer number of anticipated acquisitions, a five-year duration seems reasonable for this activity. Also, initiating the acquisition process after completion of the 30 percent design is a reasonable approach given the majority of acquisitions will be for below grade tunnels (74 miles) and tunnel muck and forebay dredging disposal sites (3,200 acres). However, there are several issues that require further attention as they could dramatically impact the project’s schedule.

- A detailed property acquisition plan for all phases and elements of the project should be produced in conjunction with the design and construction portion of the project’s schedule. This plan is essential to make sure all necessary property interests are acquired, either through negotiations or the eminent domain process, prior to advertising construction contracts. Should this project become a Design-Build project, a property acquisition plan becomes even more important due to the compressed schedule.
- Acquisition of right of way for the project is expected to be a highly contentious process, probably resulting in a higher than average number of condemnation lawsuits. The property acquisition plan should address the potential delays in receiving Orders of Immediate Possession as a result a significant number of right to take challenges, potentially further impacted by already busy courts.

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2 DHCCP, Conceptual Engineering Report, Volume 1, October 1, 2013, Table ES-3, p. ES-12.
The number of acquisitions may severely stretch the ability to appraise and make offers in a timely manner. There simply may not be enough appraisers or right of way professionals with appropriate experience to handle the variety of appraisal assignments generated by the project.

A plan must be developed to secure rights to enter private property to conduct environmental, geotechnical, and other studies that will allow the project to proceed to the Preliminary Engineering phase. This plan, and its accompanying schedule, should be incorporated into the project’s master schedule.

**Tunnel Methodology**

Tunnel material removal requires deciding how to remove the tunnel material from the excavation face. Examples of options are fuel driven cars or a conveyor system. Both options present challenges and need to be coordinated with shaft locations and disposal sites.

Once removed, the designers need to make sure sufficient space is available for tunnel material disposal. Site locations will affect transportation and handling costs. Examples may include trucking to a nearby property versus disposal at sea – each with different risks and costs. The BDCP identifies approximately 3,200 acres of disposal area along the tunnel alignment. During design, calculations will need to be done to confirm if the identified sites can accommodate the anticipated volume of material removed.

Ventilation system design is another cost element that will be finalized during design development, and is a function of the number of shafts and locations as well as the tunnel material removal method. For example, using fuel driven removal cars will create fumes that will require removal using the ventilation system. Alternately, a conveyor system or other electrical means would not create fumes, but require additional electrical power.

Careful consideration and research needs to be done to confirm there is sufficient capacity to manufacture the 10-11 tunnel boring machines shown to be required. Designers should consider sequencing and available manufacturers, as well as identifying what other projects may be scheduled for the same time period, to fully understand the extent of strain this project will place on the industry. The affects will play out in manufacturing time and cost. Also, in the years leading up to construction, labor requirements will need to be examined to ensure sufficient labor is available to perform the work. For example, having sufficient tunnel boring machine operators fully trained to meet the aggressive construction schedule.

**Power Requirements**

Temporary power is a critical element of the project. Major electrical infrastructure needs to be designed and constructed to allow for project construction. Reliable power needs to be available at shaft locations for the duration of the project.

Permanent power provisions also need to be made for the pumping facilities. The CER recognizes additional studies, such as system evaluation analyses, are needed to assess potential electrical infrastructure upgrades to address grid reliability. Also, examining proposed construction methods associated with any upgrades to electrical transmission lines is necessary.

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**Access and Utility Conflicts**

Relocation of Roads and Utilities: Much of the tunnel alignment is deep; therefore, the report identifies access and utility conflict risk as low. The CER identifies two portions of highways SR-12 and SR-160 that are to be temporarily relocated, as well as the addition of an interchange to accommodate construction traffic.

The tunnel alignment extends through natural gas well fields, which are well below the tunnel alignment. The report indicates plugged and abandoned natural gas and oil wells in the conveyance footprint and within borrow and spoil areas. Figure 13-1 from the Conceptual Engineering Report shows Known Gas Wells and Fields in the Delta Region. The report states that abandoned wells within the alignment will require testing and, should they be found to be improperly abandoned, they would need to be improved to meet current California Department of Conservation well abandonment standards.

**Geotechnical Issues**

The Draft Geotechnical Report relies on historical data as well as field explorations performed between 2009-2012 such as borings, cone penetration tests, geophysical surveys, and associated laboratory testing. Many of the tests and borings are not located on the current proposed alignment. Some are more than a mile away due to alignment changes. Even borings that are located directly on the alignment only provide information for that exact location. Long tunnels are inherently risky due to unknown subsurface conditions. Issues such as groundwater, changing ground conditions, cobbles, or boulders can lead to schedule delay and additional costs.

Section 11 of the CER addresses tunnel construction and Section 11.2 sums up the concern regarding the minimal geotechnical information collected to date:

*The compatibility of the tunneling excavation method with anticipated ground conditions is critical in minimizing risk, optimizing tunnel advancement rate, and design of the tunnel support system. Currently, geotechnical information is limited. Once adequate geotechnical investigations have been performed, preliminary design evaluations will refine the recommendations for tunnel excavation and support methods.*

The lack of adequate geotechnical information is also noted in the sections of the CER that discuss the other major project elements such as intakes, temporary construction areas, access shafts, muck disposal areas, and the forebays. For example, the Draft Geotechnical Data Report states groundwater is present as shallow as five-feet below grade throughout much of the delta. At facility locations and along the tunnel alignment, provisions need to be made to control and remove groundwater during construction, as well as after the facilities are completed in accordance with project permits.

The BDCP project team anticipates an extensive geotechnical study for the tunnels, borrow areas, intakes, and other facilities. The magnitude of the study is described in Section 31.5.1.1 page 31-15 of the Draft EIR/EIS as the work required to complete the study itself may have environmental impacts. The geotechnical study is described as having “...spacing of the borings and test locations

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5 DHCCP, Conceptual Engineering Report, Volume 1, Section 13.0, Utility and Infrastructure Crossings, p 13-1.
likely will average about 1,000 feet along proposed canal and tunnel alignments and approximately
every 100 or 200 feet at intakes, pumping plants, forebays, siphons and other hydraulic structures.”

**Project Delivery Methodology**
Based on our conversations with the BDCP engineering team, current state law prohibits BDCP
management from using the Design-Build method. Changing this condition should be explored
further by the BDCP team, as cost and schedule savings and risk reduction may be realized.
Maintaining a single responsible party, particularly relative to procuring equipment early,
concurrent with design coordination, may reduce claim risk due to equipment delay or design
coordination.

Construction contract issues, such as construction contract sizing as it relates to contractor bonding
ability, project labor agreements and identification of the size of the overall labor force needed, and
sequencing to determine availability of local or regional labor are considerations when selecting a
project delivery method. Also, selection of a project delivery method is typically made early in the
project development process to minimize unnecessary expenses and begin the transfer of risk to the
designer-builder. Determining whether Design-Build is an option for the construction of BDCP
facilities is probably an early critical path item for the project team.

**Available Resources**
The proposed BDCP infrastructure is a world class level project that will require a broad range and
significant number of specialized contractors, personnel, engineers, and a variety of technical
experts.

Tunnel Boring Machines. The schedule included in the CER is based upon operating 10 or 11
large diameter tunnel boring machines simultaneously. The CER acknowledges that obtaining that
number of TBMs plus enough quality operators for the duration of tunneling activities is a risk.

Tunnel Steel Liners. The CER notes the current pipeline manufacturers are unable to produce the
tunnel’s steel pipe in the diameters proposed. Additional manufacturing facilities may need to be
built to meet the project’s steel pipe needs.

Borrow Material. The CER recognizes that sufficient borrow material has not been identified for
first order of work items such as stabilizing the ground near major construction sites.

Specialized Contractors. The CER also notes there may not be enough contractors to build certain
elements of the project. Specifically, the report notes it may be a challenge to find contractors to
build the 100 plus foot deep slurry walls for the tunnel drive and reception shafts.

Technical Experts. The design and construction oversight of this project will require a significant
number of technical experts. These technical experts will likely include: engineers from a variety
of disciplines (civil, structural, geotechnical, electrical, mechanical, etc), surveyors, land and farm
appraisers, right of way agents, attorneys, land title officers, etc. The CER is largely silent on the
availability of the technical experts needed to build the project.

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6 DHCCP, Conceptual Engineering Report, Volume 1, Section 11.3.2, pg 11-13
7 Ibid, Appendix E, Section 7.0, pg E-6
8 Ibid, Section 21.0, pg 21-1
9 Ibid, Section 11.3.1, pg 11-12
Competing Projects. It is unknown whether the BDCP infrastructure team has reviewed potential schedule overlap that may result in a competition for labor and natural resources with other large scale infrastructure projects being constructed in the United States or worldwide.

**Construction Estimate**

The BDCP summarizes the proposed cost of the 9,000 cfs preferred option at $14.3 billion. The cost information available is presented at a high level. For example, construction costs are provided in six major categories:

- River intakes structures
- Forebays and flow control structures
- Tunnels and pipelines
- Controls and communications
- Utilities and power delivery
- Contingency

The costs are further summarized below.

<table>
<thead>
<tr>
<th>Estimated Costs Dual Tunnels</th>
<th>3,000 cfs</th>
<th>6,000 cfs</th>
<th>BDCP Proposed 9,000 cfs</th>
<th>15,000 cfs</th>
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<tbody>
<tr>
<td>Construction</td>
<td>$9.4B</td>
<td>$11.4B</td>
<td>$12.4B</td>
<td>$14.5B</td>
</tr>
<tr>
<td>Engineering, project and construction management</td>
<td>$1.4B</td>
<td>$1.7B</td>
<td>$1.9B (~15%)</td>
<td>$2.3B</td>
</tr>
<tr>
<td>Total</td>
<td>$10.8B</td>
<td>$13.1B</td>
<td>$14.3B</td>
<td>$16.8B</td>
</tr>
</tbody>
</table>

BDCP includes soft costs of 15 percent for engineering and project/construction management. This represents about $1.9 billion. This amount should be examined and refined for greater precision relative to overall project administration, design engineering costs, and construction management costs.

As a result of the highly complex nature of this project, there are many known risks that need to be analyzed, mitigated, and monitored throughout the life of the project – each with its own set of schedule and cost implications. As the design process moves forward, risks need to be captured in a risk registry and adjusted in the project contingency projections. Chapter 8 of the BDCP document discusses the Implementation Costs and Funding Sources. Relative to facility construction it states “*The estimate of direct construction cost is based on a 10% engineering design level and has an expected accuracy range of +50% to -25%, per the cost estimating classification system developed by the Association for the Advancement of Cost Estimating (*sic*) (2011).*” Presumably, the estimate

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generated by the BDCP adheres to the standards outlined by the Association for the Advancement of Cost Engineering. Currently, the estimate includes an overall contingency of 36 percent. Further applying the expected accuracy range to the $12.4 billion construction cost would yield a range, including soft costs, of $10.7 to $21.5 billion.

**Summary of Greatest Risks to Schedule and Cost**

In order to reduce overall project risk, major risk areas should be evaluated. We see the largest risk to be associated with unknown subsurface conditions. As a result, striving to obtain as much subsurface geotechnical information as possible is important. Further, examining alternate project delivery methods, such as Design-Build, may focus the risk factors on a single entity, leaving the least room for cracks in the responsibility matrix, finger pointing, and ambiguous cost overrun responsibilities. Developing a detailed property acquisition plan will allow for sufficient time for property acquisitions prior to key project milestones, such as beginning final geotechnical investigations and starting construction. Finally, examining the timing of required resources to ensure items such as tunnel boring machines, operators, and specialized contractors are available when needed. As an example, if any of the 10-11 boring machines is delayed in fabrication or experiences a major breakdown, an overall project delay may result.

**Impacts**

Because the status of the project is only 5-10 percent designed, the only place to account for risk is to add contingency to the cost or add time to the schedule.

In our opinion, at this stage of the project, the overall contingency should be greater than 36 percent. The greatest risk to any below-grade project’s schedule and cost is differing site conditions. Absent detailed geotechnical information, the only way to partially mitigate that risk is to increase the project contingency to at least 50 percent. This is consistent with the American Association of Cost Engineering Level 5 estimate. There does not appear to contain much leeway in the project schedule. As a result, major milestones will have to be consistently met in order to avoid delaying the listed commissioning completion date of December 2028.

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Attachments:

1. Figure ES-1: Location of Facilities (from Conceptual Engineering Report Executive Summary)
2. Figure ES-2: Conveyance Schematic (from Conceptual Engineering Report Executive Summary)
3. Figure 13-1: Known Gas Wells and Fields in the Delta Region (from Conceptual Engineering Report)
Figure ES-1: Location of Facilities
Figure ES-2: Conveyance Schematic