Bay-Delta Public Advisory Committee
Subcommittee on Drinking Water
Draft Minutes
Meeting of September 18, 2002

The Drinking Water Subcommittee met on September 18, 2002 (meeting agenda attached).

Meeting Summary

Draft minutes August 23, 2002

The Subcommittee reviewed and approved the minutes from the August 23, 2002 meeting without further comment.

Modeling

Susan Paulsen from Flow Science Incorporated gave a presentation on water quality modeling in the Delta.

- The hydrologic and water quality modeling performed for the Sacramento Regional County Sanitation District (SRCSD) started with the US Bureau of Reclamation's PROSIM model, which simulates a given period of hydrology (i.e. 1922-1991) under current system configuration and operational conditions. The output of PROSIM is the input of the Fischer Delta Model (FDM). The temperature component of the US Bureau of Reclamation models is also used in the modeling studies for SRCSD.
- The schematic approach for SRCSD water quality modeling studies involves two major types of water quality impact analyses, which are Far-field and Near-field. Far-field is used to model the water quality in the Delta, and Near-field is used to model what water quality is likely to be at the downstream of the SRCSD diffuser in the Sacramento River. Two additional models used are the three dimensional FLOWMOD, which simulates effluent concentrations in the Sacramento River within close proximity of the diffuser; and the one-dimensional Longitudinal Dispersion Model (LDM), which evaluates what happens when tides make the River flow backwards at the SRCSD diffuser side. The output from these two models provides effluent dilutions near the diffuser zone as the input for the US EPA's Dynamic Toxicity Model (DYNTOX).
- There are two triggers to shut down the discharge to the river. One is when ratio of the river flow vs. effluent discharge goes below 14:1 (i.e. 14 gallons of water moving down the river for every gallon of effluent discharge). The secondary trigger is when the difference of temperatures between the river and the effluent exceeding a certain value (i.e. depending on the time of the year, the difference can be as much as 20 ^{o}F to 25 ^{o}F).

    Issues/comments/ideas

    - These modeling results were included in the EIR drafted by the Sacramento Regional Treatment Plant (SRCTP) to evaluate the impacts from discharges on fisheries.

- The maximum discharge of the plant is 410 MGD.
- Temperature is much more seasonal compared to other parameters. The linkage between flow in the river and seasonality was examined, and two findings were: river hardness and river temperature are dependent of the time of the year or flow of the river. The temperature of the effluent coming out of the plant is also seasonal, which tracks the river temperature in a more moderated variation. Other constituents such as copper, TOC, and TDS do not track with the time of the year and river temperature at all.
- The design capacity of the diversion basin volume is 60 MG. A simulation was performed based upon 70-year river flow data, operating rules and how much effluent is discharged from the treatment plant. Unknown was the diversion basin volume. Under current operating conditions, SRCTP never exceeded the diversion basin volume. So right now, 60 MGD works just fine
- Future discharge rates will still be based upon the River's capacity to receive that discharge. The operating constraint is the ratio of 14 to 1.
- As for constituents of concern, TDS concentration is about 100 mg/l in the Sacramento River, but it could be 3 or 4 times higher than that at the treatment plant. TOC concentration is related to rainfall and runoff, and there is also a correlation between TOC and other constituents.

Business items

John reported that the proposal recommendations for Proposition 13 Nonpoint Source Pollution Control grant funds would be announced at the BDPAC meeting the next day by Patrick Wright. Also, the information would also be posted on the CALFED website.

Southern California Water Dialogue

Fran Spivy-Weber gave a brief description on how the Dialogue evolved from the beginning to share ideas and integrating different organizations from every county except Ventura in the Southern California. A year and half ago, based upon Patrick Wright's suggestion, the group became the official focal point of Southern California as the representative of the CALFED. Currently, there is an RFP for an assistant to the Dialogue, and the decision will be made sometime this fall. The Dialogue will have staff for the next year and half, and will continue to be active and growing to get the information about CALFED and to get southern California information into CALFED. The group will also try to promote the integration of the various water issues including surface water issues, groundwater issues, water quality, and environmental justice issues. There will be a joint meeting between the Environmental Justice Subcommittee and the Dialogue in the future.

Report on assessing potential water quality effects from CALFED projects

Lisa Holm from Contra Costa Water District gave a presentation on the examination of the CALFED actions such as ecosystem restoration and Delta Cross Channel re-operation, and the evaluation of their potential effects on water quality.

- FDM modeling of ecosystem restoration was performed to look at changes in salinity and chloride at intake locations and other various locations in the Delta, including Port Chicago, Chipps Island and Collinsville.
- For ecosystem restoration, flooding of shallow water areas was examined as well as removal of Frank's Tract from the tidal prism. It was shown that, depending on location and operations, flooding areas could improve or degrade water quality. A substantial improvement in water quality might result by reducing the amount of water exchange in Frank's Tract over the tidal cycle.
- For DCC operation, re-operation was performed as an experiment during 2001. There were a total of eight experimental operational scenarios scheduled. The purpose was to see if this re-operation would benefit both water quality and fisheries at the same time. The results showed that with the DCC half-closed, water quality could be improved as much as that with DCC fully open. This could be an opportunity to reduce conflicts between water quality improvement, fishery benefits, and water supply reliability.

Randall Nuedeck from the Metropolitan Water District of Southern California also gave a presentation on the water quality and salinity benefits of new North-of-Delta Storage and a Through-Delta Facility.

- There are many elements involved in the ELPH strategy, and the elements that MWD analyzes include source control, storage, through-Delta flow improvement, South Delta improvements, blending control, water quality exchanges, runoff to reservoirs, new technology, groundwater, conservation, and education. The main focus for this briefing is storage and Through-Delta Facility for water quality benefits.
- Models used in analyses are the water supply model CALSIM and FDM, which is used to determine TOC, bromide and salinity, and other models such as San Luis Reservoir Blending Model, and Water Quality Disinfection Treatment Cost Model.
- Neither Sites nor Shasta reservoirs are currently considered as water quality reservoirs but as supply-based. For modeling purposes, Sites reservoir was broken into four parts: CVP, SWP, local and EWA. Water quality will be added as the fifth element.
- Findings from North-of-Delta Storage studies: reduced exports may not improve water quality; however, by releasing more water from these storage facilities, Delta outflow will be increased so that X2 can be pushed back, which results in a reduction in salinity and bromide in the Delta. Up to 360 TAF of increased delta outflow from September to December would result in an up to 30% reduction in Bromides and salinity at intakes.
- Two operational alternative studies were conducted for the screened Through-Delta Facility, and modeling results showed that water quality also improves in the winter and even more in the fall.

<u>Subcommittee recommendation on SB390</u>

The draft recommendation on SB 390 was reviewed and discussed by the members. Additional changes were suggested.

Issues/comments/ideas

- A sense of timing needs to be included. The Regional Board needs to schedule decisions so that any improvements could be appreciated.
- Suggest adding that it will be a continuing commitment on the part of this group to work with the Regional Board and it is the DWS's desire to be connected to the applicants they will have in the area. DWS is interested in the long-term and, as a group, will be able to provide support and resources.
- The Agricultural community sometimes is concerned about facing discharge requirements that do not relate to anything they are adding to the water to increase the mass load of constituents. Bromide is a good example, in which the source could be Delta water, and farming operations increase the concentration, but do not add more bromide. Therefore, when looking at imposing waste discharge requirements for non-point sources, we must not overlook factors like this in order to find the actual source of the contamination.
- Suggest to add a pertinent paragraph from Page 1-10 of the Water Quality Program Plan to state what CALFED or this group can do to support the agencies.
- We need to support consistent standards for both point source and non-point source discharges.
- Need to take a neutral stand and be non-threatening when addressing this issue, and especially not point fingers at any particular user.
- Suggest to add that the approaches should be practical and consistent with CALFED's emphasis on encouraging regional partnerships and avoiding redirected impacts.

Report to BDPAC

Marguerite and Greg did a dry-run presentation on the DWS recommendations to the BDPAC. The recommendations included funding options, formal adoption of ELPH and the conceptual strategy, treatment technology, and source improvement with regard to SB390.

The presentation is posted online at <http://calfed.water.ca.gov/BDPAC/Subcommittees/DWS_Report_to_BDPAC_9-18-02/Final_DWS_report_to%20_BDPAC%209_18_02_files/frame.htm> .

Workshop on ELPHP follow-up and strategic planning

The ELPHP narrative element of the strategic plan drafted by Tom Zuckerman was discussed briefly. Members were requested to review and provide comments to John Andrew by September 30 so that it can be re-edited by Tom.

A document titled 'From Source to Tap', which describes Canada's approach to water quality (similar to ELPH), was enclosed in the packet for members to read.

Public comments/issues

None

Agenda for October 25, 2002

Agenda for the next meeting will be discussed via E-mail later.