CDWR-SWP's Comments to CEC on Draft Staff Revised Demand Forecast Publication No. Energy Commission 200-2009-001-SD Docket No. 09-IEP-1C

The Energy Commission's effort in the "Draft Staff Revised Demand Forecast" reflects sensible evaluation of the 2007 IEPR demand forecast for its use in the 2010 Local Capacity Requirement (LCR) study. CDWR-SWP supports revising its forecast of demand that was used for IEPR 2007. 2007 IEPR data no longer represents the 2010 demand for SWP. Changes in the SWP's load forecasts arise from the various factors as described below in the forecasting methodology.

SWP understands that this "Draft Staff Revised Demand Forecast" is required for Local Capacity Resource Requirement (LCR) 2010 "study" on an expedited basis.

To demonstrate SWP's uniqueness in demand forecast (and its operations) among several entities in California, following is a description on the demand forecast methodology that CDWR-SWP adopts:

Demand Forecast Methodology

DWR's pump load is primarily dependent on precipitation, contractor demand for water, and the cumulative effect on reservoir storage of aqueduct operations (particularly the effect of operations in the previous two or three years). As a consequence, the timing and magnitude of DWR's yearly energy requirement shows substantial year to year variation: for example, during the last 10 years, the total yearly pump demand in the highest demand years exceeded the demand of the lowest by nearly three *times.* Energy production at DWR's hydro generation facilities shows similar variability.

Demand and energy supply modeling is accomplished using an in-house designed aqueduct operations simulations model that calculates water flows past selected points in DWR's system and provides corresponding energy demands or supplies.

Inputs for modeling efforts include:

- Forecast precipitation levels based on data from a periodic snow surveys combined with precipitation data from remote sensors.
- Historical hydrology based on a 90% exceedence level and a 50% delivery for the Feather River Service Area.
- Water Contractor water demands: contractor-supplied forecasts of total turnout delivery.
- Forecast outages.
- Reservoir storage carryover.

- Adjustments reflecting operational constraints (e.g., possible constraints at Devil Canyon reflecting expected afterbay demand pattern).
- Delta operations assumptions appropriate to environmental and operational restrictions.
- Forecast generation for non-aqueduct energy supplies under contract to DWR.
- Aqueduct generation assumptions: Hyatt/Thermalito generation is maximized on-peak except that a minimum of 8% of the generation is off-peak to approximate actual operation. All other pumping is maximized off-peak, all other aqueduct generation is maximized on-peak.

In modeling DWR's future demand and supply, DWR is mindful that:

- Many factors that traditionally play a significant role in projections of load growth for electric utilities (customer demographics, econometric modeling, etc.) are of little direct use in forecasting DWR's energy requirement.
- As DWR's load is limited by aqueduct capacity, and as that capacity is not presently expected to increase significantly, the concept of "load growth" as applied by traditional electric utilities is not useful for DWR. In fact, recent court decisions are reducing the ability of DWR to pump out of the Delta which on average decreases DWR-SWP's annual load.
- The accuracy of supply forecasts is primarily limited by accuracy of forecast precipitation, while the accuracy of demand forecasts is primarily limited by the accuracy of contractor supplied demand estimates. Both are outside DWR's direct control.

State of California

California Natural Resources Agency

Memorandum

Date: February 26, 2009

To: California Energy Commission
Dockets Office, MS-4
1516 Ninth Street
Sacramento, California 95814-5504

William Forsythe, Chief
Power Planning Branch
State Water Project Power and Risk Office

From: **Department of Water Resources**

Subject: Comments to California Energy Commission on Draft Staff Revised Demand Forecast

Please find attached a copy of the Department of Water Resources' comments, *Draft Staff Revised Demand Forecast*, for *Publication No. Energy Commission 200-2009-001-SD, Docket No. 09-IEP-1C*, as requested by the California Energy Commission for its use in the 2010 Local Capacity Requirement study.

An electronic copy has been forwarded by Mohan Niroula, of my staff, to the email address stated on the Notice of Availability. If you have any questions or need additional information, please contact me at (916) 574-0310 or your staff may contact Mohan at (916) 574-0712.

Attachment