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Memorandum

Date: March 2, 1999

To: CALFED Policy Group

From: Lester A. Snow

Subject: Status Report on Development of the Environmental Water Account (EWA) and Estimated DNCT Progress for the CALFED EIR/S

The concept of an Environmental Water Account (EWA) was developed by CALFED in 1998 in response to a perceived irreconcilable conflict between (1) the need to reduce the impacts of the state and federal export operations and (2) the need to maintain and improve total exports during Stage 1.

CALFED hypothesized, and initial analysis appeared to confirm, that creating a "water district for the environment", endowed with funding, and various rights to water supplies and water facilities could provide new environmental protection at the export pumps much more efficiently than classic regulatory standards. If the environment can be improved with fewer water supply impacts, then the size of the water "pie" has been effectively expanded and conflicts between fish and water supplies are easier to solve. CALFED's initial focus has been on using the EWA to reduce export impacts. However, the concept of the EWA can be expanded to include instream flows and wetland water supplies as well.

The challenge for 1999 is to (1) confirm that the EWA can work, (2) determine what resources it needs, and (3) define its relationship to the state and federal projects. The method that DNCT will use to develop this information will be an iterative "gaming" exercise.

The simulation exercise will have the following components:

- Inventory possible water supply enhancements (e.g., various kinds of storage, water transfers, water efficiency purchases, possible variances to the export standards, joint point of diversion, expansion of Banks pumping capacity)

- Select a provisional list of Stage 1 supply enhancements and determine how the benefits of these enhancements are to be shared between the EWA and water users. Some EWA and water supply benefits may be non discretionary (e.g., EWA and water users may each get a cut of expanded Banks capacity) and some may be determined manually in real time (e.g., the EWA could call in a water purchase option).

- Determine provisional fish protection rules. Some rules may be non discretionary (e.g., VAMP export reductions) and others may be determined manually in real time (e.g., reduce exports to protect fish that show up unexpectedly at the pumps).

- Run an operations model (e.g., DWRSIM or CALSIM) using the non discretionary rules for water supply and fish protection. This computer run will, in general, define the water supplies that the water users can expect for this iteration.

- Using the operations model run as a foundation, "game" or simulate the operation of the EWA for a number of years. Build up an environmental water account through additional diversions, through contracts with the water projects, through water purchases, or through increased water use efficiency. Expend the water account via reduced exports during biologically important periods.

- Evaluate (1) the level of biological protection achieved and (2) water supplies generated for this iteration. If biological protections or water supplies are inadequate, then repeat the exercise, modifying the provisional assumptions made about water supply enhancements, rules for sharing between the EWA and the water users, and the biological rules.

- Repeat the exercise until a solution is generated which (1) meets biological needs, (2) meets water supply needs, (3) is feasible and affordable, and (4) is broadly acceptable. Of course, the determination of affordability and acceptability are policy, not technical, decisions.

The DNCT ran a very crude game of this sort in December 1998 and found the results very encouraging. The DNCT expects to be able to perform additional gaming exercises by the end of March, using refined and updated definitions of: (1) water supply enhancement alternatives; (2) sharing rules; and (3) biological rules. Thus, before the CALFED DEIR/S goes final in mid 1999, the DNCT should be able to provide additional insight into: (1) the size and distribution of the EWA required to provide adequate biological protection; (2) what additional supply enhancement measures (if any) might be required to provide adequate water supplies; and (3) recommendations on the relationship between the EWA and the state and federal projects. However, the DNCT is unlikely to have definitive recommendations until later in 1999.