TESTIMONY OF THOMAS M. ZUCKERMAN

STATE WATER RESOURCES CONTROL BOARD
HEARING ON DELTA SALINITY DRAFT CDOs AND WQRP

The Central Delta Water Agency encompasses approximately 120,000 acres in the San Joaquin County portion of the Delta. The location is shown on CDWA-1. The primary use of the lands within the Central Delta Water Agency is agricultural. The area includes a number of major marinas and other recreational facilities and some urban development. There are also a number of areas devoted to wildlife habitat. As related to this proceeding, the CDWA concern is the maintenance of adequate water quality in the waterways within the agency. Aside from the effects of the drawdown of the massive SWP and CVP export pumps and other operational features, the waterways within the agency would always contain an adequate supply of water. The Delta contains a pool of water fed by river flow and ocean water via the bays. Absent fresh water from river flow, the Delta pool would with each tidal cycle become more brackish ultimately matching that of the bay.

Although the Sacramento River system is the greatest contributor of fresh water to the Delta, the San Joaquin River system provides an important contribution. Currently the San Joaquin River contribution is high in salts and detrimental to water quality. Under natural conditions, the water from the San Joaquin River system would enter the Central Delta by way of the main stem of the San Joaquin River, Old River and Middle River. Under current conditions when the Head of Old River Barrier (HORB) is installed, almost all of the San Joaquin River water enters the Central Delta at a point just west of Stockton by way of the main stem of the San Joaquin River. During some periods when the export pumps are running and the HORB is not

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installed, reverse flows occur and the flow of water is from the Central Delta upstream in the main stem of the San Joaquin River to the head of Old River and thence to the export pumps. Without any barriers the flow of the San Joaquin River enters partially by way of the main stem and partially by way of Middle River.

As the SWRCB correctly found and expressed in D-1641 at page 83.

> "Based on the above discussion, the SWRCB finds that the actions of the CVP are the principal cause of the salinity concentrations exceeding the objectives at Vernalis. The salinity problem at Vernalis is the result of saline discharges to the river, principally from irrigated agriculture, combined with low flows in the river due to upstream water development. The source of much of the saline discharge to the San Joaquin River is from lands on the west side of the San Joaquin Valley which are irrigated with water provided from the Delta by the CVP, primarily through the Delta-Mendota Canal and the San Luis Unit. The capacity of the lower San Joaquin River to assimilate the agricultural drainage has been significantly reduced through the diversion of high quality flows from the upper San Joaquin River by the CVP at Friant. The USBR, through its activities associated with operating the CVP in the San Joaquin River basin, is responsible for significant deterioration of water quality in the southern Delta."

The FEIR for Implementation of the 1995 Bay/Delta Water Quality Control Plan, (November 1999) which was approved by the SWRCB, at page VIII-11 provided:

> "The increase in the salt load and concentration at Vernalis from the 1930s through the 1960s are documented in a 1980 report prepared jointly by the USBR and South Delta Water Agency (USBR 1980). More recent increases in the salt load at Vernalis are illustrated in Table VIII-2. This table shows that April through August salt load in the 1980s was 62 percent higher than the load in the 1960s, and the corresponding annual load increase was 38 percent. This load increase, coupled with reduced flows due to water development, has reduced the quality of water available to water users diverting water from the lower San Joaquin River and the southern Delta. Salinity conditions at Vernalis for water years 1986 through 1995 are illustrated in Figure VIII-8. During this period, the USBR made releases of dilution water from New Melones Reservoir to meet a year-round water quality objective of 500 ppm TDS (approximately 800 mmhos/cm), as required by D-1422. This objective was often exceeded because of insufficient water in New Melones Reservoir to provide adequate dilution

flows. The objectives adopted in the 1995 Bay/Delta Plan are also plotted in Figure VIII-8, and the percent of days these objectives would have been exceeded if they had been in effect in water years 1986 through 1995 is illustrated in Figure VIII-9. These plots show that additional control measures will be needed to ensure compliance with Vernalis water quality objectives, especially during the irrigation season.

The problem of increasing salt loads and concentration at Vernalis will worsen in the future unless some action is taken because the rate of accretion of salt in the basin exceeds the rate of excretion. As reported in said FEIR at page VIII-11, the difference in these rates between 1950 and 1989 averaged approximately 446,000 tons per year and totaled 18,621,000 tons (Orlob 1991).

In the Delta where water tables are high, it is difficult to adequately leach salts so as to maintain a proper salt balance in the root zone. The quality of the applied water is critical. Artificial leaching is economically infeasible for all but a few specialty crops now grown in the Delta. Because of limited demand, specialty crop acreage cannot be significantly increased.

The adverse impacts of San Joaquin River salinity affect not only in-Delta beneficial uses but also all of the beneficial uses served by the SWP and CVP with water exported from the Delta. CDWA-12 which is the DWR October 12, 2005 Real Time Data and Forecasting Project, Water Quality Weekly Report shows on page 4 a Modeled EC and DOC Fingerprint in Clifton Court Forebay. The significant contribution of both EC and DOC in the exported water from the San Joaquin River is apparent. The measured EC and Organic Carbon for the San Joaquin River near Vernalis, Sacramento River at Hood and Harvey O. Banks Pumping Plant is shown on page 8.

Increased salinity in the San Joaquin clearly results in increased salinity in the water

exported from the Delta by the CVP at its Tracy Pumping Plant and by the SWP at the Harvey O. Banks Pumping Plant which draws water from Clifton Court. To the extent such exported water is delivered to the agricultural lands and wetlands on the west side of the San Joaquin Valley which directly or indirectly contribute salts to the San Joaquin River by way of return flows, groundwater accretions or otherwise, an unreasonable and continuing cycle of increased degradation of San Joaquin River water quality will result.

Given the stated concern by export interests for improving Delta water quality at the export pumps it is illogical particularly for those not located on the west side of the San Joaquin Valley to advocate that compliance by the CVP and SWP with D-1641 water quality standards for Brandt Bridge, Old River near Middle River and Old River at Tracy Road Bridge be circumvented.

The proposed cease and desist order (CDO) fails to establish a meaningful incentive for compliance.

The proposed CDO is unduly focused on installation and operation of permanent barriers and basically extends the date for completion to January 1, 2009. Although the lack of permanent barriers may arguably make meeting the standards at the Old River near Middle River and Old River at Tracy Road Bridge stations more difficult, such is not the case for the Brandt Bridge station on the main stem of the San Joaquin River. As the SWRCB found in D-1641 at page 88, "The construction of permanent barriers alone is not expected to result in attainment of the water quality objectives. (Citations.) The objectives can be met consistently only by providing more dilution or by treatment. (Citations.)" The permanent barriers are expected to generally improve water quality. "The exception is at Brandt Bridge where water quality may

worsen slightly at times due to barrier operation."

The CDO's should be more directed at achieving immediate compliance and less degradation of the water quality in the San Joaquin River.

The CDO's should direct the USBR and DWR to immediately but no later than December 31, 2005, submit a plan of operation to achieve immediate and continued compliance with the subject Southern Delta Standards including, if necessary, releases from Friant Dam and/or San Luis Reservoir and/or recirculation and/or exchange of water from such sources to secure releases from other sources.

The CDO's should add a prohibition of deliveries of water to those areas on the west side of the San Joaquin River which directly or indirectly contribute to the degradation of the quality of the San Joaquin River and all those areas on the west side of the San Joaquin Valley which are within the San Luis Unit of the CVP as follows:

1) Commencing December 31, 2005, if such plan of operation is not submitted or if such plan is found to be inadequate by the SWRCB Division of Water Rights.

2) Commencing upon any violation of such Southern Delta Standards and continuing for the duration of such violation or six (6) months thereafter, whichever is later, and

3) Commencing upon any other failure to comply with the CDO and continuing until thirty (30) days after compliance is attained.

The past performance of the USBR and DWR reflects that the "look the other way" approach of the SWRCB has not resulted in a good faith effort to avoid even the project-related degradation of water quality.

It does not appear that any penalty has ever been imposed by the SWRCB on the USBR or DWR for previous violations of Water Quality Standards and in the case of the USBR for the more than fifteen (15) years of deliveries of water outside the permitted places of use including areas along the west side of the San Joaquin Valley. CDWA-13 contains the background and acreage related to said USBR place of use violations. Other similar violations have more recently been disclosed.

Without a solution to the degradation of the San Joaquin River caused by the CVP continued delivery of water to the areas along the west side of the San Joaquin Valley which directly or indirectly contribute to the degradation of the San Joaquin River is patently unreasonable and unconstitutional.

The unreasonable and wasteful deliveries are particularly egregious in the San Luis Unit where a drain with an outlet to the ocean was a clear pre-condition to the commitment of water and where the United States has elected to pay millions of dollars in settlement of claims for water logging and salting of downslope lands due to delivery of said San Luis Unit water. The delivery to such areas including the use of SWP export pumping facilities to sustain and even increase the delivery is unjustifiable.

Without a drainage solution even sustained (not increased) deliveries will result in degradation of the San Joaquin River and damage to additional lands outside the drainage settlement area.

The SWP operations are coordinated with those of the CVP and SWP facilities and are used to sustain and increase deliveries to CVP service areas along the west side of the San Joaquin Valley which directly or indirectly degrade the San Joaquin River water quality and

therefore the quality of water exported by the SWP. It is even more unreasonable for the SWP to cause the degradation of its own water supply in order to firm up deliveries by the CVP of subsidized water which will increase the probability of claims against the United States for water logging and salting of down slope lands in CVP service areas.

Water Code section 12204 prohibits the export of water which is necessary to provide salinity control and an adequate water supply in the Delta.

The significance of the degradation of the water quality of the SWP exported water is explained in DWR Bulletin 160-93 The California Water Plan Update at pages 130-132 which are contained in CDWA-14.