WRITTEN TESTIMONY OF TIMOTHY J. DURBIN
(CITY OF LOMPOC)
REGARDING
THE STATE WATER RESOURCES CONTROL BOARD'S CONSIDERATION OF MODIFICATIONS TO THE U.S. BUREAU OF RECLAMATION'S WATER RIGHT PERMITS 11308 AND 11310 (APPLICATIONS 11331 AND 11332) TO PROTECT PUBLIC TRUST VALUES AND DOWNSTREAM WATER RIGHTS ON THE SANTA YNEZ RIVER BELOW BRADBURY DAM (CACHUMA RESERVOIR)

I have done consulting work for the City of Lompoc since about 1990 regarding the impacts of the Cachuma Reservoir on the groundwater supply and groundwater quality available to the City.

My qualifications for doing this work are as follows: I have undergraduate and graduate degrees in civil engineering from Stanford University. My early professional career was with the U. S. Geological Survey. When I left the Geological Survey to enter private practice, I was director of that organization's water-resource work throughout California. I am the author or coauthor of two books and numerous published papers on the development and use of groundwater and surface-water models. (My Statement of Qualifications is attached as Lompoc Exhibit 4.)

My work with the City of Lompoc has included the development of groundwater and surface-water models of the Santa Ynez River basin. These models were developed to simulate water flow and salinity for the purpose of understanding the past and possible future impacts of the Cachuma Reservoir on the groundwater supply and salinity within the Lompoc groundwater basin. The Lompoc groundwater basin is the basin downstream from the Narrows that underlies the Lompoc Plain.

A system of linked models was developed. Models were developed to represent storage and salinity within the Cachuma Reservoir. Models were developed to represent streamflow and streamflow salinity within the Santa Ynez River from the Bradbury Dam to the Narrows, including the interactions with the riparian groundwater system that underlies the river. Models were developed to represent streamflow and streamflow salinity within the Santa Ynez River from the Bradbury Dam to the Pacific Ocean.

Finally, groundwater-flow and groundwater-salinity models were developed to represent the Lompoc groundwater basin. These models were developed based on the available surface-water and groundwater data for the fifty-year period 1947-1996.

This system of linked models was used to evaluate the past and possible future impacts of the Cachuma Reservoir on groundwater within the Lompoc groundwater basin. A number of scenarios were evaluated with the models. First, a simulation was run to represent the historical absence of the Cachuma Reservoir. The simulation represents the case with no reservoir. Second, a simulation was run to represent a future without the Cachuma Reservoir. Third, two simulations were run to represent a future with the reservoir. The first of these was to run a simulation representing the future operation of the Cachuma Reservoir with water deliveries from the State Water Project. The second of these simulations represents a future with the reservoir but without deliveries from the State Water Project.

The simulations indicate the historical operation of the Cachuma Reservoir has had little, if any, impact on the groundwater supply within the Lompoc groundwater basin. The operational impact of the reservoir, if any impact has occurred, has been to increase the water supply availability during extended droughts.

Nevertheless, the historical operation of the Cachuma Reservoir did impact groundwater salinity within the Lompoc groundwater basin. Within the vicinity of the City of Lompoc well field, the groundwater salinity currently is about 5 percent higher than would have occurred in the historical absence of the Cachuma Reservoir. In the absence of deliveries from the State Water Project to the Cachuma Reservoir, groundwater salinity impacts would persist into the indefinite future. However, if State Water Project deliveries do occur, including direct releases to the Santa Ynez River at Bradbury Dam, those deliveries remediate the historical impacts and eliminate future impacts. The remediation occurs after just a few years of releases from the State Water Project. The direct releases to the Santa Ynez River are essential to achieving this result.

CONCLUSION

Based upon the modeling I have conducted for Lompoc, I have concluded that under the current operating regime that includes the downstream water rights releases as required in Water Rights Order No. 89-18 and the commingling of water from the State Water Project imported by the Central Coast Water Authority ("CCWA"), the groundwater quality in the eastern portion of the Lompoc groundwater basin will return to a no Project condition within the foreseeable future. Any change in the downstream release program under Water Right Order No. 89-18 or a change in the commingling of the CCWA's imported water will result in the adverse water quality impact noted above continuing for a number of years or indefinitely. Thus, the continuation of the current operating regime under WR Order 89-18, including the CCWA's commingling of water from the SWP, as provided for the in December 17, 2002, Settlement Agreement, should insure that the Cachuma Project does not impair Lompoc's senior groundwater rights.