

Delta Levees Presentation



Memorandum

Date: July 7, 1998
To: BDAC Members
From: Lester A. Snow, Executive Director
CALFED Bay-Delta Program
Subject: Presentation on Seismic Stability of Delta Levees

The Seismic Sub-Team of the Levees and Channels Technical Team has been investigating the seismic vulnerability of Delta levees. The Sub-Team, composed of seismic experts and geotechnical engineers with experience in the Delta developed an assessment of the vulnerability of the current Delta levee system to earthquake shaking. Two seismic models of the Delta region were used, and the fragility of Delta levees was estimated. The Sub-Team developed a relationship between number of levee failures per predicted earthquake return period.

Delta levee vulnerability to seismic events has always been controversial. Although there has never been a documented levee failure from a seismic event, the Delta has not experienced a significant seismic event since the levees have been in the current state. Seismologists indicate that the Delta might be on the verge of a more seismically active period after a relatively long period of quiescence. Geotechnical engineers are still gathering data to determine how Delta soils amplify or attenuate earthquake shaking.

Some Delta interests feel that the earthquake threat is minor, if not manageable. Water suppliers are concerned about the potential risk of multiple island failures and the resultant service and water quality impacts.

The Seismic Sub-Team will present a current assessment of levee vulnerability based on updated seismicity and recent fragility. The Levee Program will be conducting further studies to apply this information to overall risk assessment.

Dr. Raymond Seed, Professor of Geotechnical Engineering at UC Berkeley will present the Sub-Team's findings to BDAC on Thursday, July 16.

A complete report on the CALFED Levee Program will be provided to BDAC members at the September BDAC meeting.

CALFED Agencies

California
The Resources Agency
Department of Fish and Game
Department of Water Resources
California Environmental Protection Agency
State Water Resources Control Board

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