

Seismic Hazard Review for Construction of Schools and Hospitals in California Tutorial

Wednesday – April 19, 2006
LEARNING FROM THE PAST



Quake '06 Tutorial – School/Hospital Review



Building Officials –



Plan check, building permit, construction oversight

Geology and seismology expertise to DSA, OSHPD:

- Geologic Hazards,
- Design ground motions, and
- Geologic aspects of foundation recommendations



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Jennifer Thornburg, Senior Engineering Geologist
Bob Sydnor, Senior Engineering Geologist
California Geological Survey



Catherine Slater, Senior Engineering Geologist
Patrick Rodgers, Senior Structural Engineer
Office of Statewide Health Planning and Development



Wendy Proctor, Senior Intake Architect
Bill Staehlin, Supervising Structural Engineer
Division of the State Architect



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1. PROCESS

How to submit

What triggers geologic review

How to communicate with agencies

Presentations by:

Catherine Slater

Wendy Proctor



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2. GROUND MOTION

Ground motion requirements for design

Ground motion requirements for code

Communication between Structural, Geotechnical, Geologist

Alternative means of compliance

California Building Code for existing buildings (Division VI-R)

SB-1953 issues

Presentations by:

Bill Staehlin

Patrick Rodgers



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3. SEISMIC HAZARDS

Surface ground rupture

Liquefaction

Earthquake-induced landslides

1999 M 7.5
Chi Chi (Taiwan)
Earthquake

Presentation by:
Bob Sydnor



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2007 California Building Code – Highlights

Based on:

- 2006 IBC
- Will include ASCE 7 (2005) by reference
- Proposed CBC language available now for comments, will go through public review this fall with Building Standards Commission



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Structural Design Category

“Structural Design Category” based on ground motion, importance factor

Schools, hospitals in California – defined as SDC “D” or greater



New - Ground Motion



- Read S_s and S_1 from NEHRP maps
- Adjust for soil
- Reduce by 2/3 to get design ground motion

Only one level of ground motion used for design

Site –specific analysis following ASCE 7

Will retain separate requirements for existing buildings (Chapter 34)

New – Geology/Geotech

- Design requirements where site is in 100-year flood zone
- “SHAKE”-type site response model required for S_F soils, including liquefiable soils
- Only one level of ground motion – therefore, liquefaction susceptibility will be based on DBE ground motion



Jennifer.Thornburg@conservation.ca.gov

916-445-5488



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