



State Of California

ALFRED E. ALQUIST
SEISMIC SAFETY COMMISSION



Arnold Schwarzenegger, Governor

Alfred E. Alquist Seismic Safety Commission
Minutes of Meeting
May 13, 2010
State Capitol, Room 4202, Sacramento, California

Members Participating

Mark Church, Chair
William Chubb
Christina Curry
Sally Kay (arrived at 9:35 a.m.)
Elizabeth Mathieson
Sharron Leason
Ali Sadre
Michael Stevens
David Thorman (arrived at 10:40 a.m.)
Dave Walls

Members Absent

John Littrell
Gary McGavin
James Schwab

Staff Participating

Richard McCarthy, Executive Director
Karen Cogan, Administrative Manager
Robert Anderson, Engineering Geologist
Dave King, Legislative Manager
Henry Reyes, Structural Engineer
Fred Turner, Senior Structural Engineer

I. CALL TO ORDER/ROLL CALL

Commission Chairman Mark Church called the meeting of the Alfred E. Alquist Seismic Safety Commission to order at 9:30 a.m. Administrative Manager Karen Cogan called the roll and announced that a quorum was present.

II. CHAIRMAN'S REMARKS

Chairman Church observed that although the Commission expects to complete the current fiscal year in the black, the state is facing an estimated \$20 billion shortfall. He said the governor would be releasing his revised 2010-11 budget the following day, and cautioned that implications of the state's dire fiscal situation on the Commission were still uncertain.

III. APPROVAL OF MARCH 11, 2010 MINUTES

ACTION: Commissioner Ali Sadre made a motion, seconded by Commissioner William Chubb, that:

The Commission approve the March 11 minutes as presented.

* Motion carried, 8 - 0 (Commissioners Sally Kay and David Thorman absent during voting).

V. RESEARCH PROJECTS (NEW) (Out of Order)

HCD Code Project for Seismic Strengthening of Existing Residential Structures

Executive Director Richard McCarthy proposed taking the Department of Housing and Community Development (HCD) code project before other agenda items. He explained that HCD is asking the Commission to help pay for a rulemaking process to establish guidelines for developing residential seismic retrofitting standards so consumers can take advantage of the California Earthquake Authority's retrofit grant program. He invited Commissioner Dave Walls and Mr. Doug Hensel, Assistant Deputy, Codes and Standards, HCD, to discuss the proposal in more detail.

Commissioner Dave Walls commented that California currently has no statewide standards for seismic retrofit of residential retrofits, and local and regional requirements vary. He noted that the California Earthquake Authority is offering financial incentives to encourage consumers to make their homes safer and it would be helpful to have uniform guidelines and standards in place to facilitate this process.

Mr. Hensel stated that HCD intends to develop residential retrofit standards for the California Building Code by January 1, 2011, and the rulemaking process is already underway. He said HCD has disseminated express terms and a statement of reasons, and a public meeting was being held that day to solicit input on the new provisions. Mr. Hensel indicated that HCD plans to submit an emergency rulemaking package to the Building Standards Commission in mid-July for approval in August, and the guidelines will go into effect soon after that.

Mr. McCarthy noted that HCD is requesting \$49,900 from the Commission and will be contributing \$60,000 in matching funds. He drew attention to the California Earthquake Authority's letter of support in the meeting packet and recommended approval.

Commissioner Walls added that federal funds are also being sought for this effort.

ACTION: Commissioner Walls made a motion, seconded by Commissioner Mathieson, that:

The Commission approve HCD's funding request for the rulemaking proposal.

* Motion carried, 9 – 0 (Commissioner Thorman absent during voting).

IV. EXECUTIVE DIRECTOR'S REPORT

Budget

Mr. McCarthy said the staff was still working with Contracted Fiscal Services to reconcile year-end budget estimates, and a final report would be available in June.

Legislative Manager Dave King estimated that the Commission will have a surplus at year-end, and he recommended using \$65,000 to \$70,000 of that amount to pay for Contracted Fiscal Services' fees. Mr. McCarthy asked the Commission to authorize encumbrance of these funds.

ACTION: Commissioner Ali Sadre made a motion, seconded by Commissioner Sharron Leon, that:

The Commission authorize the encumbrance of a portion of the 2009-10 surplus to pay for Contracted Fiscal Services' 2010-11 fees.

* Motion carried, 9 – 0 (Commissioner Thorman absent during voting).

Statewide Shakeout Date and Location

Mr. McCarthy informed the Commission that the second statewide ShakeOut event was scheduled for October 21, 2010 at 10:21 a.m. He suggested that the Commission hold its October meeting in Los Angeles on that date. He noted that this will be the Commission's third year of participating in ShakeOut activities.

Post-Disaster Economic Emergency Resiliency Act

Mr. McCarthy said Agency has expressed interest in the concept of a post-disaster resiliency initiative to identify immediate actions the state can take to protect jobs and minimize economic impacts after a major disaster. He indicated that the Commission will continue to work with large and small businesses to develop this proposal.

New Travel Contract

Ms. Cogan informed commissioners that all state agencies will be required to use a new travel agent, The Travel Store, beginning July 1, 2010. She said she would provide more detailed information over the next few weeks.

Commissioner Walls asked if the new travel contract would take effect on July 1 even if the 2010-11 budget had not been signed. Ms. Cogan replied that she would find out and keep commissioners posted.

Overview of Meeting Dates and Locations

Mr. McCarthy reported that the State and Consumer Services Agency has asked all departments to hold meetings in Sacramento until the end of the year to help reduce travel costs. He indicated that the Commission will request a special exemption to meet in Los Angeles in October in conjunction with the statewide ShakeOut event. He proposed having a teleconference meeting in June, a Sacramento meeting in August, and skipping meetings in July and September. Ms. Cogan added that the August meeting might have to be canceled if the state budget has not been signed.

Mr. McCarthy welcomed suggestions from commissioners for local government venues for future Commission meetings. He asked commissioners to submit their ideas by June so the staff can make plans for the coming year.

V. RESEARCH PROJECTS (NEW) (Continued)

Emergency Preparedness Statewide Media and Community Engagement Campaign

Mr. McCarthy noted that last spring the Commission authorized expenditure of \$300,000 of its research funds to help public television stations develop an education and outreach campaign to provide information to the public about emergency preparedness issues. The Commission's funds are being leveraged with contributions from the California Emergency Management Agency (CalEMA) \$500k, the California Earthquake Authority (CEA) \$250k, the American Insurance Association \$20k, and other partners. Mr. McCarthy referred to the detailed project description, timeline, and budget information in the meeting packet. He introduced Mr. Kelly Huston, Assistant Secretary CalEMA, and invited him to discuss the project in more depth.

Mr. Huston noted that the original proposal to develop two public education documentaries has now been expanded to include a Web portal, videos of earthquake simulations, and content submitted by the public. The Red Cross and a number of private organizations and high-tech companies have become involved. He said the outreach campaign will be a year-long effort using a mix of video and audio formats that will reach audiences both on the Internet and broadcast channels. He explained that the goal of this ambitious project is to increase public awareness regarding earthquakes and other disasters so people can become better prepared by maintaining emergency supplies, retrofitting buildings, and obtaining insurance.

Commissioner Chubb commented that he was impressed with the proposal and supported the goal of increasing public awareness. He asked how the effectiveness of the campaign would be assessed. Mr. Huston responded that the first goal of the project is to reach the public, and there is technology to track the number of people who view videos and access online information. He stated that the messages will incorporate lessons from current research regarding the factors that influence mitigation behavior. He added that the designers of the campaign will consider ways to measure its effectiveness at a later phase of the project.

Commissioner Leason asked if the project makes use of UCLA Professor Linda Bourque's findings regarding effective mitigation behaviors, and Mr. Huston replied that the campaign designers were aware of and applying that research.

Fire Following Earthquake Project Concepts

Mr. McCarthy said the staff held preliminary meetings with fire protection experts and insurance industry representatives to determine what products would be most useful to them, and the issue of water supply for fire suppression was identified as a major concern. He proposed that the Commission develop a short policy paper on this topic, and he referred to the proposed outline in the meeting packet. Mr. McCarthy advised that the staff would present a full recommendation at the June meeting.

Commissioner Michael Stevens said the fire and insurance representatives discussed many issues pertaining to fire following earthquake and concluded that the most critical problems were controlling the number of ignitions and maintaining an adequate water supply. He expressed support for developing a white paper to highlight the importance of the state's emergency water supply to prevent fires after earthquakes, especially in dense urban areas.

UCSD Hospital Shake Table Test

Staff Structural Engineer Fred Turner noted that at the March meeting, the Commission directed its staff to develop a draft scope of work, budget and schedule to help fund one floor of a shaking table test to represent a hospital intensive care unit, a seismic isolation system and an informational video as part of UC San Diego's research regarding the performance of nonstructural buildings systems in earthquakes and fires following earthquakes. He said the \$4.9 million project includes construction of a five-story building on a shake table so nonstructural components can be tested in simulated shaking. He noted that the Commission's contribution helps fund the design of the intensive care unit on one floor of the test building, the design of a seismic isolation alternative for the entire building, and an educational video to document hospital performance in past earthquakes. He indicated that a second future video of the actual shake table tests will also be created but the second video will be beyond the scope of this proposal.

Mr. Turner observed that seismic safety of hospitals continues to be a problem in every major earthquake; he reported that the north wing of the El Centro Regional Medical Center had to be evacuated for six hours after the recent El Mayor-Cucapah earthquake due to failure of nonstructural elements. He drew attention to the project description and budget breakdown provided in the meeting packet.

Commissioner Mathieson clarified that the building needs to be shaken with the base isolation system active then inspected. Then the base isolation system needs to be deactivated and the building shaken again. Mr. Turner said approximately \$80,000 of the Commission's contribution will be used to tune the building to the isolators. He noted there are many other entities contributing to this project, and many components and pieces of equipment will be donated. He added that the test structure will include other occupancy types on the remaining

floors and a working elevator. Mr. McCarthy commented that the educational video will be helpful for hospital staff.

Mr. McCarthy recommended that the Commission accept the proposed scope, budget of \$300k, and schedule.

ACTION: Commissioner Sadre made a motion, seconded by Commissioner Walls, that:

The Commission accept the scope of work, budget, and schedule as proposed.

* Motion carried, 9 – 0 (Commissioner Thorman absent during voting).

VI. CURRENT RESEARCH PROJECTS – STATUS REPORTS

Tall Buildings

Mr. Turner noted that the meeting packet contains a two-page summary of the tall buildings initiative. He advised that the project was running behind schedule, and cost-benefit studies had not yet been completed, so public outreach would be postponed until early 2011. He observed that although the research regarding performance-based earthquake engineering of tall buildings was complicated, the findings will be worthwhile and helpful in promoting best practices.

Commissioner Sadre reported that he attended a meeting the previous week to discuss numerous technical issues. He said most of the approximately 125 attendees were academicians and practicing engineers.

Office of Public School Construction

Structural Engineer Henry Reyes noted that the Commission in February approved expenditure of \$200,000 for a pilot program to develop a systematic and cost-effective methodology for evaluating the structural safety of the state's most vulnerable schools. He said the need for a detailed seismic assessment has been an obstacle that prevents many school districts from taking advantage of the \$200 million in retrofit funds made available through Proposition 1D funds. To assist these school districts, the Office of Public School Construction (OPSC) plans to assemble teams of structural engineers in both northern and southern California to develop a uniform assessment program for the seismic evaluation of vulnerable schools. He reported that 33 structural engineering firms responded to OPSC's request for quotes, and 7 school districts expressed interest in participating in the pilot program. OPSC plans to evaluate the RFQ responses and enter into contracts by the first of June.

Field Act Report

Mr. McCarthy advised that the Commission's report on the effectiveness of the Field Act had been sent to the Governor's Office. He reported that the Agency secretary read the report and the appendices and called with a number of questions.

VII. LEGISLATIVE UPDATE

Mr. King reported that federal legislation supported by the Commission to establish a national catastrophic risk program was still making its way through Congress. He advised that many state bills that involve funding have been placed in suspense in the Appropriations Committee because of the state's fiscal crisis.

Referring to his summary report in the meeting packet, Mr. King reviewed the current status of bills the Commission has been following. He indicated that AB 1755 (Swanson), a bill allowing contractual assessments to fund seismic safety improvements, was amended to include water conservation systems, and AB 2133, the proposal to exempt UC Berkeley from the Alquist-Priolo Act, was narrowed to apply only to the construction at Memorial Stadium.

Commissioner Sally Kay asked whether the Commission would have a role under AB 2238 (Coto), the proposal to establish the California Earthquake Prediction Evaluation Council as an advisory within CalEMA. Mr. McCarthy explained that the Council already exists and serves a policy function in evaluating the credibility of earthquake predictions and advising state government agencies about appropriate responses. He said the current organization costs very little and should continue to function.

VIII. REPORT ON APRIL 4, 2010 EL MAYOR-CUCAPAH EARTHQUAKE

Mr. McCarthy said the April 4 magnitude 7.2 earthquake in Mexico near the California border had a serious impact on Mexico's agricultural industry, and because of concerns about similar events in California, the Agency has asked the Commission to prepare a brief analysis of the potential impacts of major earthquakes on California's agriculture industry. Mr. McCarthy proposed that the staff work with Commissioner Mathieson to draft a short report to advise the Agency and the Governor's Office on this issue. He suggested soliciting input on the draft report from Mexican officials.

Mr. McCarthy invited Mr. Turner to discuss impacts of the Mexican earthquake on the California side of the border and Commissioner Mathieson to present her observations about impacts south of the border.

Mr. Turner reported that two commissioners and three staff members visited the region shortly after the earthquake. He displayed a map and pointed out the epicenter about 40 miles south of the California border in the El Mayor-Cucapah area. He said the earthquake caused fault ruptures on both sides of the border and resulted in two deaths in Mexico and many injuries; damages are estimated at \$25 million in Baja California and \$9 million in Imperial County. Mr. Turner noted that President Obama declared the area a federal disaster on May 7.

Mr. Turner showed slides illustrating damage to irrigation canals, farmland, and livestock facilities on both sides of the border. He said canal breaches, surface ruptures, and soil failures caused extensive flooding, ground displacement, and liquefaction that devastated surrounding farmland. He noted that many structures in Mexico were damaged, including residences, highways, a parking structure, schools, older commercial buildings, and unreinforced masonry

buildings. Two hospitals were evacuated, and many schools in the area are still closed. Mr. Turner reported that the earthquake also caused damage in Imperial County to sewer and water systems, mobile homes, older commercial buildings, and multi-unit buildings. He added that there was nonstructural damage to schools and healthcare facilities.

Commissioner Sadre asked if homes were flooded because of failures of dams and pipes. Engineering Geologist Robert Anderson responded that most damage was caused by a combination of drainage ditch failure and groundwater problems.

Commissioner Sadre asked if any of the damaged schools in California had been retrofitted. Mr. Turner replied that those schools had been designed in the 1950's and 1960's, and although they complied with the Field Act then, nonstructural issues were not addressed at that time. He said the wires holding suspended ceilings, for example, were not secured as tightly as the current version the Field Act requires. He added that CalEMA is updating the guidance it provides to schools regarding retrofitting.

Commissioner Mathieson described the El Mayor-Cucapah earthquake as a shallow event at the boundaries of the North American and Pacific tectonic plates. She said the earthquake lasted between 30 and 90 seconds and caused about 17 miles of surface fault ruptures. She showed a map of ground-shaking levels and slides of some of the damage to Mexico's agricultural sector resulting from the earthquake. Commissioner Mathieson stated that transportation routes were disrupted and ground displacement changed drainage patterns and the way some irrigation canals flow. She noted that the damage to cultivated land, the lack of water and clean soil, and the effect on crops and livestock will have far-reaching socioeconomic impacts in the region. She cautioned that California's agricultural regions face similar risks from major earthquakes.

Mr. Anderson observed that field inundations are not new to this region, and extensive damage occurred in the Imperial Valley after a major earthquake in 1979. He said similar geologic conditions are present in the Coachella and San Joaquin Valleys, as well as in Missouri, Arkansas, Memphis, and St. Louis.

Commissioner Mathieson said the Secretary of Public Safety for Baja California, who attended the Commission's April 2009 meeting in La Jolla, expressed interest in following up with the Commission, and she recommended working with his office.

Mr. King noted that California's agricultural section is a \$36 billion industry today, with about 24 million acres in cultivation, and three of the top ten agricultural counties in the state, Ventura, Monterey, and Imperial, are vulnerable to large earthquakes. He suggested emphasizing these statistics in the report for the Agency and discussing the potential implications of losses to crops and irrigation.

IX. PRE- AND POST-DISASTER FEMA FUNDING PROCEDURES

Mr. McCarthy noted that when a federal disaster is declared, local and state governments are eligible for aid through the Federal Emergency Management Agency (FEMA). He invited

representatives from CalEMA to explain the eligibility requirements and procedures for obtaining assistance.

Ms. Becky Wagner, CalEMA, talked about how local and state agencies respond in disasters. She explained that local agencies first seek help from operational areas, then regions, and then CalEMA. She discussed funding sources, FEMA's cost-sharing formula, eligibility criteria for applicants and facilities, and hazard mitigation funding. She showed a chart depicting the amount of public assistance funding to California in recent disasters. Ms. Wagner estimated that the April 4 earthquake in Mexico caused more than \$90 million in damages.

Mr. Ken Worman, CalEMA, displayed a map of over 1,000 FEMA-funded projects in California resulting from floods, fires, and earthquakes. He said there are three types of hazard mitigation funding sources: hazard mitigation grants, pre-disaster mitigation funds, and flood mitigation assistance, and he described each program.

Chairman Church thanked Ms. Wagner and Mr. Worman for their presentation.

Mr. McCarthy noted that the guest presenter for the next agenda item had not yet arrived, and he suggested taking a short break.

At 11:55 a.m., the Commission took a brief recess. Chairman Church reconvened the meeting at 12:22 p.m.

X. HOSPITAL BUILDING SAFETY BOARD ANNUAL REPORT

Mr. Chris Tokas, Office of Statewide Health Planning and Development (OSHPD), presented the Hospital Building Safety Board's annual report for 2009. He explained the mission of OSHPD's Facilities Development Division and the origins, purpose, and goals of the Hospital Building Safety Board. Mr. Tokas described the composition of the Board and its committees. He gave a brief summary of some of the key accomplishments of the committees focusing on instrumentation, structural and non-structural regulations, seminars and education, and development of standard details.

Commissioner Mathieson asked how many hospitals in California were considered collapse hazards. Mr. Tokas gave a brief explanation of the rating system and said there were currently 767 acute-care buildings ranked SPC-1, the lowest rating level. He described OSHPD's efforts to encourage hospitals to identify specific vulnerabilities and make their structures safer.

Chairman Church thanked Mr. Tokas for his report.

XI. ADJOURN

There being no further business, Chairman Church adjourned the meeting at 12:58 p.m.

Sue Celli
Office Manager

Approved by:

Richard McCarthy
Executive Director