



State Of California

## ALFRED E. ALQUIST SEISMIC SAFETY COMMISSION



*Governor Edmund G. Brown Jr.*

Minutes of Meeting

March 10, 2011

Hotel Whitcomb, 1231 Market Street, San Francisco, California

### **Members Participating**

Mark Church, Chair  
Christina Curry  
Jay Elbettar  
Ronald Garcia  
Michael Gardner  
Helen Knudson  
John Littrell  
Emir Macari  
Elizabeth Mathieson (arrived at 11:06 a.m.)  
Gary McGavin  
John McPartland  
Ali Sadre  
Howard Smith (arrived at 10:02 a.m.)  
David Walls

### **Members Absent**

Kandiah "Arul" Arulmoli  
Sharron Leao  
Heather Scott  
Kathy Smith  
Michael Stevens

### **Staff Present**

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

## **I. CALL TO ORDER/ROLL CALL**

Commission Chair March Church called the meeting of the Alfred E. Alquist Seismic Safety Commission to order at 10:00 a.m. Administrative Manager Karen Cogan called the roll and confirmed the presence of a quorum.

## **II. CHAIRMAN'S REMARKS**

### **Introduction and Welcome from Local Officials**

Ms. Amy Brown, Acting San Francisco City Administrator, welcomed the Commission to San Francisco on behalf of Mayor Lee. She noted that the recent earthquake in Christchurch, New Zealand, underscores the importance of seismic safety and preparedness. She reported that the City and County of San Francisco are engaged in several important readiness and recovery activities, including implementation of a new Resilient San Francisco initiative to identify and share best practices; development of a seismic safety action plan with 17 recommendations that will be implemented starting this spring; continuing work on a Lifelines Council to explore

technical interrelationships among utility lifelines; creation of a robust temporary housing plan; and working with the Planning Department to revise the community safety element of San Francisco's general plan.

Ms. Anne Kronenberg, Executive Director, Department of Emergency Management, expressed her appreciation to Ms. Brown and her staff for their emergency preparedness and response efforts. She observed that it has been six months since the gas pipeline explosion in San Bruno, and much still needs to be done to improve disaster response capabilities in the region. Ms. Kronenberg said San Francisco is corking with other neighboring communities to develop an interoperability project for the three major cities and ten counties in the Bay Area. She praised Mayor Lee's strong interest in community preparedness and said she was very proud of San Francisco's progress over the past 16 years.

Chairman Church thanked Ms. Brown and Ms. Kronenberg for their remarks.

Chairman Church commented that the Commission meets in various communities throughout the year to hear about local seismic safety activities, and he stated that the Commission was pleased to be back in San Francisco. He expressed his appreciation to Ms. Cogan for making the meeting arrangements. Ms. Cogan thanked the Hotel Whitcomb for offering discounted rates.

### **New Commissioners**

Chairman Church acknowledged and welcomed the newly appointed members of the Commission who were introduced at the January meeting. He advised the Commission that Vice Chair William Chubb was leaving the Commission due to an unexpected transfer to Dallas. He publicly thanked Commissioner Chubb for his service and wished him well.

### **Nominating Committee Report**

Chairman Church proposed deferring the Nominating Committee report until after lunch.

## **III. UNITED POLICYHOLDERS - OVERVIEW OF ORGANIZATION**

Ms. Emily Cabral, Program Coordinator, explained that United Policyholders is a not-for-profit organization established after the Loma Prieta earthquake to provide information and resources to consumers nationwide. She said United Policyholders offers three programs: Road Map to Recovery, which helps individuals deal with catastrophic losses; Road Map to Preparedness, which helps people plan insurance coverage and shop around for the best rates; and an advocacy and action program, working in conjunction with the California Department of Insurance and California Earthquake Authority to make recommendations and sponsor bills to improve earthquake insurance coverage for consumers.

Ms. Cabral encouraged commissioners and other interested consumers to visit United Policyholder's Website at [www.uphelp.org](http://www.uphelp.org) to access forms and preparedness resources, including a worksheet to assist in evaluating earthquake insurance policies.

Chairman Church thanked Ms. Cabral for her presentation.

#### **IV. LAKE TAHOE HAZARD STUDY**

Executive Director Richard McCarthy noted that commissioners took a field trip to Alameda on March 9 to see the facility manufacturing the remotely operated vehicle (ROV) that will be tested in Lake Tahoe before going to Antarctica to explore conditions under the ice shelf there. He said the actual test dives will take place sometime in May. He welcomed the members of the research team and invited them to brief the Commission in more detail about this research project.

Dr. Ross Powell, Northern Illinois University, stated that most of the world's fresh water supply is in the form of ice, 70 to 80 percent of which is located in Antarctica. With ocean temperatures increasing and glaciers melting due to global warming, scientists have noticed significant changes in Antarctica that appear to have been accelerating in the past two years. Dr. Powell explained that the purpose of the research study partially funded by the Commission is to examine what is happening underneath the Antarctica ice shelf. He said a team of scientists will drill through the ice and then deploy the ROV to take a series of detailed measurements and readings that will help answer questions about how climate change is affecting Antarctica.

Dr. Gordon Seitz, California Geological Survey, indicated that testing the ROV in Lake Tahoe to prepare for the Antarctic expedition provides an opportunity to find out more about the active faults and landslide hazards under Lake Tahoe. He advised that funding for the project is heavily leveraged, and the team includes people from the California Geological Survey, Northern Illinois University, a group from Scripps, and the University of Nevada at Reno.

Dr. Seitz showed maps and diagrams of the terrain underneath Lake Tahoe. He pointed out areas of submerged shorelines and other indications of faults and massive landslides that occurred hundreds of thousands of years ago. He advised that a huge underwater landslide could cause a catastrophic wave and flooding that would threaten lives and property surrounding Lake Tahoe. He warned that such events are still possible, and the research done with the ROV will help scientists calculate the extent of the hazards and when they are likely to recur. Using slides and maps, Dr. Seitz pointed out the specific areas under Lake Tahoe that will be visited by the ROV.

Ms. Liz Taylor, DOER Marine, thanked the Commission for supporting this research project. She showed a video explaining the purpose and benefit of the ROV, and she invited members of the Commission to visit Lake Tahoe to observe the dives later this spring.

Commissioner Ali Sadre asked Ms. Taylor to provide the Commission with a copy of her video presentation. Dr. Seitz offered to post a link so interested people can watch and download the video.

Chairman Church thanked the researchers for the update.

#### **V. SOUTHERN CALIFORNIA CATASTROPHIC EARTHQUAKE PLAN**

Commissioner Christina Curry stated that the California Emergency Management Agency (CalEMA) has a long history of supporting local communities and governments in preparing for disasters. She said California has an excellent communications tool, the Standard Emergency Management System network, as well as an effective mutual aid system. She noted that CalEMA has been working closely with the Federal Emergency Management Agency (FEMA) to coordinate resources and plan for a large earthquake in Southern California, and she introduced Mr. Dennis McKeown to discuss the plan in more detail.

Mr. Dennis McKeown, Planning Branch Chief, FEMA Region IX, observed that many national emergency response systems are modeled on California's programs, and he commended the state for its disaster planning efforts. He said that in 2008, FEMA and CalEMA created a core document to coordinate disaster response activities and resources, and then more specific plans were developed for the Bay Area and Southern California.

Mr. McKeown noted that when a disaster takes place, response efforts are managed by local jurisdictions, with support from regional emergency operations centers and then the state's emergency operations center. He explained that the purpose of the catastrophic earthquake plan for Southern California is to enable officials to activate logistical facilities immediately after a major disaster and to work together effectively to implement plans and obtain federal resources quickly to support their efforts.

Commissioner John Littrell asked how the planning efforts were funded. Mr. McKeown responded that the federal government has committed to provide \$2 million for the Northern California plan and \$1.5 million for Southern California. He added that these funds are leveraged with money from other sources and regional preparedness grants.

Chairman Church thanked Mr. McKeown for his presentation.

## **VI. SEISMIC HAZARDS TO THE SACRAMENTO/SAN JOAQUIN DELTA**

Mr. Keith Knudsen, United States Geological Survey (USGS), briefed the Commission on seismic hazards and the status of Delta levees. He showed photos and maps depicting the geological features, land uses, and the locations of levees and other infrastructure in the Sacramento and San Joaquin Delta area. He emphasized that the Delta is vitally important to California as a source of drinking water, wildlife habitat, agriculture irrigation, port commerce, and recreation. He noted that much of the land in the Delta is below sea level, and the area is crisscrossed with highways, railroad lines, and gas pipelines.

Mr. Knudsen pointed out the locations of nearby earthquake faults and noted that large earthquakes in the Bay Area could cause serious liquefaction and slope failures throughout the Delta. He advised that most of the levees are constructed of sandy materials, riprap, and peaty soils that are likely to liquefy with strong shaking. He added that the Delta levees were not seismically engineered, so they are vulnerable to failure.

Mr. Knudsen stated that the California Department of Water Resources recently conducted a thorough study of the Delta that looked at all seismic sources, ranked levees according to vulnerability, and calculated the annual probability of island flooding. He noted that this Delta Risk Management Strategy Study estimated the direct and indirect costs of flooding and the impacts on human safety. He indicated that there are still many uncertainties that need to be resolved, including detailed geological information about the eastern part of the Delta, more precise slip rates, effects of shaking on peat soils, deeper basin geometry, and the types of materials underneath levees.

Mr. Knudsen reported that the USGS is collecting data and installing strong motion seismometers that will enable advanced three-dimensional modeling so scientists can better predict the size and frequency of seismic events and their impacts on the Delta.

Chairman Church thanked Mr. Knudsen for his informative presentation.

## **VII. PROPOSITION 1D SEISMIC RETROFIT**

Mr. David Zian, Chief of Program Services, and Mr. Alan Shoemaker, Project Manager, Office of Public School Construction (OPSC), provided an update on the status of the Commission-funded pilot program to evaluate the most seismically vulnerable public schools in California so they can apply for Proposition 1D retrofit funds.

Mr. Zian noted that the Commission approved \$200,000 in research funding to develop a seismic assessment template to provide schools with a more streamlined and cost-effective approach to determine the seismic safety status of school facilities already identified as vulnerable. He reported that the template was finalized last fall, and nine school districts containing 38 buildings volunteered to participate in the evaluation process. As of February 2, 2011, OPSC had received completed templates and evaluations for 10 buildings in four districts. Mr. Zian indicated that the remaining evaluations will be completed soon, and the template will be ready for approval and adoption at the Commission's May meeting.

Mr. Zian advised that the work so far has used about \$162,000 of the Commission's grant. He asked the Commission to allow OPSC to keep the remaining funds to pay for more evaluations before the interagency contract expires at the end of June. He promised to report back to the Commission with the final results at the next meeting.

Mr. Zian said the preliminary costs of retrofit for the buildings participating in the pilot program are estimated at \$13.6 million, an amount likely to increase when more definite information becomes available. He noted that the individual retrofit projects still need to be approved by the Division of the State Architect (DSA) before Proposition 1D funds can be released, and school districts also need to provide matching funds to pay for repairs. He thanked the Commission for funding the pilot project, noting that the seismic evaluations and templates have allowed 20 more candidates to apply for unused Proposition 1D money. Mr. Zian observed that DSA might consider relaxing the eligibility criteria or reducing the threshold in the future to enable more

districts to qualify for funding. He recommended waiting until more definite cost estimates are available before making any changes.

Commissioner Howard Smith confirmed that DSA is looking at redefining vulnerability, building types, and hazard thresholds that qualify for funding. He noted that the eligibility criteria for Proposition 1D funding is spelled out in OPSC regulations, so some of those provisions would need to be changed to include a wider range of candidates.

Commissioner Gary McGavin remarked that many school districts were disqualified at the beginning of the process because their building types or projected acceleration rates did not meet the existing narrow criteria. Commissioner Littrell expressed support for relaxing the type of buildings eligible for funding.

Commissioner McGavin asked if retrofitting vulnerable buildings would trigger compliance with Americans with Disabilities Act (ADA) or fire and life safety codes. Mr. Zian responded that other requirements are triggered if the extent of work is more than 50 percent of a building's replacement value. He acknowledged that these improvements could add substantially to a project's total cost. Commissioner Littrell asked if Proposition 1D funds could be used to pay for those upgrades. Mr. Zian replied that Proposition 1D funds are strictly earmarked for seismic upgrades only.

Commissioner Garcia asked if Proposition 1D funds can be used to replace and relocate facilities to another site. He said his community was currently absorbing the cost of relocating a school building; he noted that Proposition 1D funds would be a very welcome supplement. Mr. Zian said OPSC might consider this kind of request.

Mr. Zian requested that the Commission allow OPSC to retain the unused grant funds, currently estimated between \$37,000 and \$60,000, and to report back when more definite figures are available. Mr. Shoemaker added that more definite cost figures should be available within the next few weeks.

**ACTION:** Commissioner Gardner made a motion, seconded by Commissioner Littrell, that:

*The Commission allow OPSC to retain the unused funds and report back to the Commission with more definite costs later.*

Commissioner Jay Elbettar asked if there was any urgency to make this decision before the next meeting.

**ACTION:** Commissioner Gardner amended his motion, and Commissioner Littrell seconded, that:

*The Commission approve retention of \$37,000 now and consider increasing the amount later when OPSC has a more definite amount.*

Mr. McCarthy cautioned that unencumbered contract funds may be more vulnerable to borrowing by the state. He said there is already talk about borrowing special funds and repaying them in a few years. He noted the state was criticized for not using all the Proposition 1D retrofit funds authorized by the voters. He proposed that the Commission entertain a second request for more funds and consider a contract extension, if necessary, at the May meeting.

Commissioner Elizabeth Mathieson expressed support for allowing OPSC to retain all unused funds. Commissioner Garcia agreed.

**ACTION:** Commissioner Gardner rescinded his amendment and proposed his original motion, seconded by Commissioner Littrell, that:

*The Commission allow OPSC to retain any unused contract funds pending a more detailed accounting later.*

\* Motion carried, 14 - 0.

### **VIII. PUBLIC BROADCASTING SYSTEMS EARTHQUAKE PREPAREDNESS PROJECT**

Mr. McCarthy introduced Mr. Shabbir Safdar, The Safdar Group, and invited him to discuss the latest developments in the Public Broadcasting Service (PBS) outreach project.

Mr. Safdar said the PBS preparedness campaign is based on research conducted by former Commissioner Dennis Mileti and other social scientists about effective ways to encourage household disaster preparedness. He said studies show people are more likely to take action if they observe others preparing and discussing loss mitigation approaches.

Mr. Safdar displayed the official campaign logo and title, and he demonstrated a prototype mobile application that allows users to compare the costs of property losses with the costs of mitigation. He reported that PBS is developing a series of short, entertaining reality-TV video pieces about simple steps people can take to prepare for disasters. He said the videos will be translated into Spanish and other languages, and they will be available on the Web. He noted that other tools such as shopping lists and cost estimates will be provided. Mr. Safdar advised that auditions were being held now so the spots can be filmed in April and broadcast in May.

Commissioner Macari suggested developing Web episodes in Spanish featuring Latino actors, and he offered to provide helpful resources.

Commissioner Gardner commented that an icon entitled “Shake My Stuff” would be more personal and effective than “Shake Stuff.”

Mr. Safdar thanked commissioners for their input. Mr. McCarthy proposed having another update on this project at the May meeting.

## **IX. FEBRUARY 22, 2011 MAGNITUDE 6.3 CHRISTCHURCH, NEW ZEALAND EARTHQUAKE**

Ms. Heidi Faison, Pacific Earthquake Engineering Research Center (PEER), discussed impacts of the magnitude 6.3 earthquake that struck Christchurch, New Zealand, on February 22. She said the earthquake was actually an aftershock following the magnitude 7.1 earthquake on September 4, 2010. However, because the epicenter was closer to the populated area of Christchurch this time, the effects were much more devastating. Ms. Faison presented slides showing maps of New Zealand and pointed out the location of major faults.

Ms. Faison stated that damage from the February 22 earthquake was extensive, involving liquefaction, building settlement, landslides, changes in topography, and disruption of roads, agriculture, and utility lifelines. She said two old unreinforced masonry (URM) buildings in Christchurch collapsed, and the failure of these two buildings caused most of the 166 deaths reported so far. Ms. Faison noted that post-earthquake surveys of Christchurch identified damage to many historic structures, and experts estimate that one third of the buildings in the downtown section will need to be demolished. She acknowledged that there were some notable success stories, demonstrating again that well designed and stronger buildings perform well. She cited the examples of a base-isolated hospital, an airport control tower that was designed to higher standards, an art gallery, and retrofitted URM's.

Commissioner Elbettar asked if New Zealand had a URM retrofit program. Ms. Faison responded that URM standards are determined by local jurisdictions. She said Christchurch only requires URM's to be retrofit upon a change in use, but then they can be brought to a performance equivalent to only one third of the normal design standard.

Ms. Faison stated that earthquake response efforts were initially led by Christchurch's major and city council, although the central government has now become involved. She described some of the proactive outreach activities for members of the community, including regular Website updates with maps showing where different kinds of supplies and services are available. She reported that the national government re-enacted a recovery act which creates a new ministry organization and a system of assistance centers.

Ms. Faison noted that homeowners in New Zealand pay about \$200 year to participate in a national earthquake insurance program, but officials believe the damage from the September and February earthquakes will deplete those funds. She said there is uncertainty about the future of the insurance program as well as issues dealing with demolition, clean-up, and rebuilding. She added that damages are now estimated at \$20 billion, a substantial amount for a nation whose total gross domestic production is about \$120 billion.

Ms. Faison said U.S. aid teams are participating in ongoing reconnaissance efforts. She noted that PEER is sponsoring a number of team members, including Mr. Fred Turner from the Seismic Safety Commission. She observed that many factors in New Zealand are similar to California, so experts hope to learn some important lessons that can be applied here.



Ms. Faison described some of the related activities PEER is planning for the future, including creation of a post-earthquake and repository for research, a report summarizing the findings of field research, and two projects to help identify hazards and mitigate risks in older concrete buildings

Commissioner Elbettar commented that New Zealand is considered a leader in performance-based building codes, and he asked how buildings designed to these codes fared in the recent earthquakes. Ms. Faison responded that further study is needed to answer this question definitively. She said New Zealand may be re-evaluating its current standards because buildings designed to much higher standards clearly performed well.

Chairman Church thanked Ms. Faison for the briefing.

At 1:07 p.m., the Commission recessed for lunch. Chairman Church reconvened the meeting at 1:37 p.m.

## **X. APPROVAL OF JANUARY 13, 2010 MINUTES**

Chairman Church drew attention to the January 13 meeting meetings and welcomed comments and suggestions from commissioners.

Commissioner Sadre noted that the word “years” should be inserted in the second line of the third paragraph on Page 2 after “23.”

Referring to the fifth paragraph on Page 2, first sentence, Commissioner Macari recommended clarifying that his background was in earthquake geotech engineering. He recommended substituting this phrase in place of “structural engineering, geology, and seismology.”

**ACTION:** Commissioner McGavin made a motion, seconded by Commissioner Gardner that:

*The Commission approve the January 13 minutes as amended.*

\* Motion carried, 13 - 0 - (Commissioner Walls absent during voting).

## **Nominating Committee Report (Continued)**

Commissioner McGavin recommended tabling the election of officers until the administration’s intent with respect to reappointments was made clear. He suggested revisiting this topic at the May meeting and allowing Chairman Church to continue as chair.

Mr. McCarthy advised that he planned to meet with the governor’s appointment secretary within the next week.

The Commission agreed to defer this item until the next meeting.

## **XI. EXECUTIVE DIRECTOR'S REPORT**

Mr. McCarthy informed the Commission that Mr. Jack Popejoy, a long-time news anchor at KFWB and a strong advocate of seismic safety, had died in February. He said Mr. Popejoy's departure was a tremendous loss for the people of California.

### **Budget Update**

Mr. McCarthy advised that Governor Brown was working hard to get Republican support his proposed \$12.5 billion in cuts and was hoping to continue the tax increase via the June ballot. He remarked that the administration was looking for savings in many areas, including reducing staff cell phones and cars. He cautioned that reductions could be mandated soon, so the Commission needs to be careful with expenditures. He added that the staff is awaiting guidance regarding Governor Brown's priorities, which may not be clear until after the 2011-12 budget is signed.

Mr. McCarthy observed that because of the state fiscal crisis, there are many competing priorities for scarce funds. He said legislators will be unwilling to impose new mandates on local governments at this time.

Mr. McCarthy drew attention to the budget summary provided to commissioners earlier.

Mr. King observed that the Commission's expenditures are on track, and the staff is predicting the Commission will be able to stay within its budget this fiscal year. He noted that the \$10,000 was moved to the travel account to cover the costs of supporting a full Commission now.

Mr. King advised that there has been discussion in recent budget conference committee meetings about cutting \$6 billion from emergency preparedness, and the state plans to borrow money from 48 special funds, including the hospital building fund. Mr. McCarthy noted that the Commission's research funds could be vulnerable to this kind of special-fund borrowing, although that money is protected by a court agreement.

### **Meeting Locations/Dates for 2011**

Mr. McCarthy proposed meeting in Sacramento in May, and then visiting a site in Southern California for the July meeting.

Commissioner Macari noted the Commission is scheduled to meet on October 20 to participate in the statewide ShakeOut event, and he asked where that meeting would take place. Mr. McCarthy recommended having the October meeting in Sacramento to facilitate interaction with legislators and other state agencies that will be participating. Commissioner Macari indicated that Sacramento State University wants to play an active role in the 2011 ShakeOut.

### **Independent Peer Review Panel**

Mr. McCarthy noted that AB 1632 identified the Seismic Safety Commission as a participant in a public review panel to consider nuclear safety issues pertaining to relicensing of the Diablo Canyon nuclear power plant. He advised that to help cover the Commission's costs, the staff submitted a request for reimbursement for future work to the Public Utilities Commission which is now in the lead state agency for Diablo Canyon..

### **Fair Political Practices Commission Update**

Ms. Cogan reminded commissioners to return their completed disclosure forms to her by March 25. She clarified that newly appointed commissioners can wait until next year to submit their conflict of interest information.

Ms. Cogan referred to the information in the meeting packet regarding online ethics training. She explained that commissioners are required to complete the training course every other year.

Mr. McCarthy reported that as a follow-up to joint study by the Commission and National Oceanic and Atmospheric Administration to identify tsunami risks to the Ports of Los Angeles and Long Beach, he met with Navy representatives in San Diego last fall to discuss expanding the effort to produce additional harbor maps. He said he made a presentation on this topic to the Third Fleet on March 9 and would arrange a presentation for the Commission's May meeting.

## **XII. LEGISLATIVE UPDATE**

Legislative Manager David King stated that most of the activity in the Legislature so far this year pertains to the state budget. He drew attention to his written summary of pending bills of interest to the Commission, and he observed that most of the bills on the list were merely placeholders at this time.

Mr. King noted that SB 788 (Lowenthal), broadly described as relating to school facilities, may be tied to Proposition 1D funding, but the author's intent is still unclear.

Mr. King observed that AB 216 and AB 56 both deal with pipeline safety in response to the San Bruno pipeline explosion last fall. He said AB 56 proposes to prohibit a public utility, such as PG&E, from recovering uninsured losses from ratepayers.

## **XIII. PUBLIC COMMENT**

There were no members of the public who wished to address the Commission.

## **XIV. GOOD OF THE MEETING**

Referring to the Proposition 1D pilot project discussed earlier, Commissioner Sadre asked if the buildings disqualified from eligibility had any common characteristics or construction types. Commissioner Smith responded that the regulations prescribe particular structural types. Although some school districts identified buildings of those types in their original surveys,

engineering reports later determined that certain buildings did not meet the criteria. Commissioner Smith added that DSA can find out if there were specific common denominators.

Chairman Church requested an update on the California Earthquake Authority's efforts to make earthquake insurance more affordable. Senior Engineering Geologist Robert Anderson said he would brief the Commission on this topic at the next meeting.

#### **XV. ADJOURNMENT**

There being no further business, Chairman Church adjourned the meeting at 2:15 p.m.

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Sue Celli  
Office Manager

Approved by:

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Richard McCarthy  
Executive Director