



State Of California

ALFRED E. ALQUIST
SEISMIC SAFETY COMMISSION



Governor Edmund G. Brown Jr.

Minutes of January 10, 2013 Meeting
State Capitol, Room 4202
Sacramento, California

Members Participating

Michael Gardner, Chairman
Mark Pazin, Vice Chairman
Ken Cooley/Mark Elsesser
Peggy Hellweg
Helen Knudson
Kate Long
Emir Macari
Timothy Strack
Chester Widom

Members Absent

Jim McGowan
Kit Miyamoto

Staff Present

Richard McCarthy, Executive Director
Karen Cogan, Administrative Manager
Robert Anderson, Engineering Geologist
David King, Legislative & Special Projects Mgr
Henry Reyes, Structural Engineer
Fred Turner, Senior Structural Engineer

I. CALL TO ORDER/ROLL CALL

Chairman Michael Gardner called the meeting of the Alfred E. Alquist Seismic Safety Commission to order at 10:01 a.m. and welcomed all participants. Administrative Manager Karen Cogan called the roll and confirmed the presence of a quorum.

Chairman Gardner welcomed Mr. Mark Elsesser, the delegate for newly appointed Commissioner Ken Cooley, and invited him to give a brief description of his background.

Commissioner Elsesser stated that he was delighted and honored to be appointed as a delegate to the Commission. He said he was originally from Michigan, had a background in chemical engineering, and is serving as a science and technical fellow in the Legislature.

II. APPROVAL OF NOVEMBER 8, 2012 MINUTES

ACTION: Commissioner Timothy Strack made a motion, seconded by Commissioner Mark Pazin, that:

The Commission approve the minutes of the November 8 meeting minutes as presented.

* Motion carried, 9 – 0.

III. CHAIRMAN'S REMARKS

Nominations Procedure

Chairman Gardner welcomed three volunteers to serve on a Nominations Committee to recommend a new Commission chairman and vice-chair. He noted that members of the committee should be commissioners who are not interested in becoming officers themselves. He added that the committee will propose its slate at the May meeting, and the new officers will be formally elected in July.

Chairman Gardner asked other volunteers to let him know if they were interested in serving on the committee.

IV. EXECUTIVE DIRECTOR'S REPORT

State of Commission

Executive Director Richard McCarthy advised that the Governor's proposed 2013-2014 budget includes funding for the Commission from the state's general fund, but there will still be a shortfall of approximately \$151,000 that the Commission will need to cover somehow. He said the \$70,000 contract with the California Earthquake Authority will expire on July 1, 2013, and the Commission will have to find additional reimbursement sources to fill the gap. He noted that the Commission will hold a workshop the day before the March meeting to brainstorm for ideas about creative ways to raise funds.

Mr. McCarthy said the Commission's size, with only 6.5 staff positions, is its greatest weakness, but also its greatest strength. He noted that across-the-board budget reductions are very difficult for the Commission to absorb, but the Commission also has an advantage in being flexible and able to adapt quickly to changing conditions. He observed that the Commission has been extraordinarily productive for such a small entity. Mr. McCarthy indicated that Governor Brown is asking all state agencies to streamline their operations to avoid duplication and avoid enacting unfunded mandates and new regulations.

Mr. McCarthy compared the state's existing organization chart, which has remained basically the same since 1975, with the proposed new organization chart that for the first time includes the Seismic Safety Commission.

Mr. McCarthy discussed some of the high-profile and important projects the Commission is working on to improve seismic safety in the state. He mentioned the study of fire following earthquake, research about potential impacts on California's important agricultural sector, and the focus on economic recovery after major earthquakes. He said the Commission's involvement in the Global Earthquake Model (GEM) has great value to policy-holders, insurers and local governments, and he added that he, Chairman Gardner, and Commissioner Pazin would be meeting with representatives from the Department of Insurance on January 22 to examine the possibility of working together to better understand how loss models are conducted.

Budget

Legislative and Special Projects Manager Dave King reviewed the budget projections prepared by Contracted Fiscal Services and by the staff. He said the Commission's expenditures are on track, and the budget appears to be in good shape at this point in the fiscal year. He added that the staff does not anticipate any major problems or concerns.

New Commission Brochure

Ms. Cogan reported that the staff is in the process of developing a new brochure that includes short biographies of each commissioner, and she offered to provide draft copies. She said the brochure will be a helpful tool when visiting legislators because it will provide a concise summary of the Commission's mission and activities. She noted that the staff plans to complete the brochure by the end of January, and she invited feedback from the Commission.

San Onofre and Diablo Canyon Nuclear Plant Hazard Review

Mr. McCarthy said the Commission sent a letter of support urging the Coastal Commission to approve PG&E's plan to conduct limited high-energy surveys of the coastal area around the Diablo Canyon Nuclear Power Plant in order to assess the seismic safety of the facility, but the Coastal Commission denied the permit at its December meeting after hearing comments from members of the public who expressed concerns about the testing's potential impact on marine life. He advised that the Coastal Commission's job is to protect the coastal environment and marine life, and no one at the meeting raised public safety concerns. Mr. McCarthy added that he would keep the Commission informed once PG&E decides how it plans to proceed given this setback.

Mr. McCarthy noted that the Nuclear Regulatory Commission would be holding a meeting next week to discuss geologic/seismic issues that could impact the San Onofre plant.

Chairman Gardner acknowledged that the Coastal Commission was charged with protecting the coast, but he expressed his opinion that seismic safety should also be a factor in making its decision. He pointed out that the tsunami inundation at the Fukushima power plant in Japan resulted in radiation exposure that was detrimental to both marine life and human life, so seismic issues should not be ignored. He remarked that although the San Onofre power generation units had been shut down because of problems with steam emissions, the facility was still potentially dangerous because of the presence of nuclear fuels.

Commissioner Peggy Hellweg agreed, noting that power plants remain risky even when they are shut down. She observed that the proposed testing at San Onofre would take place in federal waters outside the Coastal Commission's jurisdiction, so public safety might become a bigger factor there. Mr. McCarthy clarified that the Coastal Commission would still need to grant a federal consistency permit for that facility.

Commissioner Strack urged the Commission to publicize public safety concerns. He noted that the population in Southern California tends to be more worried about safety than marine environment issues.

Mr. McCarthy indicated he would find out more at the next meeting of the independent peer review panel. He added that the California Public Utilities Commission (PUC) also supported the high-energy testing as a way of finding out more about geologic hazards that could affect the power plants.

Chairman Gardner noted that the PUC and the California Energy Commission would try to work with the Coastal Commission to resolve the dilemma. He remarked that having better scientific information that would lead to better decision-making for all concerned.

Commissioner Macari expressed his opinion that public safety issues need to be raised more forcefully. He agreed with Chairman Gardner that public safety should be part of the overall consideration of environmental impacts.

Mr. McCarthy said he would have more information about PG&E's plans after the next independent peer review panel meeting.

Totally Unprepared Award

Mr. McCarthy reported that the Commission and Cal EMA both won awards for the Totally Unprepared outreach campaign. He advised that the Commission's award will be presented formally at the March meeting.

V. ANNUAL REPORT 2012

Ms. Cogan drew attention to the draft annual report in the meeting packet and recommended Commission approval. She explained that the Commission is required by law to report annually to the Governor and the Legislature on the status of the state's hazard reduction program, and the draft report summarizes the Commission's activities in 2012. Ms. Cogan noted that the Commission completed 15 projects in 2012, including shaking and fire tests on a five-story building equipped with hospital equipment and fixtures, a study of water supplies for fighting fires following earthquakes, a joint study with Deloitte about restoring commerce after earthquakes, and a study of the geologic hazards under Lake Tahoe. She said the Commission also joined the Global Earthquake Model (GEM) to expand knowledge of seismic hazards worldwide and in California. Ms. Cogan advised that the Commission will continue working with the agricultural sector in 2013 to learn more about potential earthquake impacts to this important part of the state's economy and to identify ways to mitigate damage and losses in the future.

Ms. Cogan welcomed comments and questions from commissioners.

Commissioner Kate Long drew attention to the section on Page 7 describing the Commission's partnerships with other agencies, and she asked if the CEA or the Southern California Earthquake Center (SCEC) was the lead agency for the Uniform California Earthquake Rupture Forecast (UCERF). Engineering Geologist Robert Anderson responded that the CEA, not SCEC, is leading that project. He explained that SCEC delegated this authority to CEA as part of an interjurisdictional transfer in 2007, and the team will continue its work through June 30, 2013. He added that the Commission is the principal co-funder of UCERF, contributing 23 percent of that entity's funds.

Referring to the description of the ShakeOut on Page 8, Commissioner Long advised that 9.4 million people participated in the 2012 statewide drill. Ms. Cogan said she would amend the participation statistics to reflect that number.

ACTION: Commissioner Pazin made a motion, seconded by Commissioner Helen Knudson, that:

The Commission approve the 2012 Annual Report as amended.

* Motion carried, 9 – 0.

VI. REPORT ON AGRICULTURAL LOSSES FROM RECENT EARTHQUAKES

Mr. Anderson noted that Mr. McCarthy asked him in early December to investigate certain issues pertaining to earthquake losses in the agricultural industry, and he presented some of the highlights of his findings. He indicated that his research focused primarily on the effects of strong ground shaking, liquefaction, and lateral spreading, although other results of earthquakes, such as tsunamis and radiation exposure, can also affect agricultural activities.

Mr. Anderson advised that agriculture is a \$36 billion industry in California, but it is not addressed in the state's 2010 Multi-Hazard Mitigation Plan. He presented a map depicting the agricultural areas in California subject to strong shaking. He said the federal government, with the U.S. Department of Agriculture as the lead agency, is the primary provider of crop insurance and multi-period insurance for the agriculture industry in the U.S. He displayed a chart showing major earthquakes in Italy, Japan, Mexico, Chile, and China and their associated agricultural losses.

Commissioner Macari stated that as a direct result of the Seismic Safety Commission's involvement in these issues, a researcher from UCLA is now working with officials from the Mexican government to address potential earthquake risks to irrigation canals and levees. He expressed strong support for continuing this focus.

VII. CONTRACT WITH U.C. DAVIS AGRICULTURAL ISSUES CENTER

Mr. McCarthy introduced Dr. Hyunok Lee, standing in for Dr. Daniel Sumner, Director, U.C. Davis Agricultural Issues Center, who spoke at the last Commission meeting, and invited her to discuss the research project being proposed by the U.C. Davis Agricultural Issues Center.

Dr. Lee, an agricultural economist, presented a proposal to assess risks to California agriculture and identify ways to mitigate losses. She noted that Mr. Anderson gave a number of examples of how disruptions to water supplies and transport systems can disrupt marketing and cause significant economic losses.

She said the U.C. Davis Agricultural Issues Center is requesting \$49,000 in research to produce a comprehensive report that will highlight key issues and help agricultural businesses better prepare for disasters. She noted that the U.C. Davis Agricultural Issues Center plans to work with Dr. Scott Brandenburg, Department of Civil and Environmental Engineering at UCLA, to develop realistic earthquake scenarios; assess and quantify their potential impacts by product, industry, and region; and evaluate and identify mitigation actions to avert losses.

ACTION: Commissioner Macari made a motion, seconded by Commissioner Knudson, that:

The Commission approve the proposal as described.

Mr. McCarthy clarified that the first phase of the study entails assessing the magnitude of the problem, and the second phase will focus on more specific recommendations for solutions.

Commissioner Widom recommended clarifying the tasks to be performed in each phase and specifying that the project deliverables include future action items. Mr. McCarthy said the staff will work with U.C. Davis Agricultural Issues Center to highlight those points in the contract.

ACTION:

* Motion carried, 9 – 0.

VIII. CONTRACT WITH SMALL BUSINESS DEVELOPMENT CENTER

Ms. Michele Gault-Woonacott presented a proposal from the Small Business Development Center (SBDC) to develop materials and outreach to small businesses to help them prepare for disasters. She explained that the SBDC is a national program of the Small Business Administration. She noted there are 1100 centers throughout the country, with 30 in California, and California's centers are divided into six regional networks.

Ms. Gault-Woonacott said SBDC provides free and low-cost assistance to small businesses in a wide range of areas, including how to start and manage a business, and how to market services. She stated that SBDC can help small business apply for disaster recovery loans, so increasing awareness of the importance of preparedness and disaster planning would enhance its interest in ensuring a rapid economic recovery. She added that the national association has a committee on disaster preparedness and recovery, and some of those resources would be useful in this effort.

Ms. Gault-Woonacott explained that SBDC is requesting \$49,000 for the first phase of its proposal, which entails three main activities: 1) developing high-quality online and hard-copy materials tailored for small business owners; 2) creating standard curriculum for workshops; and 3) promoting the topic of disaster preparedness at its California centers. She indicated that this first phase will take place between February and June of 2013. After reporting to the Commission on its progress, SBDC will undertake a second phase of offering seminars and workshops to businesses.

Commissioner Strack expressed support for this proposal. He emphasized the importance of measuring the number of small businesses participating and reaching out to those that are not involved. He recommended developing an outreach strategy to bring in more participants. Ms. Gault-Woonacott stated that the California centers served 65,000 to 70,000 small businesses throughout the state in 2011. She added that SBDC works with partners in each community to publicize its programs.

Commissioner Pazin recommended contacting Ms. Diane Howerton with the U.C. office in Fresno. He said a number of small business centers are hosted by universities and located on campuses of community colleges. He also suggested using Dr. Benjamin Durant in Modesto to help reach agricultural businesses in the Central Valley.

Mr. McCarthy said funding for this project would come from the \$4.2 million in research funds available to the Commission. He clarified that this money is separate from the Commission's operating budget.

Commissioner Cooley indicated he was very excited about this proposal and the one from the U.C. Davis Agricultural Issues Center. He noted that helping people plan to avert problems builds resilience. He recommended that SBDC build on what has already been done in this area, and he suggested working in partnership with business loss reduction organizations. He noted the Rand Institute has developed a multi-hazard disaster preparedness program that might be helpful.

ACTION: Commissioner Macari made a motion, seconded by Commissioner Pazin, that:

The Commission approve the SBDC proposal.

Commissioner Long argued against the proposal as currently written because of its focus on developing new materials. She expressed her opinion that it would be preferable for the SBDC to work with the staff to refine and revise the proposal before approval by the Commission.

Commissioner Knudson recommended amending the motion rather than losing the next two months in trying to refine the parameters of the proposal. Commissioner Pazin agreed that it would not be prudent to delay action.

Chairman Gardner suggested including the Commission's oral direction in the motion and approving the proposal at this meeting. He concurred with Commissioner Hellweg that earthquake preparedness addresses many issues that are common to any type of disaster, so the work done by the SBDC on this project would apply more broadly.

Commissioner Cooley observed that California has a critical need to advance resilience, and incorporating the lessons learned in other disasters should be part of that process. He said the key problem is reaching small businesses. Commissioner Cooley said he supported the proposal but concurred that SBDC should use existing resources and find new ways to deliver the message.

ACTION: Commissioner Macari amended his motion, and Commissioner Strack seconded the amended motion, that:

The Commission support the proposal, but with the caveat that the Commission's recommendations and input be considered and incorporated.

Commissioner Long reiterated the key points raised by commissioners: working with existing groups, using existing materials, and targeting the most vulnerable areas of the state first. Commissioner Macari added that the San Diego and Imperial Valley region should also be included. Commissioner Cooley cautioned that the Commission should not mandate partnering; instead, he suggested encouraging SBDC to reach out in a collaborative spirit to work with others. Commissioner Knudson recommended tapping the resources of the national organization and other groups with existing training programs. Commissioner Strack emphasized the need for measuring and quantifying participation.

* Motion carried, 9 – 0.

IX. REPORT ON GLOBAL EARTHQUAKE MODEL SEMI-ANNUAL MEETING

Ms. Kate Stillwell, Scientific Board Management/Product Strategy, Global Earthquake Model (GEM), reported that GEM is on track in developing worldwide data sets, creating open source software, and building a multi-disciplinary committee of scientists, business leaders, and government officials to work together to assess global earthquake risks. She said GEM plans to produce a number of end products, including probabilistic hazard maps to provide information about levels of shaking in different areas of the world; accurate and detailed shake maps; loss exceedence curves for use by insurers, engineers, and disaster managers; and retrofit cost-benefit tools for policy advocates. Ms. Stillwell showed a list of activities currently underway. She described some recent projects that helped provide better estimates of seismic risk in regions bordering the Himalayas and intuitive visualization tools developed in Spain. She observed that GEM's research has already made significant contributions to earthquake science by providing more accurate information about earthquake locations that will enable people to identify risks and better prepare for major earthquakes.

Ms. Stillwell said GEM is developing an open-source software engine called OpenQuake that will be made available to risk-prone areas worldwide. She noted that GEM is creating a growing multi-disciplinary team of scientists and others who work in collaboration and share the results of their research. She added that GEM will be disseminating information in regional workshops and seminars.

Ms. Stillwell advised that GEM's annual budget of 5 million Euros funds outreach, tools, and data-sharing, but GEM anticipates a shortfall over the next two years. She stated that the OpenQuake engine will be released at the end of 2014, and GEM members are now working on programs beyond that time frame.

Ms. Stillwell noted that GEM looks forward to working with the Seismic Safety Commission on a number of projects focusing on business recovery after disasters; addressing infrastructure vulnerabilities in utilities, communications networks, and water supplies; "cracking the safe," or benchmarking existing models to identify hidden assumptions; and developing a policy effectiveness calculator.

Chairman Gardner thanked Ms. Stillwell for her report.

X. POST-DISASTER ECONOMIC RECOVERY FINAL REPORT AND PHASE II REQUEST

Dr. Guna Selvaduray, San Jose State University, presented the final version of the Post-Disaster Economic Recovery Report and requested Commission approval. He thanked commissioners for their input and noted that the workshop session at the Riverside meeting in September was particularly helpful in determining the format and contents of the report.

Dr. Selvaduray said the Post-Earthquake Economic Recovery Report is intended to be complementary to the previous edition of the California Earthquake Loss Reduction Plan and address gaps and issues not previously included. He reviewed an outline of the contents of the report, noting that the first page will be a brief discussion of earthquakes and how they affect California, followed by a history of loss reduction legislation and Seismic Safety Commission accomplishments, and then a longer discussion of the short-term and long-term economic effects of earthquakes. He advised that two tables will highlight major earthquakes around the world since 1960 and agricultural losses as a result of strong earthquakes. Dr. Selvaduray added that an appendix will provide more detailed information about California's progress in loss reduction.

Dr. Selvaduray stated that the body of the report will address factors affecting post-earthquake economic recovery in six major areas: research, education and information, economics and finance, recovery, utilities and transportation, and preparedness and emergency response. Each of these six elements will include specific initiatives the state can accomplish to mitigate risks in each area.

Chairman Gardner thanked Dr. Selvaduray for his work and said he found the report well-written. He suggested that the Commission postpone approval of the second phase of this project pending further discussions with GO-Biz.

Mr. McCarthy said the report supports Cal EMA's statewide hazard mitigation plan. He noted that GO-Biz representatives recommended changing the title of the report to "Post-Disaster Economic Recovery."

Commissioner Macari questioned whether the Commission should change the title of this new report or the previous version as well. He noted that certain portions of the report apply to other disasters.

Mr. McCarthy said he would be meeting with GO-Biz again soon. He suggested that the Commission consider addressing all disasters in the next phase of the project.

Commissioner Macari agreed, and recommended leaving this report as written and dealing with a broader range of disasters as part of the next proposal.

Dr. Selvaduray concurred. He pointed out that this report can be presented as a model of how to deal with a specific kind of disaster, and then the second phase can focus on multiple kinds of hazards.

Commissioner Pazin commented that this report serves as a good template for economic recovery, and the focus on earthquakes is consistent with the Commission's mission. He observed that the report can be a useful tool in business-to-business discussions rather than being limited to actions the government can take.

ACTION: Commissioner Macari made a motion, seconded by Commissioner Pazin, that:

The Commission approve the report as submitted and table Phase 2 of the project until later.

* Motion carried, 8 – 0 (Commissioner Widom absent during voting).

Dr. Selvaduray provided a brief summary of some of his ideas for the second phase of the project. He explained that California has an opportunity to learn from the experiences of others, and he cited major earthquakes in Japan, Italy, and Taiwan as examples, as well as hurricanes in Florida and the more recent Superstorm Sandy that devastated the East Coast. Dr. Selvaduray noted that similar economic losses can result from a wide range of disasters, and the same principles of preparedness and response apply in many situations.

Dr. Selvaduray proposed developing a draft California Post-Earthquake Recovery Plan based on the needs of businesses and the findings of research and initiatives taken elsewhere. He recommended convening focus groups of key businesses in San Simeon and Napa Valley to share lessons learned and mitigation strategies.

Chairman Gardner thanked Dr. Selvaduray for his report.

XI. LANDSLIDE STABILIZATION PROJECT FOR SAN FRANCISCO PUBLIC UTILITIES COMMISSION WATER DELIVERY SYSTEM TO CALAVERAS DAM

Structural Engineer Fred Turner informed the Commission that the San Francisco Public Utilities Commission's improvements to the Hetch Hetchy water delivery system will be delayed by an additional 25 months due to the need to excavate more material to stabilize hillsides and prevent landslides in the area surrounding the Calaveras Dam. He explained that the Commission is charged with ongoing review and recommendations whenever the project anticipates delays or deletions. Mr. Turner said the San Francisco Public Utilities Commission originally estimated that the entire water system improvement project would be completed in 2015, but the additional delays have extended that deadline to approximately 2018.

Mr. Turner reported that the Calaveras Dam is an earth fill dam constructed in 1925. The dam was declared seismically vulnerable in 2001, so the San Francisco Public Utilities Commission started a replacement dam project downstream. Engineers discovered that additional excavation would be necessary to stabilize the surrounding hillsides, resulting in delays. Mr. Turner advised that he would be visiting the site on February 25 and would have more to report after that visit.

XII. CALIFORNIA BUILDING OFFICIALS' DEVELOPMENT OF GUIDANCE FOR BARRICADING, STABILIZING AND EMERGENCY EVALUATIONS OF SEVERELY DAMAGED BUILDINGS

Mr. Turner noted that Commissioner Kit Miyamoto had raised concerns at earlier meetings about the slow pace of recovery in New Zealand after the damaging earthquakes that struck the area around Christchurch. He observed that because California can learn useful lessons about how to balance speedy recovery with the need to protect the public, the California Building Officials organization (CALBO) has been investigating the effectiveness of various types of barricades and stabilization methods during earthquake repairs.

Mr. Turner showed slides depicting use of fences, raker shores, wall tiebacks, strapping, tarping, and propping. He said CALBO plans to release new draft guidelines during the spring of 2013 as interim stopgap measures and will be developing permanent guidelines later.

Mr. Turner reviewed Cal EMA's new policies pertaining to bracing and barricading. He said buildings under repair can use initial soft barricades placed at a safe distance around a structure equivalent to 1.5 times a building's height, or hard barriers can be used as an alternate. He showed a draft outline of the table of contents and promised to keep the Commission apprised.

Chairman Gardner thanked Mr. Turner for his presentation.

XIII. PUBLIC COMMENT

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

XIV. GOOD OF THE MEETING

There were no other items brought to the Commission's attention.

XV. ADJOURNMENT

There being no further business, the meeting was adjourned at 1:02 p.m.

Sue Celli
Office Manager

Approved by:

Richard McCarthy
Executive Director