State Of California

ALFRED E. ALQUIST SEISMIC SAFETY COMMISSION

Governor Edmund G. Brown Jr.

State Capitol, Room 4202
Sacramento, California
Minutes of Regular Meeting
December 11, 2014

Members Present

Timothy Strack, Chairman
Salud Carbajal
Bob Chase (for Chester Widom)
Ken Cooley
Christina Curry (for Mark Ghilarducci)
Michael Gardner
Peggy Hellweg
Helen Knudson
Jim McGowan

Members Absent

Tracy Johnson, Vice Chair
Greg Beroza
Randall Goodwin
Emir Macari
Kit Miyamoto
Ian Parkinson
David Rabbitt
Fuad Sweiss
Mark Wheetley

Staff Present

Richard McCarthy, Executive Director
Karen Cogan, Administrative Officer
Henry Reyes, Special Projects Manager
Fred Turner, Structural Engineer

I. CALL TO ORDER AND ROLL CALL

Commission Chairman Timothy Strack called the meeting to order at 10:00 a.m. and welcomed all participants. Administrative Officer Karen Cogan called the roll and noted that a quorum was not present.

II. CHAIRMAN'S REMARKS

Chairman Strack noted that the only agenda item requiring a vote was approval of the October meeting minutes, and he suggested deferring that action until the next meeting.

III. APPROVAL OF MINUTES OF OCTOBER 8 AND 9, 2014, MEETING MINUTES

This item was deferred to the next meeting.

IV. CONSUL GENERAL OF JAPAN IN SAN FRANCISCO

Chairman Strack noted that the Seismic Safety Commission has been working with the Consul General of Japan since 1992. He said California sent visiting delegations to Japan after the Kobe earthquake, and Japanese representatives visited California after the Northridge earthquake, and scientists and emergency responders from both nations have been sharing information on earthquake preparedness, earthquake early warning systems, tsunamis, disaster response, and recovery issues. He added that the California Earthquake Loss Reduction Plan has been translated into Japanese, and Japanese officials participated in a joint review of that document.

Chairman Strack welcomed Honorable Masato Watanabe, Consul General of Japan, and invited him to address the Commission. Mr. Watanabe introduced Mr. Kei Hagiwara and Mr. Masae Kanno, two staff members from the Consul General's office in San Francisco,

Mr. Watanabe observed that California and Japan share similar earthquake risks, so discussion and dialogue are mutually beneficial. He said Japan offered to assist California in responding to the Napa earthquake, and California has provided help to Japan in past earthquakes.

Mr. Watanabe described how Japan's earthquake early warning system performed in the 9.0 magnitude Sendai earthquake on March 11, 2011, an event that was followed by devastating tsunamis which caused serious damage to a nuclear power plant. He stated that economic damage from the earthquake is estimated at $212 billion, representing about 3.38 percent of Japan's total gross domestic product. He showed photos of some of the damage to buildings, lifelines, and public infrastructure. He advised that reconstruction of most facilities has been completed, but the work needed to repair breakwaters and coastal protection systems is about 70 percent complete.

Mr. Watanabe pointed out that although the Sendai earthquake was stronger and more damaging than the 2004 earthquake in Indonesia, the number of dead and injured people was only about one tenth of the number in Indonesia. He attributed this difference to a higher level of education and public awareness in Japan, as well as the earthquake early warning system.

Mr. Watanabe provided an overview of Japan's earthquake early warning system and noted that primary objective of the system is to reduce earthquake damage. He described how the system works, explaining that sensors in various locations detect "P" waves, and this data is used to project the intensity of shaking and the areas most likely to be affected. Mr. Watanabe displayed a network showing the locations of seismic sensors. He said Japan has defined certain conditions that trigger different kinds of public alerts. He showed a list of early earthquake warnings over the past eight years. Mr. Watanabe noted that the system still has weaknesses, including the timing of alerts, false alarms, and difficulty estimating earthquake magnitudes.

Mr. Watanabe discussed how Japan's high-speed rail system uses earthquake early warnings to take disaster countermeasures to prevent disruption and damage. He expressed Japan's interest in collaborating with California in the development of the state's new high-speed rail system. Mr. Watanabe reviewed the extent of damage to Japan's high-speed rail system after major

earthquakes in 1995, 2004, and 2011. He pointed out that no passenger has ever been killed, and recovery time has been greatly improved because of lessons learned in past events.

Chairman Strack thanked Mr. Watanabe for his informative presentation.

Commissioner Greg Beroza asked if earthquake alerts are broadcast on networks other than public television channels. Mr. Watanabe responded that public television is Japan's main channel for information, but other systems broadcast the warnings too.

Commissioner Christina Curry observed that California has much to learn from Japan. She asked if any studies had been done to determine what private-sector losses may have been avoided because of the early warning system. Mr. Watanabe noted that losses would depend a great deal on the size and location of the earthquake or tsunami. He added that Japan is currently considering extending reinforcement measures to hospitals and private buildings.

Commissioner Michael Gardner thanked Mr. Watanabe for sharing information that will be helpful to California. He asked how the government and public reacted to false alerts. Mr. Watanabe replied that false alarms are not frequent, and most people would prefer to have the information anyway. Commissioner Gardner asked for an estimate of the percentage of false alerts. Mr. Watanabe said he knew the number was small, but would need to check on the exact figure.

Commissioner Helen Knudson commented that Japan still has many evacuees from the 2011 earthquake and tsunami who are still living in temporary housing, and she asked what plans there are for moving these people to permanent housing. Mr. Watanabe said the large number of displaced people from the 2011 earthquake was due to the nuclear risk from the damaged power plant. He noted that the Japanese government is still grappling with the issue of where people should be allowed to rebuild, and many local governments are looking at changes in land use and planning to prevent future tsunami damage by requiring housing to be on higher ground.

Commissioner Ken Cooley introduced himself and thanked Mr. Watanabe for his presentation. He presented Mr. Watanabe with a book about the restoration work done on the State Capitol. He noted that the old part of the Capitol was rebuilt and the dome was re-stabilized between 1975 and 1982.

Chairman Strack thanked Mr. Watanabe and expressed his support for the continuing partnership between California and Japan.

V. IMPACTS OF EARTHQUAKES ON JAPANESE BUSINESSES OPERATING IN THE U.S.

Chairman Strack introduced Mr. Hiroshi Tomita, President, Konica Minolta Laboratory, USA Inc. and Executive Advisor, Japanese Chamber of Commerce for Northern California, and invited him to discuss impacts of earthquakes on Japanese businesses.

Executive Director Richard McCarthy noted that there are many Japanese companies doing business in California, and they have valuable information to share about their experience with earthquake early warning systems and economic recovery issues after earthquakes. He recommended that the Commission work to develop an agreement between the State of California and the Consul General of Japan regarding Japanese companies doing business in California.

Mr. Tomita discussed how Konica responded to the 2011 earthquake and how that disaster affected the company's overall business. He described Konica's response in terms of three waves: the first wave involving actions taken the first day and immediately after the earthquake, a second wave of measures that were taken to keep the business functioning, and a third wave dealing with impacts on the supply chain. He said that in the period immediately following the disaster, Konica employees had to deal with cell phones not working and transportation disruption. Without electric power, he noted, the company redeployed its mission-critical server to another city and installed a large generator. Mr. Watanabe observed that recovering from business interruption and supply chain disruption tends to take a long time.

Mr. Tomita described the countermeasures and recovery actions Konica has implemented to improve disaster response and facilitate recovery in the future. He said safety of employees is paramount, so the company has increased training and disaster preparedness, established a safety confirmation system, developed a disaster preparedness manual, identified a substitute headquarters location, created an emergency communications system, and provided emergency kits and guidelines to employees. Mr. Tomita added that the company contributes money, medical devices, and housing assistance to employees to speed post-disaster recovery.

Mr. Tomita said members of the Japanese Chamber of Commerce for Northern California have identified the following things that can be done to assist businesses before the next earthquake: 1) strong enforcement of earthquake-resistant building standards; 2) more disaster recovery information; 3) more information tailored to the needs of businesses; and 4) improved logistics to deliver information to businesses. After disasters, business owners need better information about the availability of utilities, transportation, communications, and access to other resources.

Chairman Strack thanked Mr. Tomita for his excellent presentation. Commissioner Gardner asked the staff to arrange to provide written copies of the meeting presentations for commissioners.

Commissioner Cooley thanked Mr. Tomita for his remarks and presented him with a gift book about the restoration of the State Capitol.

VI. GLOBAL EARTHQUAKE MODEL PROJECT UPDATE

Mr. McCarthy advised that Ms. Kate Stillwell, Global Earthquake Model, was unable to attend, and he proposed deferring her update to the next Commission meeting.

VII. IMPACT OF SOUTH NAPA EARTHQUAKE ON THE WINE INDUSTRY

Mr. McCarthy said the staff has been working with Dr. Daniel Sumner, Agricultural Issues Center, UC Davis, on a follow-up to his initial study of earthquake impacts on California agriculture. He suggested that the Commission consider including a section on the wine industry in the Phase II proposal.

Mr. McCarthy introduced Dr. Jim Lapsley, Professor of Viticulture and Enology, UC Davis, and invited him to discuss the impact of the Napa earthquake on California's wine industry.

Dr. Lapsley noted that grapes are currently California's second largest cash crop. He said Napa grows about 25 percent of all California wine sold in the U.S., but it represents about 50 percent of the total value of all California wine. He observed that California's most valuable wine regions are generally in coastal areas, which are more vulnerable to earthquakes than inland areas.

Dr. Lapsley displayed photographs of some the damage to structures and equipment at Napa area wineries. He said some vineyards had to delay harvesting grapes because of broken irrigation system. He stated that total losses to the wine industry from the South Napa earthquake are estimated at $70 to $100 million. Dr. Lapsley observed that the earthquake occurred just before the harvest season, so most wineries had empty tanks and barrels. He remarked that the losses would have been worse if the earthquake occurred at a different time of day or a different season.

Dr. Lapsley introduced Dr. Hyunok Lee, Economist, UC Davis Department of Agricultural Resources and Economics, and invited her to discuss price and revenue impacts on the wine industry. Dr. Lee showed a map of California's wine-growing regions, noting that most are in coastal areas, and coastal areas represent about two-thirds of the total value of California wine. She displayed a map of major earthquake faults and pointed out that coastal areas are particularly vulnerable.

Dr. Lee stated that economists expect that the South Napa earthquake will have serious impacts on some local producers, but overall, prices should remain stable because there are many substitutes available for consumers. She added that prices may rise in some of the upper price ranges because some of the most valuable wine in the state comes from Napa valley vineyards.

Dr. Lee recommended further study to analyze the effects of alternate times and sizes of earthquakes.

Commissioner Beroza commented that the moderate size of the South Napa earthquake was the primary reason losses were not larger. He noted that large barrels can be dangerous, and he recommended emphasizing this to winery owners and members of the public. He observed that

this is not the first indication of the seismic vulnerability of the wine industry, as similar damage occurred after the 2010 earthquake in Chile and the 2003 earthquake near San Simeon.

Dr. Lee agreed, and said the wine industry has learned many lessons about barrel stacking and strapping, and winery owners seem to be taking these issues seriously.

Commissioner Cooley asked if most wineries have business interruption insurance. Dr. Lee replied that some owners had insurance, but many did not. She said one winery faces a $100,000 deductible, and other winery owners discovered they did not have adequate insurance to cover their losses.

Commissioner Chase observed that architects and engineers typically think of structural damage, but damage to contents and equipment, as seen in local wineries, can also cause substantial losses.

Mr. McCarthy noted that UC Davis will be presenting a Phase II research proposal at the February meeting. He said he was arranging a meeting with Dr. Sumner, staff, and Agency representatives, and he suggested discussing inclusion of the wine industry.

Chairman Strack thanked Dr. Lapsley and Dr. Lee for their presentation.

VIII. PLANNING FOR DISASTER IN A WIRE (AND WIRELESS) WORLD: HAYWIRED PROJECT

Mr. McCarthy said he heard a presentation from Dr. Dale Cox, Project Manager, Science Application for Post Reduction (SAFRR), United States Geological Survey (USGS), at a meeting with fire departments to discuss the issue of fire following earthquakes, and he thought the Commission would be interested in pursuing a potential partnership. He invited Dr. Cox to discuss SAFRR's work in developing disaster scenarios.

Dr. Cox noted that USGS's mission is to minimize loss of life and property by identifying risks and improving disaster preparedness. He explained that SAFRR develops earthquake scenarios for the ShakeOut and other purposes. He described the involvement of engineers, seismologists, earth scientists, and others in the development of the ShakeOut scenario of 180-mile rupture of the southern segment of the San Andreas Fault causing 100 seconds of strong shaking. Dr. Cox noted that all lifelines to Southern California are co-located, crossing the fault together and entering the Los Angeles Basin through the same pass. He pointed out that this could result in major disruptions to the transportation network, utilities, and water supply. He added that the disruption to water supply is a major issue that affects the ability of firefighters to deal with fires after earthquakes.

Dr. Cox advised that 23 million people participated in the 2014 ShakeOut drill. He said Mayor Garcetti just announced that the City of Los Angeles was looking to mandate retrofit of pre-1980 non-ductile concrete buildings and soft-story buildings, so public awareness of these issues is increasing. He remarked that Los Angeles also needs to improve its water delivery system to ensure an adequate supply of water for post-disaster firefighting.

Dr. Cox said the next ShakeOut scenario will be a magnitude-7.05 earthquake on the Hayward Fault in Oakland, with subsequent landslides, liquefaction areas, soil failures, and magnitude-5 aftershocks. He observed that the scenario developers will provide shake maps and fault rupture maps using a physics-based approach rather than a median-based approach. He noted that there will be damage to critical lifelines, and a major earthquake will expose the interdependencies and vulnerabilities of many types of communications systems and electronics. Dr. Cox added that the scenario will also identify potential effects of loss of electricity, Internet service, cell phone communications, and water supply.

Dr. Cox indicated that USGS is working with FEMA and Cal OES to develop disaster plans that address all hazards.

Commissioner Peggy Hellweg recommended looking at earthquake impacts on cell phone service, land lines, and voice-over-IP Internet services, and she offered her assistance. She expressed interest in information regarding the effects of retrofits and repairs.

Commissioner Knudson asked Dr. Cox when his study would be available, and Dr. Cox responded that the background scientific research will be completed by May, and the report will be published next August.

Commissioner Curry underscored the importance of planning for major catastrophes. She said Cal OES is working with USGS, FEMA, the Department of Homeland Security, and the scientific community to look at the vulnerabilities of Cajon Pass. She applauded USGS for its valuable products.

Chairman Strack thanked Dr. Cox for his presentation and said the Commission looks forward to an ongoing relationship with USGS.

IX. DRAFT GUIDE TO IDENTIFY AND MANAGE SEISMIC RISKS OF COLLAPSE-PRONE BUILDINGS FOR LOCAL GOVERNMENTS

Staff Structural Engineer Fred Turner stated that Commissioners Randall Goodwin, Fuad Sweiss, and Kit Miyamoto served as an ad-hoc committee to assist the staff with editing the updated guide for collapse-prone buildings. He drew attention to the draft version under Tab 9 of the meeting packet, and he pointed out the 12-page Executive Summary and the 60-page appendices. He explained that the appendix includes checklists, success stories, references, and resources.

Mr. Turner reviewed the Executive Summary. He said the document discusses common types of vulnerable building, and then provides three steps to manage risk: 1) engage in dialogue with the public, 2) estimate the size and nature of collapse risks, and 3) develop options to identify and mitigate risks. He noted that the guide describes seven options for dealing with identified risks, ranging from doing nothing to mandating retrofits. He welcomed comments and suggestions from commissioners.

Commissioner Beroza recommended highlighting the potential exposure to liability to encourage local jurisdictions to take a proactive approach. Mr. Turner noted the Executive Summary contains a one-sentence summary, with more details and case law included in an appendix. Commissioner Beroza suggested creating a special inset box to emphasize this issue.

Commissioner Knudson commended the staff and ad hoc committee for the well written and balanced book, and she added that she likes the success stories. Mr. Turner commented that there has been a great deal of progress. He said the success stories will include references and contact information.

Mr. Turner said the Division of the State Architect (DSA) had submitted a number of proposed revisions, and the staff incorporated about two thirds of them. He added that some involved regulatory action beyond the Commission's purview, so they were not included.

Commissioner Cooley commented that California has many small cities with collapse-prone buildings that can affect the economic wellbeing of an entire community. He said the Commission's guide should help small cities understand their local risks and how to deal with them. He recommended working with local governments and regional organizations to relate their local risks to their economic livelihoods. He noted that the guide should inform professional city managers and economic development professionals, as well as educate and raise awareness of seismic safety issues. Mr. Turner said the committee talked about adding references to state planning requirements.

Mr. McCarthy asked that commissioners submit comments and suggested revisions to the staff by January 8, 2015. He noted that the committee will meet in late January to decide the contents of the appendices and refine the Executive Summary. He said the next version will be forwarded to the Agency for review and comment before the final version is adopted.

Chairman Strack thanked the staff and the members of the committee for their efforts.

X. REVIEW AND ADOPTION OF COMMISSION'S DRAFT TRIBAL CONSULTATION POLICY

Ms. Cogan noted that Governor Brown signed an executive order in September 2011 to foster communications with tribal groups in California, and each state agency was directed to draft a policy to implement the executive order. She reported that the Seismic Safety Commission posted a draft policy in late November for a 30-day comment period. Ms. Cogan invited comments and suggestions from commissioners.

Ms. Cogan reported that the staff had held numerous meetings with tribal groups, and the discussions were generally cooperative and well received. Mr. McCarthy observed that seismic risks were not identified as a major concern, so the Commission wants to focus its outreach efforts on increasing awareness.

Mr. McCarthy requested that commissioners submit proposed edits and comments to the staff so they can be forwarded to the Agency with the next version.

XI. EXECUTIVE DIRECTOR'S REPORT

Budget

Mr. McCarthy noted that the budget report shows a balance of $812 at this point, but he said a more refined calculation will be available at the next meeting. He advised that the Commission used funds to pay in advance for accounting services, and the costs for these services from Contracted Fiscal Services increased by $10,000. He added that the Commission has not yet charged the 10 percent overhead authorized for some of its research projects, so those funds can be accessed in the future.

Mr. McCarthy reported that he was interviewing candidates to replace Legislative Director David King and hoped to fill the position by mid-January.

2015 Meeting Dates and Locations

Ms. Cogan proposed holding meetings on the third Thursday in alternate months, starting in February, with three meetings in Sacramento and three in other locations. She welcomed ideas from commissioners about possible out-of-town meeting locations and months.

After some discussion, commissioners tentatively agreed to meet in Sacramento in February and June, and travel to other locations in April and October. Commissioners identified the following possible out-of-town locations: Santa Barbara/Central Coast, Ventura/Ojai, Palm Springs/Coachella, and San Bernardino/High Desert. Mr. McCarthy said the staff will research the costs and availability of hotels and meeting rooms in various locations.

XII. PUBLIC COMMENT

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

XIII. MISCELLANEOUS AND GOOD OF THE MEETING

Chairman Strack noted that due to the lack of a quorum, the Commission would defer approval of the October minutes to the February meeting. Commissioner Knudson said she had a correction to the October meeting minutes. Chairman Strack asked commissioners to email changes to the staff so they can be incorporated in the minutes.

Ms. Cogan advised that she would be mailing a draft version of the Annual Report to commissioners for review and comment before the February meeting.

XIV. ADJOURN

There being no further business, the meeting was adjourned at 12:59 p.m.

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Sue Celli
Office Manager

Approved by:

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Richard McCarthy
Executive Director