



State Of California

# ALFRED E. ALQUIST SEISMIC SAFETY COMMISSION

*Governor Edmund G. Brown Jr.*



California State University, Monterey Bay  
University Center Ball Room, 100 Campus Center  
Minutes of Meeting  
March 14, 2013

## **Members Participating**

Michael Gardner, Chairman  
Mark Pazin, Vice Chairman  
Peggy Hellweg  
Helen Knudson  
Mark Ghilarducci  
Emir Macari  
Jim McGowan  
Kit Miyamoto  
Timothy Strack  
Bob Chase/Chester Widom

## **Members Absent**

Ken Cooley/Mark Elsesser  
Ellen Corbett

## **Staff Present**

Richard McCarthy, Executive Director  
Karen Cogan, Administrative Manager  
David King, Legislative & Special Projects Mgr  
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 9:06 a.m. and welcomed all participants. Administrative Manager Karen Cogan called the roll and confirmed the presence of a quorum.

## **WELCOME**

Dr. Marylou Shockley, School of Business, California State University Monterey Bay, welcomed the Commission and introduced Ms. Patti Hiramoto, Vice President, California State University Monterey Bay.

Ms. Hiramoto welcomed the Commission to Monterey County. She observed that the focus on the earthquake impacts on agriculture is especially important locally. She noted that Parkfield, in Monterey County, is located in a closely watched earthquake zone, so this hazard is well known.

Ms. Hiramoto stated that California State University Monterey Bay has agricultural research programs and classes, and she said a number of students will be observing today's meeting as part of their class work. Ms. Hiramoto added that California State University Monterey Bay is pleased to host this Commission meeting.

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

### **Appoint Nominating Committee**

Chairman Gardner proposed that Commissioners Timothy Strack, Emir Macari, and Helen Knudson serve as a Nominating Committee to consider candidates for chairman and vice-chair, and present a slate of officers at the May meeting. Commissioner Macari invited commissioners interested in serving as officer to contact him by email.

### **Welcome**

Chairman Gardner welcomed commissioners, staff, and audience members to the meeting. He noted that this meeting features presentations on agricultural issues and a report on recovery since the Japanese earthquake and tsunami two years ago.

## **III. APPROVAL OF JANUARY 10, 2013 MINUTES**

Chairman Gardner said he had provided some minor typographical corrections to the staff.

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

*The Commission approve the minutes of the January meeting as amended.*

\* Motion carried, 9 – 0.

## **IV. WELCOME**

Secretary Anna Caballero, State and Consumers Services Agency, welcome the Commission and staff to Monterey County and conveyed Governor Brown's greetings. She noted that the agriculture industry in California is vulnerable to damage from earthquakes, and speedy economic recovery is critical to this important sector of the state's economy.

Secretary Caballero extended a special welcome to the students attending the meeting. She encouraged audience members to visit the Seismic Safety Commission's website for more information about Commission-sponsored research projects and programs. Secretary Caballero noted that the Commission contributed funds for an important project with the University of California at San Diego to analyze the earthquake and fire performance of hospital buildings. She said this work will influence changes in the state's building codes and improve safety for patients and staff.

Secretary Caballero remarked that she was looking forward to the presentation about Japan's recovery from the devastating earthquake, tsunami, and nuclear power plant disaster two years ago. She said issues pertaining to saltwater intrusion, soil remediation, and aquifer health are of vital importance to Monterey County's agricultural industry.

Secretary Caballero thanked California State University Monterey Bay for holding the meeting on its campus. She also expressed her appreciation to the Growers-Shippers Association for hosting a reception the previous evening.

Chairman Gardner introduced Mr. Kei Hagiwara and Mr. Hiromasa Hamasaki, from the Japanese Consul's office. He welcomed them and proposed deferring the remarks by the Japanese Consul General until later in the meeting.

## **VI. UPDATE ON EARTHQUAKES AND CALIFORNIA AGRICULTURE PROJECT**

Dr. Daniel Sumner, Director, University of California Agricultural Issues Center, Davis, provided an update on the year-long project being funded by the Seismic Safety Commission. He noted that the purpose of the University of California Agricultural Issues Center's work will be to identify vulnerabilities of California agriculture businesses and propose ways to mitigate damage and economic losses. He said the researchers will work with the agriculture industry, university, and government agencies.

Dr. Sumner displayed a map of the San Andreas fault. He explained that the focus of this project will be on the Monterey County, the Sacramento and San Joaquin Delta area, and Imperial Valley, and researchers will look at both livestock and crop-producing operations.

Dr. Sumner reviewed a list showing the value of various Monterey County agricultural products in 2011. He pointed out that perishable crops like fruits, salad vegetables, and wine grapes are particularly affected by disruptions in marketing and transporting their products. He noted that a substantial portion of Monterey County's crops are exported to foreign countries, so disruptions in port services can be particularly devastating. Dr. Sumner showed a recently updated hazard map of Monterey County.

Dr. Sumner displayed a list of major earthquakes in northern California during the 20<sup>th</sup> century. He showed slides depicting damage from the 1989 Loma Prieta earthquake to local fields and transportation systems. He observed that a number of major highways traverse the mid-section of the San Andreas Fault.

Dr. Sumner provided his website address and invited representatives from the agriculture industry to let him know about particular vulnerabilities that should be addressed.

Dr. Sumner stated that the first task will be to identify particular crops and commodities and regions to analyze in depth. He noted that the dairy and produce industries are of prime concern in California.

Executive Director Richard McCarthy noted that the Commission will contribute \$50,000 for the first phase, and those funds will be leveraged with funds from other sources. Phase Two will take place after particular vulnerabilities have been targeted.

Commissioner Macari reported that he sent a copy of this meeting agenda to the president of Cal Poly, who expressed great interest in this kind of research. He offered to provide Dr. Sumner with contact information for people at Cal Poly. Dr. Sumner said he already knew some economists there, and he thanked Commissioner Macari for this suggestion.

Commissioner Kit Miyamoto asked if this project will include any research on the impacts of Delta levee failures after earthquakes. Dr. Sumner commented that the seismic vulnerabilities of California's Delta system have received considerable attention and study already. He added that some of the results are controversial because they raise questions about the value of strengthening a system that protects unsustainable agricultural use of a reclaimed wetlands area. Commissioner Miyamoto expressed his opinion that Delta levee failures were a tremendous risk the state needed to address. Dr. Sumner said the researchers in this project can review the literature and draw on the studies that have already been done.

Chairman Gardner acknowledged that Commissioner Miyamoto raised a good point about the long-lasting impacts on the state of Delta levee failures, but noted that this issue was outside the scope of the UC Davis Agricultural Issues Center study.

Commissioner Mark Ghilarducci advised that the California Emergency Management Agency (Cal EMA) just began working on a catastrophic planning initiative for the Central Valley, and he said he would incorporate this research in that effort.

Chairman Gardner thanked Dr. Sumner for his presentation.

## **VII. AGRICULTURAL SUSTAINABILITY IN THE EVENT OF A MAJOR EARTHQUAKE**

Mr. Mark Borman, President, Taylor Farms, talked about how his business, headquartered in Salinas, had developed a crisis plan to identify vulnerabilities in advance, address problems by preplanning and respond to disasters in an effective and organized manner. He said the staff practices disaster drills and everyone knows their roles, contingency plans, and leadership.

Mr. Borman displayed a map showing Taylor Farms' growing and processing locations throughout the United States, and he pointed out one facility in Mexico. He said 75 percent of the company's products are grown in the Salinas area. He noted that produce companies are vulnerable to weather disasters, pathogens, and other disasters like earthquakes that disrupt normal operations and cause losses of products and revenues.

Mr. Borman stated that Taylor Farms has grown lettuce in central Mexico since 2001, and a processing plant was built there in 2007. He commented that Taylor Farms tries to deal with crop seasonality, weather, and disasters by developing prevention and risk strategies to ensure continued functionality and operations.

Mr. Borman showed a fast-motion video of employees breaking down a processing plant in Salinas and reinstalling the equipment in Yuma, about 12 hours away. He explained that Taylor Farms makes this relocation twice a year, a move that takes 56 hours, 72 trucks, 200 people, and 1400 tons of equipment. He added that maintaining this kind of flexibility requires a huge capital investment and employee training component.

Mr. Borman read excerpts from the company's crisis plan. He said Taylor Farms works with its customers to obtain names and contact information so key people can be notified immediately after a disaster.

Executive Director Richard McCarthy thanked Mr. Borman for his presentation. He noted that the Commission is trying to identify potential actions the governor and Legislature could take to facilitate economic recovery immediately after a disaster. He encouraged Mr. Borman and other industry representatives to think about power and lifelines, economic mitigation, and other recovery issues and convey their thoughts to the Commission. Chairman Gardner added that waiving air quality rules for generators is an example of a temporary measure that would help.

Chairman Gardner thanked Mr. Borman for his presentation.

Mr. Craig Dobler introduced himself as a third-generation family farmer in Watsonville growing leafy greens. He said his operation spends eight months in northern California and four months in Imperial Valley each year. Mr. Dobler talked about the impacts of the 1989 7.1-magnitude Loma Prieta earthquake on agricultural businesses in the area. He noted that his business was fortunate to survive, but many buildings crumbled and many houses were knocked off their foundations, and it took seven years to fully recover from the damage.

Mr. Dobler stated that the Loma Prieta earthquake taught a number of important lessons that led to changes in his business. He said the company updated its written emergency response plan to ensure safety of its personnel and provide better systems of communication, including a back-up two-way radio system, and steps have been taken to store data securely at out-of-state sites. Mr. Dobler noted that the company secured its equipment, installed racking systems, and prepared earthquake preparedness checklists so employees know what to do before, during, and after an earthquake. In addition, the company maintains crop insurance, business interruption insurance, and a back-up generator for its frozen food facility.

Mr. McCarthy asked Mr. Dobler if the Loma Prieta earthquake damaged his equipment and crops. Mr. Dobler responded that his company suffered limited damage. He said he heard that some neighboring farms had problems with electric panels or wells caving in. Mr. McCarthy expressed interest in conferring with Mr. Dobler later about insurance coverage. Mr. Dobler remarked that most crop insurance policies have high deductibles.

Mr. McCarthy observed that the Mexican earthquake in April of 2010 caused substantial damage to fields and irrigation systems on both sides of the border. He reported hearing about instances where grading had to be done repeatedly over a six-month period because the land was redamaged in subsequent aftershocks. Mr. Dobler said local strawberry farmers tend to use plastic irrigation pipe, so damage tends to be easily repaired. He stated that his company also has subsurface pipes and wells, and their continued functionality is a big issue.

Mr. McCarthy asked if saltwater intrusion was a problem. Mr. Dobler replied that his company monitors salinity closely and tracks all up and down movements.

Commissioner Knudson commended Mr. Dobler for his company's excellent disaster response plans. She asked whether the company drafted its own plan or hired a consultant to develop the document. Mr. Dobler said the company created its own document by starting with a generic plan and augmenting that. He noted the company now has two full-time people dealing with emergency planning issues, and the insurance company has helped.

### **VIII. TOTALLY UNPREPARED PROJECT, PHASE II UPDATE**

Mr. McCarthy noted that the Commission worked in partnership with Cal EMA to fund an outreach project to encourage higher levels of earthquake preparedness. He invited Mr. Michael Kleeman, University of California, San Diego, to discuss that project and present some awards.

Mr. Kleeman announced that the Commission received an award for the Totally Unprepared campaign, which used public television, radio, and easy-to-access online resources to engage people in interesting and fun exercises to encourage mitigation. He said the researchers used the findings of former Commissioner Dennis Mileti and Professor Linda Bourque of UCLA to develop effective messages. Phase One of this project entailed creating a series of groundbreaking videos posted on the Website and promoted through social media, and he showed sample "Will It Shake?" episodes featuring secured and unsecured wine bottles, snow globes, and other household contents. Mr. Kleeman stated that more than 12 video episodes are available, in addition to a mobile app and written handouts in multiple languages.

Mr. Kleeman observed that this work won two Communicator Awards last year, and he presented W3 awards to the Seismic Safety Commission and Cal EMA for this campaign. Chairman Gardner accepted the award for the Commission and presented it to Secretary Caballero. Commissioner Ghilarducci accepted the award for Cal EMA.

Mr. Kleeman said the proposal for Phase Two builds on and leverages the accomplishments of the past year by expanding use of traditional media to reach more people and engage more at-risk communities. He noted that the Website will be redesigned, resources will be provided in more languages, a new mobile app will be created, and new partners, including the Exploratorium, the Red Cross, a number of schools, and the Latter-Day Saints. Mr. Kleeman stated that the researchers are hoping to stimulate more user-developed content and have children act as messengers to educate their families and friends.

Mr. Kleeman welcomed ideas from the funding partners with respect to venues, cross-links, contacts, and critiques and suggestions about content. He thanked the Seismic Safety Commission and Cal EMA for their support and encouraged audience members to visit the Website for more information.

Commissioner Peggy Hellweg observed that earthquake preparation is part of the standard curriculum in many schools in the East Bay. She recommended making the videos available to teachers and developing a curriculum centered around the videos. Mr. Kleeman said he would work with Commissioner Hellweg and the Lawrence Hall of Science at UC Berkeley to solicit ideas for videos and create tools for teachers.

Chairman Gardner thanked Mr. Kleeman for his presentation.

#### **IX. UPDATE ON DISASTER PREPAREDNESS EDUCATION MATERIALS FOR SMALL BUSINESSES**

Ms. Diane Howerton, Regional Director, University of California, Merced, Small Business Development Center (SBDC), provided an overview of the proposed SBDC project to help small businesses plan for earthquakes. She showed a map of the SBDC network in California, and noted that SBDC has 37 centers and over 100 sites, with more than 300 staff and consultants. She reported that SBDC served more than 50,000 small businesses in California last year.

Ms. Howerton discussed the economic impact of the SBDC services provided in 2012. She presented charts showing the number of clients, staff hours, events, people trained, and jobs created and retained. She identified some of SBDC's outreach partners and supporters.

Ms. Howerton stated that the national SBDC network has developed some disaster preparedness resources already, such as smart phone apps and toolkits. She noted that the first phase of this project will involve researching what is already available, and then tailoring existing materials for California businesses. SBDC then plans to develop a one-page checklist and a business continuity planning process map to guide small businesses through the steps of preparing for disasters, analyzing potential impacts, and being ready to respond. Ms. Howerton said this project will produce easy and accessible tools in a variety of formats, and she mentioned digital and hard copies, Webinars, workshops, and direct consulting as examples.

Chairman Gardner thanked Ms. Howerton for her presentation.

#### **X. SAN FRANCISCO PUBLIC UTILITIES COMMISSION WATER SYSTEM IMPROVEMENT PROGRAM DELAYS**

Senior Structural Engineer Fred Turner recalled that at the last meeting, the Commission appointed an ad hoc committee to conduct a site visit to the Calaveras Dam to see the site conditions at that location. He reported that he, Commissioner Hellweg, and Commissioner Strack visited the site on February 25.

Commissioner Hellweg commented that seeing the work in progress was very informative. Commissioner Strack agreed, and said he enjoyed the tour and was able to stay for blasting during the afternoon. He expressed his opinion that the improvement program was an excellent use of bond money to strengthen a resource that serves the Bay Area. He added that the construction workers at the site were very careful to minimize the project's footprint.

Mr. Turner explained that the Seismic Safety Commission is charged with reviewing and commenting on any proposed delays in the San Francisco Public Utilities Commission (SFPUC) Water System Improvement Project. The Commission was notified of a delay in a portion of the work due to a need for more slope stabilization on a hillside. Mr. Turner said this change in schedule will add approximately two more years to the prior delays that have already been encountered. He advised that the Commission's comments on the implications of the delays are due by May 25, and he suggested appointing an ad hoc committee to work with the staff to draft comments.

Chairman Gardner asked Commissioners Hellweg and Macari to serve as an ad hoc drafting committee, and commissioners agreed.

## **V. JAPANESE CONSUL GENERAL**

Chairman Gardner welcomed Mr. Hiroshi Inomata, Japanese Consul General, and Mr. Hiramasa Hamasaki, Consul, and invited them to address the Commission.

Mr. Inomata gave a PowerPoint presentation about the status of Japan's two-year restoration efforts. He showed a map of the area affected by the magnitude 9.0 earthquake and tsunami, and he pointed out the epicenter. He stated that 16,000 people died, 3,000 were still missing, 470,000 were displaced, and 315,000 are still in temporary housing. He added that the disaster has caused a permanent housing problem because the land itself was damaged, not just the structures built on the land.

Mr. Inomata emphasized that the 2011 earthquake was a huge event, about 65 times stronger than the 1906 San Francisco earthquake and 1400 times stronger than the 1989 Loma Prieta earthquake. He said Japan has strict building codes, and many structures are designed to be earthquake-resistant, but they could not withstand a 110-foot high tsunami inundation.

Mr. Inomata noted that about 90 percent of the damage has been reconstructed, except for the area around the Fukushima nuclear power generation facility. He estimated the disaster had an economic impact of \$182 billion, with extensive damage to buildings, lifelines and utilities, transportation systems, agriculture, social networks, businesses, and communities.

Mr. Inomata estimated that damages to farmland, facilities, crops, and livestock totaled \$10.2 billion. He displayed a map of the area flooded by the tsunami and said about 58,000 acres were affected. He discussed salt removal procedures with lime and soil conditioner and flushing with fresh water. Mr. Inomata said much of the tsunami-affected area was rice paddy fields, and salt was removed from them via temporary diversion channels, soil conditioning, reflooding, reverse plowing, and draining. He indicated that about 40 percent of the tsunami-damaged land is back in cultivation, and the goal is to reclaim 90 percent by 2014.

Mr. Inomata acknowledged that there was still considerable remediation to be done around Fukushima, and he noted that dealing with radiation damage will take more time. He said the Japanese government is conducting strict monitoring of foods produced in the region to make sure they are safe, but many consumers are still wary.

Mr. Inomata expressed his appreciation to the United States and the State of California for helping Japan after the disaster.

Japan is committed to saving energy, and renewable energy seems to be the best option now. He advised that Japan is importing natural gas to help offset power shortages, but using that kind of energy produces greenhouse gas emissions that are not sustainable in the long run. Mr. Inomata noted that Japan is developing solar, geothermal, and tidal power generation facilities and encouraging more household use of renewables.

Mr. Inomata discussed Japan's reconstruction priorities over the past two years. He said the first concern was nuclear containment, disposal, and decontamination, which is ongoing and will take some time to accomplish. Mr. Inomata indicated that clean-up and debris removal came next, and he estimated that this task was 50 to 60 percent completed. He noted that restoring infrastructure and housing stock is next, following by the longer-term challenges of job creation and replacement housing.

Chairman Gardner thanked Mr. Inomata for his presentation.

At 11:58 a.m. the meeting was recessed for lunch. During the luncheon recess, students from CSU Monterey Bay's Program in Japanese Language and Culture described their work and travel experiences and their career plans.

Chairman Gardner reconvened the meeting at 1:04 p.m.

## **XI. FIRE FOLLOWING EARTHQUAKE PHASE II STUDY UPDATE**

Dr. Charles Scawthorn, Pacific Earthquake Engineering Research Center, briefed the Commission on his Year 1 findings and the activities planned for Year 2. He explained that the Year 1 study focused on determining the seismic vulnerability and reliability of the water supplies local jurisdictions plan to use to fight fires after earthquakes.

Dr. Scawthorn summarized his Year 1 findings:

- Post-earthquake firefighting water supply is a critical issue;
- Many water supply and distribution systems are seismically unreliable;
- Local fire and water agencies do not communicate and coordinate well;
- Improvements are often done on a piecemeal basis;
- Alternate water sources are often not well documented, and records are not kept up to date;
- Fire and water agencies do not conduct regular drills to practice their plans;
- Moving water from alternate sources is a major problem.

Dr. Scawthorn described the activities planned for Phase II of this project. He observed that now that the problem has been highlighted, the goals of the project are to hold a series of joint meetings between water and fire agencies to come to agreement on goals, and then have local agencies conduct inventories, quantify the extent of their problems, and present these results to their local governments. He recommended an approach similar to SB 547, which required local governments with unreinforced masonry buildings to take an inventory, come up with a plan, and report on their progress. Dr. Scawthorn suggested having local fire and water agencies quantify their risks, develop plans, and report their progress.

Dr. Scawthorn noted that in analyzing their problems, local fire and water agencies need to first estimate the number of likely fires their areas would experience after major earthquakes, then develop a plan for suppressing the fires, present the information to local government officials, conduct annual exercises, and update their plans every five years. He proposed targeting certain fire departments and water agencies in cities with populations over 100,000 and high seismic risks.

Dr. Scawthorn recommended encouraging local agencies to adopt draft goals and have estimates of post-earthquake fires by 2015. He noted that written plans should address weather variability, other demands on an area's water supply, and the possibility that mutual aid or other assistance may not be available. He said these reports should be presented to local governments so they can understand their risks and adopt appropriate policies.

Dr. Scawthorn showed a series of maps depicting the likely number of post-earthquake fires in the San Francisco Bay Area, Los Angeles, and other coastal communities. He drew attention to the commentary in his report with more details on the goals and implementation steps. He noted that the HAZUS system is available to estimate the number of likely fires in a given area, and a simple table was developed to provide this information.

Dr. Scawthorn said the goals document is currently being tested on a limited basis. He advised that he planned to disseminate a Web-based survey about the goals the following week, and would then incorporate feedback and suggestions in a revised document. He noted that former fire chief and commissioner, Don Parker, had suggested incorporating this issue as part of the fire chief certification requirements in California.

Dr. Scawthorn welcomed feedback on his draft goals. He said another reviewer had suggested changing the technical references to “peak accelerations” to a more easily understood term like “shaking intensities,” and he agreed with that comment. He told the Commission he planned to continue discussions with Cal EMA and local fire departments, convening meetings in April, and then reaching out to water districts in April and May, and finalizing the goals document by June. He stated that the Year 2 effort will conclude with adoption of the goals and general buy-in.

Dr. Scawthorn noted that proceeding into Year 3 will take continued support by the Legislature as well as local fire and water agencies. He said local agencies will need technical support to help them develop and implement adequate plans. He also advocated a firefighting water supply system for the Los Angeles Basin using existing drainage channels.

Chairman Gardner said he would be hesitant to mandate an inventory, plan, and reporting program without a funding source. He suggested casting the goals as recommendations rather than requirements, at least for now.

Dr. Scawthorn responded that he understood this problem, and that was the reason he was proposing the initiative as a series of goals. He pointed out that SB 547 required local jurisdictions to inventory their risky buildings, but it left the decision to locals as to whether buildings should be demolished, repaired, or left untouched. He clarified that his goals proposal only asks local agencies to estimate their number of fires, develop a suppression plan, and present the plan to local officials. He acknowledged that some resources would be required to conduct estimates and develop a plan.

Dr. Scawthorn clarified that his goals document was only a draft at this stage. He said he planned to meet with fire chiefs to enlist their buy-in and build some grassroots momentum.

Commissioner Ghilarducci recommended processing Dr. Scawthorn’s recommendations through the FIRESCOPE organization’s decision-making process. He suggested preparing a briefing for the FIRESCOPE board of directors and presenting the standards for adoption. He noted that the standards can be made mandatory if funding is available in the future, but obtaining FIRESCOPE’s buy-in should be the next step. Dr. Scawthorn thanked Commissioner Ghilarducci for his advice and expressed his appreciation for Cal EMA’s support.

Chairman Gardner thanked Dr. Scawthorn for his presentation.

## **XII. UPDATE ON POTENTIAL PROJECTS WITH THE GLOBAL EARTHQUAKE MODEL**

Ms. Kate Stillwell, Scientific Board Management/Product Strategy, Global Earthquake Model (GEM), presented some specific projects for the Commission’s consideration in collaboration with GEM. She explained that GEM is a worldwide organization devoted to identifying global earthquake hazards, estimating losses, and building more resilient communities.

Ms. Stillwell stated that the open source OpenQuake platform data sets and tools are being developed for release at the end of 2014. She said researchers are currently finalizing the seismic hazard module of the platform based on a recomputation of 1,000 years of earthquake records, seismological records from the past 100 years, and GPS data showing current strain rates. Ms. Stillwell displayed a satellite image of Quito and a new hazard map developed by GEM, and she pointed out the major faults in that area.

Ms. Stillwell reported that a multi-disciplinary workshop was held in Katmandu the previous week, and 40 people from 5 countries and 6 disciplines attended. She said GEM will update the definition of private participant to build a network of GEM champions.

Ms. Stillwell outlined four ideas for research projects the Commission might want to support: 1) “Lights Back On,” a post-2014 study of the vulnerability of utilities, lifelines, and infrastructure; Ms. Stillwell explained that GEM’s current research is limited to structures; 2) “Back to Normal,” a modeling of economic recovery over time; 3) “Policy Punch,” an evaluation of the effectiveness of various policies by comparing loss estimates with and without mitigation; and 4) “Cracking the Safe,” establishing benchmarks and identifying the assumptions on which commercial proprietary models are based. Ms. Stillwell then went on to describe each initiative in more detail.

Ms. Stillwell noted that the study of utilities and lifelines would entail creating fragility curves, and then estimating the number of expected failures and the amount of down time they were likely to cause. She estimated that this research would take more than two years and would be best suited for a consortium.

Ms. Stillwell said the economic recovery study would use a logic tree framework to identify key factors impacting recovery speed and functionality. She noted that this project would probably take two people two years.

Ms. Stillwell advised that comparing the effectiveness of various policies with a method that could be replicated in other regions would probably take two people one year.

Ms. Stillwell explained that the “Cracking the Safe” initiative would involve back-calculating to identify the assumptions used in commercial models. She noted that having this information would bring transparency and flexibility to the rate-setting process. She said the deliverable for this project would be a clearly defined set of assumptions for each commercial model, and she estimated it would take two people one year to complete this work.

Ms. Stillwell welcomed guidance from the Commission as to what projects to pursue. She advised that GEM’s next steps will be to continue to develop proposals in coordination with the staff. She said she would make a formal presentation at the next Commission meeting in May.

Commissioner Miyamoto observed that the “Cracking the Safe” project would be very beneficial for the Department of Insurance. He said this kind of information is not yet available in the public domain.

Commissioner Knudson suggested pursuing “Back to Normal,” the economic recovery study, as well.

Ms. Stillwell expressed her appreciation to the Commission and said she looked forward to discussing these proposals in May. Chairman Gardner thanked Ms. Stillwell for her presentation.

### **XIII. LEGISLATIVE UPDATE**

Legislative and Special Projects Manager David King said the Legislature had been fairly quiet so far this year, with a low number of bills having been introduced. He noted that the Seismic Safety Commission staff has not identified any bills that warrant tracking, but there are a few pertaining to seismic safety. He stated that Senator Padilla introduced a bill on a statewide earthquake early warning system, but no clear funding source has been identified, so that bill’s fate is questionable.

### **XIV. EXECUTIVE DIRECTOR’S REPORT**

#### **Budget**

Mr. King advised that the Commission’s budget was in good shape, and the staff was comfortable with this year’s results.

Mr. McCarthy noted that the Commission will facing a \$150,000 reduction starting on July 1. He said the Commission would discuss options and strategies in more depth at the May meeting.

Mr. McCarthy reported that the Commission’s budget for 2013/14 will be the subject of legislative hearings at the end of March and April. He stated that there seems to be no opposition to the proposal to have the Commission return to support from the Insurance Fund.

Mr. King added that the Commission asked for extra time to review the technical aspects of the budget trailer bill. Commissioner Pazin recommended memorializing the discussions about the Insurance Fund in writing, and Mr. McCarthy replied that he would.

#### **San Onofre & Diablo Canyon Nuclear Plant Hazard Review**

Mr. McCarthy informed the Commission that PG&E had held two meetings recently to plan its next steps in studying seismic impacts on the Diablo Canyon and San Onofre nuclear power plans. He said PG&E’s permit application to do high energy offshore geophysical surveys had been turned down by the Coastal Commission because of the potential sound impacts of the testing on marine mammals. Mr. McCarthy noted that Southern California Edison would be coming to the Coastal Commission this year with a proposal for the San Onofre plant, but that application is likely to be denied. He added that the Navy’s proposal to do submarine studies along the California coast was also denied.

Mr. McCarthy noted that the Commission will defer accounting for the costs of this work until after July 1. He pointed out that the San Onofre plant was down now because of unanticipated steam generator tube wear issues, but the fuel rods still pose a potential risk even if the facility is not operation. He said he would have more news at the May meeting.

**XV. PUBLIC COMMENT**

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

**XVI. GOOD OF THE MEETING**

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

**XVII. ADJOURNMENT**

Chairman Gardner thanked the faculty and students of California State University Monterey Bay for hosting the meeting.

There being no further business, the meeting was adjourned at 2:18 p.m.

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Sue Celli  
Office Manager

Approved by:

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Richard McCarthy  
Executive Director