

Seismic Safety Commission  
Minutes of Meeting  
February 13, 2003  
Best Western Hacienda Hotel, La Palma Room  
4041 Harney Street  
San Diego, California

**Members Participating**

Bruce R. Clark, Chairman  
Stan Y. Moy, Vice Chair  
Lucy Jones  
Lawrence T. Klein  
Don Manning  
Douglas E. Mochizuki  
Linden Nishinaga  
Celestine Palmer  
Donald E. Parker  
Daniel Shapiro

**Members Absent**

Andrew Adelman  
Senator Richard Alarcon/Chris Modrzejewski  
Jim Beall  
Mark Church  
Ashok S. Patwardhan

**Staff Participating**

Richard McCarthy  
Karen Cogan  
Robert Anderson  
Henry Sepulveda

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

The meeting of the Seismic Safety Commission was called to order by Chairman Bruce Clark at 9:00 a.m. Executive Assistant Karen Cogan called the roll and confirmed the quorum.

**II. CHAIRMAN'S REMARKS**

Chairman Clark announced that Commissioner Daniel Shapiro won the California Earthquake Safety Foundation's Alquist medal for 2003 in recognition of his career contributions to earthquake safety. He noted the award was presented the previous week at the annual meeting of the Earthquake Engineering Research Institute (EERI), and he congratulated Commissioner Shapiro.

Chairman Clark reported that he and several other commissioners attended the EERI annual meeting in Portland, which dealt with a number of interesting topics. He noted one presentation focused on the increased awareness of the level of earthquake risk in the Pacific Northwest.

Chairman Clark said the meeting also included a discussion of earthquake research funding. He advised commissioners that reauthorization hearings for the National Earthquake Hazards Reduction Program (NEHRP) will be taking place in Washington, D.C., over the next two months. He explained that NEHRP funding supports many activities of the Federal Emergency Management Agency (FEMA), U.S. Geological Survey, National Institute of Standards, and Technology and National Science Foundation. Chairman Clark noted that besides dealing with NEHRP reauthorization, Congress will be looking at continued funding for the Advanced

National Seismic System (ANSS). He said he and commissioner Jones would be flying back to Washington to testify at a briefing session about the benefits of ANSS . He added that ANSS funding supports development of shake maps, which are widely used by emergency responders to help identify post-earthquake damage areas and deploy resources. Chairman Clark said funding for the new EarthScope program was also discussed, but that issue has not been resolved.

Chairman Clark observed that the future of earthquake research programs is in jeopardy because of federal budget constraints. He recommended that the Commission send letters to congressional representatives supporting the programs under consideration.

**ACTION:** Commissioner Shapiro made a motion, seconded by Commissioner Mochizuki, that:

*The Commission authorize the chair and executive director to draft an appropriate letter expressing support for federal funding of earthquake research programs.*

Commissioner Jones asked to whom the letters would be directed. Chairman Clark proposed sending letters to members of the Appropriations Committee, members of the California delegation, the Office of Management and Budget, and directors of some of the affected departments. He welcomed further ideas from commissioners and encouraged them to also send letters from the agencies and groups they represent.

Mr. Paul Jacks, Deputy Director, Governor's Office of Emergency Services (OES), asked the Commission to keep OES informed of these advocacy efforts. He said OES will work with the Governor's office in Washington to garner additional support.

\* Motion carried, 9 - 0 - 1 (Commissioner Jones abstaining).

### **III. APPROVAL OF JANUARY 9, 2003 MEETING MINUTES**

Commissioner Shapiro noted that in the next-to-last paragraph on Page 11, "HAZIS" should be changed to "HAZUS."

**ACTION:** Commissioner Mochizuki made a motion, seconded by Commissioner Palmer, that:

*The Commission approve the minutes of the January 9 meeting.*

\* Motion carried, 10 - 0.

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

#### **Budget**

Executive Director Richard McCarthy drew attention to the letter in the meeting packet from the

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Department of Finance advising all boards and commissions to limit meetings to one per year. He stated that the Commission will not be able to function effectively on that basis. He noted Director of Legislation Henry Sepulveda has contacted the Department of Finance to discuss this matter further.

Mr. Sepulveda distributed copies of the latest budget update. He said that based on current trends, the Commission will likely spend about \$740,000 of its \$891,000 budget. He pointed out the Commission has made significant reductions in some of its expenditures, including travel.

Mr. McCarthy provided copies of a list of possible projects for 2003. He noted the Commission received a recent letter from the Governor's Office informing state agencies of their responsibility to reach out to non-English-speaking communities in the state, so translating Commission documents to other languages might be an appropriate project to add to the list. Mr. McCarthy said the 2003 project list was compiled from notes made at previous Commission meetings, and all are consistent with initiatives articulated in the *California Earthquake Loss Reduction Plan*. He asked commissioners to review the list and contact him with suggestions for additions.

Mr. McCarthy said shifting Commission funding from the general fund to the Department of Insurance means the Commission will need to justify its existence at budget hearings. Keeping that in mind, he recommended focusing on year-end projects that will improve Commission visibility.

Mr. McCarthy reviewed the project candidates on the list. He noted the first section of the list shows projects required by statute or already underway, the second section lists possible new activities, and the third section is office operational improvements. Referring to the first section, he recommended that the Commission authorize a budget of approximately \$25,000 for co-sponsorship of the disaster-resistant conference in San Jose in April and travel expenses for staff and commissioners. He said he would bring this issue back to the Commission after Mr. Jacks' presentation on the conference later in the meeting.

Mr. McCarthy noted one possible office improvement is mitigating nonstructural hazards in the Commission office, estimated at \$5,000 to \$7,000. Mr. Shapiro asked if the estimate includes design work. Staff Geologist Bob Anderson responded that the estimate covers materials and installation only.

Chairman Clark asked commissioners to prioritize the projects on the list and respond to the staff by Friday, February 21. He recommended proceeding with as many high-priority projects as possible.

Commissioner Klein asked for clarification as to the status of the statutorily mandated and ongoing projects in the first section of the list. Mr. McCarthy estimated the Commission will have a total surplus of about \$200,000; after funding the activities to which the Commission is already committed, representing about \$77,900, approximately \$120,000 will be left for other projects.

Mr. McCarthy noted OES will be providing \$40,000 for the *California Loss Reduction Plan*, and the Department of Finance will be providing \$50,000 in reimbursement for AB 16 activities. He added that if the reimbursement money is received in March or April, the Commission will have very little time left to commit the funds, so it would help to have a list of priorities available.

Commissioner Shapiro commented that it might be helpful for commissioners to have more explanation of the proposed projects. Mr. McCarthy proposed that the staff send emails to commissioners elaborating a bit more on each project.

Mr. McCarthy said he would like the Commission to decide on its list of priorities at the March meeting and authorize co-sponsorship of the disaster-resistant conference later in this meeting.

### **FEMA Appeal**

Mr. McCarthy noted that if FEMA's ultimate decision on the appeal is unfavorable, the Commission does not have sufficient funds to pay the costs being assessed. He recommended using budget funds to pay for other projects instead. He invited Mr. Jacks to discuss the FEMA appeal with the Commission.

OES Deputy Director Paul Jacks stated that OES fully supports the Commission's appeal. He noted many other state agencies are having difficulty making adjustments resulting from after-the-fact changes in FEMA policies. Instead of the Commission dealing with its debt as an individual case, he recommended working on a statewide basis with other state agencies that are similarly affected. Mr. Jacks said he would be discussing the situation with the Department of Finance, and he advised the Commission to let OES handle this matter.

## **II. CHAIRMAN'S REMARKS (Continued)**

Chairman Clark apologizing for failing to mention earlier that former Commissioner Don Manning had been selected to serve on the Commission as the delegate for newly appointed Assemblymember Liu. He welcomed Commissioner Manning and invited him to address the Commission.

Commissioner Manning said Assemblymember Carol Liu was very excited about her election to the Assembly. He noted Assemblymember Liu has a strong interest in education and seismic safety. He added he was pleased to be representing Ms. Liu and looked forward to helping the Commission achieve its mission of improving seismic safety in California.

Commissioner Nishinaga asked Commissioner Manning to invite Assembly Member Liu to attend a Commission meeting in the future. Commissioner Manning responded that he would try to arrange for her to attend a meeting soon.

Chairman Clark announced that February 13 was Commissioner Jones' birthday, and he wished her a happy birthday.

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### **V. COMMITTEE REPORTS**

#### **Education and Outreach Committee**

Chairman Clark asked Commissioner Palmer to arrange a meeting of the Education and Outreach Committee before the next meeting so the maps and other materials can be presented to legislators in conjunction with the March meeting.

#### **Research Plan Update Committee**

Commissioner Jones reported that she contacted several people about their willingness to serve on the Research and Implementation Committee. She said possible members include Commissioner Adelman; Tom Jordan, University of Southern California/Southern California Earthquake Center; Ed Bortugno, OES; Michael Reichle, California Geological Survey (CGS); Paul Jennings, ex-provost of Cal Tech and member of the Pacific Earthquake Engineering Research Center; Cliff Robblee, Caltrans; and Susan Tubbesing. She welcomed feedback from the Commission. Commissioner Jones added that she was seeking a balance between earth science and engineering, as well as a broad representation from research organizations.

Chairman Clark commented that the proposed roster seems to represent a good balance.

Mr. McCarthy noted the target audience for the Commission's Research Implementation Plan include decision-makers in the Legislature and the Governor's Office, so the plan needs to be written in non-technical, plain language. Commissioner Jones said she planned to do much of the drafting herself.

Commissioner Jones added that she plans to call the first meeting of the committee sometime in March so the plan can be completed by the July deadline.

**ACTION:** Commissioner Jones made a motion, seconded by Commissioner Nishinaga, that:

*The Commission approve the proposed slate of committee members.*

\* Motion carried, 10 - 0.

#### **Fair Political Practices Commission (FPPC) Disclosure Forms**

Ms. Cogan reminded commissioners to complete their disclosure forms and submit them to her by March 20.

### **VI. LEGISLATIVE REPORT**

Mr. Sepulveda drew attention to the report under Tab C of the meeting packet. He said the Legislative Advisory Committee met on February 12 to review proposed legislation. He noted the deadline for introducing legislation is February 21.

### **Commission-Sponsored Legislation**

Mr. Sepulveda said that the Commission provided direction to staff at the January meeting to proceed to develop four pieces of legislation, which summarized in Exhibit 1.

Mr. Sepulveda noted the Seismic Safety Bond Act of 2004 proposes issuance of up to \$700 million in general obligation bonds for the retrofit of local essential services buildings, plus education and outreach. He said the staff is working with Assemblymember Liu, who has agreed to author and introduce the bill.

Mr. Sepulveda stated that the second proposed bill, regarding design-build construction for K-12 schools, is being considered by Senator Alarcon for introduction. If he decides not to proceed with the bill, Assemblymember Corbett has been contacted as a backup.

Mr. Sepulveda said the staff approached Assemblymember Ron Calderon about introducing a bill for mandatory strapping of water heaters in rental residential units; as a backup, Assemblymember Alan Lowenthal is considering the bill.

Mr. Sepulveda reported that the bill regarding school safety and preparedness, calling for local fire services to perform regular inspections, was presented to Assemblymember Corbett for her consideration. Both Assemblymember Corbett and the Governor's Office expressed concern about potential costs, so the staff has been engaged in a series of discussions to investigate alternatives.

### **Other Bills**

Mr. Sepulveda drew attention to the written legislative report for information on bills that were already introduced. He said the Legislative Advisory Committee and staff will come back next month with recommendations for specific positions.

Mr. Sepulveda noted AB 28 (Pavley), pertaining to firefighting equipment, may dovetail with the Commission's interest in urban search and rescue. He said the staff has been working with Assemblymember Pavley's office to coordinate efforts.

Mr. Sepulveda noted AB 86 (Daucher), regarding "home rule" districts for charter schools, specifies that these districts would have to comply with the Field Act, consistent with Commission policies.

Mr. Sepulveda said AB 97 (Nation) expands required training for teachers to include proficiency in emergency preparedness.

Mr. Sepulveda noted AB 152 (Levine) is a spot bill relating the regulations promulgated by the Division of the State Architect as a follow-up to the Commission's AB 16 report. He added there are no specific provisions yet, but the staff will continue to watch this bill. Also related to AB 16, AB 225 (Frommer) directs the Division of the State Architect and Department of Education to develop a checklist for assessing private buildings for their suitability for

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conversion to schools.

Mr. Sepulveda also drew attention to SB 9 (McClintock and Perata), which establishes a commission to study certain state entities and make recommendations for their reorganization or termination. He noted the Seismic Safety Commission would be subject to review by this body.

Commissioner Manning asked about the impact of the federal homeland security program on AB 28. Mr. Sepulveda responded that AB 28 contemplates using only federal funds. He said the specific funding sources would be coordinated through OES.

## **Governor's Budget Proposal**

Mr. Sepulveda reported that Governor Davis released his proposed budget for 2003-04 on January 10. The major impact on the Commission would be a change in funding from the general fund to the insurance fund, currently administered by the Department of Insurance. The governor proposes enactment of legislation to impose a \$1 surcharge on all earthquake insurance policies to pay for the Commission's activities and operations. Mr. Sepulveda noted the specific legislation has not yet been drafted, so the details are still unknown.

Mr. Sepulveda said the proposed change has both advantages and disadvantages for the Commission. He observed that if the budget is signed on July 1, the new legislation would probably not go into effect until January 1. This means surcharge revenues would not be available until then, leaving a possible gap in funding between July 1 and January 1 that would need to be covered by the insurance fund. Mr. Sepulveda said another concern is the decreasing number of earthquake insurance policies being written by the state in recent years. He noted that this is a typical cyclic pattern reflecting the length of time since the last major earthquake. However, if the Commission is depending on surcharge revenues, that amount might be insufficient to cover activities in certain years. Mr. Sepulveda clarified that the surcharge revenues would not flow directly to the Commission; instead, they would be deposited in the insurance fund, from which a yearly appropriation would be made by the Department of Insurance for the Commission.

Chairman Clark commented that the Commission might benefit from the proposed change because its budget would no longer be tied to the general fund.

## **VII. EARTHQUAKE SHAKING POTENTIAL FOR CALIFORNIA - MAP PROJECT**

Staff Geologist Bob Anderson said the staff has been working Commissioner Jones, Chairman Clark, and representatives from OES and CGS to develop a map for legislators showing estimated earthquake shaking potential in California. He noted all participants have reached consensus on the map, and he welcomed feedback from the Commission. Mr. Anderson showed the proposed map and explained how it depicts the risk of shaking in various areas of the state. He said the map is available in both a large 3-foot by 4-foot size and a smaller size.

Commissioner Jones explained that the map shows exceedence probability, or intensity level that has a 10 percent chance of being seen in a fifty-year period.

Chairman Clark proposed making the box of bullets smaller to make the map more prominent.

Chairman Clark added that the larger version of the map can be displayed as a laminated chart, while the smaller will be made available in a downloadable PDF format on the Commission's Web site. He noted the map can be used by legislators to see the levels of risk in their districts.

Commissioner Nishinaga asked if the map could be used to analyze seismic vulnerability of structures. Commissioner Jones clarified that the map is not intended for technical purposes. Instead, she said, the maps developed by CGS and U.S. Geological Survey that are tied to the California Building Code should be used for technical applications.

Commissioner Nishinaga asked how the new maps differ from zone maps. Chairman Clark explained that the zone maps are derived from the same basic information about ground acceleration values, but the information is presented in a different form.

Commissioner Shapiro added that the zone maps will probably be used less in the future as the new shaking maps become more prevalent.

ACTION: Commissioner Palmer made a motion, seconded by Commissioner Parker, that:

*The Commission approve the map as proposed, subject to a few additional editorial changes to be made before publication.*

\* Motion carried, 10 - 0.

### **VIII. APPLYING CALIFORNIA'S SEISMIC SAFETY METHODS IN DEVELOPING COUNTRIES**

Chairman Clark introduced and welcomed Dr. Brian Tucker, President, GeoHazards International. He noted Dr. Tucker received a MacArthur Award last fall for his work in earthquake risk reduction in developing countries. He invited him to discuss his work with the Commission.

Dr. Tucker noted he previously worked with the California Division of Mines and Geology and was in charge of the geological hazards program, where he learned a great deal of useful information about improving earthquake safety. After leaving state employment, he said, he decided to focus his effort on applying risk reduction methods abroad. Dr. Tucker added that his work has given him a deep appreciation for the work being done in California, but also an awareness of what needs to be done to improve seismic safety worldwide. He commended the Seismic Safety Commission for the vision reflected in the five-year *California Earthquake Loss Reduction Plan*.

Dr. Tucker reviewed activities of GeoHazards International over the past twelve years. He discussed use of applied geological survey scenarios in Quito, Ecuador, and Kathmandu, Nepal to improve public buildings with low-cost retrofits. He noted this project has been expanded to

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nine cities in Europe, Asia, Africa, and Latin America. In addition, funding from USAID has resulted in projects in two capital cities in Central Asia and twenty cities in India. Dr. Tucker said the basic methodology involves estimating risk and damage, communicating that information to public officials, and developing affordable solutions.

Dr. Tucker reported that GeoHazards International projects have succeeded in improving seismic safety for hundreds of children in retrofitted schools, educating public officials about their seismic risks, helping numerous cities formulate action plans to address their hazards, and strengthening several local earthquake risk management organizations. He commented that although his work has been very satisfying, it represents only a small fraction of what needs to be done worldwide. He noted that in many countries, there is flagrant disregard for building codes and few consequences when things go wrong. Dr. Tucker said that even though the benefits of low-cost retrofits can be demonstrated, many governments are unwilling fund public safety improvements. He observed that simple exchanges of information are ineffective in solving this problem.

Dr. Tucker stated that about two thirds of the countries of the world are vulnerable to earthquakes. He observed that losses due to natural disasters increased from \$60 billion in the 1960's to \$600 billion in the 1990's. He displayed a graph showing the disparity between industrial and developing countries in terms of the populations living in earthquake-vulnerable cities, and pointed out the risk is increasing far more rapidly in poor countries. Dr. Tucker noted that although the problem is global and urgent, solutions are affordable and technologically feasible. He estimated that for about one tenth of a percent of the world's gross domestic product, it would be possible to make all new dwelling earthquake-resistant. However, Dr. Tucker added, the lack of public demand and lack of government incentives are formidable obstacles to progress.

Dr. Tucker advocated a radically new approach to addressing the worldwide problem of earthquake hazards. He recommended forming an global network to rate countries and businesses based on accepted standards, applying moral pressure to countries not living up to norms, and exchanging knowledge and technology. He noted the Seismic Safety Commission could play a vital role in this picture, and he welcomed assistance in the future.

Commissioner Moy suggested the possibility of creating minimum shelter guidelines tailored for the economic conditions and resources of each country. He noted it would be helpful to provide examples and design drawings of earthquake-resistant structures that could be built with the materials available in each community. Dr. Tucker said such programs are available. As an example, he cited designs developed by Dr. Ari for India, which have been picked up by UNESCO and other organizations for wider distribution. He noted providing information makes some difference, but the real problem is creating public demand and awareness, and then garnering governmental support. Dr. Tucker added that earthquake hazard awareness tends to increase in the period immediately after an earthquake, and then wanes as time passes.

Commissioner Jones observed that the real problem is not knowledge, but will. She said she was part of the U.S. committee for the United Nations' International Decade, and was disappointed to see how little progress was made. She questioned how to build corporate will to effect change,

in both the U.S. and elsewhere.

Commissioner Shapiro commented there are extreme economic pressures in developing countries that make it very difficult to convince people to spend any money on earthquake-resistant construction. He noted this was amply demonstrated after the large earthquakes in Turkey, where a large cottage industry continues to supply unreinforced masonry building supplies. As a result, new buildings were being constructed with exactly the same materials as before. Commissioner Shapiro added that outlawing unreinforced building materials would have a devastating effect on the local economy.

Dr. Tucker suggested coming up with ways of using the same material, but with elements to make buildings stronger, like anchor bolts and rebar. Commissioner Shapiro pointed out that adding anything new would make the process prohibitively expensive for people in developing countries. Dr. Tucker expressed an interest in meeting with Commissioner Shapiro later to develop more credible estimates of incremental costs. He clarified that his original estimate of one tenth of one percent was based on global GDP rather than the cost of a building project. Commissioner Shapiro observed that problems on a micro scale are likely to make macro solutions very difficult.

Chairman Clark asked what types of influence seem to work best in developing countries. Dr. Tucker said dedicated nonprofit organizations can make a difference. He noted he developed a relationship with the mayor of Quito based on mutual trust, and that interaction created an environment where progress was possible. However, he added, because individuals in key positions can change over time, the best approach might be to create and strengthen local organizations. Dr. Tucker said tourism might provide new avenues. For example, he said, if local engineers can rate hotels on safety, the publicity could provide revenues and positive incentives for improving safety. He also advocated working on a global and international level to promote standards and guidelines.

Chairman Clark commended Dr. Tucker for his work and thanked him for his presentation.

## **IX. BRIEFING ON JANUARY 21, 2003 EARTHQUAKE IN COLIMA, MEXICO**

Commissioner Jones gave an overview of the recent magnitude 7.8 earthquake in Colima, Mexico. She provided a brief explanation of how earthquake magnitudes are determined. She discussed the geologic conditions near Colima and showed slides illustrating patterns from historic earthquakes.

Commissioner Jones noted existing seismic stations can be used to provide some advance warning of earthquakes, but warnings would be imprecise as to the earthquake's size and geographical extent. In Mexico, she said, where nearly all earthquakes come from the coast, a simple early-warning system has been established to alert people when strong shaking is detected.

Commissioner Parker said his fire service district just spent considerable money on a P-wave detection system so fire station doors will open automatically to allow equipment to be removed.

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Commissioner Jones stated that absent the corporate will to provide a large-scale early warning system in California, simpler systems such as P-wave detectors can be used, but they will have high false-alarm rates. She added that false alarms would not be a big problem for fire stations, so the system would still be worthwhile. She also noted that if a major earthquake occurs close by, a P-wave system would provide very little advance warning.

Commissioner Parker observed that the Richter scale is no longer being used to describe magnitudes, and he suggested it might be beneficial to communicate that information through the Education and Outreach Committee.

Chairman Clark agreed, and noted the seismological community did not anticipate the extent of public confusion that arose when the magnitude system was changed. He observed that magnitude alone is not a very useful measurement, but ground shaking provides a better tool for predicting damage and planning post-disaster response. He supported Commissioner Parker's suggestion about educating the public about what ground shaking means.

Commissioner Jones expressed her opinion that abandoning the Richter scale magnitude system was a disservice to the public. She said seismologists have been working since then to develop a consistent scale that better expresses the range of earthquake energy. Commissioner Jones noted scientists have improved their measurement techniques, there is still a gap in public understanding. She observed that magnitude is useful only in terms of describing energy, but it does not indicate shaking or damage potential. Commissioner Jones added it would be better to refrain from announcing any magnitude than to confuse the public.

Chairman Clark recommended talking in terms of shaking levels instead of magnitude. Commissioner Jones noted an alternative might be to use a modified Mercalli scale describing peak intensity correlated with likely damage levels.

Chairman Clark thanked Commissioner Johnson for her presentation.

Mr. Anderson reviewed preliminary results from some of the engineering reconnaissance teams sent to Colima after the earthquake. He said the area of damage was primarily confined to six states in Mexico, although thirteen states reported some damage. The earthquake occurred during the evening hours, and there were 29 fatalities, up to 300 injured, and 10,000 homeless. Mr. Anderson noted housing was a major issue; 13,000 houses were damaged, of which about 2,000 were completely destroyed and 3,400 were partially destroyed.

Mr. Anderson said the early-warning system was deployed in the earthquake, but there was no general alert to the public. School buildings, businesses, port facilities, and a power plant were damaged. Electricity was out for about five hours in the local area, and Mexico City, approximately 310 miles east of the epicenter, experienced brown-outs and black-outs.

Mr. Anderson noted that after the major earthquake in Mexico City in 1985, the Mexican government made significant improvements in response capabilities. As a result, infrastructure services were back in operation in the earthquake-affected areas within five days. Mexican President Vicente Fox visited Colima and made a commitment to rebuild the homes lost during

the earthquake, and money has been aside for relief purposes.

Chairman Clark thanked Mr. Anderson for the briefing.

## **X. SAN DIEGO SEISMIC RISK & LOS ANGELES AREA OUTREACH**

Chairman Clark welcomed Professor Patrick Abbott, Department of Geology, San Diego State University, and invited him to discuss earthquake risk in the San Diego area and an outreach video project.

Professor Abbot presented a general overview of seismic risk in San Diego. He displayed a recently released map of the area and highlighted major earthquake faults. Professor Abbott noted there is some new information that has contributing to a greater understanding of risk in the area. In particular, he noted, paleoseismologist Tom Rockwell and his students have discovered large slip events on the Brawley Fault connecting to the Imperial Fault.

Commissioner Jones commented that the Brawley Fault has periodic variations in seismicity, so the slips may have been triggered events.

Professor Abbott said Tom Rockwell also found accumulated slips along the San Andreas Fault. Researchers have also been studying links between the San Jacinto Fault and the Coyote Fault, and new evidence has been discovered of large earthquakes about 220 to 230 years apart in the Anza Gap. Professor Abbott commented that this evidence suggests more connectivity than was previously thought.

Professor Abbott reported he was also working on development of an educational video on the Los Angeles Basin to help explain the basic geology of the region to members of the public. He said the video will use a combination of virtual reality, satellite imaging, helicopter footage, original computer animation, lab demonstrations, and photography to create a visually compelling and interesting presentation. Professor Abbott noted a similar video produced for San Diego won two awards, and he showed excerpts from that video.

Professor Abbott added that the San Diego video was produced with an extremely low budget. He said he hoped the Los Angeles product would be better, and he said he expected the video to be completed in time for the tenth anniversary of the Northridge earthquake in January, 2004. He welcomed financial support for the from the Seismic Safety Commission and other organizations.

Professor Abbott added that he would leave a copy of the San Diego video with the staff for commissioners to view at their leisure. He noted streaming video technology could allow viewing of the video on the Commission's Web site as well.

Chairman Clark thanked Professor Abbott for his presentation. He said the Commission will take the funding request under advisement.

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### **XI. UPDATE ON EMERGENCY MANAGEMENT IN SAN DIEGO COUNTY**

Ms. Deborah Steffen, Director, San Diego County Office of Emergency Services, provided an overview of the emergency management system in San Diego. She noted the county is broken up into five general management groups, with her office in charge of the public safety component.

Ms. Steffen described how the focus of emergency management has been expanded from civil defense in the 1950's and 1960's to natural and manmade disaster response in recent years. She noted that from an emergency management and vulnerability perspective, San Diego is unique because of its large military presence, a nuclear power plant, and the international border. Ms. Steffen commented that the recent emphasis on homeland security and anti-terrorism efforts needs to be integrated with ongoing emergency management activities. She noted besides coping with natural and manmade disasters, emergency managers are now being expected to deal with the threats of terrorism, anthrax, homicide bombers, and biological and chemical attacks. She added the workload in her office has tripled since September 11, 2001, while staffing levels have remained the same.

Ms. Steffen said that over the past decades, the staff composition of the San Diego County OES has evolved from primarily retired military personnel to more technical experts and professional emergency managers. She noted citizen volunteers have become increasingly important as a way of coping with the expanded workload. She added her group works closely with the Federal Bureau of Investigation, Emergency Medical Services, government bodies, and emergency response organizations.

Ms. Steffen said the type of advice given to citizens has changed a bit over time. In the 1950's, the public was advised to build bomb shelters; in later years, the emphasis was placed on stocking emergency supplies; more recently, people are advised to maintain emergency supplies and watch their neighbors.

Ms. Steffen reported that the San Diego County OES just completed automating its emergency operations center (EOC). Testing of emergency management software is underway, and use of that system will eventually be expanded to other departments. Ms. Steffen said ongoing staff activities involve regular training, processing and coordination of grant applications, updating the emergency plan, and preparing for a countywide hazard mitigation study; future initiatives will include improving EOC security and staffing, implementation of countywide crisis management software, and obtaining personal protective equipment for emergency responders.

Chairman Clark thanked Ms. Steffen for her presentation.

### **XII. DISASTER-RESISTANT CALIFORNIA CONFERENCE**

OES Deputy Director Paul Jacks discussed the Disaster-Resistant California Conference, scheduled for April 21 through 23 in San Jose. He noted the purpose of the conference is to promote public-private partnerships in an effort to reduce vulnerability of communities to natural and manmade disasters. He explained that FEMA initiated its Project Impact program in 2000 to

encourage cities throughout the U.S. to take steps to mitigate natural hazards.

Mr. Jacks said the theme of this year's conference is multi-hazard mitigation through innovation, integration, and implementation. He noted possible guest speakers include First Lady Sharon Davis, Insurance Commissioner John Garamendi, a representative from the Mexican government, and possibly State Treasurer Phil Angelides. He reviewed highlights of the proposed agenda, and asked the Commission to consider co-sponsoring the event with a financial contribution.

Mr. McCarthy recommended that the Commission authorize a total expenditure of \$25,000 for the conference. He noted Commission registration fees and travel expenses will total approximately \$15,000.

ACTION: Commissioner Moy made a motion, seconded by Commissioner Nishinaga, that:

*The Commission authorize expenditure of an additional \$10,000 for the Disaster-Resistant California Conference as proposed.*

Mr. McCarthy clarified that the total amount authorized would be \$25,000.

\* Motion carried, 10 - 0.

### **XIII. MISCELLANEOUS - PUBLIC COMMENT PERIOD**

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

Mr. McCarthy drew attention to the driving directions for the field trip after lunch.

### **XII. GOOD OF THE MEETING**

Commissioner Nishinaga asked for clarification as to what number constitutes a quorum at a committee meeting. Mr. McCarthy responded that a simple majority of committee member constitutes a quorum. Chairman Clark noted that if people are unable to attend in person, they can participate by telephone and be counted toward the quorum.

Mr. McCarthy added that meetings must be announced ten days in advance if there are three or more commissioners on the committee.

### **XIII. ADJOURNMENT**

There being no further business, a motion was made and seconded that the meeting be adjourned. The meeting was adjourned at 12:30 p.m.

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Karen Cogan  
Executive Assistant

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Approved by:

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Richard McCarthy  
Executive Director