

Seismic Safety Commission
Minutes of Meeting
March 14, 2002
State Capitol, Room 444
Sacramento, California

Members Participating

Bruce R. Clark, Chairman
Stan Y. Moy, Vice Chair (arr. 9:18 a.m.)
Mark Church (arr. 9:10 a.m.)
William L. Gates
Lawrence T. Klein
Linden Nishinaga
Ashok S. Patwardhan
Daniel Shapiro

Members Absent

Andrew Adelman
Senator Richard Alarcon/Chris Modrzejewski
Douglas E. Mochizuki

Staff Participating

Richard McCarthy
Karen Cogan
Robert Anderson
Abby Browning
Henry Reyes
Henry Sepulveda
Fred Turner
Vincent Vibat

I. CALL TO ORDER/ROLL CALL

The meeting of the Seismic Safety Commission was called to order by Chairman Bruce Clark at 9:05 a.m. Executive Assistant Karen Cogan called the roll and confirmed the quorum.

II. CHAIRMAN'S REMARKS

Chairman Clark said he would defer his remarks until specific agenda items were addressed.

III. APPROVAL OF FEBRUARY 14, 2002 MEETING MINUTES

ACTION: Commissioner Shapiro made a motion, seconded by Commissioner Klein, that:

The Commission approve the minutes of the February 14 meeting.

* Motion carried, 6 - 0 (Commissioners Church and Moy absent during voting).

Chairman Clark noted there were a few typographical errors he pointed out to the staff.

IV. EXECUTIVE DIRECTOR'S REPORT

Resolution Honoring Former Commissioner Jeffrey Johnson

Executive Director Richard McCarthy recommended approval of a draft resolution thanking Jeff Johnson for his service on the Commission. He said the final version would be framed and mailed to Mr. Johnson.

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

The Commission approve the resolution as recommended.

* Motion carried, 6 - 0 (Commissioners Church and Moy absent during voting).

California Earthquake Loss Reduction Plan Update

Mr. McCarthy reported that Governor Davis signed the *California Earthquake Loss Reduction Plan*, and the Department of Education is in the process of having the document printed. He provided color copies to commissioners. Mr. McCarthy said the governor is currently reviewing a press release announcing the official release of the *Plan*.

Mr. McCarthy noted the Office of Emergency Services contracted with the Seismic Safety Commission to provide \$40,000 for producing the *Plan*. Of that amount, only \$26,000 was spent, including \$5,000 for printing. Mr. McCarthy noted OES would like to modify the contract so the unused funds can be used on other projects. He said a proposed memorandum of understanding (MOU) will be coming to the Commission for review and consideration at the May meeting.

Mr. McCarthy indicated the staff will be following up on the initiative progress tracking report by contacting people who have not yet responded.

Mr. McCarthy said FEMA representatives will be meeting with the Commission & OES staff sometime in May to review and discuss the revised Loss Reduction Plan.

Chairman Clark asked the staff to make sure former Commissioner Pat Snyder is invited to attend the press conference announcing the release of the *California Earthquake Loss Reduction Plan*. Mr. McCarthy said the staff plans to invite a number of former commissioners who played key roles in developing the document. He added copies of the press release will be mailed to all commissioners.

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Future Meetings

Mr. McCarthy reminded commissioners of the Hetch Hetchy field trip scheduled in conjunction with the May meeting. He said commissioners should plan to arrive in Sonora on May 7 in time to attend a wine-tasting reception that evening. He noted May 8 will be devoted to the field trip, and the Commission will hold its regular meeting on the morning of May 9.

Mr. McCarthy said the June meeting in San Diego will focus on applied research, and a tour of the research lab at San Diego State is being arranged in conjunction with that meeting.

Mr. McCarthy noted the staff is planning a hearing at the July meeting regarding gas shut-off valves. At that time, the ad hoc committee's report will be presented, and the Commission can take testimony on the issues.

Mr. McCarthy encouraged all commissioners to attend the field trip to the new OES operations center immediately following the meeting. He noted maps were available for commissioners wishing to drive.

Response to Budget Reductions

Commissioner Gates reviewed the most recent Commission budget projections. He said that although a small end-of-year surplus had been anticipated, the recent series of statewide budget cuts will probably wipe out any surplus. He noted the Commission had been asked to cut \$26,000, then \$35,000, and now more is being considered.

Commissioner Gates recommended using funds from this year's budget for a new contract to fund student interns through April, May, and June 2002. Commissioner Patwardhan asked about the funding prospects in the future for student interns. Commissioner Gates responded that the Commission has budgeted funds for next year, but money is needed to finish out the remaining months of this fiscal year.

ACTION: Commissioner Shapiro made a motion, seconded by Commissioner Klein, that:

The Commission authorize entering into a contract as necessary to fund student interns through the end of the 2001-2002 fiscal year.

* Motion carried, 7 - 0 (Commissioner Moy absent during voting).

V. COMMITTEE REPORTS

Ad Hoc Committee on Gas Valve Seismic Safety

Commissioner Moy reported that the committee had conducted its fifth ballot, and a final report was being prepared. He recommended disbanding and adjourning the committee when that task was completed.

Chairman Clark said the Planning Committee had suggested publishing testimony from the July hearing as a separate report. Commissioner Moy and other commissioners supported that approach.

Mr. McCarthy said a letter will be sent to all interested parties inviting them to provide testimony at the July hearing. He proposed June 26 as a response deadline.

VI. LEGISLATIVE REPORT

Commission-Sponsored Bills

Director of Legislation Henry Sepulveda reported on the status of the three Commission-sponsored bills.

Mr. Sepulveda said AB 977 (Alquist), providing for replenishment of the Commission's emergency investigations account, is being held in suspense in the Senate and is likely to be heard in August. He noted the staff will be working diligently to pass this bill.

Mr. Sepulveda reported that SB 717 (Speier), the \$600 million retrofit bond bill, is being held in suspense in the Assembly. He said the staff is also working for passage of this bill, but funding constraints will pose a major challenge. Governor Davis indicated he will sign \$15 billion worth of bond bills this year, of which \$10 billion has already been committed for education, \$2 billion for housing, and another \$2.3 billion for park development.

Mr. Sepulveda noted AB 2002 (Alquist), regarding urban search and rescue (USAR), is likely to be amended soon and set for hearings in late March or early April. He said the latest amendments call for establishment of an advisory group to work with OES to determine the state's USAR needs and make recommendations to the Governor and Legislature. Mr. Sepulveda added there are other bills dealing with terrorism and security, but none addressing USAR directly.

Regarding SB 1717, Commissioner Patwardhan asked if single-family residences were included in the residential retrofit provisions. Mr. Sepulveda responded that the bill earmarks \$150 million for single-family and \$150 million for multi-family residences. He said SB 1717 also provides funding for low-interest loans and outreach and promotion activities through the Seismic Safety Commission. He added the bill includes guidelines for eligibility.

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New Bills

Mr. Sepulveda recommended that the Commission take positions on a number of new bills.

SB 27 and SB 1350 (McPherson/Burton)

Mr. Sepulveda noted SB 27 (McPherson/Burton), similar to SB 1350, would require OES to develop bioterrorism training curriculum, but no funding source is provided. He recommended the Commission support both SB 27 and SB 1350.

Chairman Clark asked about the possibility of incorporating a USAR component. Mr. Sepulveda said the staff had not discussed that with the authors.

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

The Commission support SB 27 and SB 1350.

* Motion carried, 8 - 0.

SB 332 (Sher)

Mr. Sepulveda recommended maintaining a neutral position on SB 332, dealing with straw bale construction. Commissioner Nishinaga asked about the intent of the legislation. Commissioner Shapiro said proponents of straw bale construction cite its environmental benefits.

SB 355 (Escutia)

Mr. Sepulveda said SB 355 is a “spot bill” focused on a recent court decision regarding developer liability for defects. He noted the staff will continue to monitor the bill’s progress, and no position is being recommended at this time.

SB 709 (Alpert)

Mr. Sepulveda said Senator Alpert indicated she intends to withdraw this bill, dealing with use of nonconforming buildings as schools. The Commission staff will continue to track the bill.

SB 842 (Speier)

Mr. Sepulveda noted the Commission currently has a “support if amended” position on this bill to extend the hospital retrofit deadline five years for hospitals meeting certain requirements. Staff recommends no change in this position.

SB 928 (Dunn)

Mr. Sepulveda recommended the Commission continue to support SB 928, which would authorize the issuance of state bonds to fund retrofit projects at nonprofit hospitals.

SB 1500 (Johnson)

Mr. Sepulveda said the staff is not yet prepared to recommend a position on SB 1500, a bill that would change the Seismic Hazards Mapping Act to allow local jurisdictions to request the state to revise maps to show areas that have been previously mitigated. He noted Mr. Robert Anderson and Chairman Clark are currently analyzing the bill's provisions and their impact on seismic safety.

Mr. Anderson expressed his opinion that the significant revisions proposed in SB 1500 would undermine the purpose of the Seismic Hazards Mapping Act. He said the California Geological Survey (CGS) has completed state-approved maps for about one third of the state so far. A major concern with revising the maps would be exposing the state to liability for accepting certain areas as having been mitigated. Mr. Anderson noted scant records exist for verifying that graded and developed sites were mitigated sufficiently to be exempted on the hazard maps. He added that mitigation standards and the levels of mitigation supposedly achieved are unclear.

Chairman Clark commented that this topic was also debated when the first maps were generated in the early 1990's. He noted it is difficult for CGS to make decisions regarding mitigation because there are no accepted standards, only guidelines. He recommended leaving mitigation decisions up to local jurisdictions and expressed his opinion the state should not take on this kind of liability.

Chairman Clark noted the controversy arose recently when the City of Laguna Niguel objected to how some of its land was portrayed on the seismic hazard maps. They contended the mitigated area should not be designated as still hazardous, but the grading in that development was done before there were maps or standards in place. Chairman Clark observed there is no way now to know if the mitigation done in Laguna Niguel was adequate. In addition, he pointed out, CGS lacks the technology capability and funding to take on mitigation assessment.

Chairman Clark expressed doubt that any amendments would make SB 1500 acceptable. He recommended the Commission take an "Oppose" position.

Mr. Sepulveda clarified that SB 1500 is not narrowly drawn and does not reference Laguna Niguel. Chairman Clark noted that if SB 1500 passes, other jurisdictions are likely to protect map designations as well.

Commissioner Klein asked what problem SB 1500 is trying to solve. Chairman Clark explained that the issue is the extent of disclosure required in property sales.

Commissioner Patwardhan agreed with Chairman Clark that the Commission should oppose the bill, on the grounds of practicality. He added property owners have the option of conducting site-specific studies to show more information than what the hazard maps indicate.

Commissioner Church noted that on the other hand, maps should recognize areas where mitigation has occurred.

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Chairman Clark observed that it is impossible to mitigate all hazards 100 percent. He said time is an issue too because many developments in California were based on old studies and no standards. Chairman Clark also noted the state seismic hazard maps are not intended to be site-specific, and the boundaries are not exact. He added the lines on the maps were based on the best technical information and judgment at the time they were prepared.

Commissioner Church commented that the concept behind the proposed legislation was good, but the science of mitigation needs to develop more before the provisions would be practical.

Commissioner Patwardhan observed that the issue revolved around microzonation. He noted it should be up to the state to develop guidelines, and then local and regional authorities should have jurisdiction to define microzones.

Mr. Charles Real, California Geological Survey, said CGS lacks the resources to implement SB 1500. He noted technology is currently available to produce high-resolution mapping for local land use planning purposes. Mr. Real said CGS is currently involved in a ten-year program to map high-risk areas of the state, and that effort will take much longer if higher resolution is required.

Commissioner Klein commented that buyers of property have a responsibility to exercise due diligence in inspecting land for themselves and not just rely on state assurances. Commissioner Shapiro agreed. He noted a potential buyer can conduct studies to determine if mitigation was effective. He questioned the need for SB 1500.

Mr. Real added that of the hundreds of jurisdictions in California, Laguna Niguel was the only one contesting the map designations. He noted Laguna Niguel in particular has a history of landslides and serious slope failures.

Commissioner Patwardhan supporting working toward microzonation as a desirable objective in the future. He recommended that local jurisdictions and state agencies work as partners on that task. Commissioner Church endorsed the concept of partnerships.

Chairman Clark proposed opposing SB 1500 or waiting for further analysis at the next meeting. Commissioner Patwardhan suggested a “propose unless amended” position. Mr. McCarthy noted that in an “oppose unless amended” position, the Commission needs to specify which amendments would make the bill acceptable.

Chairman Clark observed the bill does not identify costs, and it does not address liquefaction and other hazards. He added that looking at topography does not necessarily demonstrate the adequacy of mitigation for many soils hazards.

Mr. Sepulveda noted SB 1500 is likely to be heard before the Commission’s next meeting in May.

ACTION: Commissioner Klein made a motion, seconded by Commissioner Shapiro, that:

The Commission adopt an “oppose” position on SB 1500.

Commissioner Church said he agreed an “oppose” position was appropriate because of the bill’s impracticality given the current state of mitigation science.

Commissioner Nishinaga asked if the Commission could convey comments along with the “oppose” position. Mr. Sepulveda responded that the staff can articulate the Commission’s concerns in a letter.

Commissioner Patwardhan again expressed support for the idea of local-state partnerships working toward a future goal of microzonation. Chairman Clark agreed, but noted SB 1500 was not the appropriate vehicle.

Commissioner Gates asked the staff to differentiate in the letter between mitigating landslides and liquefaction science.

Mr. Real added that CGS does take new topography into account because the hazard maps are based on aerial photographs and radar data.

* Motion carried, 8 - 0.

SB 1629 (Soto)

Mr. Sepulveda noted SB 1629 deals with training grants for OES firefighters and emergency personnel. The author is working to obtain federal funds. Mr. Sepulveda recommended the Commission support SB 1629.

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

The Commission adopt a “support” position on SB 1629.

* Motion carried, 8 - 0.

AB 557 (Aroner)

Mr. Sepulveda noted the Commission already supports AB 557, a bill providing bonds for hospital seismic improvements. He added the competition for bond funding this year will be a significant obstacle.

AB 940 (Keeley)

Mr. Sepulveda said the staff is watching AB 940, a bill that would add two new voting members to the California Earthquake Authority. He noted AB 940 is dormant now.

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AB 1000 (Simitian)

Mr. Sepulveda noted the Commission previously adopted an “oppose unless amended” position on AB 1000, a bill that would allow community colleges to use design-build construction for certain projects. He said the staff is still working with the author, and the sponsor (California Community Colleges) has agreed to the Commission’s requested amendments.

AB 1156 (Aroner)

Mr. Sepulveda said movement is unlikely on this hospital bond bill, which the Commission supports.

AB 1362 (Wiggins)

Mr. Sepulveda noted the staff will continue to watch AB 1362, a bill that calls for a new council to establish reuse guidelines for existing buildings. He noted the governor vetoed this bill last session, and staff believes the task can be accomplished without legislation.

AB 1815 (Frommer)

Mr. Sepulveda noted AB 1815 proposes \$500 million in bonds for homeland defense activities. He observed this bill might be suitable for combining with USAR, and he recommended maintaining a “watch” position.

AB 2035 (Frommer)

Mr. Sepulveda said AB 2035 establishes three disaster field hospitals to supplement existing bed capacity in emergencies. Although no source of funding has been identified, staff recommends the Commission support AB 2035. Chairman Clark observed that AB 2035 is consistent with the initiatives in the *California Earthquake Loss Reduction Plan*.

ACTION: Commissioner Klein made a motion, seconded by Commissioner Shapiro, that:

The Commission support AB 2035.

* Motion carried, 8 - 0.

AB 2046 (Corbett)

Mr. Sepulveda recommended the Commission support AB 2046, which establishes a new council on school safety and earthquake preparedness.

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

The Commission support AB 2046.

* Motion carried, 8 - 0.

AB 2201 (Corbett)

Mr. Sepulveda said this bill would require school districts to appoint an emergency manager to develop and manage school emergency plans. He recommended the Commission support the bill.

Commissioner Patwardhan asked about the proposed source of funding. Mr. Sepulveda said the author is exploring both federal and state funding sources.

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

The Commission support AB 2201.

* Motion carried, 8 - 0.

AB 2233 (Wright)

Mr. Sepulveda noted the thermal imaging equipment for firefighting proposed in this bill received approval last year in AB 50, but the funding was deleted. He said the staff approached the author about incorporating USAR, and the author was interested in that possibility. He recommended the Commission support AB 2233.

ACTION: Commissioner Shapiro made a motion, seconded by Commissioner Klein, that:

The Commission support AB 2233.

* Motion carried, 8 - 0.

AB 1000 (Simitian) (Continued)

Commissioner Shapiro asked if the staff sent a letter to the sponsor of AB 1000 expressing the Commission's concerns. Mr. Sepulveda responded a letter had not yet been sent. Commissioner Shapiro recommended discussing the potential conflict of interest pertaining to supervising the inspector.

Commissioner Patwardhan commented the staff's legislative workload appears heavy this year. He recommended involving commissioners in contacting authors and speaking with legislators. He volunteered to assist the staff in that regard. Mr. Sepulveda thanked Commissioner Patwardhan for volunteering. He said the staff will be working with commissioners to schedule meetings and testimony at legislative hearings. Chairman Clark asked commissioners to communicate their areas of expertise to the staff.

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VII. BART SEISMIC UPGRADE PEER REVIEW REPORT

Commissioner Shapiro noted that BART approached the Seismic Safety Commission in 2000 for help and support in planning its major systemwide retrofit project. He applauded BART management for undertaking the retrofit project as a way of ensuring the safety and functionality of this critical transportation link. Commissioner Shapiro noted this work is consistent with initiatives in the *California Earthquake Loss Reduction Plan*.

Commissioner Shapiro said the Seismic Safety Commission recommended that BART perform a detailed vulnerability study and develop a risk-based plan to strengthen the system. The Commission suggested using a peer review team and referred BART to the Pacific Earthquake Engineering and Research (PEER) Center for that purpose. The peer review team looked at BART's proposed retrofit plan and budget. Commissioner Shapiro drew attention to the peer review report in the meeting packet.

Commissioner Shapiro invited BART and PEER Center representatives to brief the Commission on their activities.

Mr. Tom Horton introduced Dr. Jack Moehle, PEER Center; Mr. Ed Matsuda, BART; and Mr. Craig Comartin, member of the peer review panel.

Dr. Moehle showed a series of slides illustrating how the peer review process worked. He said the peer review process was initiated in June of 2001, the first phase was completed in November, and the second phase began in December 2001. Dr. Moehle discussed the composition of the peer review panel. He said the first phase resulted in five ongoing recommendations and development of a risk management plan. The second phase entails ongoing peer review.

Mr. Horton discussed BART's response to the peer review recommendations. He noted BART created a seismic risk management plan. The plan started with a status quo analysis and then looked at various alternatives to improve life safety and operability. Mr. Horton said BART's next steps include completion of the risk analysis, the vulnerability study, and design criteria. He noted work should begin on the Segment 1 design this summer. He added BART is still pursuing funding for the work.

Commissioner Patwardhan commended BART for its well articulated objectives. He asked if any preliminary results were available from the computer modeling and earthquake scenarios. Mr. Horton said BART is currently in the process of looking at alternatives to the status quo. He noted BART expects problems with the Transbay Tube and high damage levels. He added it is difficult to quantify damage objectives. Chairman Clark asked about the places BART crosses major earthquake faults in the East Bay. Mr. Horton acknowledged that the Berkeley Hills tunnel is a problem.

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Commissioner Patwardhan asked about the performance objectives of the retrofit program. Mr. Horton said BART's analysis started with full operability, and SPC criteria were used to determine vulnerability. He added the BART Board will need to discuss and define performance objectives before proceeding with a design. Commissioner Patwardhan commented that members of the public may have an interest in defining acceptable performance levels as well.

Commissioner Church asked about costs and funding sources. Mr. Horton responded that funding will come from a general obligation bond and property tax within the BART district. He added there are sufficient funds to last until about 2004. Mr. Horton said estimates range from \$850 million to \$1.3 billion to as high as \$1.5 billion for full operability.

Mr. Matsuda thanked the Seismic Safety Commission for recommending the peer review process. He said the analysis has been of great benefit to BART. Commissioner Nishinaga asked if any major disagreement arose during the peer review. Mr. Horton said all issues were successfully resolved. Chairman Clark said he was pleased with the role played by the PEER Center.

Dr. Moehle added that the cost estimates are still under review. Mr. Matsuda said the staff will eventually present a series of options and their associated costs to the BART Board along with a recommendation, and the Board will make the final decision.

Chairman Clark thanked the speakers and said the Commission looks forward to future updates.

VIII. UPDATE ON COMMISSION WEB PAGE

Mr. Anderson reported that after the discussion at the last meeting, the staff developed a series of recommended protocols for considering links with the Commission's Web page. He referred to the written policy statement and noted criteria include: contact information, ability to maintain current and correct information, Commission's right to continue or terminate the link, anti-virus protection, no altering of Commission information, Commission determination as to where the link best fits on the Web page, written plans if the link is under development, permission from the requesting Webmaster, and right to appeal staff decisions. Mr. Anderson recommended the Commission adopt the protocol as proposed.

Chairman Clark observed that the criteria do not deal with advertising or promotion for profit. Commissioners discussed whether links with commercial sites should be allowed. Commissioner Church suggested obtaining a legal opinion. Chairman Clark expressed a preference for banning for-profit links, and other commissioners agreed.

ACTION: Commissioner Church made a motion, seconded by Commissioner Klein, that:

The Commission adopt the proposed linkage protocol, with the addition of a prohibition on links to for-profit entities.

* Motion carried, 7 - 0 (Commissioner Gates absent during voting).

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Mr. Anderson said a counter was added to the Web site recently, but the results may be inaccurate because visits to the Web site from staff and home page users are included. Chairman Clark noted the Commission Web site should not be used as a home page by individuals.

Mr. Anderson said that in light of the new criteria, staff will reconsider some geosciences links that were recently approved. He welcomed ideas from commissioners as to Web page content, suitable links, and other enhancements.

IX. COST-BENEFIT OF EARTHQUAKE MITIGATION ACTIONS

Commissioner Patwardhan noted the next presentations were a continuation of the cost-benefit workshop at the Commission's last meeting. He explained that in keeping with a new *California Earthquake Loss Reduction Plan* initiative, the Commission is looking at cost-benefit analysis as a way of showing the value of mitigation. Commissioner Patwardhan said the Commission uses a performance tracking report to evaluate progress on *Plan* initiatives, and the costs of benefits of mitigation need to be taken into account as part of the measure of performance.

Mr. John Rowden, Office of Emergency Services, explained that he served as the state's official hazard mitigation officer. He said the federal government has mitigation grant programs intended to help agencies make sound decisions based on proper recognition of the costs and benefits of mitigation alternatives. He noted social benefit, not government cost, should be the driving factor behind government policies, but social benefit is difficult to quantify. Mr. Rowden said federal grant programs include Stafford Act hazard mitigation grants, public assistance, the national flood program, and a FEMA program which outlines specific cost-benefit models.

Mr. Rowden noted Stafford grants are tied to disasters and based on funding formulas. Under this program, federal and state agencies can be reimbursed for up to 15 percent of their total disaster costs. Mr. Rowden said FEMA has an initiative that earmarks 5 percent of funds for research on issues that are difficult to quantify, such as steel frame building issues, building materials, or cost-benefit studies.

Mr. Rowden said another federal hazard mitigation program was the landslide buy-out program after El Niño. Because no insurance was available to help affected property owners relocate and rebuild, the federal government offered to purchase property at the rate of 70 percent of the estimated square footage value. Although many homeowners complained about the low value, the program provided some funds where money would not otherwise be available.

Mr. Rowden noted the Los Angeles Unified School District received a \$70 million hazard mitigation grant after the Northridge earthquake for nonstructural retrofit and bracing of ceiling lights and fixtures in schools. OES is assisting in the process of analyzing and prioritizing the district's needs.

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Mr. Rowden observed that the cuts being proposed in President Bush's federal budget are based on decisions made several years ago. He said it appears modernization will have top priority and seismic retrofit will be moved to a back burner. He noted revisions to the Stafford Act and regulations also reflect this shift of attention away from mitigation and back to pre-disaster planning. Mr. Rowden said the new provisions impose more stringent rules for states than in the law, and local mitigation plans are being required as a condition of eligibility for extra funds. He expressed concern that the highly subjective and restrictive revisions will discourage most states from participating.

Mr. Rowden noted President Bush's proposed budget for FEMA provides an additional \$3.5 billion for domestic preparedness, but the cost-effectiveness of mitigation is called into question. Instead, the budget earmarks \$300 million for pre-disaster mitigation, to be allocated through a competitive process. The government is looking at unspent funds in other programs to fund the new pre-disaster mitigation program, and there may be an effort to recover funds from local communities.

Mr. Rowden stated OES is working with California's congressional delegates to turn the situation around. He added OES supports the idea of pre-disaster mitigation but believes funding should be based on a fair and equitable formula.

Mr. Rowden said he was aware of some ongoing efforts to demonstrate the effectiveness of mitigation: one by a flood plain management coordination group, and another request for proposals in building science to show future savings from mitigating natural hazards. Mr. Rowden added mitigating terrorism is a current hot topic.

Commissioner Patwardhan thanked Mr. Rowden for his presentation. He asked if OES was satisfied with FEMA's cost-benefit models and mitigation guidelines. Mr. Rowden responded that OES believes the models are helpful for screening purposes and for allocating funds quickly. Commissioner Klein asked if the FEMA models were broadly applicable. Mr. Rowden said the primary focus of FEMA models is life safety, but they take into account various occupancies, soils, and building types.

Professor James Moore, University of Southern California, discussed benefits of mitigation in terms of costs avoided, business interruption, and lives lost. He displayed overhead slides showing estimated costs of a major Los Angeles earthquake; he noted every one dollar of replacement cost produces one dollar of indirect costs. Professor Moore demonstrated how cost estimates can be combined with geological data to display models of how costs are distributed over particular geographic areas.

Commissioner Patwardhan thanked Professor Moore for his thought-provoking presentation. He noted the cost-benefit workshop clearly shows that benefits are equally important to costs in making public policy decisions. He recommended that the Seismic Safety Commission work on developing incentives, strategies, and tradeoffs to encourage pre-disaster mitigation.

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Chairman Clark asked Professor Moore if he anticipated any major developments in modeling capability over the next one to five years. Professor Moore responded that he expected slow and steady process, but no sudden changes. Chairman Clark thanked Professor Moore for his remarks. He noted breakthroughs in technology can sometimes accelerate the pace of research.

Chairman Clark thanked Commissioner Patwardhan for taking the lead in organizing the cost-benefit workshop presentations. Commissioner Patwardhan said his next task would be compiling ideas and strategies from the various presenters for review by the Commission. He added he invited a FEMA representative to make a presentation at a future meeting.

X. MISCELLANEOUS/GOOD OF THE MEETING

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

XI. ADJOURNMENT

There being no further business, Commissioner Patwardhan made a motion, seconded by Commissioner Shapiro, that the meeting be adjourned. The meeting was adjourned at 1:11 p.m.

Karen Cogan
Executive Assistant

Approved by:

Richard McCarthy
Executive Director