

Summary Minutes

Nevada Earthquake Safety Council

5 May 2004

The Nevada Earthquake Safety Council (NESC) met from 9:00 a.m. to 3:00 p.m. in the Jot Travis Student Union on the campus of the University of Nevada, Reno. These and previous minutes are posted on the NESC Web site (www.nbmng.unr.edu/nesc).

Ron Lynn chaired the meeting. Individuals attending the meeting are members of the Council:

Elizabeth Ashby, Nevada Division of Emergency Management
 John Anderson*, Nevada Seismological Laboratory
 Mike Blakely*, Blakely, Johnson, and Ghush
 Web Brown, Structural Engineer
 Wayne Carlson*, Nevada Public Agency Insurance Pool, who also held the proxy for Marge Gunn
 Nutman*, Nevada Association of Counties & Lincoln County Office of Emergency Management
 Press Clewe, who held the proxy for Bernie Anderson*, Nevada State Assemblyman
 Craig dePolo, Nevada Bureau of Mines and Geology
 Diane dePolo, Nevada Seismological Laboratory
 Greg Flanigan*, Farmers Insurance
 Terri Garside, Nevada Bureau of Mines and Geology
 Rakesh Goel, California Polytechnic State University
 Mark Harris, Nevada Public Utilities Commission
 Werner Hellmer, Associate Engineer with the Clark County Department of Development Services
 Deborah Hinman, SBC
 Bill Honjas, Optim LLC
 Jenelle Hopkins*, Clark County School District, Las Vegas
 Bruce Hurley, Department of Energy – National Nuclear Security Administration – Nevada State Office
 Winnie Kortemeier, Western Nevada Community College
 John Louie, Nevada Seismological Laboratory
 Ron Lynn*, Clark County Building Department
 Rick Martin, NDEM
 Rob Martinez, Nevada Division of Water Resources – Dam Safety
 Jim O'Donnell*, UNLV
 Bert Prescott, NDEM
 Jon Price*, Nevada Bureau of Mines and Geology
 Satish Pullammanappallil, Optim LLC
 Jim Reagan*, Sierra Pacific Power Company
 Ed Ruttan*, American Red Cross
 Ray Shaffer*, Nevada State Senator
 Burt Slemmons*, University of Nevada, Reno (retired, Las Vegas consultant)
 Catherine Snelson*, UNLV Geoscience Department
 Jim Werle*, Converse Consultants

* indicates member of the Board of Directors.

A quorum of directors (the necessary 11) was present.

Board Members unable to attend or send a proxy included:

Ian Buckle*, UNR Center for Civil Engineering Earthquake Research
 Tim Crowley*, Nevada Resort Association
 Phil Herrington*, Carson City Building Department
 Michael Lynch*, Builders Association of Northern Nevada

Greg Moss*, The Moss Group

The minutes from the meeting on 11 February 2004 were approved.

COMMITTEE REPORTS

Education Committee

Diane dePolo reported that 79 entries for the poster contest came from school districts in Clark County and Carson City. She showed the winning posters, which can be viewed on the Nevada Seismological Society Web site (www.seismo.unr.edu).

ACTION ITEM: Jenelle Hopkins will request that the Clark County School District highlight the winners of the NESC poster contest in announcements made within the schools.

Jim O'Donnell stated that a nonstructural earthquake hazard survey and mitigation at the Las Vegas Academy have been completed. Their work, some of which was done by students, was videotaped and will be made available to other schools and interested parties. Jim will show the video at the next NESC meeting in Las Vegas.

MOTION PASSED: The Council unanimously approved a motion to have proposals for year-end funds in future years submitted to the committees at least three weeks before the May meeting, and require that late proposals not be considered until the next year.

Research Committee

Jim Werle reported that the Las Vegas earthquake hazard conference will be postponed until 2006. The committee expects that professors at UNLV will help. This will follow the May 2004 Basin and Range Province Seismic Hazard Summit in Reno, the May 2005 national meeting of the Seismological Society of America in Reno, and the September 2005 annual meeting of the Association of Engineering Geologists (AEG) in Las Vegas.

Jim McCalpin and Wanda Taylor are planning to submit a proposal to dig a trench across one of the major faults in the Las Vegas area; if the proposal is funded, the trench will be open at the time of the AEG meeting in 2005, and results of the work will be ready to present at the Las Vegas conference in 2006.

John Anderson encouraged NESC to have a booth at the 2005 meeting of the Seismological Society of America.

ACTION ITEM: Craig dePolo should plan on using the NBMG booth for NESC at the May 2005 meeting of the Seismological Society of America.

The Council discussed the need for reports to be submitted to the Council from the recipients of grants that have been funded by DEM through NESC. This information will be incorporated in NESC's annual report and posted on the NESC Web site.

MOTION PASSED: The Council unanimously approved a motion that all grant recipients funded through NESC recommendations must submit an annual report (in January) and a final report summarizing results of the work done.

ACTION ITEM: Terri Garside will request that past recipients of FEMA-DEM-NESC grants submit short (up to three-page) reports on the progress of their projects. If the projects have been completed, the reports will be considered final.

Craig dePolo reported that the Nonstructural Mitigation Workshop on April 28, 2004 at Boomtown, Verdi, Nevada went quite well. Participants received FEMA publications and CDs from the Bureau of Reclamation. Many suggestions were made at the workshop, and much work is needed to follow up. There may be interest on FEMA's part repeating the workshop in Clark County. Werner Hellmer agreed that such a workshop in Las Vegas would be worthwhile; he further stated that shake-table experiments using typical items in houses (water heaters, bookshelves, ceiling fans, etc.) would be helpful.

ACTION ITEM: Craig dePolo (on behalf of the Research Committee) should pursue the idea of a project for a televised shake-table experiment and report to Ron Lynn within about one month. Others are welcome to send comments to Craig (cdepolo@unr.edu).

Web Brown offered to loan to Council members two videos that he has from the Loma Prieta earthquake.

Ed Ruttan stated that the American Red Cross in southern Nevada is promoting neighborhood/block safety discussions.

Policy Recommendations

Wayne Carlson led a discussion on policy statements regarding emergency earthquake research funds and unreinforced masonry buildings (URMs). He distributed drafts of policy recommendations (see attachment to these minutes). The Public Agency Insurance Pool and the State Historic Preservation Officer are interested in retrofitting of URMs.

ACTION ITEM: Discussion of the draft policy statements regarding emergency earthquake research funds and unreinforced masonry buildings will be placed on the agenda for the August NESC meeting with the possibility of voting on policy statements, if appropriate. (Terri Garside and Jon Price)

Strategic Planning Committee

Jim Reagan distributed a draft of the 2003 annual report. The committee will continue to work on the NESC annual report for 2003 activities for adoption at the August meeting.

ACTION ITEM: Individuals should submit comments on the draft NESC annual report within 60 days to Jim Reagan.

Nevada Hazard Mitigation Planning Committee

Ron Lynn stated that the committee will meet the following day. A key item for discussion is the procedure for setting priorities for pre-disaster hazard mitigation grants.

DEM UPDATE

Rick Martin spoke about proposals submitted to the State's Homeland Security Commission. Through Homeland Security, there may be funding for Community Emergency Response Teams. DEM is currently awaiting word on additional funds available from federal fiscal year 2003.

DEM will be moving to a new building in 2005.

There will be an exercise on 6 May 2004 simulating the sinking of the Tahoe Queen. There will be an exercise for the Reno Rodeo (an animal-rights activist in an ultralight aircraft dispersing a chemical that makes people sick).

The State has a new training officer, who is assessing training needs throughout the State. DEM expects to put together a multi-year calendar of training classes.

The State Comprehensive Emergency Management Plan is undergoing revision. It will incorporate the current emergency management system and support functions.

Elizabeth Ashby is the new State Hazard Mitigation Grant Officer. Elizabeth stated that they may hear from FEMA soon about the status of the UNR proposal for a Disaster Resistant University.

The DEM Web site (www.dem.state.nv.us) will be improved in the near future.

Emergency Management 2000, the database used by DEM during disasters, will be available on line for those who need to have access.

ENDORSEMENT OF A SEISMIC MICROZONATION PLAN FOR URBAN CLARK COUNTY

John Louie discussed an April 2004 plan for seismic microzonation in the Las Vegas area that uses a technology that determines one-dimensional shear-wave velocity to a depth of 100 feet, as required in the International Building Code (IBC) 2003. The default site soil classification is "NEHRP D," which is generally conservative. These measurements may allow for a more accurate and possibly less restrictive classification.

MOTION PASSED: The Council unanimously approved a motion to endorse the April 2004 University of Nevada plan for seismic microzonation measurements in the urban area of Clark County, Nevada, as presented by Dr. John Louie.

FUNDING NEEDS OF THE NEVADA EARTHQUAKE SAFETY COUNCIL

The Council discussed and set priorities for funding of project proposals for possible FEMA federal fiscal 2004 year-end funding. Before voting, the proposals were described by NESC committee chairs, and the Council briefly discussed the merits of each proposal. Council members cast votes for five proposals (5 for their individual first priority, 4 for second, 3 for third, 2 for fourth, 1 for fifth, zero for lower priorities). The priorities are listed below. The Council felt that all projects were worthy and all should be funded if sufficient money is available. [NOTE: after the meeting, one of the projects (not listed in the table below) was withdrawn from consideration by the individuals who submitted the proposal.] Each project will have at least an equal match of non-federal dollars. As in previous years, we are assuming that we will receive permission from UNR's Office of Sponsored Projects to waive UNR overhead on grants passed through to UNLV, so that only one institution collects overhead.

Project	Dollars needed from DEM	Cumulative dollars needed from DEM
Top priority, #1 Earthquakes in the Classroom Association of Engineering Geologists- Jenelle Hopkins	\$1,200	\$ 1,200
Priority #2 Earthquakes in the Classroom: K-12 Workshops in Las Vegas UNLV-Catherine Snelson	\$16,342	\$ 17,542

Priority #3 Mapping and Timing of the California Wash Fault, Nevada UNLV-Catherine Snelson and Wanda Taylor	\$26,661	\$ 44,203
Priority #4 Real-Time Earthquake Recognition in the K-12 Seismic Network NSL-Ken Smith	\$15,000	\$ 59,203
Priority #5 V30 measurements at ANSS and NSL stations and Ground Motion Amplification in the Reno area NSL-Aasha Pancha and James Scott	\$20,000	\$ 79,203
Priority #6 Fabrication of a Low-Cost Educational Shake Table UNR-Civil Engineering –Sherif Elfass	\$5,000	\$ 84,203
Priority #7 Seismic Microzonation for the Las Vegas Valley (continuation) UNLV-Barbara Luke	\$20,742	\$104,945
Priority #8 Bearing Capacity Under Developing Liquefaction UNR-Civil Engineering, Sherif Elfass	\$10,000	\$114,945
Total requested		\$114,945

San Simeon Earthquake

Craig dePolo and John Anderson provided background information on the Magnitude 6.5, 22 December 2003 San Simeon earthquake. UCLA professor-in-residence Vladimir Keilis-Borok and his colleagues "predicted" that an earthquake would occur in this geographic area at about this time. He has also predicted an earthquake for southern California (east of Los Angeles) between now and September 5. The seismological/scientific community does not give much credit to his predictions (for details, see http://earthquake.usgs.gov/eqinthenews/2004/KB_prediction.html).

Professor Rakesh Goel, California Polytechnic State University, discussed effects of the earthquake at Paso Robles, Atascadero, Oceano, and San Luis Obispo. Two people died, approximately 40 were injured, one building collapsed and more than 40 buildings were severely damaged. Total damage in Paso Robles was approximately \$200 million. There were earthquakes in this area in 1853 (M 5 to 6), 1906 (M 5.7), and 1952 (M 6.2), about 50 years apart, so the M 6.5 in 2003 should not have been as much of a surprise as it was to local residents, who largely felt as if they were immune from earthquakes. At the Templeton Hospital, where some of the highest accelerations were measured, the earthquakes effects were approximately what had been predicted in the National Earthquake Hazard Reduction Program's probabilistic seismic hazard analysis.

The worst damage was in URMs. The Acorn Building in Paso Robles is where people were killed when they tried to rush out of the building and were hit by falling objects. These people may have survived had they crawled under a sturdy table rather than run out of the building. The roof was not tied to the walls and it caved in. The Marlow Building, which is asymmetric (with many windows on two sides and few windows on the opposite two sides), was destroyed. The Bistro Laurent Building, an URM for which retrofitting had tied

the roof to the walls, survived. The Ali's Persian Rug Building, a partially retrofitted URM, lost bricks from its masonry façade, which was not tied to the frame of the building. The Rustic Ranch Furniture Gallery, an URM that was sandwiched between two better-built buildings, survived. The Paso Robles Inn, which has a brick façade supported on the space frame, experienced only minor damage. The Carnegie Library experienced much cracking and had to be closed.

The Atascadero City Hall, a reinforced concrete space frame structure, built in 1918 and retrofitted to some extent, experienced some damage. Bricks that peeled off the rotunda and moderate cracking in the interior were enough to close the building for perhaps as much as 10 years. Retrofit prevented the collapse of the building.

At Oceana, 50 miles from the epicenter, there was much damage to the pavement at the airport. Some of the damage was typical of lateral spreading in loose, sandy soils, with most movements toward the Pacific Ocean.

San Luis Obispo experienced 17% g (the acceleration due to gravity, in comparison to about 50% in Paso Robles) and no significant damage. Nonetheless, it was a wake-up call for the city, which is now considering more rapid retrofitting of its URMs than is required by state law. The California deadline for retrofitting URMs is 2008 to 2018, but some communities are contemplating quickening the pace of the work.

Wineries along Highway 46 west of Templeton sustained heavy nonstructural damage, in part because of a new way of storing barrels.

The main lesson from this earthquake is that even a basic seismic retrofit of URMs (tying the roof and floor diaphragm to the walls) may prevent collapse during an earthquake. FEMA's document Number 356, is a good reference for retrofitting URMs.

Web Brown asked whether there was any evidence that previous earthquakes had damaged the URMs in the San Simeon area. Professor Goel indicated that because many of these buildings survived earlier earthquakes, such weakening may have occurred. He also stated that URMs tend to degrade over time, because the mortar between the bricks or blocks becomes less cohesive.

OLD BUSINESS

No old business was brought before the NESC.

NEW BUSINESS

Jenelle Hopkins announced that she has been accepted to be an Einstein Fellow in the Directorate of Geosciences at the National Science Foundation for the next year. Ron Lynn recommended that Jenelle identify a proxy from the Clark County School District for NESC meetings that she will be unable to attend. The Council applauded her appointment and looks forward to her return after her year with NSF.

Mark Harris distributed an article on bridge supports and related retrofitting efforts in the aftermath of the 1994 Northridge earthquake.

Ron Lynn described nonstructural mitigation efforts being undertaken at the Clark County Building Department's building.

Jim Reagan complemented the local media (particularly Channel 4 in Reno) in their coverage of local earthquake hazards in conjunction with the scientifically inaccurate and outrageous NBC miniseries "10.5." The segment with Mike Blakely, who demonstrated nonstructural mitigation, was particularly helpful. Cathy Snelson also commended the coverage by Channel 3 in Las Vegas.

ACTION ITEM: Members are encouraged to make recommendations for NESC awards for excellence to Wayne Carlson, chair of the Policy Recommendation Committee.

The next (every fourth year) National Earthquake Conference will be held September 26-30 in St. Louis, Missouri. Please see the Web site of the Western States Seismic Policy Council (www.wsspc.org) for details.

A meeting on Great BREAK (Great Basin and Range Evolution and Kinetics) – Preparing for EarthScope in the Great Basin and its margins is scheduled for June 21-23, 2004 at Granlibakken Resort and Conference Center, Tahoe City, California. This meeting will help set science goals for the National Science Foundation's deployment of new geophysical equipment in the region that includes Nevada. See www.seismo.unr.edu for details. John Anderson encourages individuals interested in outreach to attend the meeting. Please contact him at jga@seismo.unr.edu.

PUBLIC COMMENT

Web Brown stated that the three members of the Council who appeared in the news segments related to the "10.5" movie did a great job.

ANNOUNCEMENTS

The Basin and Range Province Seismic Hazards Summit II, May 17-19, 2004 at John Asquaga's Nugget Hotel in Sparks, Nevada, is still open for registration. The meeting will be followed by a short course taught by Glenn Borchardt on soils, earthquakes, and tectonics (sponsored by the Association of Engineering Geologists). See www.nbmj.unr.edu for details.

The Nevada Seismological Society is hosting the April 27-29, 2005 annual meeting of the Seismological Society of America at North Lake Tahoe. NESC may want to have a booth at the meeting. John Anderson is the general chair, and he invites volunteers to help with planning and to participate in the meeting.

The **next meeting** of the Nevada Earthquake Safety Council will be Wednesday, August 4, 2004 at the Clark County Department of Building's Russell/Cameron Office in Las Vegas.

The date is set for the following NESC meeting:
Wednesday, November 17, 2004 (Reno).

REVIEW OF ACTION ITEMS

Jenelle Hopkins will request that the Clark County School District highlight the winners of the NESC poster contest in announcements made within the schools.

Craig dePolo should plan on using the NBMG booth for NESC at the May 2005 meeting of the Seismological Society of America.

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respectfully submitted by Jon Price, 21 May 2004.

Nevada Earthquake Safety Council
c/o Nevada Bureau of Mines and Geology
University of Nevada/MS 178
Reno, Nevada 89557
775/784-6691 ext. 126

NEVADA EARTHQUAKE SAFETY COUNCIL
Members of the Board of Directors and Officers
(as of 21 November 2003)

Business and Industry, Southern Nevada	Tim Crowley Nevada Resort Association
Business and Industry, Northern Nevada	Michael Lynch Builders Association of Northern Nevada
Insurance Industry (statewide)	Greg Flanigan Farmers Insurance (Las Vegas)
State Government (statewide)	Mark Harris Public Utilities Commission (Carson City)
Local Government, City	Wayne Carlson Nevada Public Agency Insurance Pool (Carson City)
Local Government, County	Marge Gunn Nutman Nevada Assoc. of Counties & Lincoln Co. Office of EM
Seismology (statewide)	John Anderson Nevada Seismological Laboratory (UNR)
Geosciences, Southern Nevada	Burt Slemmons Las Vegas consultant, UNR (retired)
Geosciences, Northern Nevada	Jonathan G. Price Nevada Bureau of Mines and Geology
Engineering, Southern Nevada	Jim Werle Converse Consultants
Engineering, Northern Nevada	Mike Blakely Structural Engineers Association of NV
Education (statewide)	Jenelle Hopkins Clark County School District, Las Vegas
Community Organizations, Southern Nevada	Ed Ruttan American Red Cross
Community Organizations, Northern Nevada	Jim Reagan Sierra Pacific Power Company
University, Southern Nevada	Catherine Snelson UNLV Geoscience Department
University, Northern Nevada	Ian Buckle UNR Center for Civil Engineering Earthquake
Research	
Building Official, Southern Nevada	Ronald L. Lynn Clark County Building Department
Building Official, Northern Nevada	Phil Herrington Carson City Building Department
State Senate	Ray Shaffer Nevada State Senator (Las Vegas)
State Assembly	Bernie Anderson Nevada State Assemblyman (Sparks)
Member at Large, Southern Nevada	Jim O'Donnell UNLV
Member at Large, Northern Nevada	Greg Moss The Moss Group

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