

Summary Minutes

Nevada Earthquake Safety Council

22 February 2002

The Nevada Earthquake Safety Council (NESC) met from 9:00 a.m. to 3:30 p.m. at the Clark County Building Department's Russell/Cameron Office in Las Vegas. These and previous minutes are posted on the NESC Web site (www.nbmg.unr.edu/nesc).

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

John Anderson*, Nevada Seismological Laboratory
 Bob Berry, Nevada Division of Emergency Management
 Mike Blakely*, Blakely, Johnson, and Ghusn, who also held the proxy for Ian Buckle*, UNR Center for Civil Engineering Earthquake Research
 Wayne Carlson*, Nevada Public Agency Insurance Pool
 Steve Corbe, Kleinfelder
 James W. Criswell, Clark County Building Department
 Marge Gunn*, Nevada Association of Counties & Lincoln County Office of Emergency Management
 Craig dePolo, Nevada Bureau of Mines and Geology, who held the proxy for Phil Herrington*, Carson City Building Department
 Diane dePolo, Nevada Seismological Laboratory
 David DuPont, BBC Engineering (afternoon only)
 Terri Garside, Nevada Bureau of Mines and Geology
 Greg Flanigan*, Farmers Insurance
 Mark Harris*, Public Utilities Commission
 Jenelle Hopkins*, Centennial High School, Las Vegas
 Martin Jackson, BBC Engineering (afternoon only)
 Samaan Ladkany, UNLV Civil Engineering Department (afternoon only)
 Steve Leedom, U.S. Department of Energy
 Michael Lynch*, Builders Association of Northern Nevada
 Ron Lynn*, Clark County Building Department
 Greg Moss*, The Moss Group
 Elton Nutman, interested citizen
 Jim O'Donnell*, UNLV
 Jon Price*, Nevada Bureau of Mines and Geology
 Gary Rasmussen, geological consultant
 Burt Slemmons*, University of Nevada, Reno (retired, Las Vegas consultant)
 Catherine Snelson*, UNLV Geoscience Department
 Wanda Taylor, UNLV Geoscience Department (afternoon only)
 Renee Tyler, who held the proxy for Jim Reagan*, Sierra Pacific Power Company
 Jim Werle*, Converse Consultants
 Joe Woodruff, U.S. Department of Energy

* 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:

Bernie Anderson*, Nevada State Assemblyman
 Mark James*, Nevada State Senator
 Carolyn Levering*, American Red Cross

The minutes from the meeting on 16 November 2001 were approved.

Ron Lynn announced that the Council is presenting letters and certificates of thanks to Melissa Trammell and Barbara Luke.

COMMITTEE REPORTS

Education Committee

Diane dePolo provided a written report, which is available with the on-line minutes. The committee met twice during the quarter, once to prepare the Safety Calendar mailing and a second time to prepare the Earthquake Awareness and Preparedness Week mailing. Sierra Pacific Power Company covered the cost of both mailings. Information packets for the week (February 24 – March 2) were mailed to the schools this week. The committee prepared 600 packets, which included a copy of the Governor's proclamation, a script for an earthquake drill, how to do a drill, a classroom hazard hunt checklist, a home hazard hunt checklist, and suggestions for a school earthquake safety plan. She displayed the winning posters among 170 entrants in the NESC Earthquake Awareness and Preparedness Poster Contest for Nevada school children.

Diane will attend the April All Hazards Mitigation Advisory Committee (AHMAC) meeting to discuss plans for next year's school safety calendar. At that time she will discuss the results of the questionnaire included with the packet, which asked about the use and impact of the calendar.

Jenelle Hopkins reported that the activity at the NESC booth and other booths at the Governor's School Safety Conference was not large. John Anderson noted that there was a disappointing attendance at the two talks that he gave during the conference. He posted his school-safety-earthquake presentation, which is self explanatory, on the Web site at the Seismological Laboratory (www.seismo.unr.edu).

Research Committee

Craig dePolo and Jim Werle provided a written report, which is available with the on-line minutes.

Committee members are reviewing the new National Earthquake Hazard Reduction Program (NEHRP) seismic hazard maps from several perspectives: input fault data, earthquake models of faults, and ground-motion attenuation models. (See also John Anderson's report below).

Jim Werle reported on the NESC-funded grant to prepare preliminary maps of potential liquefaction susceptibility for Las Vegas. They have been prepared by John Criscion, Barbara Luke, and Jim Werle using data from the files of Converse Consultants. A paper summarizing the initial results, including Burt Slemmons as a coauthor, was submitted to the Annual Symposium on Engineering Geology and Geotechnical Engineering in Boise in March. Jim suggests that liquefaction be further evaluated in those areas identified on the maps as having potential for liquefaction.

ACTION ITEM: Jim Werle will send a PDF version of the paper, after it is published, to Terri Garside (tgarside@unr.edu) for posting on the NESC Web site. Jim will also give the data to Ron Lynn, Clark County Building Department.

The committee is developing a Nevada Post-Earthquake Technical Information Clearinghouse plan.

Policy Recommendations Committee

Wayne Carlson provided minutes from the Committee's conference-call meeting. These are available with the on-line minutes. The committee reviewed strategies, objectives, and actions established at the strategic planning session in November 2001 and set priorities. The committee recommends the following to NESC (not put in the form of a formal motion at this time).

Strategies:

Priority #1: Building codes

Priority #2: Legislation

Priority #3: Develop outreach program. (Ron Lynn noted that passing legislation may require more outreach at the beginning.)

Objectives:

1.1 Promote legislation to adopt seismic provisions in the International Building Code.

- 1.2 Promote the adoption of earthquake hazard guidelines by agencies.
- 1.3 Retrofit essential (economic) structures.
- 1.4 Retrofit public life-safety facilities (hospitals, fire and ambulance facilities, power generation, etc.).
- 2.1 Develop a set of model laws that would be passed after a major earthquake occurs in Nevada (recognizing that significant action may not take place until it happens).
- 3.1 Cultivate legislative champions.

Actions:

- 1.1.1 Support passage of a law for setbacks from active faults (similar to the Alquist-Priolo Act by the California Legislature, patterned after the NESC guidelines for fault investigations).
- 1.1.2 Promote the adoption of NESC's liquefaction guidelines by agencies (this also could be legislated).
- 1.1.3 Support passage of a law requiring the adoption of seismic provisions in the International Building Code (IBC) by local governments and state agencies.
- 1.1.4 Encourage training for building officials on the seismic provisions of the current adopted building code and seek State funding for this purpose.
- 2.1 Survey other states for model laws for seismic safety (California, Utah, Oregon, Alaska, Washington).
- 3.1 Request NESC to send a letter to all Legislators and to local government officials explaining the role of NESC, providing earthquake hazard maps, soliciting their ideas and their interest in supporting policy objectives of NESC.

The committee also recommended the following action item: Establish and update the process and timetable for the Nevada Earthquake Risk Mitigation Plan. The committee recognized the need for input from various scientific and other disciplines for the update of the plan. The plan contains target dates from 2000, 2001, and 2002 and annual items that either have been accomplished or need to be addressed right away. Other dates in 2003 to 2010 should be reevaluated for appropriateness. The committee recommended that a task force consisting of two members from each of the three NESC new committees be appointed to oversee the update process using a phased approach. Phase I would be to address the annual and 2000, 2001, and 2002 targets by the May NESC meeting. Phase II would address the target dates between 2003 and 2010 by the August meeting. The final phase would be incorporating all of the recommendations into a draft revised plan for submission to NESC by the November meeting for adoption. Input from specialists would be sought throughout the review process.

ACTION ITEM: Although this item did not come up for formal discussion by NESC, the chairs of the three committees (Wayne Carlson for the Committee on Policy Recommendations, as the lead, Diane dePolo and Jenelle Hopkins for the Committee on Education, and Jim Werle and Craig dePolo for the Committee on Research) should move forward to create a task force to oversee the process of updating the Nevada Earthquake Risk Mitigation Plan.

Mike Lynch, John Anderson, and Mike Blakely discussed the recommendation regarding adopting seismic provisions in the IBC 2000.

Jim Werle discussed the recommendation regarding legislation for setbacks from active faults. Some in California have argued that the Alquist-Priolo Act has done little to decrease damage from earthquakes, because most of the damage is from ground shaking, rather than surface rupture. Craig dePolo argued for tailoring such a bill for Nevada. Gary Rasmussen noted that the Alquist-Priolo Act required the State (California Division of Mines and Geology) to map faults and that mapping of these faults, along with the Alquist-Priolo Act, has helped to prevent damage. The 1994 California Seismic Hazard Act also requires mapping of areas of strong ground shaking, liquefaction, and earthquake-induced landslides.

Jon Price reminded the Council about Item 11 in the NESC Bylaws: "Resolutions and recommendations of the Nevada Earthquake Safety Council shall be made only (a) after discussion at two quarterly meetings at which a quorum of Directors is present followed by a two-thirds majority vote of the Directors present, or (b) after

discussions at one quarterly meeting at which a quorum of Directors is present followed by unanimous vote of the Directors present."

ACTION ITEM: Wayne Carlson will work with the Policy Recommendation Committee to present motions to the Council for adoption at the next (and possibly the following) NESC meeting. He will give these in writing to Terri Garside by April 17, one month before the next meeting.

Strategic Planning Committee

Jim Reagan was unable to attend the meeting because of a family emergency. Our best wishes are with him.

Nominating Committee

Jon Price noted that Barbara Luke has resigned from the Council with the suggestion that UNLV's geophysicist, Dr. Catherine Snelson, replace her as the University, southern Nevada representative. The Nominating Committee endorses this recommendation. The Council voted unanimously to approve the nomination.

Cathy Snelson introduced herself as the newest geoscience professor (with expertise in earthquake hazards and seismology) at UNLV and requested volunteers for help in late April or early May with a seismic experiment to better determine the subsurface geometry of the Las Vegas basin. She plans to deploy about 400 seismometers and use as sources of seismic waves nearby blasts in quarries. She needs approximately 40 volunteers. If interested, please contact Cathy at UNLV.

Update from the Nevada Division of Emergency Management

Bob Berry reported that there is no extra grant money this year. Nonetheless, FEMA might make some year-end monies available late in the fiscal year.

A \$50,000 predisaster mitigation grant has been approved by FEMA, as a replacement for Project Impact. Frank Siracusa will decide how this will be spent.

The U.S. Department of Justice is funding a number of DEM activities.

A Public Information Officer training session was held January 23. A PIO committee meets monthly, on the last Thursday of the month.

Both recent national disaster declarations in Nevada (1997 flood in northern Nevada and 1999 flood in Las Vegas) still have open projects.

DEM is working on its EM 2000 computer program to deal with major disasters.

DEM has a committee on Homeland Security. About \$170,000 was awarded to local jurisdictions in Nevada.

The CDC has allocated about \$10 million for the Nevada Health Division.

DEM has established a Preliminary Damage Assessment Team.

Please contact Harlan Ashby at DEM if you are interested in training (775-687-4240). The DEM Web site (www.dem.state.nv.us) contains information about many of their activities.

ACTION ITEM: Each of the three main NESC committees should propose one high-priority item to possibly be paid by year-end funding from FEMA. This should be presented to the Council at the May NESC meeting.

A motion passed unanimously that the Council request funding from the Nevada Legislature for specific projects.

ACTION ITEM: The Policy Recommendations Committee (Wayne Carlson) should consider a recommendation for at least \$100,000 (\$50,000 per year) in legislative funding through the Nevada Division of Emergency Management.

Western States Seismic Policy Council – Annual Meeting Update

Jon Price noted that WSSPC will hold its annual meeting September 15-18, 2002, in Denver. The theme is “Earthquake Risk: From Awareness to Action – A Mile High Challenge.” The program will focus on taking earthquake risk information from assessment to effective awareness to best action, particularly in areas with earthquakes that have low frequency but high consequence. Registration information can be found on the WSSPC Web site (www.wsspc.org).

WSSPC’s call for nominations for their awards in excellence has been distributed to NESC members by e-mail. (See New Business below.)

WSSPC has posted its model post-earthquake technical clearinghouse plan on its Web site.

All Hazards Mitigation Advisory Committee (AHMAC) Report

Jim O’Donnell reported on the AHMAC meeting in January, at which AHMAC endorsed the same two WSSPC policy recommendations that had been endorsed at the November 2001 NESC meeting.

AHMAC encourages production of a school-safety calendar in conjunction with the NESC. The understanding is that DEM will cover most of the cost again this year.

AHMAC is exploring teleconferences instead of flying members back and forth for meetings. Their meetings tend to be shorter in time, often taking only a couple of hours, yet are being held quarterly.

Update on Recent Earthquakes and the Nevada Seismological Laboratory

John Anderson stated that 2001 was an unusually quiet year with regard to sizeable earthquakes and numbers of earthquakes. The recorded over 3000 earthquakes with magnitude greater than 1.0 recorded by their network (many of which were in California), but no earthquakes as big as magnitude 5 were recorded in Nevada.

John reported on a recent meeting of the advisory committee for the Nevada portion of the Advanced National Seismic System. The committee recommended that the U.S. Highway 395 bridge structure near the Reno-Tahoe airport be instrumented. The committee endorsed the Seismological Laboratory’s recommendations for placements of strong-motion instruments.

Jim O’Donnell noted that a subcommittee for southern Nevada recommended seven structures for strong-motion instruments: (1) the I-15 – US-95 downtown viaduct and six buildings, (2) Mandalay Bay, (3) the Grant Sawyer Building, (4) First Interstate Bank Tower, (5) the Excalibur, (6) Caesars Palace, (7) the Stratosphere Tower. Criteria used for selecting the structures: structure type, soil type, geological setting, height of structure, criticality, and lessons to be learned.

Mike Blakely presented information from George Ghusn on the adoption of the IBC 2000 relative to the Uniform Building Code (UBC) 1997 approach, which used designations of Zones 3 and 4 in western Nevada. The IBC places more weight on seismic hazards in western Nevada than the UBC 1997, which emphasizes historical seismicity in central Nevada. George had calculated comparisons of the codes using “base shear” code design values for different types of buildings (plywood shear wall, concrete masonry units, concrete shear wall, concentric-braced steel frame, ordinary moment frame steel building, and a special moment frame, more flexible steel building). On the average, the IBC 2000 would raise the costs by about 5 to 10% for steel buildings. One-to-three-story wood-frame houses would not have any increases in costs, because the dominant cost for structural elements is the cost to design for wind; designing for earthquakes adds no additional cost.

Mike Lynch questioned some of the construction costs and raised concerns about takings of land by requiring setbacks from faults.

Ron Lynn predicted that Clark County will adopt the IBC 2000.

John Anderson discussed the draft USGS National Earthquake Hazard Reduction Program (NEHRP) maps that will feed into the IBC 2003. In most places in the country, there will be a decrease in expected hazard with a reduction in the attenuation functions. The most important maps are ones that show the 2% probability in 50 years, 0.2-second period (for short buildings) and 1.0-second period (for taller buildings). Significant changes are in the Ruby Mountains (with new assumptions about the sizes of infrequent faults) and in the Las Vegas area (where the hazards also appears to be lower than in the IBC 2000 maps). An apparently low area of seismic hazard along the Utah-Nevada border may be an artifact of the historical earthquake record (the last 150 years or so). The area in Nevada with the highest urban hazard is the Reno-Carson City area, which is similar in magnitude to the hazard in the southern part of the Los Angeles basin (lower than the hazard in the San Fernando Valley and along the San Andreas fault). The USGS maps can be viewed at their Web site (geohazards.cr.usgs.gov/eq).

Las Vegas Fault Exposure – Evidence of Earthquakes in Las Vegas

Craig dePolo and Burt Slemmons described their and John Bell's observations of an excavation cut across the Valley View fault scarp in Las Vegas Valley (Brooks Avenue, MLK, Cheyenne – Windsor Park area). From the lengths of the fault, one might expect earthquakes of magnitude 6.7 or 6.8, although the frequency of faulting is uncertain. From Burt's photographs, the fault appears to have about 15 feet of displacement on Quaternary sedimentary deposits (mostly brown silts and gray clays). One radiocarbon date of black mat in the upper part of the green silt deposit is 14,690 +/- 570 years before present. The deposits exposed in the excavation are presumably part of what John Bell has mapped in the area as "Unit E." The oldest date for this unit elsewhere is 16,000 years before present. There may be a small left-lateral component to the faults (1 part of horizontal motion for 5 parts of vertical or dip-slip motion). The green silt is offset by three faults: one by 40 cm, another by 15-23 cm, and the third by 20-40 cm, for a total displacement of about one meter. The faults trend about N50E and dip to the southeast, although some minor faults dip to the northwest. The event prior to the most recent event, before 14,690 years ago, had about 1.5 meters of offset. A third possible event is recorded in the excavation as well. The working hypothesis is that the most recent event is between 5,000 and 14,700 years ago. The penultimate event was probably between 14,700 and 16,000 years before present. These are secondary structures, not part of the main fault, some of which dip in the opposite direction.

There may be evidence of liquefaction in the excavation as well.

Burt concludes from this information that the modeling by the USGS may be underestimating the slip rates in the Las Vegas Valley, that tectonic effects (earthquakes) greatly dominate over compaction effects, which had been thought to be responsible for some of the fault displacements. A question remains how much displacement is due to warping across a pre-existing fault scarp versus actual displacement across the fault. Craig noted that evidence for earthquakes includes brittle faulting with offsets of several inches to several feet, and "event deposits" (a fault-scarp colluvial wedge and ponded sediments).

Jim Werle remarked that shallow trenches (less than ten feet deep), which are typically what is dug in Las Vegas Valley, may have missed the displacement on this fault.

Steve Corbe (geologist with Kleinfelder) questioned the shallow dip of the fault. The fault changes dip from about 70 degrees at the top of the exposure to about 40 degrees at the base of the exposure.

Evaluation of USGS Data Set for Faults in Nevada

Craig dePolo described the USGS data set of faults, which he is reviewing, for integration into the NEHRP map for the IBC 2003. The USGS has compiled nearly all available data. These data will be available on the USGS Web site. There are about 700 faults in the Nevada database. Craig has prepared 78 pages of comments so far in his review of the data. Possible problems include the following:

- Not all faults are considered (ones with less than 0.1 mm/year of offset are disregarded).

- The analysis should include maximum single-event displacements, and use them to constrain maximum magnitude.

- Better segmentation models should be used because of the potential impact on seismic hazards.

Strike-slip faults are poorly represented.
There need to be better estimates of slip rates on faults.

OLD BUSINESS

Ron Lynn reviewed action items from the previous meeting.

NEW BUSINESS

Ron Lynn urged committees to prepare bill draft requests (BDR) as soon as possible. We can approach the NESC-member legislators. The NESC-member legislators are not necessarily on the right committees (they are on judicial committees, but we need governmental affairs committees.)

AHMAC is working on the next school safety calendar. Diane dePolo will be working with AHMAC on this project, and earthquake safety will be a big part of the calendar.

The Council approved presenting mitigation awards to the following organizations and individuals:

1. to Sierra Pacific for multiple years in a row mailing earthquake awareness and preparedness handouts and safety calendars to schools throughout the state;
2. to Nevada Bell for multiple years in a row printing earthquake safety posters produced by Nevada school children;
3. to Press Clewe and Jim Reagan for organizing the earthquake recovery workshop;
4. to the Associated General Contractors for assisting Carson-Douglas Project Impact by setting up a contractors network;
5. to members of the Great Basin Section of the Association of Engineering Geologists for delivering the American Red Cross Master of Disaster kits and making presentations on earthquake hazards to public schools;
6. to the Nevada Department of Transportation and the University and Community College System of Nevada Applied Research Initiative program for their work on the Las Vegas downtown viaduct seismic vulnerability assessment and retrofitting.
7. to John Bell (Nevada Bureau of Mines and Geology) and Ron Lynn (Clark County Building Department) for their combined efforts to implement recommendations from evaluations of the relations between faults and fissures that develop as a result of groundwater withdrawal.

ACTION ITEM: DEM, NBMG/UNR, and Clark County Building Department should help with public relations on the NESC mitigation awards.

ACTION ITEM: Ron Lynn will look into the efforts of State Public Works as a future mitigation award.

ACTION ITEM: The Council approved writing a letter to Frank Siracusa thanking Bert Prescott for his service to NESC.

Jon Price stated that he, on behalf of the Nevada Bureau of Mines and Geology, will nominate the Nevada Earthquake Safety Council and the Nevada Public Agency Insurance Pool for a WSSPC Awards in Excellence for their work to establish a Seismographs in Schools program (Jim O'Donnell, Jenelle Hopkins, Ken Smith).

The Council approved nominating the Nevada Bureau of Mines and Geology and the Clark County Building Department for a WSSPC award for their combined effort to mitigate fault-related hazards through the implementation of recommendations based on scientific data.

Cathy Snelson suggested putting out a flier about assessing seismic hazards in the Las Vegas area.

ACTION ITEM: Ron Lynn asked Cathy Snelson and John Anderson to form an ad hoc committee to prepare such a flier, which can be posted on the NESC and Seismological Laboratory Web sites.

Ron Lynn attended a recent meeting on mold problems in buildings. It will probably be the number one construction defect for litigation for the next five years. There is a \$200 tool kit that is being given to about 35 elementary schools to get kids interested in construction as a career. He suggested that NESC members approach local sponsors, such as Home Depot, Smiths, etc., to pay for the Masters of Disasters kits.

Ron showed a copy of the City of LA's and Structural Engineering Council of California notebook on seismic retrofit training for building contractors and inspectors.

ANNOUNCEMENTS

The **next meeting** of the Nevada Earthquake Safety Council will be Friday, May 17 (Friday) in Reno.

The following dates are set for future NESC meetings:

Friday, August 23 (Las Vegas)

Friday, November 15 (Reno)

REVIEW OF ACTION ITEMS

Jim Werle will send a PDF version of the paper, after it is published, to Terri Garside (tgarside@unr.edu) for posting on the NESC Web site. Jim will also give the data to Ron Lynn, Clark County Building Department.

Although this item did not come up for formal discussion by NESC, the chairs of the three committees (Wayne Carlson for the Committee on Policy Recommendations, as the lead, Diane dePolo and Jenelle Hopkins for the Committee on Education, and Jim Werle and Craig dePolo for the Committee on Research) should move forward to create a task force to oversee the process of updating the Nevada Earthquake Risk Mitigation Plan.

Wayne Carlson will work with the Policy Recommendation Committee to present motions to the Council for adoption at the next (and possibly the following) NESC meeting. He will give these in writing to Terri Garside by April 17, one month before the next meeting.

Each of the three main NESC committees (Education, Research, and Policy Recommendations) should propose one high-priority item to possibly be paid by year-end funding from FEMA. This should be presented to the Council at the May NESC meeting.

The Policy Recommendations Committee (Wayne Carlson) should consider a recommendation for at least \$100,000 (\$50,000 per year) in legislative funding through the Nevada Division of Emergency Management.

DEM, NBMG/UNR, and Clark County Building Department should help with public relations on the NESC mitigation awards.

Ron Lynn will look into the efforts of State Public Works as a future mitigation award.

The Council (Ron Lynn) should write a letter to Frank Siracusa thanking Bert Prescott for his service to NESC.

Jon Price, on behalf of the Nevada Bureau of Mines and Geology, will nominate the Nevada Earthquake Safety Council and the Nevada Public Agency Insurance Pool for a WSSPC Awards in Excellence for their work to establish a Seismographs in Schools program.

The Council will nominate the Nevada Bureau of Mines and Geology and the Clark County Building Department for a WSSPC award for their combined effort to mitigate fault-related hazards through the implementation of recommendations based on scientific data.

Cathy Snelson and John Anderson will form an ad hoc committee to prepare a flier on earthquake studies in the Las Vegas area, which can be posted on the NESC and Seismological Laboratory Web sites.

respectfully submitted by Jon Price, 4 March 2002.

NEVADA EARTHQUAKE SAFETY COUNCIL
NOMINATIONS for Year 2002 Members of the Board of Directors and Officers
(as of 22 February 2002)

Business and Industry, Southern Nevada	vacant 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 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 Centennial High School, Las Vegas
Community Organizations, Southern Nevada	Carolyn Levering 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	Mark James 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
 Members of the Executive Committee	
Chair	Ronald L. Lynn
First Vice Chair-South	Burt Slemmons
First Vice Chair-North	Jim Reagan
Second Vice Chair-South	vacant
Second Vice Chair-North	Greg Moss
Secretary	Jonathan G. Price
Past Chair	John Anderson
Division of Emergency Management Representatives	Robert Berry