

Summary Minutes Nevada Earthquake Safety Council

21 August 1998

The Nevada Earthquake Safety Council met from 9:00 a.m. to 4:00 p.m. on 21 August 1998 at McCarran International Airport in Las Vegas.

Ron Lynn chaired the meeting.

Individuals attending the meeting are members of the Council:

Ron Lynn*, Clark County Building Department

John Bell#, Nevada Bureau of Mines and Geology (representing Larry Johnson*)

Mike Blakely*, Structural Engineers Association of Nevada

Wayne Carlson*, Nevada Public Agency Insurance Pool

Bob Cullins*, Las Vegas Emergency Management

Craig dePolo#, Nevada Bureau of Mines and Geology (representing Steve Drummond*)

Bill Lowry*, Public Utilities Commission

Barbara Luke*, UNLV Department of Civil & Environmental Engineering

Jon Price*, Nevada Bureau of Mines and Geology

Jim Reagan*, Sierra Pacific Power Company

Burt Slemmons*, University of Nevada, Reno (retired, Las Vegas consultant)

Ken Smith#, UNR Seismological Laboratory, representing John Anderson*)

Charles P. Watson*, Advanced Geological Exploration and Seismo-Watch

James Werle#, Converse Consultants (representing Mike Klein*, Converse Consultants, who attended the afternoon session)

Kamala Carmazzi, Nevada Division of Emergency Management

Diane dePolo, UNR Seismological Laboratory

Sandra Fadil, American Red Cross, Las Vegas

Terri Garside, Nevada Bureau of Mines and Geology

Mike Gilmartin, R & R Advertising, Las Vegas (representing Steven Horsford*)

Jim Goodfellow, Division of Emergency Management (representing Wayne Carlson, who attended the morning session)

Robert Hoban, American Red Cross, Las Vegas

Clifford King, Division of Insurance, Nevada Dept. of Business & Industry

Dick Miller, American Red Cross, Henderson

John J. Perry, IRIS, Boulder City

Frank Siracusa, Administrator, Division of Emergency Management

* indicates member of the Board of Directors.

indicates a representative of a member of the Board.

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

Board Members not attending included:

Bernie Anderson*, Nevada State Assemblyman

John Anderson*, UNR Seismological Laboratory (represented by Ken Smith)

Norm Denny*, Douglas County

Steve Drummond*, Pegasus Gold/Florida Canyon Mine (represented by Craig dePolo)

Ben Edgar*, Lyon County Public Works (resigned)

Craig Heidel*, State Farm Insurance (resigned)

Steven Horsford*, R & R Advertising, Nevada Resort Association

Mark James*, Nevada State Senator

Larry Johnson*, Black Eagle Consulting Inc.

Gary Pierson*, Storey County School District.

The minutes from the meeting on 15 May 1998 were approved.

Announcements

The next meeting of the Nevada Earthquake Safety will be from 9 a.m. to 4 p.m. on Friday, November 20, 1998, in Reno. Additional meetings planned include:

Friday, February 19, 1999, in Las Vegas (tentative)

Friday, May 21, 1999, in Reno (tentative)

Friday, August 27, 1999, in Las Vegas (tentative)

Friday, November 19, 1999, in Reno (tentative).

Ron Lynn announced the upcoming meetings of the Western States Seismic Policy Council: the WSSPC Tsunami Hazards Mitigation Symposium, Sept. 14-15, followed by the WSSPC annual meeting, Sept. 15-18, 1998.

A newspaper article on the City of Sparks being selected for the first FEMA Project Impact in Nevada was distributed.

Ron Lynn announced that an ICBO annual business meeting will be held in early September; he will participate in this meeting.

Committee Reports

Awareness and Education Committee

Diane dePolo submitted a written report (see attachment). The Awareness and Education Committee has contacted several foundations, organizations, and companies to help fund the calendar project. Despite being turned down by many, funding is lined up, with contributions from the Association of Engineering Geologists, University of Nevada, Reno, and FEMA year-end funds.

Diane reminded the group that next year's Earthquake Awareness and Preparedness Week will be February 21-27, 1999.

Bob Cullins thanked Frank Siracusa and the Division of Emergency Management for helping to pay for the calendar. He expressed concern that many of the other organizations that were approached did not contribute.

Bob Cullins also reported that a local school in the Las Vegas area, Mountain View Christian School (with 700 pre-school through grade-12 students) will conduct an evacuation exercise during Earthquake Awareness and Preparedness Week. He requested help with presenting earth-science information about the hazards. Burt Slemmons and Jim Werle volunteered to help.

Jim Reagan noted that there will be a large recovery exercise in the Reno area on February 24, 1999, during Earthquake Awareness and Preparedness Week.

Ron Lynn suggested that Diane be persistent with approaching foundations and other organizations, particularly regarding next year's efforts.

Jim Reagan noted that it will help to use the new NESC letterhead in soliciting funds.

Ron Lynn suggested that the poster contest theme for Earthquake Awareness and Preparedness Week be changed to simply "Get Your Kit Together." This will be done.

Response and Recovery Committee

Bob Cullins thanked Ron Lynn for his assistance in helping the committee.

An ATC training session will be conducted in southern Nevada on November 7.

ACTION ITEM: Bob Cullins will be sure that Jon Price receives a bill for the \$2,500 that the Council has in its budget for the ATC course.

The committee will perhaps request assistance in getting community emergency response teams (CERT) started in southern Nevada.

The Reno Fire Department request for CERT program funds will be discussed later in the meeting, along with other requests for year-end funds from FEMA.

Risk Assessment Committee

Craig dePolo proposed that this committee's name be changed to the Earthquake Risk Mitigation Committee. Craig offered to chair the committee for the next year, if sufficient additional individuals are recruited to help. Ron Lynn established the committee as the Risk Mitigation Committee, with Craig as the chair.

Charlie Watson volunteered to be a member of the committee. Craig dePolo will solicit additional members.

Jim Reagan suggested that the committee continue to involve representatives from the insurance industry.

Ron Lynn will give Craig a contact with the National Association of Remodeling Industry (Vernon Luton, the local chair in Las Vegas).

Craig would like the committee to first stress non-structural hazard mitigation. He passed out buttons that will be distributed at the Nevada State Fair in late August. The buttons have the words "Nonstructural Hazards" with a red circle and slash, "Prepare for Earthquakes," and "Nevada Earthquake Safety Council." Craig proposes that the Saturday of Earthquake Awareness and Preparedness Week be devoted to non-structural hazard mitigation. Craig is proposing to prepare a video on simple nonstructural mitigation - such as securing bookshelves. He also proposes establishing an award of excellence for mitigation efforts.

The committee has submitted proposals for nonstructural hazards to the City of Sparks as part of Project Impact.

Ron Lynn noted that the International Council of Building Officials has video materials available on non-structural hazard mitigation.

Charlie Watson offered Seismo-Watch newspaper space for mitigation efforts.

Strategic Planning Committee

Jim Reagan submitted a written report (see attachment). The committee is working toward preparation of an annual report. Committee chairs should be interacting with the Strategic Planning Committee.

Jim Goodfellow noted that the annual report will help with reporting to FEMA on justifying expenditures of funds.

Jim Reagan asked that the NESC Executive Committee review the charges of each committee.

Jon Price asked that the new Risk Mitigation Committee evaluate its charge at its first meeting.

Jim Reagan noted that there is a need to have a plan for the NESC after an earthquake. The committee is proposing an appendix to the strategic plan for NESC activities after an earthquake. A subcommittee will address this.

Bob Cullins expressed concern about integrating the NESC interests into the incident command system that is being established.

Craig dePolo suggested that the NESC could have certain advisory, assessment, and informational roles after an earthquake.

Ron Lynn deferred further discussion on post-earthquake activities of the NESC.

Ron Lynn noted that the year-end reports from the committee chairs should be prepared before the November meeting.

Charlie Watson suggested that the NESC prepare a formal summary (like "Fault Line Forum" produced by the Utah Seismic Safety Commission).

ACTION ITEM: Ron Lynn charged the Education and Awareness Committee with the task of estimating the cost of preparing a summary of the Strategic Planning Committee's annual report in a brochure form for general distribution.

ACTION ITEM: After Jim Reagan requests year-end reports from committee chairs, Jon Price should send a reminder to committee chairs that they need to supply these reports to Jim Reagan before the November meeting.

ACTION ITEM: Committee chairs should let Terri Garside know when and where committee meetings are being scheduled, and, if possible, these should be posted on the Council's Web site (<http://www.nbmj.unr.edu/nesc/agenda.htm>).

Geoscience Committee and Engineering and Architecture Committee

John Bell supplied a written report (see attachment). The Geoscience and Engineering & Architecture Committees met jointly during the last quarter.

Gary Norris has provided a written report (see attachment) on the subcommittee that is looking at guidelines for evaluation of liquefaction hazards. Barbara Luke and Jim Werle noted that the southern Nevada group is working on this.

Jim Werle and Burt Slemmons have submitted suggestions for revisions of the suggested guidelines for evaluating potential surface fault rupture/land subsidence hazards in Nevada, which the full committee will evaluate in the next quarter. Jim Werle noted that a major change will be to incorporate recommendations from the Western States Seismic Policy Council regarding active faults in the Basin and Range.

John Bell discussed the rationale for the recommendation that the combined Geoscience and Engineering & Architecture Committees have made regarding seismic hazard maps for Nevada.

Charlie Watson noted that there are still boundary problems with the map (such as the towns of Austin and Fallon being close to boundaries between two zones).

Mike Blakely reported on the impacts from a structural engineer's standpoint. He distributed a memorandum (see attachment) from George Ghush, who compared the proposed map with the IBC 2000 map for Reno, Las Vegas, Carson City, and Fallon. The most significant difference is that Fallon winds up with higher accelerations, equal to those in Reno and Carson City, in the proposed maps than with the IBC 2000 map. John Bell indicated that this makes good sense geologically.

Mike Blakely explained that the committees' recommendation may not be accepted by IBC 2000, but that it may well be adopted by local governments as an amendment to IBC 2000 in enforcing local building codes.

Ron Lynn suggested that if individuals or organizations want to make changes, they need to go to the IBC meeting and go through the challenge process. Stating that the State supports these recommendations will help. If the building officials of the State support the recommendation, there is a better chance that they will be adopted as part of the IBC process. Ron stated that only political boundaries are likely to be used in implementing building codes. There are 30 building jurisdictions in the State of Nevada. Ron noted that in most cases, if items are not in the model building code, they are unlikely to be adopted by local jurisdictions.

The following motion passed unanimously: The Nevada Earthquake Safety Council recommends that seismic hazard maps depicting design ground-motion values for Nevada presently included in the draft International Building Code (IBC) 2000 be modified to provide simpler and generally more conservative seismic design based on grouping ground-motion intervals and using the maximum or near-maximum ground-motion value for each combined zone. Specifically, the presently proposed IBC 2000 map (provided by the U.S. Geological Survey through the National Earthquake Hazard Reduction Program) that depicts short-period (0.2 second) ground motion for a 2% probability of exceedance in 50 years uses eight intervals of 20% of the acceleration due to gravity (g) and covers a range of values from approximately 30% g to 170% g. The proposed modified map groups ground-motion intervals into three broad zones with maximum values in each zone recommended for seismic design purposes in Nevada: 60% g (for the 30 to 60% g zone on the IBC 2000 map, 100% g (for the 60 to 100% g zone on the IBC 2000 map), and 160% g (for the 100 to 170% g zone on the IBC 2000 map). A similar grouping should be applied to the IBC 2000 map that depicts long-period (1.0) second ground motion. These recommendations will be forwarded to the building officials of the State and to the IBC committee for consideration during the comment period that ends 12 October 1998.

ACTION ITEM: Ron Lynn will present this recommendation as a challenge to IBC and, with the help of Mike Blakely and John Bell, to the Nevada Organization of Building Officials at their meeting in Reno in November.

WSSPC Policy Recommendations

Ron Lynn opened a discussion on the policy recommendations of the Western States Seismic Policy Council, which had been adopted at the WSSPC meeting in November 1997 and for which

The following WSSPC Policy Recommendations were approved and endorsed unanimously:

WSSPC Policy Recommendation 97-1: Active Fault Definition for the Basin and Range Province. WSSPC recommends that the following guidelines be used in defining active faults in the Basin and Range physiographic province. Active faults can be categorized as follows, recognizing that all degrees of fault activity exist and it is the prerogative of the user to decide the degree of anticipated risk and what degree of fault activity is considered "dangerous":

Holocene active fault - a fault that has moved within the last 10,000 years.

Late Quaternary active fault - a fault that has moved in the last 130,000 years.

Quaternary active fault - a fault that has moved in the last 1,600,000 years.

It should be emphasized that some historical magnitude 6.5 or greater earthquakes in the Basin and Range province have occurred on faults that had not been active in the last 10,000 years; furthermore earthquakes in the province may occur on faults in all three categories.

WSSPC Policy Recommendation 97-2: Developing Guidelines for Fault Trace Setbacks. WSSPC encourages individual state workshops to develop guidelines for local jurisdictions to establish consistent criteria for setbacks from surface traces of one or more categories of active faults, such as those defined in WSSPC PR97-1. In several western states, policy for the regulation of setbacks from active surface fault traces is established at the local level. WSSPC encourages individual jurisdictions that are traversed by the same active fault to have consistent setback requirements. Note that setbacks deal with surface fault ruptures from earthquakes, but do not address the broader, more significant hazards of ground shaking and other effects, such as ground-motion amplification, liquefaction, rock fall, and landslides.

WSSPC Policy Recommendation 97-3: Development of National Earthquake Hazard Risk Mitigation Priorities. WSSPC proposes to take the initiative to coordinate a process with the federal NEHRP agencies and regional earthquake consortia to establish national earthquake hazard risk mitigation priorities. This may be accomplished by WSSPC facilitating dialog among the states and presentation of consensus to the federal government.

WSSPC Policy Recommendation 97-4: Seismic Monitoring Networks. Because seismic monitoring networks are vital for earthquake hazard characterization and because there is an insufficiency in available data, WSSPC advocates the continuation and expansion of seismic monitoring networks, including strong motion instrumentation, by support from state and federal agencies. WSSPC further recommends existing networks be interconnected by compatible hardware and software.

ACTION ITEM: Jon Price should report to WSSPC that the Council has approved and endorsed these recommendations.

Report from the Executive Committee

Jon Price reported that the Executive Committee set priorities for year-end funding that might be available from FEMA. Ron Lynn reported that FEMA (through Joanne Hoffard, who was unable to attend the meeting today) will cover \$39,000 of the \$93,190 total budget for these items.

The items include the following:

1. Pilot Community Emergency Response Team program, City of Reno Fire Department
2. Earthquake Awareness, Preparedness, and Mitigation Week activities
3. Reprinting 10,000 copies of the brochure "Earthquakes in Nevada and How to Survive Them"
4. Reprinting 400 copies of "Planning Scenario for a Major Earthquake in Western Nevada"

5. Funding for additional ATC courses in 1999
6. Calendar on Earthquakes for distribution to schools
7. Liquefaction Research - A Pilot Study by Professor Gary Norris
8. Reprinting 10,000 copies of "Earthquakes in Nevada, 1852-1996"
9. Continuation of Seismo-Watch programming on public access cable television in 1998 (covered by DEM with other funds)
10. Preparation and printing of "Putting Down Roots in Earthquake Country" for the Reno-Carson City area
11. Continuation of Seismo-Watch programming on public access cable television in 1999
12. Telephone monitoring of the effectiveness of the public access cable television broadcasts of Seismo-Watch
13. Seismo-Watch earthquake reports in a rural Nevada newspaper.

Report from the Division of Emergency Management

Frank Siracusa reported that DEM will cover the remaining \$54,190 for the priority items, thereby covering all 13.

Ron Lynn lead the Council in thanking Frank Siracusa for his and the Division of Emergency Management's support of the Council and its activities. Frank, in turn, thanked Kamala Carmazzi for her assistance with financial matters.

John Bell suggested that in spite of the fact that funding is now available to cover the preparation of the calendar this year, we should continue to request funding for such items from the private sector and appropriate organizations.

Frank Siracusa reported that the FEMA training course in Emmitsburg, Maryland in May went quite well. It involved approximately 60 officials from the Cities of Sparks and Reno and from Washoe County, from the private sector in these communities, and several individuals from state agencies.

There is preliminary approval from FEMA for a State Integrated Emergency Management Course and for a Douglas County course.

FEMA has established a partnership with Turkmenistan, and Nevada has been selected as a "Partner in Peace" with this former Soviet Union republic. The Arizona National Guard is involved in a similar project with Kazakhstan. There is a planning meeting September 17 & 18 in Phoenix, Arizona, to get ready for a May meeting in Kazakhstan.

Jim Goodfellow discussed the All Hazards Advisory Committee. The committee will be supported by not only DEM but also the Division of Water Planning in the State Department of Conservation and Natural Resources. The first meeting of the committee will be on September 29 at the Reno Hilton. Federal regulations require states to have such a committee to help prioritize funding for projects. Frank Siracusa will make the appointments to the committee. The overall plan is to make the committee function under the Nevada administrative code. The committee will be looking at all hazards, including floods, earthquakes, fires, and hazardous material spills, among others. The committee will incorporate representatives from all sectors of the state and is being modeled after the success of the Nevada Earthquake Safety Council.

At its first meeting, the committee expects to review proposals for mitigation efforts. They expect to see two proposals related to the recovery from the January 1997 floods, one from the Division of Water Planning, and one from the Nevada Bureau of Mines and Geology (regarding flood, earthquake, and other hazards in the Laughlin area).

ACTION ITEM: Jim Goodfellow will send a copy of the announcement for the meeting to the Chair and Secretary of the Council. Terri Garside will send copies to each member of the board of directors of the Council. If other individuals would like to get a copy of the announcement, please contact Jim Goodfellow.

Nominations for Officers and Members of the Board of Directors

Ron Lynn appointed John Anderson (chair), Jon Price, and Jim Goodfellow to serve as the Ad Hoc Nominating Committee.

ACTION ITEM: Following the Council's bylaws, the Nominating Committee should report its recommendations for voting at the next meeting.

Earthquake Hazards in the Las Vegas Area

Burt Slemmons summarized the earthquake hazards in the area. He explained that there has been considerable debate about the origin of faults in Las Vegas Valley. The opposing hypotheses are (a) faulting related to earthquakes and (b) faulting due to compaction. The issue has not been resolved. That is, we still don't know whether these faults are seismogenic, capable of producing a large earthquake. Burt believes that the evidence favors a tectonic (earthquake-related) origin for these faults, although there is some possibility that some of the displacement is the result of compaction. For example, the Eglinton fault appears to displace sediments that are about 20,000 to 30,000 years old by approximately 20 meters. If all this motion is tectonic, it would imply that the earthquake hazard is considerably higher in the Valley than is generally accepted.

Burt explained that there is a young fault along Sunrise Mountain - Frenchman Mountain, but that along the east side of the Spring Mountains, there does not appear to have been any earthquake activity within perhaps as much as the last 1,000,000 years. The Frenchman Mountain fault probably moves with a major earthquake once every 10,000 to 20,000 years.

Craig dePolo added, from recent geologic mapping in the Frenchman Mountain area, that there may be three segments to the Frenchman Mountain fault. He reported that the uncertainty in estimating timing of the last major earthquake along the fault is such that the value is probably between 10,000 and nearly 170,000 years. He will be proposing to dig trenches across the fault, as well as across faults within the Valley.

Ron Lynn asked if Burt would be willing to duplicate his slides and put them on disk. He offered Clark County services to help with this. Burt loaned Ron his slides at the end of the meeting. These duplicates will be available to others who can use them in presentations about earthquake hazards in the Las Vegas area.

OLD BUSINESS

There was no additional old business.

NEW BUSINESS

Sandra Fadil explained that the American Red Cross is interested in community disaster education. Ron Lynn suggested that there is a natural fit between Red Cross's first aid training and kits and the Council's "Get Your Kit Together" theme for the 1999 Earthquake Awareness and Preparedness Week.

Ron Lynn announced that the Nevada Earthquake Safety Council now has a logo and letterhead. Members needing copies of either should contact Terri Garside.

At the next meeting of the Council, Pete Mote will speak about the Nevada Testing Institute's field-scale earthquake ground-motion simulator.

Also at the next meeting, Mike Steele with the City of Sparks will update the Council on Project Impact.

The Council unanimously approved a motion that the Council write a letter in support of the California Earthquake Research Center (formerly the Southern California Earthquake Center), with which UNR is now affiliated, and that Craig dePolo and Mike Blakely structure this letter such that it avoids any conflict with the engineering centers with which UNR and UNLV are currently affiliated.

This letter would be forwarded to NSF and is needed within about a week.

Mike Blakely noted that the UNR Engineering College is affiliated with a different NSF center. Barbara Luke noted that there are three NSF earthquake engineering centers, which do not compete with the NSF funds for which the California Earthquake Research Center is applying.

ACTION ITEM: Craig dePolo and Mike Blakely will prepare a letter for NSF to support the California Earthquake Research Center for Ron Lynn's signature.

John Perry suggested that the Council prepare T-shirts or other promotional items.

Burt Slemmons suggested that the Council consider having its late spring and summer meetings in Reno and its fall and winter meetings in Las Vegas. This would require a change in the bylaws.

ACTION ITEM: Jim Goodfellow will help to get the new Governor to make a proclamation for Earthquake Awareness and Preparedness Week.

Ron Lynn adjourned the meeting at 4:00 p.m.

REVIEW OF ACTION ITEMS:

Bob Cullins will be sure that Jon Price receives a bill for the \$2,500 that the Council has in its budget for the ATC course.

Ron Lynn charged the Education and Awareness Committee with the task of estimating the cost of preparing a summary of the Strategic Planning Committee's annual report in a brochure form for general distribution.

After Jim Reagan requests year-end reports from committee chairs, Jon Price should send a reminder to committee chairs that they need to supply these reports to Jim Reagan before the November meeting.

Committee chairs should let Terri Garside know when and where committee meetings are being scheduled, and, if possible, these should be posted on the Council's Web site (<http://www.nbmng.unr.edu/nesc/agenda.htm>).

Ron Lynn will present the Council's recommendation regarding IBC 2000 as a challenge to IBC and, with the help of Mike Blakely and John Bell, to the Nevada Organization of Building Officials at their meeting in Reno in November. (Note after the meeting: Mike Blakely and John Bell have been put on the November agenda of the Nevada Organization of Building Officials to present the Council's recommendation.)

Jon Price should report to WSSPC that the Council has approved and endorsed all four of WSSPC's 1997 policy recommendations.

Jim Goodfellow will send a copy of the announcement for the All Hazards Committee meeting to the Chair and Secretary of the Council. Terri Garside will send copies to each member of the board of directors of the Council. If other individuals would like to get a copy of the announcement, please contact Jim Goodfellow.

Following the Council's bylaws, the Nominating Committee, consisting of John Anderson (chair), Jon Price, and Jim Goodfellow, should report its recommendations for voting at the next meeting.

Jim Goodfellow will help to get the new Governor to make a proclamation for Earthquake Awareness and Preparedness Week.

ATTACHMENTS:

Written report of the Education and Awareness Committee

Written report of the Geoscience Committee

Written report of the Strategic Planning Committee

Memorandum from George Ghushn regarding Base Shear Comparisons

Invitation to attend the All Hazards Mitigation Advisory Committee meeting on September 29, 1998 at the Reno Hilton, beginning at 9:00 a.m.

respectfully submitted by Jon Price, 1 September 1998