

Summary Minutes

Nevada Earthquake Safety Council

27 August 1999

The Nevada Earthquake Safety Council (NESC) met from 9:00 a.m. to 4:00 p.m. on 27 August 1999 at the Desert Research Institute in Las Vegas.

Ron Lynn chaired the meeting.

Individuals attending the meeting are members of the Council:

Ron Lynn*, Clark County Building Department

John Anderson*, UNR Seismological Laboratory

Mike Blakely*, Structural Engineers Association of Nevada

Wayne Carlson*, Nevada Public Agency Insurance Pool

Bob Cullins*, Las Vegas Fire Department

Greg Flanigan*, Farmers Insurance

Margie Gunn*, Lincoln County Office of Emergency Management

Mike Gilmartin, R & R Advertising, representing Steven Horsford*, R & R Advertising and the Nevada Resort Association

Greg Moss, Moss Group, in the morning representing Larry Johnson*, Black

Eagle Consulting Inc. (represented by Craig dePolo in the afternoon)

Jim Werle, representing Mike Klein*, Converse Consultants, who attended in the afternoon

Michael Lynch*, Builders Association of Northern Nevada

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)

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

Jim Brown, City of Mesquite, Emergency Management

Craig dePolo, Nevada Bureau of Mines and Geology

Diane Earl, Federal Emergency Management Agency, Community Education

Branch Chief, Mitigation

Terri Garside, Nevada Bureau of Mines and Geology

Mary Manning, Las Vegas Sun

Rick Martin, Division of Emergency Management

Jim O'Donnell, U.S. Department of Energy (retired)

Deborah Rengler, FEMA, Carson City

Renee Tyler, Nevada Power

Gary Vines, Las Vegas

Jim Walker, Division of Emergency Management

Sally Ziolkowski, FEMA, San Francisco

* 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 unable to attend included:

Bernie Anderson*, Nevada State Assemblyman

William Cox*, Austin High School

Norm Denny*, Douglas County

Mark James*, Nevada State Senator

Bill Lowry*, Public Utilities Commission

The minutes from the meeting on 21 May 1999 were approved.

Awareness and Education Committee

Jim Reagan presented a written report, which is appended to these minutes.

ACTION ITEM: Jim Reagan will supply Ron Lynn with the names and addresses of organizations that contributed to the production of the calendar, and Ron Lynn will write letters of thanks.

If additional sponsors are forthcoming, checks should be written to the "UNR Foundation" and sent to either Terri Garside or Diane dePolo.

Barbara Luke noted that checks can also be written to the "UNLV Foundation," which has agreed to help the Nevada Earthquake Safety Council with accepting donations. These checks should be sent to Barbara Luke.

Ron Lynn suggested creating cartoons as a good way to communicate. Charlie Watson mentioned that his company has created a cartoon character, called "Seismo Dog," which they plan to launch as a national icon, like Smokey the Bear. Started in June, it currently features in 12 to 14 newspapers, each time with a one-sentence message about earthquake mitigation or hazards.

Diane Earl mentioned a new FEMA film featuring children. She will send the Council a copy.

Response and Recovery Committee

Bob Cullins reported great interest in the Community Emergency Response Teams. They would like to propose a "Train the Trainer" program, to be held at the Nevada Division of Emergency Management. It would require a minimum of three to four days. It would cost about \$3,000. Also, there is interest in offering the ATC 20 class to the Carson City community (primarily state agencies).

Ron Lynn mentioned that after the recent floods in Las Vegas Valley, the Building Department had 16 people out the next day with 8 teams and quickly produced a report on the damage. The recent ATC training courses on damage assessment, funded in part through the NESC, albeit with the purpose of being prepared for an earthquake, were critical in providing such rapid response. Clark County has been praised by FEMA for its efficiency and rapid response.

Bob Cullins mentioned that there will be an emergency planning course (FEMA's) in Carson City in September. Contact DEM for details.

Engineering and Architecture Committee

Mike Blakely reported that at two separate meetings George Ghush presented the Council's proposed changes to the International Building Code (IBC) 2000 to the Nevada counties and to the Northern Nevada Association of General Contractors. George also presented information on how design force figures change with the new codes (1994, 1997, and 2000).

Mike Lynch mentioned that the Builders Association of Northern Nevada may be able to fund the kind of cost analysis of the impacts of the Council's proposed changes. Washoe County hopes to adopt the IBC 2000 by January 1, 2001, but that may be optimistic.

Ron Lynn, who is the Chairman of the Nevada Organization of Building Officials (NOBO), noted that NOBO will meet the second week of February, and that it would be a good time for presentation of the cost analysis.

Geoscience Committee

The liquefaction guidelines report has been delayed, but the subcommittee (Gary Norris and Barbara Luke) are working on revising an earlier draft. The report will be reviewed by members of the full committee and presented to the Council at a future meeting.

Craig dePolo and Mike Werle suggested that the Great Basin and Southwestern Sections of the Association of Engineering Geologists and the Consulting Engineering Council and ASCE be contacted and asked to endorse the guidelines.

ACTION ITEM: Jim Werle and Barbara Luke agreed to contact CEC and ASCE to seek their review and endorsement of the draft liquefaction guidelines.

Risk Mitigation Committee

Craig dePolo reported that the committee had its first face-to-face meeting on August 18, at which they used the Council's strategic plan. He provided a written report, which is appended to these minutes.

Diane Earl suggested a catchy phrase: "Don't hesitate, mitigate!"

The committee is recommending creation of "Awards in Excellence for Earthquake Risk Mitigation in Nevada." The committee's ideas are included in the appended report. Ron Lynn suggested that the committee include a possible award for the media.

The following motion was passed unanimously: The Council endorses the concept of presenting Awards in Excellent for a significant number of categories for Earthquake Risk Mitigation in Nevada.

Ron Lynn charged Craig dePolo and the Risk Mitigation Committee to go forward with these awards.

Strategic Planning Committee

Jim Reagan reported that the Committee did not meet in the last quarter, because its members were busy on Y2K issues. He noted that each committee needs to updates its portions of an NESC annual report. The Committee is proposing that the Council use a one-page summary sheet for information on proposals brought before the Council for priorities. A proposed new Appendix F is attached to the Committee's written report.

Nominating Committee

Ron Lynn asked that John Anderson, Jon Price, and Jim Walker serve as the nominating committee and bring a slate for next year's NESC Board membership and officers to the Council at the next meeting.

Ad Hoc Bylaws Committee

Burt Slemmons presented a recommendation that the Council add a member to the Board of Directors specifically for a Seismologist or representative of the Seismological Laboratory.

Ron Lynn suggested that the Council write letters to any Board member who does not attend two consecutive meetings or send a representative, requesting that they participate more in the Council. Margie Gunn emphasized the importance of participation of individuals from rural parts of the state.

Barbara Luke reported that UNLV is planning to hire a new structural engineer and that the UNLV Geoscience Department is exploring adding new position in seismology.

Wayne Carlson inquired whether a different structure might be wiser- with a smaller, policy-related body and perhaps an increase in the strength of the technical advisory committees.

Charlie Watson suggested a thorough review of the structure of the Council be undertaken in the year 2000.

Ron Lynn referred the issue of constitution of the Board of Directors back to the Ad Hoc Bylaws Committee, asking that they present written recommendations to the Council at the next meeting.

Ad Hoc Committee on Recognition of the NESC

Margie Gunn noted confusion in the 21 May 1999 minutes regarding who was to chair this ad hoc committee (she or Wayne Carlson).

Ron Lynn changed this committee to the AHMAC (All Hazards Mitigation Advisory Committee) Liaison Committee, charged with interfacing with AHMAC. Margie Gunn, as chair, Greg Moss, Wayne Carlson, Bob Cullins, Charlie Watson, and Jon Price are members of this committee.

Jim Walker mentioned that AHMAC was created within the Division of Emergency Management, as was the NESC.

Update on All Hazards National Workshop

Greg Moss reported on a June 28 - July 1, 1999 meeting that FEMA organized for federal and state representatives involved in hazards. He noted that many people at the meeting felt that the way the NESC works is a good model for combining private-sector, academic, and state and local government participation to maintain such a high level of interest and activity.

The Council unanimously endorsed a motion to send a letter to FEMA requesting that FEMA, as part of its Technical Assistance Program, support two one-day workshops on pre- and post-earthquake building evaluation prior to and just after the next NESC.

ACTION ITEM: Ron Lynn will request that FEMA, as part of its Technical Assistance Program, support two one-day workshops on pre- and post-earthquake building evaluation prior to the next NESC. (Greg Moss drafted a letter. Ms. Diana Todd, P.E., 2113 Drury Road, Silver Spring, MD 20906, 301-438-3256, fax 301-438-2884, dltodd@erols.com, is the individual suggested to provide the workshop.)

Greg also suggested that it would be a wise idea for NESC to discuss dam safety at a future meeting.

Announcements

Ron Lynn reflected on the recent earthquake in Turkey and how important the work of the NESC is in terms of protecting the lives and property of Nevada residents and visitors.

Jim Walker and Rick Martin, DEM, expressed Frank Siracusa's support for the Council and its committee activities.

Sally Ziolkowski, FEMA Region IX Mitigation Director, introduced herself and discussed her recognition of the Council's work. She is in Las Vegas working at the Disaster Field Office of FEMA and the DEM (in response to the Presidential disaster declaration regarding the recent floods in Las Vegas Valley). FEMA is giving the states more flexibility with regard to their mitigation grants.

Ron Lynn thanked Sally for FEMA's support and for the information that Jim Buika provides to the Council. Ron also requested that FEMA provide online forms, when they become available, for the state's requests for hazard mitigation monies and for disaster damage reporting.

Field-Scale Earthquake Ground Motion Simulator

at the Nevada Seismic Testing Center

Peter Mote, who is on assignment from Bechtel Corporation to the Nevada Testing Institute, discussed the field-scale earthquake ground motion simulator that is part of the Nevada Testing Center at the Nevada Test Site. The Center has been in existence since 1996.

They apply pressure pulses (from controlled explosions) to natural soil test beds to create ground motion. The technology comes from SRI (Stanford Research Institute). They attempt to simulate earthquakes and evaluate responses to structures built on the ground. In 1999 they hope to build a full-scale center, and they are trying to get \$50 million from Congress (over a five-year period). Lawrence Livermore; University of California, Irvine; UNLV; and UNR have had some involvement in the project.

They have constructed a one-seventh scale (relative to the full-scale instrument that they are proposing to build) machine. They feel that they can create accelerations of up to 2 g (acceleration due to gravity). Initial experiments did not simulate closely the types of waves that are created by earthquakes, but by varying the way the charges are fired, they can come closer to simulating the motions and accelerations actually seen in earthquakes.

They plan to develop a multi-use, full-scale engineering testing center. The planned test bed will have a 150-by-150-foot area and trenches that are 50-feet deep. The location will be on Area 5 of the Nevada Test Site. The center can be used for many applications, including ones that are difficult to do with shake tables, including testing of storage tanks, multi-story structures, gas-transmission systems, and electrical substations.

The facility is developing as a research tool available to universities and research institutions. Partnerships are developing among not only DOE and its contractor for the Nevada Test Site (Bechtel Nevada) but also UNR, UNLV, and various other universities in California, Texas, Missouri,

Maryland (Johns Hopkins), Kentucky, and Maine; the California Energy Commission; the California Seismic Safety Commission; and some foreign groups.

There may be some funding in 2000 and beyond from the federal Department of Transportation. They are also working with the NEHRP agencies (FEMA, NSF, NIST, and USGS) and the Army Corps of Engineers.

Ron Lynn and others suggested that there may be many opportunities for public outreach and education with this facility. Barbara Luke and John Anderson are aware of the schedules for experiments.

A Web site featuring some information on the Center is www.nv.doe.gov/about/testinst.htm .

Living with Earthquakes in Nevada

Craig dePolo described progress on the preparation of a document, to be released by the Council, focused on the general public. It is being designed as a newspaper supplement and as a stand-alone pamphlet on what people need to know about earthquake safety. He distributed a draft of the document and requested that members of the Council contact him, by no later than September 10, with suggestions for changes.

Several suggestions were made to Craig to direct the document toward the general public by minimizing technical terms and simplifying the text.

Redefining How Seismic Monitoring is Done in the U.S.

John Anderson described efforts to create an advanced seismic research and monitoring system. A bill (HR 1184) to do this has passed the House of Representatives. Currently seismic networks in the U.S. are funded through research programs; in the proposed system, the networks would be designed more as public service functions. There would be a national network of about 100 stations spaced about 500 kilometers apart, regional networks, and urban monitoring with strong motion stations. There could be as many as 200 new stations in the Reno area and 100 stations in the Las Vegas area (with numbers

based more on seismic hazard than on population.) This would allow near real-time evaluation of shaking, as is currently the case in the Los Angeles area.

John recently attended a national workshop to develop a management plan for the system. Standards were accepted for operation of the national, regional, and urban stations and networks. Outreach and education would be more important components of the system than is currently the case with the research-focused networks. Each regional seismic network would develop regional committees to assure that the networks are meeting the needs of the user communities (engineers, emergency managers, researchers, insurance companies, professional organizations, and others in the private sector). A consensus from the workshop was that work should begin immediately to start to put the system together. NESC could help by forming a regional advisory committee. The committee could help to determine what the objectives of a regional network might be. The regional advisory committee would need to include parts of California that are covered by the UNR Seismological Laboratory's network.

The Council unanimously approved a motion to establish a Regional Advisory Committee to advise the UNR Seismological Laboratory regarding its regional network. Ron Lynn asked for volunteers to contact John Anderson (jga@seismo.unr.edu). He named John Anderson as chair and asked that John report to Jon Price, NESC Secretary, regarding the membership of the committee.

Recent Earthquake near Scotty's Junction, Nevada

John Anderson reported that the earthquake (1 August 1999, 11 kilometers north of Scotty's Junction in Nye County, magnitude 5.7) was felt as far away as Fallon, Eureka, Bridgeport, and Las Vegas, which is somewhat unexpected. Charlie Watson mentioned that there were several examples of the earthquake's causing water to slosh out of pools in Las Vegas. There is some evidence that Las Vegas is particularly sensitive to low-frequency motion, similar to (but perhaps not as strong as) Mexico City. This is the subject of ongoing research.

Recent Earthquake in Turkey

John Anderson also reported on the recent Izmit earthquake (magnitude 7.4), near Istanbul, Turkey. It occurred along a fault that moved 2.5 to 3 meters along a distance of at least 110 kilometers. According to the Kandilli Seismic Observatory at Istanbul, aftershocks covered a distance of about 180 kilometers. These probably give minimum and maximum estimates of the extend of faulting. Strong

shaking lasted about eight seconds. Peak accelerations were about one third the acceleration of gravity. It was a strike-slip earthquake, like the San Andreas fault, and like the Owens Valley earthquake and some faults in Nevada. The levels of shaking from this earthquake will be important for structural engineers in Nevada. John explained why the different initial reports of earthquake magnitudes varied; he used an analogy of measuring body temperature—it depends on how and where you measure it.

Charlie Watson mentioned that the USGS Web page is adding data about their observations about the Izmit earthquake and those of others (www.usgs.gov). There is also a University of Istanbul Web page with reports on damage. There was a report of a tsunami in the Bay of Izmit with a surge height of 20 meters. There has been a tremendous amount of damage. Ron Lynn said the current estimate of damage is between \$5 to \$8 billion (perhaps as much as \$20 billion).

Western States Seismic Policy Council

Jon Price reported that the Western States Seismic Policy Council will be holding its annual meeting in Santa Fe, New Mexico, beginning with a field trip to nearby potentially active faults on Monday, September 6, 1999 (Labor Day). The main meeting will be held Tuesday through Thursday morning, September 9 (9/9/99). WSSPC has hired a new Executive Director, Patti Sutch, a well-known engineering geologist with experience in administration of non-profit organizations.

Along with several other organizations, including NESC, FEMA, the Cascadia Region Earthquake Workgroup, the USGS and the two other regional earthquake and emergency consortia (the Central United States Earthquake Consortium and the New England Emergency Consortium), WSSPC plans to host a National Earthquake Hazards Conference in Seattle, Washington, September 18-22, 2000. The purpose of the 2000 conference is to bring together a broad cross section of individuals and organizations from throughout the country to focus on public and private policies targeted on mitigating society's risks from earthquake hazards.

Please contact the WSSPC office (415-974-6435 or WSSPC@WSSPC.ORG) for details on WSSPC activities or on how to get involved in WSSPC committee activities.

FEMA UPDATE

Deborah Rengler reported on FEMA activities, particularly regarding the recent flood in Las Vegas Valley. FEMA's disaster mitigation funds (15% of the total FEMA disaster assistance) will become available for projects established as high priorities by the state. Notices of interest will go out within a month or six weeks. There is usually a ninety-day period for applications. The total amount of funds for the Hazard Mitigation Program Grants is likely to be in the range of \$1 million to \$3 million.

Jim Walker said that DEM plans to prepare guidelines for mitigation proposals prior to the next AHMAC meeting. The AHMAC will review the proposals and recommend priorities for funding.

Old Business

Jon Price mentioned that FEMA will be releasing its annualized loss estimation model, in which the Nevada numbers are likely to be on the order of \$100 million per year. This is an order-of-magnitude estimation, potentially off by a factor of 10. Nonetheless, there is an opportunity for NESC and others to capitalize on FEMA's release of the numbers. DEM and NBMG should receive advance notice of the numbers, so that they can be prepared to answer questions from the press.

Margie Gunn reiterated the requests that NESC has made from FEMA to have identification cards and placards.

ACTION ITEM: Ron Lynn requested that Jim Walker with DEM arrange for

1. standard placards (with the State logo or agency name) to be prepared by the state for use after a disaster;
2. i.d. cards for appropriate individuals needing access to disaster areas, including people who pass the ACT courses on damage assessment; and
3. standard forms for use in damage assessment.

New Business

Ron Lynn and Jon Price will be attending a NEHRP strategic planning meeting September 1-2 in Washington, D.C..

Announcements

The next meeting of the Nevada Earthquake Safety will be from 9 a.m. to

4 p.m. on Friday, November 19, 1999, in the Journalism Building on the University of Nevada, Reno campus. Tentative dates for meetings the following year are:

Friday, February 18, 2000 in Las Vegas

Friday, May 19, 2000 in Reno

Friday, August 25, 2000 in Las Vegas

Friday, November 17, 2000 in Reno.

REVIEW OF ACTION ITEMS

Jim Reagan will supply Ron Lynn with the names and addresses of organizations that contributed to the production of the calendar, and Ron Lynn will write letters of thanks.

Jim Werle and Barbara Luke agreed to contact CEC and ASCE to seek their review and endorsement of the draft liquefaction guidelines.

Ron Lynn will request that FEMA, as part of its Technical Assistance Program, support two one-day workshops on pre- and post-earthquake building evaluation prior to the next NESC. (Greg Moss drafted a letter. Ms. Diana Todd, P.E., 2113 Drury Road, Silver Spring, MD 20906, 301-438-3256, fax 301-438-2884, dltodd@erols.com, is the individual suggested to provide the workshop.)

Jim Walker will discuss with DEM officials the NESC requests to arrange for

1. standard placards (with the State logo or agency name) to be prepared by the state for use after a disaster;
2. i.d. cards for appropriate individuals needing access to disaster areas, including people who pass the ACT courses on damage assessment; and
3. standard forms for use in damage assessment.

Suggestions for agenda items for future meetings include:

1. discussion of dam safety programs in Nevada
2. update on the recent earthquake in Turkey (possibly Lloyd Cluff).

Enclosures:

Education and Awareness Committee Report, August 27, 1999

Strategic Planning Committee Quarterly Report, August 27, 1999

Earthquake Risk Mitigation Committee Report, August 27, 1999.

respectfully submitted by Jon Price, 27 August 1999

Members of the Board of Directors, effective 21 April 1999

Business and Industry Steven Horsford

R & R Advertising, Nevada Resort Association

Business and Industry Michael Lynch

Builders Association of Northern Nevada

Insurance Industry Greg Flanigan

Farmers Insurance

State Government Bill Lowry

Public Utilities Commission

Local Government Wayne Carlson

Nevada Public Agency Insurance Pool

Local Government Margie Gunn

(NV Assoc. of Counties) Lincoln County Office of Emergency Mgmt

Geosciences Burt Slemmons

Las Vegas consultant, UNR (retired)

Geosciences Jonathan G. Price

Nevada Bureau of Mines and Geology

Engineering Mike Blakely

Structural Engineers Association of NV

Engineering Mike Klein

Converse Consultants

Education William Cox

Austin High School

Community Organizations Bob Cullins

Las Vegas Emergency Management

Community Organizations Jim Reagan

Sierra Pacific Power Company

University John Anderson

UNR Seismological Laboratory

University Barbara Luke

UNLV Dept. of Civil & Environmental Eng.

Building Official Ronald L. Lynn

Clark County Building Department

Building Official Norm Denny

Douglas County

State Senate Mark James

Nevada State Senator

State Assembly Bernie Anderson

Nevada State Assemblyman

Member at Large Larry Johnson

Black Eagle Consulting Inc.

Member at Large Charles P. Watson

Advanced Geological Exploration

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