THE OFFICIAL NEWSLETTER OF THE CENTRAL UNITED STATES EARTHQUAKE CONSORTIUM

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PUBLIC AWARENESS: REACHING OUT TO REDUCE THE RISK

An Overview of NEHRP

The United States Congress established the National Earthquake Hazards Reduction Program (NEHRP) when it passed the Earthquake Hazards Reduction Act of 1977, Public Law 95-124. The program's purpose is "to reduce the risks of life and property loss from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction

program." According to the Earthquake Hazards Reduction Act of 1977, Public Law 95-124, the Interagency Coordinating Committee,—NEHRP's lead group—is composed of the following agencies:

- Federal Emergency Management Agency (FEMA)
- National Institute of Standards and Technology (NIST)
- National Science Foundation (NSF)
- United States Geological Survey (USGS)

This committee oversees the planning, management and coordination of the program. The motivation to create a National Earthquake Hazards Reduction Program was the result of the devastating 1964 Alaska and 1971 San Fernando earthquakes. These two quakes caused severe damage and cost the country significant financial losses. This rekindled a growing concern to the legislative and executive branches about identifying opportunities for earthquake mitigation. Since 1977, NEHRP has been reviewed and reauthorized periodically; the most recent update being the NEHRP Reauthorization Act of 2004, PL



Attendees learn about the earthquake hazard in the central U.S. from leading researchers during an earthquake hazards field trip in 2007

108-360. Throughout its reauthorizations, program goals, objectives and agency responsibilities have been refined. However, NEHRP's four basic goals have remained unchanged:

- Develop effective practices and policies for earthquake loss reduction and accelerate their implementation
- Improve techniques for reducing earthquake vulnerabilities of facilities and systems
- Improve earthquake hazards identification and risk assessment methods and their use
- Improve the understanding of earthquakes and their effects

- INSIDE THIS ISSUE -

Around the Region4	
Recent Seismic Activity7	
Other News7	
Calendar of Events9	

NEHRP accomplishes its goals by working with various agencies and organizations in the public and private sectors and also supports research on: Science of earthquakes, Earthquake performance of buildings and other structures, Earthquake-resistant structural design standards and practices, Societal impacts, Emergency response and recovery, Regional land use Planning; and Education programs for the public. Contributions provided by NEHRP include:

- 1. Recommended design practices for the seismic safety of new buildings which serve either as a primary source document or as a basis for all three national model building codes and are available for adoption by state and local regulatory jurisdictions;
- 2. Guidelines for assessment and engineering techniques for strengthening of seismically hazardous existing buildings; and
- 3. Contributions to technologies for the seismic safety of lifelines.

As a result of NEHRP's efforts, many communities are now more aware of the central U.S. earthquake hazard. They are adopting and enforcing mitigation and preparedness measures along with emergency response measures such as preplanning for response and recovery from an earthquake disaster. For more information about NEHRP, visit -

http://www.nehrp.gov



PROMOTING PUBLIC AWARENESS AT THE NATIONAL AND REGIONAL LEVELS

NEHRP recognizes the importance of informing and educating the public of the earthquake hazard and of steps that can be taken to mitigate loss. The program has created an approach of targeted training and education programs to aid in that effort; and uses various products to ensure earthquake awareness/ preparedness information is available to the public. These products are:

- Development of materials suitable for inclusion in building design, architecture and engineering courses
- Mass Media training seminars and "users manual"
- K-12 grade school teaching modules focusing on the science and technology of seismic mitigation
- "Training in the workplace" curriculum materials
- Post-earthquakeresponseplansthatwillprovide to federal and state and local public officials, private industry and the public information on the cause and effects of earthquakes, the potential for continuing hazard and the means to recover from the event in the first hours, days and weeks after an earthquake
- Newspaper inserts
- Traveling museum exhibits
- National Engineers Week teaching module
- Training programs for design professionals on new hazard mitigation methods

Public education continues at the regional and state level. The CUSEC Board of Directors has made public education and awareness its number one priority. It is the feeling of the Board that awareness is a key component in the successes of the organizations four goal areas: publica education, mitigation, responses and recovery planning and the application of research. Each CUSEC member state emergency management agency has its own strategy for promoting the earthquake hazard. One emergency management agency in particular, Missouri, strives to be a reliable source of accurate earthquake information for the residents of its state. The following article highlights their public outreach effort.

MISSOURI STATE EMERGENCY MANAGEMENT AGENCY'S PUBLIC OUTREACH EFFORT

Susie Stonner-SEMA Public Information Officer

The Missouri Earthquake Public Awareness Campaign each February provides earthquake

preparedness information to businesses and citizens through the media, exhibits, seminars and meetings. A business seminar, the Missouri Seismic Safety Commission Meeting, and hands-on exhibits at the Event. Because Earthquake Awareness week is in February, the media and citizens are now aware that SEMA and their local emergency management agencies will be hosting events across the state. We



Visitors to the St. Louis Science Center learn how to shut off utilities in case of an emergency. The event is part of the annual Earthquake Awareness Week each February in Missouri. Missouri Earthquake Awareness Week draws hundreds of visitors each year, and is a shining example of public outreach and earthquake awareness at it's best.

St Louis Science Center are the cornerstone of the awareness week. Public information is posted to the State Emergency Management Homepage and local emergency managers are encouraged to be "localized" for their community and presented to their local media. A Statewide Press Release details all the events is emailed to all media in the 47 counties. Localized event press releases are emailed to local media for localized events. In 2006, 2007 campaigns, SEMA and Department of Natural Resources were able to offer Earthquakes for Teachers Class and fieldtrips. In 2008, Local officials will have the chance to learn about Earthquakes in SEMO and take a field trip. We are also working closely with local businesses to promote earthquake preparedness and non-structural mitigation to help citizens protect their homes.

The activities for Earthquake Awareness now span the entire month of February with town hall meetings, Structural Assessment Visual Evaluation (SAVE) Coalition Classes, non-structural mitigation workshops, school and civic presentations, and other special events throughout the 47 Missouri counties, which could be impacted by a New Madrid Seismic have excellent media coverage because these events are visual and reporters have a chance to interview experts and local citizens.

BUILDING AN EFFECTIVE PUBIC AWARENESS PROGRAM

Promoting seismic safety to the public can be effective when you have a clear and consistent message. Trying to understand the complexities of the earthquake hazard in the central U.S. can be overwhelming for some people. Therefore, when talking to your audience, tell them in plain language what the problem is and how your initiative will solve it. If they do not understand what the seismic threat is, they will not have an interest in the solution.

Effective seismic safety promoters always find multiple opportunities—public presentations, public meetings, in print and the media—to present their message. They also try to understand their audience's current knowledge and perception of the risk and explain the importance of seismic safety in a way that is meaningful them. Always try to link seismic safety to issues people already care about. Many advocates of seismic safety have provoked communities to practice earthquake mitigation

by pointing out how seismic safety impacts the overall safety of schoolchildren and the survival of a business—especially small ones. Another key element to consider is forming partnerships with businesses, organizations governmental agencies, experts and personal contacts.

Developing a good relationship with media is essential for effective seismic safety advocacy. Media sources—television, radio, internet and newspapers—have the ability to influence public opinion.

As a promoter of earthquake awareness, especially in the central U.S., before going public with any seismic safety campaign; keep in mind the following:

- The audiences you want to reach
- The distinctive characteristics and needs of those audiences
- How to be seen as credible and trustworthy by those audiences
- The best form for communicating scientific information on the earthquake threat
- Which media and vehicles will be most effective in reaching you target audiences

AROUND THE REGION

MEMBER STATE SPOTLIGHT: MISSOURI



With the potential of a major earthquake centered in the New Madrid seismic zone facing the state, the Missouri State Emergency Management Agency (SEMA) has made a dedicated effort to protect the lives and property of all Missourians. SEMA has an earthquake program designed to carry out earthquake awareness and preparedness programs. The agency works with partners to better protect lives and reduce property losses from damaging earthquakes through continuously improving, proactive programs of mitigation, preparedness through outreach and education, response and recovery plans and exercises, and interstate cooperation through the CUSEC. The state has implemented two programs to support its earthquake program.

- The Missouri Seismic Safety Commission reviews the "State of State" in earthquake preparedness and makes recommendations for the government, private sector and citizens.
- The Structural Assessment Visual Evaluation (SAVE) Coalition's purpose is to implement a building inspection program for disaster events such as earthquakes and other natural disasters.

SEMA also participated in Earthquake Awareness 2007 with activities including: town hall meetings, workshops, seminars and a hands-on earthquake exhibit at the St. Louis Science Center.

Ron Reynolds retired as a Lieutenant Colonel from the United States Army after 22 years and was appointed SEMA State Director in January of 2005 by Governor Matt Blunt. He is the Secretary-Treasurer for the CUSEC Board of Directors and has played an active role in Missouri's earthquake program. He has participated in Missouri's earthquake activities since 2005 and has expanded earthquake awareness activities from one week to an entire month. He has been instrumental in getting state agencies to update their earthquake response plans and also participated in the state level earthquake exercise conducted in June of 2007 to test the State's Annex. Under his leadership, Missouri is developing a specific earthquake annex to the State's All Hazard Plan.

Steve Besemer has worked for SEMA for more than four years and has been the Earthquake Program Manager since November of 2005. He directs the earthquake program efforts across the state and serves as the SEMA's liaison to the Missouri Seismic Safety Commission and the SAVE Coalition Board of Directors. Besemer is involved in the current

development of an earthquake annex to the state's emergency operation plan. He also has a background in Journalism and is an assistant to SEMA's Public Information Officer (PIO).

For more information about SEMA visit their webpage at - http://sema.dps.mo.gov



SEMA Director Ron Reynolds & SEMA Earthquake Program Manager, Steve Besemer

ASSOCIATE STATE SPOTLIGHT: OHIO



The Ohio Emergency Management Agency currently has an unfunded earthquake program but coordinates with other state and federal organizations in order to provide support in the event of a major earthquake in the Midwestern United States.

The agency supports and coordinates with Ohio Department of Natural Resources which operates the Earthquake Information Center. The center links 25 colleges and organizations in a unique and inexpensive monitoring system that identifies earthquakes occurring in around Ohio. This service is highly popular with media and residents of the state when an earthquake is felt in Ohio.

Executive Director, Nancy Dragani has worked for Ohio EMA for more than 13 years and has been director

for two years. Prior to this position, Dragani served as the Director of Operations at Ohio EMA where she was responsible for emergency preparedness training, exercises, planning homeland security and preparedness grants and response operations. She is on the Federal Emergency Management Agency's (FEMA) National Advisory Council and vice president of the National Emergency Management Association.

Candice Sherry, Ohio EMA Earthquake Program Manager monitors support to the Ohio Earthquake Information Center. Sherry is a FEMA-certified ICS Instructor who wrote the first Ohio Emergency Operations Plan and developed the first Critical Infrastructure Database for the state.

For more information about Ohio EMA visit - http://ema.ohio.gov/

ALABAMA EMA WELCOMES NEW STATE DIRECTOR

Alabama Governor Bob R. Riley appointed Brock Long as State Director of Alabama Emergency Management Agency in late January. Long comes to Alabama after working at the state and federal levels in hurricane planning and response. "Alabama is fortunate to be gaining someone with Brock's level of experience, talent and energy," said Governor Riley Long replaces acting Director John James who was appointed after Bruce Baughman retired after four and half years of service as State Director. James has served in local and state emergency management for nearly 20 years, and CUSEC wishes him well. As a Member State of CUSEC, Director Long will serve as a voting member of the CUSEC Board of Directors.

Visit http://ema.alabama.gov to read more.



NEW MADRID SEISMIC ZONE CATASTROPHIC PLANNING UPDATE

Arkansas State Catastrophic Earthquake Planning Workshop Results

Even if we think we're prepared, a series of earthquakes like those of 1811-1812 could be unbelievably catastrophic to the states affected as well as the nation as a whole. Some have a mindset that "there hasn't been a major earthquake here in years, and there will not be one in my lifetime." The challenge for NMSZ residents is to overcome that mindset and prepare for an organized, coordinated multi-state earthquake response and recovery, and to also take steps to mitigate the impact of an earthquake.

Under the FEMA-sponsored New Madrid Seismic Zone (NMSZ) Catastrophic Planning Project, Arkansas conducted three local scenario-driven catastrophic earthquake planning workshops and one state workshop. The purpose of the project is to increase national readiness for a possible catastrophic earthquake in the NMSZ. The mission of the Arkansas state workshop was to improve the catastrophic earthquake annex to the state emergency operations plan and to enhance earthquake plans in each of the state's 34 counties in the NMSZ. FEMA, the Central U.S. Earthquake Consortium (CUSEC), Innovative Emergency Management (IEM), and others partnered with Arkansas and other CUSEC member states in this and similar efforts.



The results document was distributed to workshop participants in December and included over 100 pages. It provides an organized, detailed summary of the topics and discussions from the September 11-13 workshop held in Little Rock, AR. Participants included state,

regional, and local government agencies and businesses, a number of Federal government organizations, and private service providers. The workshop was a valuable learning experience for all who attended. The benefits will be improved local, state, regional, and national readiness and response to an NMSZ earthquake. The document included the following sections, based on workshop breakout sessions:

Communications	Congregate/Transitional Shelters
Damage Assessment	Debris Management
Direction and Control	Evacuee Reception
First Responder Issues	Infrastructure Recovery
Medical/Mass Care	Transportation and Evacuation

It also included two appendices: Continuity of Operations/Continuity of Government Discussion and Statewide Mutual Aid System

Next, detailed operating procedures, checklists, and plans should be developed and then exercised and updated periodically. Unlike hurricanes, tornadoes, fires, floods, hazardous material spills, and other disasters, we haven't had major NMSZ earthquakes to keep us focused on that threat and ready to respond.

More than 15 local and state workshops have been completed, thus far. More state workshops are being planned which includes six more already scheduled to be completed by the end of March 2008. Regional workshops are also planned for 2008, with a final integration workshop to be conducted in 2009.

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DATE	LOCATION	MAGNITUDE	FELT REPORTS
10/17/2007	Eastlake, Ohio	M3.2	302
12/7/2007	Greer, South Carolina	M3.1	561
12/13/2007	Northeastern, Alabama	M2.4	None Reported
01/08/2008	Lakeline, Ohio	M3.1	None Reported

7

CUSEC STATE EXERCISE OFFICERS AND PUBLIC INFORMATION OFFICERS MEET IN MISSISSIPPI

TUNICA, MS - A first-ever meeting of the exercise officers from the CUSEC states took place on December 4 & 5, 2007 at the Hollywood Casino Hotel in Tunica, Mississippi. Seven of the eight states sent their exercise officials to the meeting, which was also attended by several CUSEC employees as well as other state emergency management officials. In addition to briefings on the catastrophic planning process, SONS07 and Vigilant Guard exercises, the group took up the task of establishing itself as a formal working group. Much of the last day was devoted to discussion of the 2011 proposed regional earthquake exercise. Several recommendations for the exercise were forwarded to the CUSEC Board. A joint meeting with the Board has been scheduled for April to further discuss the exercise requirements for 2011.

CUSEC Public Information Officers (PIO) along with representatives of the Center for Earthquake Research and Information (CERI) and Innovative Emergency Management (IEM) also met. With an emphasis on providing the public with accurate earthquake awareness and emergency information, public information officers discussed physical regional infrastructure and services that will most likely be impacted from a major earthquake. Presentations covered the Central U.S. Earthquake Hazard, a Post-Earthquake Investigations Coordination Plan and an Emergency Information Outline Ideas for a NMSZ Catastrophic Earthquake Public Information Annex to each state's operations plan. The PIOs also reviewed current awareness/ preparedness literature—brochures, pamphlets, etc—and decided on unified messages for 2008 Earthquake Awareness Week.

OTHER NEWS

2008 NATIONAL EARTHQUAKE CONFERENCE AWARDS

Nominations are now being accepted for the following awards to be presented at the 2008 National Earthquake Conference to be held in Seattle, WA on April 22-26.

- 2008 National Awards in Excellence: This award is given to persons, organization or agencies that have contributed significantly to addressing earthquake risk reduction within the U.S.
- 2008 National Lifetime Achievement Award in Earthquake Risk Reduction: This award presented by the Western States Seismic Policy Council (WSSPC)— recognizes outstanding leaders in earthquake risk reduction.

The deadline for nomination materials to be received by the WSSPC office is February 29. Visit www.earthquakeconference.org for more information on the awards and on the conference.





EERI 2008 ANNUAL MEETING

"Hurricane Katrina: Lessons for Earthquake Risk Reduction" is the theme of the 60th Annual Meeting of the Earthquake Engineering Research Institute (EERI), to be held February 6-9, 2008, at the Astor Crowne Plaza Hotel in New Orleans' French Quarter.

The meeting will be held during Earthquake Awareness Week 2008-an event observed by the Central U.S. every February. Meeting organizers say this is an extraordinary opportunity to capture lessons from the largest natural disaster in U.S. history. With close to 30 presentations over three days, the program is designed to appeal to professionals and researchers in the multidisciplinary earthquake risk reduction fields. Sessions cover topics such as restoring critical lifelines after a catastrophe, impacts on the energy sector, offshore infrastructure design, enhancing the resilience of hospitals, scenario-driven catastrophe planning achievements of 75 years of strong-motion seismology, and responding to and recovering from a large-scale urban event. To view the program and to register, visit http://www.eeri.org

HIGHLIGHTS FROM RECENT MCEER SYMPOSIUM

According to the Multidisciplinary Center for Earthquake Engineering Research (MCEER), nearly 100 participants from 18 states, Canada and Mexico, gathered at the University at Buffalo (UB) for a one-day Symposium on Seismic Regulations and Challenges for Protecting Building Equipment, Components & Operations. These included building equipment and isolation/restraint manufacturers, engineers, healthcare facilities managers, faculty researchers, students, and other related practitioners. Following the symposium, participants observed two simulated earthquakes badly damage a fullyequipped hospital room, as University at Buffalo engineers demonstrated their newest earthquake simulation equipment, the world's only Nonstructural Components Simulator (UB-NCS). For a recap of the symposium which includes presentations, photos, links to videos and an online survey for attendees visit http://mceer.buffalo.edu/Nonstructural Components/

- CALENDAR OF EVENTS -

See below for a glimpse at what is going on in the upcoming months. For more information, visit the CUSEC website at www.cusec.org and click the calendar link to find information

2008 EARTHQUAKE AWARENESS WEEK ACTIVITIES

WHEN	WHAT
February 1-29	Missouri Earthquake Awareness Campaign
February 4-8	Arkansas Earthquake Awareness Campaign
February 4-8	Kentucky Earthquake Awareness Campaign
February 4-8	Mississippi Earthquake Awareness Campaign
February 11-15	Tennessee Earthquake Awareness Campaign

WHERE

WHERE

Throughout Missouri Throughout Arkansas Throughout Kentucky Throughout Mississippi Throughout Tennessee

See the detailed activities of each state participating in 2008 Earthquake Awareness Week/Month on the CUSEC calendar at http://www.cusec.org

MEETINGS AND CONFERENCES

WHFN

WHAT

January 24-25	CUSEC State Geologists & MAEC Meeting	Chicago, Illinois
February 6-9	EERI Annual Meeting	New Orleans, Louisiana
March 9-13	NEMA 2008 Mid-Year Meeting	Washington, D.C.
March 25-28	Missouri Emergency Management Conference	Branson, Missouri
April 15-16	CUSEC Board of Directors Meeting	North Little Rock, Arkansas
April 22	CUSEC Earthquake Program Managers	Seattle, Washington
April 22	National Earthquake Program Managers	Seattle, Washington
April 22-26	2008 National Earthquake Conference	Seattle, Washington

TRAINING AND EXERCISE OPPORTUNITIES

WHEN

April 10

February 4

WHAT

Earthquake 101 February 7 Non-Structural Mitigation Workshop **Disaster Medicine 101**

WHERE

Paducah, Kentucky Owensboro, Kentucky Sikeston, Missouri

NEW MADRID SEISMIC ZONE CATASTROPHIC PLANNING WORKSHOPS

WHEN	WHAT
February 12-14	Mississippi State Planning Workshop
March 11-14	Kentucky State Planning Workshop
March 17-22	Tennessee State Planning Workshop
March 24-25	Alabama Local Planning Workshop
March 26-28	Alabama State Planning Workshop
May 12-14	Missouri State Planning Workshop

WHERE

Tunica, Mississippi Paducah, Kentucky Memphis, Tennessee Florence, Alabama Florence, Alabama Jefferson City, Missouri

TO MARK DATES

10

Earthquake Awareness Month – February Disaster Medicine 101 – April 10, National Earthquake Program Managers 2008. CUSEC Member States participating 2008. February Missouri, related training and workshops, media health concepts related to the earthquake their counterparts, Program Managers information is online at *www.cusec.org*

portal at *http://register.cusec.org*

CUSEC, the CDC, Missouri Meeting - April 2008. Earthquake Program in earthquake awareness activities during State Emergency Management Agency Managers from throughout the nation will include Arkansas, Kentucky, will present a Disaster Medicine 101 meet for the fourth consecutive year during Mississippi, and Tennessee. course in Sikeston, Missouri. The class the 2008 National Earthquake Conference Activities will include exhibits, earthquake is a one-day general overview of public in Seattle, Washington. By meeting with events, and other public outreach efforts. For threat in the New Madrid Seismic Zone are able to share best practices and make more information, contact CUSEC or your and is open for registration. For more recommendations for program direction at state Earthquake Program Manager. Detailed information, visit the CUSEC registration the national level. The meeting will be held on April 22 at the Westin Hotel in Seattle.

The Central United States Earthquake Consortium is a not-for-profit corporation established as a partnership with the Federal government and the eight member states: Alabama, Arkansas, Illinois, Indiana, Kentucky, Mississippi, Missouri, and Tennessee; and nine associate member states: Georgia, Iowa, Louisiana, South Carolina, North Carolina, Ohio, Oklahoma, Nebraska and Virginia. The Federal Emergency Management Agency provides the basic funding for the organization.

CUSEC's purpose is to help reduce deaths, injuries, damage to property and economic losses resulting from earthquakes occurring in the central United States. Basic program goals include: improving public awareness and education, mitigating the effects of earthquakes, coordinating multi-state planning for preparedness, response and recovery, and encouraging research in all aspects of earthquake hazard reduction.

CUSEC Board of Directors

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Director David Maxwell - Vice Chairman Arkansas Department of Emergency Management

Director Ron Reynolds - Treasurer Missouri State Emergency Management Agency

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Please send comments and suggestions to cusec@cusec.org

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