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EARTHQUAKE CONSORTIUM

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MITIGATION IN THE CENTRAL US: A KEY PIECE OF THE PUZZLE

BENEFITS OF MITIGATION

Mitigation - actions taken to prevent or reduce the risk to life and property from natural hazards - is one of CUSEC's main goals. CUSEC works with other agencies, both governmental and non-governmental, to make sure that planners, developers, building officials, insurance representatives and other key players understand the potential consequences of earthquakes and begin to incorporate mitigation into their daily decisions. According to the Federal Emergency Management Agency (FEMA), the benefits of mitigation are:

- *Avoidance of Physical Damage* such as contents damages, including equipment, damage to building or site infrastructure and hazardous material contamination
- *Avoidance of Loss-of-Function Costs* such as displacement of costs for temporary quarters, loss of rental income, loss of business income, lost wages and disruption of time for employees or tenants
- *Avoidance of Casualties* such as deaths, injuries and illness
- *Avoidance of Emergency Management Costs* such as emergency operations center costs, evacuation or rescue costs, security costs, temporary protective measure costs, debris removal and cleanup costs and other management costs



FEMA News Photo - This damage, from the 6.8M Nisqually Earthquake in 2001, could have been prevented or minimized had earthquake mitigation been employed. No one was hurt in this example, but building facilities and business operations were impacted

THE VALUE OF BUILDING CODES

One essential component of mitigation is building codes. The creation of building codes to reduce the loss of life, limb, and property, were implemented in North America as early as the 17th century. The earliest regulations addressed the rapid spread of fire in the buildings of New York City, then known as New Amsterdam. Therefore, it was determined that a standard set of rules for construction would help prevent future losses. According to an Indiana Building Commissioner, codes were often created

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with the input from insurance companies who were trying to get building owners to pay for improvements to their buildings in order to reduce the losses insurers were suffering due to poor construction techniques and disregard of fire safety. For example, fire zones were created in large cities to mandate masonry construction and parapets where buildings were constructed, attached or very close to each other. The code for requiring exit doors to swing in the direction of exit travel was initiated by the Beverly Hills Supper Club fire in northern Kentucky in May of 1977, in which many people were trapped behind unlocked doors because of the press of panicked people trying to escape. One hundred and sixty-five people died, and more than 200 people were injured in this fire.

On the same note, seismic and wind requirements were created out of building failures primarily along the seaboards due to the huge losses from earthquakes in California and high wind events. Building codes continue to change as more information is generated on how buildings react in certain magnitudes of earthquakes relative to the site of the structure affected.

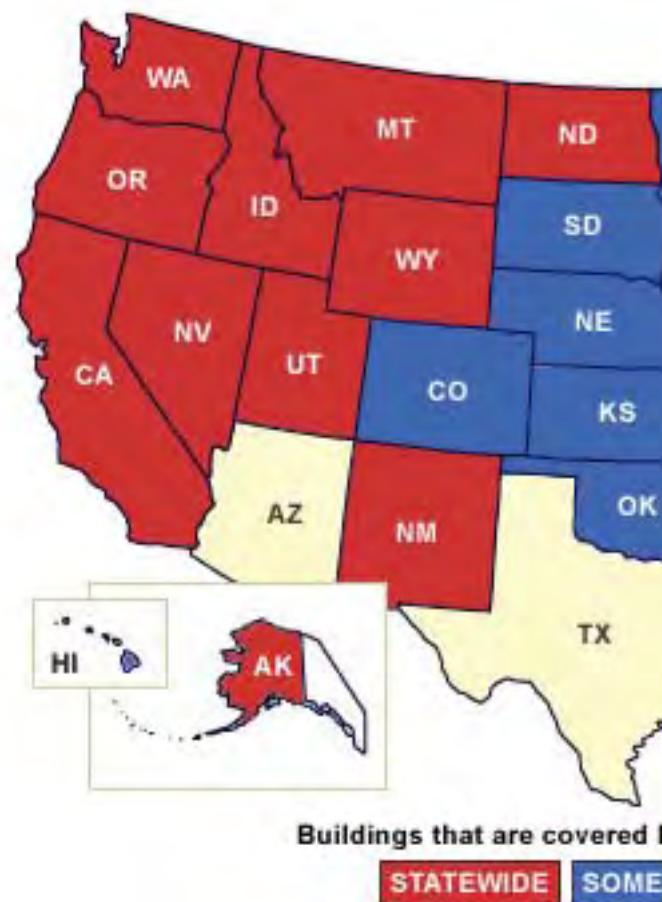
In conclusion, building codes are designed to maximize the opportunity for people to escape a facility and minimize the damage to the structure so it can remain functional after an event occurs. A national spotlight has been put on this issue.



FEMA'S EARTHQUAKE MITIGATION ROLE IN THE NATION'S MODEL BUILDING CODES

Mike Mahoney, Senior Geophysicist
Federal Emergency Management Agency

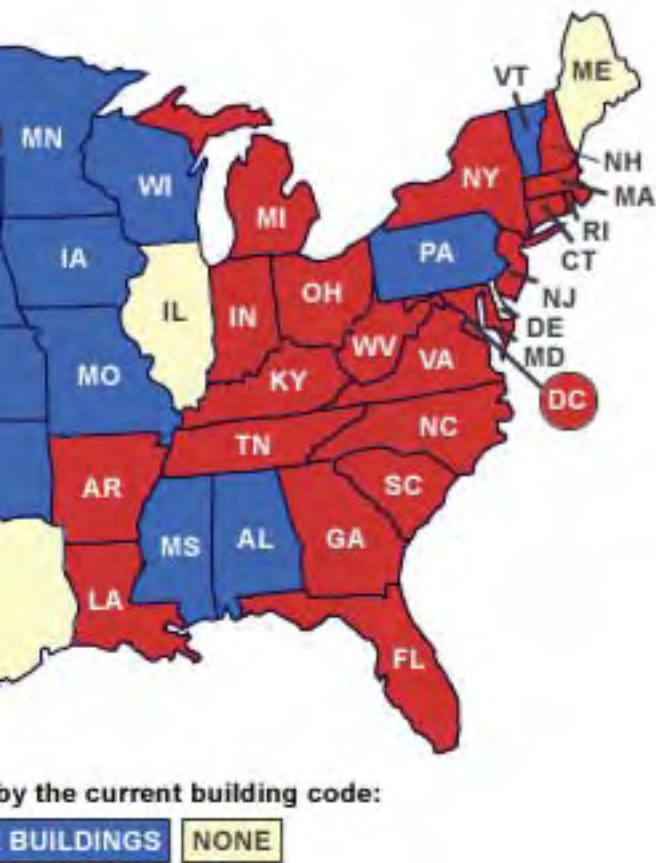
The National Earthquake Hazards Reduction Program (NEHRP) is the Federal government's coordinated approach to addressing earthquake risks. The NEHRP agencies work jointly and in cooperation with other Federal and State agencies, local governments, the private sector, academic



This map shows commercial buildings codes that are in place Business and Home Safety. Similar maps can be

institutions, and other organizations. The goal of the program is to improve the Nation's understanding of earthquake hazards and their risk, in order to protect the nation's population from their damaging effects. However, the responsibility for reducing earthquake risks is shared by Federal, state, and local governments and the private sector.

The activities of the four NEHRP agencies complement and build on each other. The basic research supported and conducted by the National Science Foundation (NSF) and the US Geological Survey (USGS) is used by the National Institute of Standards and Technology (NIST) and the industry to produce innovative technologies through problem-focused research and development. FEMA then uses this information to promote policies and practices to reduce future earthquake losses through State programs and the development and dissemination of design and construction guidance to promote and support the use of building codes and standards. The ultimate goal of the NEHRP is to use our



across the nation. This map was created by the Institute for
found at their website, www.disastersafety.org.

understanding of earthquakes, our mitigation tools, and our partnerships developed within the Program to improve the resilience of the nation's communities. Within the NEHRP, FEMA works to translate and transfer the results of research and technology development into effective earthquake loss reduction measures. FEMA also leads Program efforts on outreach, education and training.

In order to accomplish this responsibility, we have a long history of assisting State and local governments; providing tools to estimate of potential losses due to earthquake and other hazards; developing earthquake risk-reduction tools and measures; preparing technical design and construction guidance aimed at improving the seismic safety of new and existing buildings and lifelines; and preparing information for and about building codes and practices.

One of the most effective tools for reducing future earthquake losses is through the nation's model building codes.

While the NEHRP provides the information and the tools needed to reduce earthquake losses, the Federal government alone cannot solve the earthquake problem. It is at the local community level where mitigation needs to ultimately take place. Local communities can reduce their earthquake risk through several actions, and one of the most effective of these actions is the adoption and enforcement of an up to date building code.

There is no Federal building code, as the regulation of construction is a State right. How building codes are adopted and enforced vary from State to State. Almost all State and/or local building codes are based on a model building code. A model building code is a template developed by a private concern that a State or local community can then adopt under their ordinances. The most commonly used model codes are the ones developed by the International Code Council. The International Building Code and other related model codes such as the International Existing Building Code, International Residential Code, and the International Mechanical Code are all published every three years (with an interim supplement published in between) using a rigorous updating process.

The nation's model building codes can be one of the most effective means of getting mitigation provisions into practice and reducing future losses. FEMA has documented many examples of where a properly adopted and enforced building code has reduced losses in a disaster. One of the best examples of this was the Nisqually earthquake, where several experts observed that the building code that has been in place in Seattle and the State significantly helped to reduce losses. FEMA has also documented many examples of where damage from a disaster was higher because the community either did not have an adequate building code in place or did not adequately enforce the building code that they did have. Code enforcement only works when building code officials are properly funded and supported by the community and properly trained to enforce all of the building code.

The Federal government does participate in the

building code development and adoption process. In fact, under the latest NEHRP authorization, Congress mandated specific areas of program responsibility for FEMA, and several of those areas involve the nation's model building codes and how they are adopted and enforced at the State and/or local level to reduce future losses.

The first of these responsibilities is to work closely with national standards and model building code organizations to promote the implementation of research results. FEMA was one of the first Federal agencies to recognize the importance of building codes, and has worked within the model code development process since the early 1980's. FEMA's role in developing the seismic provisions of the first International Codes has been well recognized, including in a letter of appreciation to the FEMA Director from the International Code Council. FEMA has jointly sponsored several technical publications with the ICC, including the FEMA Home Builders Guide for Earthquake Resistant Design and Construction (FEMA 232). ICC is helping by distributing many of these publications directly to its members. The second responsibility is to promote better building practices within the building design and construction industry including architects, engineers, contractors, builders, and inspectors. Here, FEMA has developed and disseminated many design and construction publications to promote better building practices. Originally known as the "Yellow Book" series, our look has been updated, but the information is just as important.

The third responsibility is to assist in the preparation, maintenance, and dissemination of seismic resistant design guidance and related information on building codes, standards, and practices. FEMA has developed a series of guidance documents that serve as the basis for the nation's model building codes and standards. Two of these documents are the NEHRP Recommended Provisions for New Buildings and Other Structures (FEMA 450) and the NEHRP Pre-standard for the Seismic Rehabilitation of Buildings (FEMA 356). FEMA works with the USGS and fund the development of seismic design maps based on the USGS hazard maps that are then adopted directly into the model building codes.

FEMA has also developed many other publications on seismic resistant design and construction. They include guidance on:

- building codes and standards
- design of specific building types
- installation of non-structural components
- protection of lifelines

The fourth responsibility is to aid in the development of performance-based design guidelines. FEMA is currently working to develop the next-generation of Performance-Based Seismic Design Guidelines through a contract with the Applied Technology Council (ATC). When finished, the guidelines will allow a building owner or regulator or their design team to select the desired performance level instead of being tied to the current code life safety design level, and give them more flexibility in how they meet that goal. This project is being done with the assistance of NSF and NIST. The first phase is focusing on the development of a performance assessment methodology. The second phase will be to use that performance assessment methodology to develop Performance Based Seismic Design Guidelines. These Guidelines will encourage the use of innovative technologies and allow the selection of design and construction performance criteria for new and existing buildings based on owner and user needs. Ultimately, this work will result in improved performance of our nation's built environment and reduced earthquake losses.

Now that all 50 States have now adopted at least some portion of the International Codes, we can now take further steps to help reduce the nation's losses. Some of these steps could include:

- Discourage modifications that weaken the building code, as too many States and communities have deleted out critical portions of the code, including seismic provisions
- Improve training of building code officials and inspectors
- A Seismic Certification Program would help to ensure the code is properly enforced
- Support by local communities
- Many code departments do not have enough funding to do their jobs

It has been said that while earthquakes are inevitable, earthquake disasters do not have to be. Reducing earthquake losses is a team effort. The Federal government through the NEHRP can provide the information and the tools to reduce losses. It is the local communities that have to be responsible to make mitigation happen. Together, we can help protect this nation from harm when the next earthquake strikes.

CENTRAL US MITIGATION EFFORTS

By communicating the earthquake hazard in the central U.S., public and private sector entities are proactively addressing their risks through mitigation planning and implementation. Many are employing both structural and non-structural mitigation techniques to reduce their exposure to earthquakes. Cost benefit analysis show that the overall cost to mitigate earthquake risk is small compared to the consequences of not mitigating.

The most cost-effective way to mitigate is at the time of new construction—designing buildings prior to construction with earthquake provisions in mind. Retrofitting existing structures is often the next best solution. According to a FEMA Costs and Benefits of Natural Hazard Mitigation report, Memphis Light Gas and Water (MLG&W) initiated a seismic retrofit project to protect its Davis Water Pumping Station located in southwest Memphis. After the completion of the project, it was reported that the retrofitting of the pumping station prevented an estimated loss of \$1.4 million in services per day in the event of an earthquake.

As mentioned earlier in this newsletter, building codes are vitally important. They set the bench mark for seismic design and establish a level of expected performance. Below is a sample of recent and past earthquake mitigation projects that have taken place in the central U.S.

For information on earthquake mitigation, building codes, and more, visit the following websites -

- National Earthquake Hazards Reduction Program - www.nehrp.gov
- Federal Emergency Management Agency - www.fema.gov
- Central United States Earthquake Consortium - www.cusec.org
- Institute for Business & Home Safety - www.disastersafety.org
- International Code Council - www.iccsafe.org
- Federal Alliance of Safe Homes - www.flash.org

SAMPLING OF CENTRAL US MITIGATION ACTIVITIES

City of Germantown, TN	Earthquake Risk Assessment of Selected City Buildings
Memphis Light, Gas, & Water	Assessment & Strengthening Design of Selected Wells & Pumping Stations
Memphis, Light, Gas, & Water	Multi-Hazard Risk Assessment & Development of Strengthening Designs
Marvin Windows & Doors Manufacturing Facility	Earthquake Risk Assessment & Strengthening Design
Memphis, TN Hospital	Earthquake Risk Assessment
St. Louis Water Treatment Plant	Earthquake Risk Assessment & Conceptual Strengthening Designs
Federal Express Data Center	Earthquake Risk Assessment
Noranda Aluminum Smelter Facility	Earthquake Risk Assessment

AROUND THE REGION

MEMBER STATE SPOTLIGHT - INDIANA

Through its earthquake program, the Indiana Department of Homeland Security (IDHS), formerly Indiana State Emergency Management Agency, works to accomplish its goals of earthquake education, awareness, mitigation, preparedness and recovery issues.

The agency uses public education, information materials and meetings with other organizations and agencies in an effort to stay better prepared for an earthquake in the New Madrid and Wabash Valley seismic zones. Working closely with local counties in the southwestern end of the state and IDHS' State Hazard Mitigation Program, the agency's earthquake program supports structural and non-structural mitigation projects to critical facilities; as well as works diligently with the building commission and building trade groups to promote the use of disaster resistant construction techniques. Training and planning with local and state government agencies and the private sector is one of IDHS' main goals along with public information and post-earthquake studies.

As Indiana's first Homeland Security Executive Director J. Eric Dietz has overseen the state emergency management and homeland security functions since March 2005. During his tenure, six state earthquake planning workshops have been conducted, and three district/local workshops have been planned. Also under his leadership, the agency is working with FEMA for a statewide communications planning effort, a workshop with Michigan and Ohio for regional support for non-New Madrid Seismic Zone (NMSZ) states and a higher education project to better refine Indiana's earthquake loss estimation modeling. In March of 2008, Dietz, a retired Army Colonel, returned to work with the Perdue Homeland Security Institute as a tenured faculty member in Perdue's College of Technology.



IDHS Director Joe Wainscott and Earthquake Program Manager Pam Roach



IDHS' Director of Training, Joe Wainscott has been named as Dietz's replacement by Governor Mitch Daniels. Wainscott has been Director of Training for IDHS since October of 2005. His responsibilities included managing and coordinating training and exercise programs and overseeing the Indiana Firefighter Training System. Prior to working for IDHS, he was the law enforcement coordinator for the U.S. Attorney's Office-Southern District of Indiana and is a 23-year veteran of the state's police department. See Wainscott's complete biography at www.in.gov/dhs/.

IDHS' Earthquake Program Manager, Pam Roach, came to the agency with more than 20 years of experience in environmental regulatory compliance training and project management and five years of critical infrastructure protection and security. She has now added two years of emergency management experience to her credentials. As earthquake program manager, Roach helps to direct the agency's earthquake program activities.

ASSOCIATE STATE SPOTLIGHT - GEORGIA

By: Chris Walsh

GEMA Hurricane Program Manager

The State of Georgia is currently developing a Georgia Evacuee Support Plan (GA EVSP), which addresses key areas for providing support to evacuees from a catastrophic disaster such as a New Madrid Seismic Zone eruption. The GA EVSP under development is based upon the principle that the effects of a catastrophic disaster (i.e. a NMSZ eruption) will stress the resources of impacted states struck by the disaster so significantly that their residents will seek support in neighboring states.

The plan will establish the roles and responsibilities of state, local, nongovernmental and volunteer organizations and agencies in hosting evacuees in the State of Georgia and prepare them for a protracted stay as a result of catastrophic disasters, emergencies, or Incidents of National Significance affecting their respective states, territories, or countries. The Georgia Emergency Management Agency (GEMA) is the lead state agency for evacuee support and is responsible for overall direction and control of this support. The GA EVSP, an all-hazards planning effort, will establish the protocols and procedures of providing assistance and services to evacuees who need and request aid during their stay in Georgia. The GA EVSP will govern the response and recovery effort when Georgia is asked to be a host state by impacted-states or FEMA. This response and recovery effort will differ in that Georgia has not been affected by the disaster but is hosting evacuees from an impact-State.

Charley English was appointed to GEMA State Director in 2006 and Director of Georgia's Homeland Security in 2007. As Director, he oversaw all state governmental actions designed to ensure mitigation and preparedness, appropriate response and timely recovery from natural and man-made hazards in the state. He has worked at GEMA for ten years and currently serves as a Regional Vice President of the National Emergency Management Agency (NEMA) and is a member of the state's Homeland Security Task Force. Chris Walsh is currently the Hurricane Program Manager within the Operations Division

of GEMA. Prior to GEMA, he was employed by FEMA Region VI in the Mitigation Division under the aegis of the Hurricane and Earthquake Program Manager. While with FEMA, Chris also served on the FEMA National Hurricane Liaison Team and has been deployed to the National Hurricane Center during Hurricane Charley (2004) and Hurricane Rita (2005).

CUSEC PARTICIPATES IN NEWLY FORMED MISSOURI INSURANCE TASK FORCE

Since November of 2007, CUSEC has served on Missouri's Earthquake Insurance Task Force. With more than 20 members, the group's mission is to provide a comprehensive report with recommendations on how to improve structural safety standards, insure private and public infrastructure and promote continued economic growth in areas near the New Madrid fault. The task force has discussed and released a preliminary report on issues that include state and national earthquake insurance coverage statistics and trends; information about the catastrophic insurance coverage and deductibles. The group also discussed creating the Missouri Catastrophic Fund, and impacts of adopting building codes and retrofitting to minimize earthquake damage. The task force will continue to study issues relating to earthquake insurance coverage and building requirements in Missouri. The group plans to submit a final report and recommendation no later than December of 2008.

NEW MADRID SEISMIC ZONE CATASTROPHIC PLANNING INITIATIVE UPDATE

By: Roger Arango

CUSEC Emergency Planner

Five of the eight CUSEC member states have completed their scheduled state and local workshops. The process started a year ago at the Branson, Missouri planning conference. Each CUSEC member state has organized their planning workshops around a HAZUS scenario created by the Mid America Earthquake Center. This scenario postulates an earthquake of 7.7 magnitude in the

New Madrid Seismic Zone (NMSZ). The states have focused on the planning priorities identified by the CUSEC Board of Directors.

This has been a “local-up” planning process, with planning workshops held at the county level. Following the local workshops, the State Emergency Management Directors convened workshops at the state level for state planners. CUSEC and the Federal Emergency Management Agency (FEMA) staff have actively supported these workshops. States will be publishing their earthquake response plans based on the information shared in the planning workshops. March was the busiest of month in the planning cycle with the states of Kentucky, Tennessee, and Alabama all completing their workshops. Joint CUSEC and FEMA regional workshops are scheduled for later in the year, which will focus on the cross jurisdictional issues caused by an earthquake in the central U.S.



Recent Pictures from the New Madrid Seismic Zone Catastrophic Planning Initiative

CUSEC ANNOUNCES NEW CORPORATE PARTNER

CUSEC is proud to announce WorkSafe Technologies as its newest corporate partner. WorkSafe Technologies', a provider of seismic protection products, main goal is to increase their expertise by developing products to protect their clients' businesses with the ultimate goal of keeping “mission critical” equipment running as smoothly as possible and helping ensure a rapid and easy operational recovery in the event of a seismic disturbance. WorkSafe has clients across the world,—throughout the United States and Canada, as well as Japan, New Zealand, Taiwan, Turkey and Mexico. The company retains their excellent reputation among their loyal cliental by remaining innovative and competitive in the non-structural seismic mitigation industry. WorkSafe Technologies also continues to pioneer the development of new products and ideas such as ISO-Base seismic-isolation platform for data centers and computer equipment. For more information on WorkSafe Technologies and their products, please contact Mike Reilly at (636) 724-2075 or by email at mike_worksafetech@charter.net.



2008 EARTHQUAKE AWARENESS WEEK RECAP

With more than 200 earthquakes recorded in the Central United States each year, —most go unnoticed— five out of eight CUSEC states observed Earthquake Awareness Week. Governors of each state – Arkansas, Kentucky, Mississippi, Missouri and Tennessee—set the stage with Earthquake Awareness Week Proclamations urging residents that preparation is the key to minimizing deaths, injuries, property damage and economic loss. Activities for the week included:

- Town Hall Meetings
- School Earthquake Drills
- Earthquake Workshops and Classes
- Earthquake Awareness Exhibits
- Disaster Preparedness Public Forums

Check out these picture highlights of Earthquake Awareness Week 2008



ST. LOUIS HAZARD MAPPING PANEL

On Tuesday evening, April 29, there will be a Panel Program on the St. Louis Area Earthquake Hazards Mapping Project, which will be hosted by the project's Technical Working Group. The program will be presented at a joint meeting of several professional societies, including the St. Louis Chapter of the Association of Environmental & Engineering Geologists (AEG), the New Madrid Chapter of the Earthquake Engineering Research Institute (EERI), the St. Louis Chapter of the American Society of Civil Engineers (ASCE), the Geology & Society Section of the Geological Society of America (GSA), and the Structural Engineers Association of Kansas & Missouri (SEAKM). All others who are interested are also welcome.

Speakers include geoscientists who are working on various aspects of the project, including surface-geology mapping, geophysical data collection, bedrock-depth mapping, seismic hazards analysis, historical map collection, the correlation of bedrock depths and site ground-shaking amplification, and other aspects of the project. The USGS Fact Sheet for the project is located at <http://pubs.usgs.gov/fs/2007/3073/>.

The program will be held at Mama Campisi's (www.mamacampisis.com) at 2132 Edwards in St. Louis, MO. at 6:15PM. The program will conclude around 8:30PM. Cost for the full buffet dinner is \$26.00, which includes salad, a selection of pasta, bread, dessert, and coffee or tea; tax; and gratuity. Pay at the door; cash or checks made payable to "St. Louis Chapter – EERI." RSVP by, April 25, 2008, to Jennifer Delancy, PE, at jdelancey@qteinc.com

RECENT CENTRAL US EARTHQUAKES

DATE	LOCATION	MAGNITUDE
1/27/08	Tiptonville, TN	2.2
1/27/08	Cotton Plant, AR	2.4
1/29/08	Union, WV	2.3
1/31/08	Henning, TN	2.4
2/1/08	Ridgely, TN	1.8
2/5/08	Maryville, TN	2.1
2/15/08	Risco, MO	1.8
2/22/08	Ridgely, TN	2.0
2/26/08	Holland, MO	2.5
2/27/08	Malden, MO	2.2
3/9/08	Marston, MO	1.8
3/9/08	Eton, GA	2.0
3/10/08	Hayward, MO	1.9
3/11/08	Caruthersville, MO	2.3
3/13/08	Etowah, TN	2.0
3/31/08	Williamsville, MO	2.9

New Madrid Earthquake Emergency Preparedness Conference



EXTENSION

University of Illinois Extension – Southern Region, AJMPU Unit
in collaboration with Extension Services in
Arkansas, Indiana, Kentucky, Missouri & Tennessee and



CONFERENCE MISSION:

- To minimize the negative effects of a large magnitude earthquake occurring in the New Madrid Seismic Zone by having a well-informed and well-prepared citizenry.
- To educate residents living in the New Madrid Seismic Zone about earthquake preparedness.
- To professionally produce information from the conference (DVD and handout) to be given to conference attendees

REGISTER BEFORE APRIL 25th

Conference Dates are MAY 6 - 7, 2008

Location: Harrah's Conference Center, 100 East Front Street, Metropolis, IL 62960
Hotel Phone: 618-524-2628 (Block of rooms available)
Time: May 6th noon through May 7th, 2:00 p.m.

To register for the conference, you can email preparesi@uiuc.edu or contact Linda Poston at 618/833-6363.

PORTIONS OF CONFERENCE EXPENSE WILL BE FUNDED FROM A GRANT AWARDED BY U.S.D.A. C.S.R.E.E.S.



OTHER NEWS

NEHRP STRATEGIC PLAN OUT FOR REVIEW

The National Earthquake Hazards Reduction Program (NEHRP) Interagency Coordinating Committee - FEMA, NIST, NSF and USGS - has approved the public release of the draft updated NEHRP Strategic Plan, for public review and comment. The draft plan is now available on the NEHRP web site: <http://www.nehrp.gov/plans/publiccomment.htm> The NEHRP agencies invite you to review the plan and provide them with any comments you might have, no later than May 9, 2008. Following the closure of this public comment period, the NEHRP agencies will consider what edits might be appropriate for the plan prior to its adoption and complete the strategic planning process.

WORKSHOP FOR CENTRAL & EASTERN US NGA MODELS

With support from the US Nuclear Regulatory Commission (NRC) and the US Geological Survey (USGS), the Pacific Earthquake Engineering Research (PEER) is coordinating a major new initiative to develop Next Generation Attenuation Models for the Central & Eastern US (NGA-East). This work follows the successful Next Generation Attenuation Project, which developed a new set of widely-used ground motion prediction equations for the western US. The NGA-East project is currently in an initial development phase, with the full project expected to kick-off in fall of 2008. The purpose of the development phase of the NGA-East project is to define the details, scope, schedule, budget, and funding sources for the complete NGA-East project. A key goal of this development phase is also to get feedback from the community of earthquake science and engineering on the NGA-East program.

To reach this key goal of the NGA-East project development phase, PEER would like to invite you to participate a one-day workshop to be held on May 13, 2008 at the University of California, Berkeley. In this workshop the current status and recent developments in ground motion prediction equations for the Central & Eastern US will be reviewed, a tentative plan for the NGA-East will be overviewed, and feedback and comments from the community will be obtained. This is a public workshop and free of charge to attend; however, for logistical purposes, please RSVP before Monday April 21, by sending an e-mail to: peer_center@berkeley.edu.

CHINA TO HOST 14TH WORLD CONFERENCE ON EARTHQUAKE ENGINEERING

The Fourteenth World Conference on Earthquake Engineering (14WCEE) will held in Beijing, China on October 12, 2008. It will serve as an international forum at which specialists in earthquake engineering and relevant fields may exchange the latest research results and technologies. The aim of the conference is to provide a platform for researchers and practitioners worldwide from a broad range of disciplines to collaborate in reducing the impact of earthquakes on our society and natural environment. For more information about the conference contact secretariat@14wcee.org.

SIXTH NATIONAL SEISMIC CONFERENCE

Charleston, South Carolina will be the host city for the Sixth National Seismic Conference on Bridges and Highways on July 27-30, 2008. With a conference theme of "Seismic Technologies for Extreme Loads," this meeting's main goal is to enhance the technical expertise of engineering professionals so that they can have the latest tools to mitigate the risk of damage to the highway infrastructure through design, retrofit, and other measures. The conference is organized by Federal Highway Administration (FHWA), Transportation Research Board (TRB), MCEER, University at Buffalo and the South Carolina Department of Transportation (SCDOT). For more information about the conference visit <http://www.scdot.org/events/6NSC/>.

FEMA OFFERS ONLINE NATIONAL RESPONSE FRAMEWORK TRAINING

The Federal Emergency Management Agency (FEMA) recently released the on-line IS-800.B National Response Framework (NRF). It is an introduction training course that focuses on response and short-term recovery, articulates the doctrine, principles and architecture by which our nation prepares for and responds to all-hazard disasters across all levels of government and all sectors of communities. The course introduces participants to the concepts and principles of the NRF, and upon completion students will be able to describe:

- The purpose of the National Response Framework
- The response doctrine established by the National Response Framework
- The roles and responsibilities of entities as specified in the National Response Framework
- The actions that support national response
- The response organizations used for multi-agency coordination
- How planning relates to national preparedness

This course is intended for government executives, private-sector and nongovernmental organization (NGO) leaders and emergency management practitioners. This includes senior elected and appointed leaders, such as Federal department or agency heads, State Governors, mayors, tribal leaders, and city or county officials - those who have a responsibility to provide for effective response. The course is available at www.training.fema.gov/EMIWeb/IS/IS800b.asp. When individuals complete the course, they should take the online test, fill out the student information and submit the test for scoring. Certificate of completion will be available. No pre-requisite is required, and the overall length of the course will vary for each individual. IS800.B takes approximately 3 hours to complete. For more information contact the Independent Study office via email Independent.Study@dhs.gov or contact the call center at 301-447-1200 or toll free at 1-800-238-3358, extension 1200. Independent Study Program office hours are 7:30a.m.-7:30p.m. Additional information on the NRF can also be obtained from the NRF Resource Center at www.fema.gov/nrf

UPCOMING MEETINGS, CONFERENCES, ETC

WHEN	WHAT	WHERE
April 17-18	Earthquake Insight Field Trip	Memphis, Tennessee
April 21-24	E174 HAZUS for Earthquakes	Emmitsburg, Maryland
April 22	CUSEC Earthquake Program Managers Meeting	Seattle, Washington
April 22	National Earthquake Program Managers Meeting	Seattle, Washington
April 23-26	2008 National Earthquake Conference	Seattle, Washington
April 29	St. Louis Earthquake Hazards Mapping Panel	St. Louis, Missouri
April 30	Emergency Preparedness Expo	Memphis, Tennessee
July 27-30	National Seismic Conference	Charleston, South Carolina
August 12-14	New Madrid Seismic Zone Conference	Rolla, Missouri
September 2-4	Illinois EMA Conference	Springfield, Illinois
October 12	Earthquake Engineering World Conference	Beijing, China

NEW MADRID CATASTROPHIC PLANNING WORKSHOPS

WHEN	WHAT	WHERE
April 29-30	NMSZ Catastrophic Planning Workshop	Jasper, Indiana
May 12-14	NMSZ Catastrophic Planning Workshop	Jefferson City, Missouri
May 15	NMSZ Catastrophic Planning Workshop	Hannibal, Missouri
May 20-21	NMSZ Catastrophic Planning Workshop	Bedford, Indiana
June 17-18	NMSZ Catastrophic Planning Workshop	Peru, Indiana

DATES TO MARK

EQ Hazards Mapping Panel – April 2008. A panel of experts will meet in St. Louis, Missouri on April 29 to discuss the St. Louis Earthquake Hazards Mapping Project. Panel members include geoscientists who are working on various aspects of the project, including surface-geology mapping, geophysical data collection, bedrock-depth mapping, seismic hazards analysis, historical map collection, the correlation of bedrock depths and other aspects of the project.

New Madrid Emergency Preparedness Conference – May 6-7, 2008. The University of Illinois is hosting a preparedness conference in Metropolis, Illinois on May 6-7, 2008. The conference will bring together community leaders, the emergency response community, and the general public to learn about earthquakes and the New Madrid Seismic Zone. For information on the conference contact Linda Poston at (618) 833-6363.

New Madrid Seismic Zone Catastrophic Earthquake Planning – Fall/Winter 2008. The NMSZ Catastrophic Planning Initiative is moving into the Regional Planning Phase as State and Local Planning Workshops conclude. The Regional Workshops will be taking place in Atlanta, GA, Denton, TX, Chicago, IL, and Kansas City, MO and bring together key organizations to address the issue of responding to a catastrophic earthquake on the New Madrid Seismic Zone.

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.

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Please send comments and suggestions to cusec@cusec.org

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