

2015 National Earthquake Program Managers Meeting

Meeting Summary and Action Items

May 5-8, Charleston, SC
Holiday Inn – Charleston Historic Downtown

Presenters & Participants

States & Territories

Mary Baker	Hazard Mitigation Officer, Nebraska Emergency Management Agency
Derrec Becker	Public Information Coordinator, South Carolina Emergency Management Division
Katie Belknap	Earthquake Program Manager, Arkansas Department of Emergency Management
Henry Berry	Geologist, Maine Geological Survey
Steve Besemer	Earthquake Program Manager, Missouri State Emergency Management Agency
Pilar Carbullido	Program Coordinator III, Guam Homeland Security
Bob Carey	Earthquake Program Manager, Utah Division of Emergency Management
Ryan Carlton	Earthquake Program Manager, Mississippi Emergency Management Agency
Sheila Curtis	Planner, Utah Division of Emergency Management
Tammie Dreher Wells	Earthquake Program Manager, South Carolina Emergency Management Division
Rick Fahr	Public Information Officer, Arkansas Department of Emergency Management
Art Faulkner	State Director, Alabama Emergency Management Agency
Marjorie Gale	State Geologist, Geology Division, Vermont DEC
Melinda Gibson	State Hazard Mitigation Officer, Wyoming Office of Homeland Security
Ann Gravier	State Hazard Mitigation Officer, Alaska Dept. of Homeland Security & Emergency Management
Dwane Hubert	Division Director, Preparedness, Maine Emergency Management Agency
Harry James	Planning Branch Manager, Kentucky Division of Emergency Management
Charlie Kaufman	GIS Analyst, Dorchester County Emergency Management
Patrick Kelley	Mitigation Officer, Texas Department of Public Safety
Janice Lee	Planning Section Chief, Indiana Department of Homeland Security
Kate Long	Earthquake Program Officer, California Governor's Office of Emergency Services
Rick Martin	Programs Manager, Nevada Division of Emergency Management
Bonnie McKelvey	Earthquake Program Manager, Oklahoma Emergency Management
Janet Pate	Disaster Services Planner, Illinois Emergency Management Agency
Kevin Richards	Earthquake and Tsunami Program Manager, Hawaii Emergency Management Agency
Althea Rizzo	Geohazards Program Coordinator, Oregon Emergency Management
John Schelling	Earthquake and Tsunami Program Manager, Washington Emergency Management
Monique Smith	Emergency Management Coordinator, Alabama Emergency Management Agency
Mark Stephensen	State Hazard Mitigation Officer, Idaho Bureau of Homeland Security
Jodi Traversaro	Regional Administrator, California Governor's Office of Emergency Services
Matthew Wall	Mitigation Officer, Virginia Dept. of Emergency Management
Cecil Whaley	Planning Administrator and Earthquake Program Manager, Tennessee Emergency Management Agency

Consortia & Partners

Jason Ballmann	Communications Specialist, Southern California Earthquake Center
Michelle Bates	Program Manager, Western States Seismic Policy Council
Mark Benthien	Director for Communications, Outreach, & Education, Southern California Earthquake Center
Brian Blake	Program Coordinator, Central U.S. Earthquake Consortium
Mike Calvert	Emergency Planner, Central U.S. Earthquake Consortium
Veronica Cedillos	Associate Director of Projects, Applied Technology Council
Edward Fratto	Executive Director, Northeast States Emergency Consortium
Barbara Harrison	Project Manager, Federal Alliance for Safe Homes
Ayse Hortacsu	Project Manager, Applied Technology Council
Lee Mueller	Director, Outreach Process Partners
Alisa Nave	Public Outreach Coordinator, Central U.S. Earthquake Consortium
Patti Sutch	Executive Director, Western States Seismic Policy Council
Sula Watermulder	GIS Analyst & Executive Assistant, Northeast States Emergency Consortium
Jim Wilkinson	Executive Director, Central U.S. Earthquake Consortium
Alesia Za Gara	Vice President, Outreach Process Partners

FEMA

Prince Aryee	Earthquake Program Manager, FEMA Region VI
Doug Bausch	Senior Physical Scientist, FEMA Region VIII
Lora Goza	Operations Planning Branch Chief, FEMA Region IV
Gala Gulacsik	Earthquake Program Manager, FEMA Region X
Joe Iandoli	Planning Branch Chief, FEMA Region VI
Edward Laatsch	Chief, Building Science Branch, FEMA NEHRP
Dawn Livingston	Program Specialist, FEMA Region VII
Rob Lowe	Building Science, FEMA Region IV
Michael Mahoney	Geophysicist, FEMA NEHRP
Paul Morey	Earthquake Program Manager, FEMA Region I
Wendy Phillips	Senior Program Specialist, FEMA NEHRP
Robert Samaan	Deputy Regional Administrator, FEMA Region IV
Gracia Szczech	Regional Administrator, FEMA Region IV
Mike Tong	Physical Scientist, FEMA NEHRP
Cindy Wirz	Community Education and Outreach, Mitigation, FEMA Region VI

Presenters

Joan Gomberg	Research Geophysicist, United States Geological Survey
John Hayes	Director, NEHRP, National Institute of Standards and Technology
Steve Jaume	Department of Geology and Environmental Geosciences, College of Charleston
Bruce McCullen	Principal, McCullen Management Consultants

Participants

Philip Caldwell	Edison Expert, Schneider Electric
Norman Levine	Department of Geology and Environmental Geosciences, College of Charleston
Ines Pearce	Chief Executive, Pearce Global Partners, Inc.
Robert Williams	Geophysicist, United States Geological Survey

Tuesday May 5, 2015

I. Welcome and Introductions

Tammie Dreher-Wells, Emergency Manager-South Carolina, opened the meeting and thanked everyone for participating. Dreher-Wells facilitated round robin introductions of participants. Dreher-Wells then introduced Jason Patno for additional welcoming remarks.

Jason Patno, Charleston County EMA Director, welcomed everyone to Charleston and expressed appreciation to see good representation from so many states. Patno discussed the risks faced by Charleston, with specific note of earthquake risk, and discussed outreach and awareness. Patno noted that Charleston County has made headway in engaging private sector partners and local school districts in preparedness.

Representative for Kim Stenson, South Carolina Emergency Management Division, Director, continued the welcoming remarks, thanking Region IV Administrator, Gracia Szczech, for attending and the FEMA HQ staff, Ed Laatsch and Wendy Phillips, and Consortia and Partners for their support. He noted that the conference was not far from the epicenter of the 1886 earthquake in Charleston, which, if it occurred today, would have significant impacts, injury, deaths and damage, and would displace a lot of people in the area; however, there is a serious lack of knowledge within the general public regarding this risk. This is a challenge since South Carolina ranked high on USGS' list for risk from an earthquake, and South Carolina engages in a lot of activities, including ShakeOut, to promote public awareness.

Art Faulkner, NEMA welcomed the crowd and highlighted the importance of states to the NEHRP program and to hazard planning in general. Faulkner gave an overview of a white paper adopted by NEMA which contained content provided by the states. NEMA is in the process of establishing a committee with emphasis on earthquake preparedness, response and recovery. Faulkner also presented a challenge to the participants for the week – as a group, and as individuals, they need to be prepared to explain how important the NEHRP program is to leadership, and to highlight the technologies and tools to support preparedness at a national level.

Gracia Szczech, FEMA Region IV Administrator also provided opening remarks from the FEMA Region 4 perspective, noting that earthquakes are a main focus for her and the Region 4 staff. Region 4 is working to fill the vacant earthquake planner position, and using the experience and expertise of the other FEMA Regions to help guide the continued development of the earthquake program.

Jack Hayes, NEHRP Administrator, NIST provided an overview of the NEHRP from a program administration standpoint. Hayes discussed how NEHRP is organized and how the four agencies (FEMA, NSF, NIST, USGS) work together on research and development, and implementation, with additional reliance on state earthquake programs and the private sector. Hayes also provided an overview of the NEHRP budgets for the four agencies and noted that the program has had relatively the same level of funding for the last 10 years. In addition, Hayes noted that the Program has not seen a lot of support through the congressional appropriation process and was last authorized in 2004.

II. USGS Presentation, Joan Gomberg

Joan Gomberg presented on the New Zealand Christchurch Earthquake, and highlighted this event as an opportunity for USGS to assess earthquake hazards and motivate action to reduce these

hazards in the United States. The Christchurch Earthquake was a significant event that heavily impacted its population and damaged large portions of the city – impacts which are still being dealt with today. The presentation showed lessons learned from the Christchurch Earthquake in New Zealand and how it can be applied to areas of the US with similar low probability/high consequence earthquake risk, such as Charleston, in which events can have serious impacts. Numerous lessons were learned and are applicable, including the damage and injury from unreinforced masonry buildings, which caused significant damage in main areas of the city; liquefaction across a massive area; the balance between preserving historic buildings and mitigating risk; and infrastructure performance. Many of these lessons learned are captured in the City of Christchurch’s After Action Report which is available online. Discussion focused on Liquefaction Hazard Mapping efforts and the risk of liquefaction in the US.

III. FEMA Updates

Regional Updates, Prince Aryee-Region 6, Paul Morey-Region 1, Doug Bausch-Region 8

Several FEMA Regional Earthquake Program Managers (Prince Aryee-Region 6, Paul Morey-Region 1, Doug Bausch-Region 8) presented on Regional activities and participated in a panel discussion.

Doug Bausch presented on the technical support Region 8 provides its states through tools like the GeoPlatform and Hazus programs. These tools allow FEMA to publish maps and data, and to offer accounts to states and Partners, expanding their capability. Overall, the Region 8 office coordinates efforts within and outside of Mitigation, and looks at multihazard assessments and mutually beneficial opportunities.

Prince Aryee, Region 6 discussed the importance of public outreach in his Region, especially due to the significant earthquake activity in Region 6 states. With Cynthia Wirz from Region 6 Outreach, Region 6 is looking at new and successful ways to get the message out regarding earthquake risk with a focus on school districts and school boards. Cynthia Wirz highlighted how Region 6 is working with the states to support what they are already doing to become a force multiplier. In addition, Region 6 wants to work with the states to identify successful tools already being used, and share tools FEMA has to offer, such as webinars and distribution/contact tools.

Paul Morey, Region 1 discussed the challenges and successes related to the infrastructure at risk in Region 1 and public awareness. Morey showcased the existing programs within FEMA and the tools they can offer the states and partners (ex: ShakeOut, State Assistance, Technical Assistance, NETAP, Planning & Response, Hazus) with the overall goal of increased knowledge of hazards, partnerships, etc. Within Region 1, there has been an increased interest in Hazus related work, and an earthquake scenario/study was developed for the New England region and is used for emergency exercise planning. Questions and discussion focused on the Hazus program modernization, which is in Phase 1 and working to Phase 2. Hazus users will see increased accessibility and usability, and an online platform. Phase 2 will also include increased input of data. Participants were also interested in the level of receptiveness from school districts in the Dallas/Ft. Worth area regarding the adoption of earthquake preparedness programs.

Where are we now? Where are we going?, Ed Laatsch

Ed Laatsch provided an overview of the FEMA NEHRP efforts, touching on the ongoing development of outreach materials, such as the Home Hazard Hunt poster and 2GB FEMA Library Flash Drive. Laatsch discussed the FEMA mission within NEHRP (building codes and program

implementation); lack of program reauthorization; NEHRP budget status; and vacancies within FEMA HQ and Regions. Laatsch highlighted program accomplishments in 2014 and 2015, which includes significant training; efforts to turn research into practice and practice into implementation; and public outreach, presentations and briefings. Efforts are underway at FEMA to conduct losses-avoided studies, a multi-hazard study of mitigation benefits, to show community benefits and promote adoption of building codes. FEMA HQ continues to support ShakeOut events throughout the Nation, and continues QuakeSmart work to help businesses know their risk and make a plan. Laatsch then moved into a discussion on State Assistance and Cooperative Agreements, noting that the FY14 projects have been released and aiming to have FY15 projects identified in 30-60 days. Laatsch also noted the recent request from states on their ability to support cost-matching for State Assistance, and how this may direct the program moving forward. Laatsch touched on “Where are we going?” by noting that the NEHRP program works as a large team effort and we have to continue to work together. Overall, funding and staff is still tight and we need to leverage everyone’s efforts, which have been significant with over \$3 B dedicated over the life of the program. Together, we face the challenge of how to successfully move the program forward. Questions and discussion focused on the state cost match question, how it will impact the direction of the program and the difficulty for some states to deal with this. It is FEMA’s intent to continue to provide state assistance in some manner; the main question is the mechanism to do so, whether consortia, partner, direct, etc. Overall, it is FEMA’s intent to maximize the value of FEMA’s support, and FEMA HQ is asking and wanting an honest answer from the states because it helps direct the process. Discussion also focused on reauthorization and how the cost match language could be changed in the reauthorization.

Headquarters Updates –What’s new? What’s coming?, Wendy Phillips, Mike Mahoney, Mike Tong

Wendy Phillips provided a presentation on FEMA HQs outreach efforts, with specific focus on the recently filmed First Responder Video, which highlighted earthquake impacts and preparedness across the west coast. The team gathered fantastic footage and hopes to use it beyond the video. Overall, the outreach goal was to educate and change perspectives, and the effort was very successful through leveraging partnerships.

Mike Mahoney presented on FEMA’s recently released South Napa Report done in partnership with ATC. This report captures FEMA’s damage assessment inventory efforts in Napa using ATC-38. Overall, unreinforced masonry buildings, masonry chimneys and wooden cripple walls performed poorly; retrofitted structure performed well. Report is available online.

Mike Tong presented on recently-developed FEMA technical products, including FEMA’s P-154 Rapid Visual Screening, Third Edition which can be used to inventory at-risk buildings. This summer, FEMA will present the 2015 NEHRP Provisions, which are fed into the national standards of building codes. In addition, there is interest in induced earthquake risk, and USGS has ongoing efforts to look at including this risk in earthquake risk maps and design maps.

IV. Consortia / Partners Update

Each Consortia and Partner presented on their capabilities and ongoing activities.

WSSPC

Patti Sutch, Executive Director, Western States Seismic Policy Council provided an overview of the program area and capabilities. WSSPC focuses on policy, supports seismic commissions, facilitates

communication with policymakers, hosts conferences and training, and conducts outreach, including ShakeOut support. Example projects include a Nevada Billboard Project to increase public awareness of earthquake risk and NEPM Reimbursement.

NESEC

Ed Fratto presented on NESEC's strengths, such as Hazus, GIS and Risk Assessment, which are conducted for communities and states, and pull in national information to further inform them. Example projects include the Map Your Risk multi-hazard risk mapping and the Boston 2014 Hazard Mitigation Plan. NESEC has several State Assistance projects, but also offers a national perspective. For example, NESEC has developed a national GIS layer for URM density; it includes count and location of URM buildings from Hazus data. NESEC is also developing a Seismic Risk Map to factor in risk to better understand comparative risk.

CUSEC

Jim Wilkinson presented on CUSEC capabilities which include public awareness and education, mitigation, multi-state planning and the application of research. Overall, public awareness is the number one goal of CUSEC and their strength is establishing common ground for conversations and coordination. CUSEC supports public awareness activities such as the ShakeOut and a new initiative named "Ride the Fault". Mitigation is CUSEC's second priority with a focus on safety and preparedness in schools, inventory and safety assessments, and events such QuakeSmart. CUSEC is working to advance ATC-20/FEMA P-154 and developing a framework to integrate post-disaster building inspectors within emergency management in the CUSEC Member and Associate states.

OPP

Alesia Za Gara provided an overview of OPP's current State Assistance projects and highlighted OPP's capabilities, including the development of outreach materials, PSAs and videos, graphics and design, websites, etc. In FY15, OPP will be supporting Arizona in developing a public education video on earthquake risk; developing a PSA for the Virgin Islands; and supporting additional California/SCEC ShakeOut outreach tools.

FLASH

Barbara Harrison provided an overview of FLASH's mission and discussed its strengths and capabilities, including hosting state collaborative and leadership forums, and supporting public policy work. For example, FLASH is working with the State of Texas on a collaborative case study to advance building codes and introduce them to legislation. FLASH also supports QuakeSmart programs based on the QuakeSmart toolkit and started a recognition program for those participating in QuakeSmart.

ATC

Ayse Hortacsu provided an overview of ATC and the support it provides to FEMA BSB for the development of technical documents and for NETAP program assistance. Hortacsu provided an overview of the NETAP training request process for the states and stressed that states should submit their training requests early so that trainings are completed within the budget and on schedule. To date, ATC has touched every region with training and national webinars.

EERI

Mike Mahoney, FEMA presented on behalf of Jay Berger providing an overview of EERI capabilities, which include advancing research to engineering to outreach and dedication to reducing earthquake risk. EERI members come from the full range of specialties and participate in seismic mitigation planning and school safety initiatives, property inventory and seismic inspection of critical structures and lifelines, and earthquake awareness and education.

SCEC

Mark Benthien provided an overview of SCEC, which is an earthquake science research center and studies the natural laboratory of Southern California. Benthien runs the communication program which provide services to the whole country, including ShakeOut events. The communication program hosts conference booths and a speaker's bureau program, as well as outreach materials and websites. Efforts are already underway for the 2015 ShakeOut and SCEC is interested in supporting recovery in Nepal through the 2015 ShakeOut drill. With OPP, SCEC is looking at developing an app to increase registration and education.

Close of Day One

Wednesday, May 6, 2015

I. State Update

California, Kate Long

Kate Long provided an overview of the current NEHRP activities within the State of California. These activities include the ShakeOut drill and development of nationwide ShakeOut materials; development of outreach materials and handouts, such as *Staying Safe Where the Earth Shakes*; support for the National Earthquake Clearinghouse, which is a scientific database for collecting post-disaster data; inventory and assessment of non-ductile concrete buildings with the California Concrete Coalition; and promotion of Disaster Resilient Business/QuakeSmart Integration to support mitigation and continuity planning for businesses. California is also working on the Earthquake Early Warning system and related public outreach, and building retrofit standards and programs. California and SCEC are also developing talking points to address inaccuracies in the Warner Brothers' San Andreas movie and would like to coordinate these with FEMA. Wendy Phillips will provide Kate Long with a FEMA External Affairs POC.

Arkansas, Katie Belknap

Katie Belknap provided an overview on activities in the State of Arkansas. Arkansas has supported training and implementation of FEMA 154/ROVER, P-767 and ATC-20; participated in meetings, media and presentations related to NEHRP; implemented a billboard advertisement campaign; and promoted ShakeOut. Overall, Arkansas has been focused on finding new ways to engage with the public and promote education, such as Shaky the Squirrel for ShakeOut and an outreach business card. Arkansas is also working to collaborate with the Governor's Earthquake Advisory Council; promote the INSPARK building inspection program; and conduct emergency preparedness exercises. Challenges included funding constraints, multiple partners, turn over within the agency, and a new administration. Several questions from participants focused on

liability issues related to implementing state-sponsored building inspection programs. Others requested that Arkansas share the outreach business card.

Missouri, Steve Besemer

Steve Besemer provided an overview of the Missouri earthquake program, which includes outreach and education, earthquake hazard mapping and the SAVE building inspection program. Missouri participates in ShakeOut and other public outreach events as part of earthquake awareness month in February. The earthquake hazard mapping, done in partnership with the Missouri Geological Survey, are used for mitigation, planning and response through a partnership with MILO. Missouri is also conducting School Safety Assessments based on FEMA 154 and looking at buildings, specifically blueprints, to assess risk - two school districts have been assessed and 3 more planned. The Missouri SAVE Coalition continues training and exercises, and has an established structure for the program to handle a large quantity of volunteers. Missouri expressed similar difficulties as Arkansas in program funding and trouble in successfully capturing the public's attention on earthquake risk. Steve Besemer is leaving the position and will be transitioning to a new Program Manager.

Oregon and CREW, Althea Rizzo

Althea Rizzo provided an overview of Oregon and CREW activities. There is a new Interim Director at CREW, and they are developing fact sheets and a social media campaign for the Cascadia Zone anniversary, and supporting NEHRP projects for the states. The State of Oregon is pushing for earthquake legislation based on the state Resilience Plan and developing key messages to support changing the emergency response timeline from 72 hours to 2 weeks, which will push the public and visitors to be self-sufficient for 2 weeks following an event. Oregon is also using funds to retrofit hospitals, schools, etc.; looking for funds to reenergize the seismic retrofit program; and conducting tourist outreach for earthquake and tsunami awareness. The Oregon Coast Visitor Tsunami Awareness project is working with hospitality industry and local businesses to promote tsunami awareness to tourists. Additional efforts include the Race the Wave comic book which is reaching teens and kids, and a related social media campaign. The state is also looking at tsunami evacuation modeling and evacuation route planning, with a focus on innovative ways for signage and education. Discussion focused on how the state was able to get positive engagement with local business in regards to earthquake/tsunami risk and legislative interest in resiliency and emergency planning.

Following the State Update session, participants reflected the desire to provide more time for State Updates at future meetings.

II. NEMA Earthquake Program Update, Art Faulkner

Art Faulkner provided a NEMA Earthquake Program update, and discussed the importance of federal and state involvement in the NEHRP program and moving it forward. Faulkner noted that an earthquake will occur, there will be damage and fatalities, and scrutiny will be placed on the state and Federal efforts under NEHRP. Last year, the NEPM group identified several earthquake-related recommendations for NEMA that were pushed forward. NEMA adopted several of these and developed a white paper with three recommendations that focused on coordination amongst agencies and states, funding and meeting needs of mitigation, preparedness, response and recovery. Overall, the NEHRP program and partners need to make sure they have a coordinated/comprehensive program across all entities. Funding is an issue and NEHRP is constantly competing for time, funding, attention, etc. To be successful, the group

needs to identify a common goal and structure and work towards NEHRP reauthorization; tie into larger multi-hazard planning and mitigation efforts; leverage partnerships and resources to do more with funding; and find ways to be relevant and present the NEHRP program to leadership. NEMA is in the process of a reorganization to make sure the organization reflects the importance/need in the emergency management community. Faulkner challenged the group to participate, take opportunities to speak to other participants, have frank conversation on where we go next, and look for ways how we can piggy back on other programs and efforts. Discussion and questions focused on how to advance earthquake mitigation in the multi-hazard arena without losing emphasis, and how to use efforts already underway, such as the Super Storm Sandy Improvement Act.

III. Developing the State Earthquake Program, Bruce McCullen

Bruce McCullen walked the full group of FEMA, state, Consortia and Partner representatives through a discussion focused on how to further develop the State Earthquake Program. McCullen prefaced the conversation by discussing the challenges of the disaster preparedness community and creating public awareness; noting the importance of connecting stakeholders and program staff; and highlighting the importance of the work being done.

The open discussion started with reflecting on the Action Items/Take Aways from the 2014 Denver meeting and highlighting accomplishments since. The NEMA White Paper is an accomplishment, which has recommendations for the program. Improvement in communications and transparency on the State Assistance process was identified as an issue at the 2014 meeting and people have expressed that these items have improved.

Discussion moved to the Listening Sessions that were established as a response to this issue identified at the 2014 meeting. State representatives stated that they hoped there would be more of a closed loop on the meetings, such as notes, follow up answers on questions posed at meetings, and agenda development driven by state feedback. States also expressed desire to have direct contact with decision makers, making the calls a place to get answers, not a place to share information. Based on these comments, Ed Laatsch, FEMA recapped the purpose for the Listening Sessions from the FEMA point of view; FEMA established these listening sessions to provide a venue for discussion with an impartial third party. Participants acknowledged a disconnect between state expectations and FEMA intentions for the Listening Sessions. Ed Laatsch expressed willingness to set up a different venue and asked states to define what the venue should look like to encourage participation and communication. Group decided on a two-hour meeting/conference call held quarterly with a set agenda and meeting minutes; a Doodle poll would be sent to determine appropriate date and time to get maximum participation, and participants would be asked to request/suggest agenda items. FEMA HQ and Regional staff, state PMs, Consortia and Partners will attend the calls.

Discussion moved towards rebuilding the hierarchy of communication/flow of information from the states through the FEMA Regional Office up to FEMA HQ and vice versa. This flow has been impacted by the lack of FEMA staffing at the Regional level and a change in staffing structure at FEMA. Group provided suggestions/tools to improve communication, including a NEHRP Listserve and/or Yahoo Group, and the existing EQprogram.net platform.

Group also discussed ways to improve the State Assistance projects and communication between Consortia and states. States were encouraged to reach out to Partners and see what their capabilities are to work together to accomplish the projects. Group committed to distributing a summary of all Consortia and Partner capabilities. During this discussion, states requested state participation in the State Assistance project prioritization and selection process; this would lend to transparency and an increase in knowledge.

McCullen gave an overview of the structure and purpose of the upcoming Break Out Sessions. With a focus on the state session, the session should look at what needs to happen with the program in the next 12 months; how to increase visibility of the program; and how to get to program reauthorization and what reauthorization needs to look like from the states' perspective. Per additional discussion, the Break Out Session design question was: How do we get program reauthorization and what does it look like? Who do we need to work with as part of this effort? How do we elevate NEHRP within the states to show importance of reauthorization?

IV. Break Out Sessions

Recap and Action Items from State Break Out Session:

Katie Belknap provided a recap of the State Break Out session; the following items were identified by the states as ways to advance NEHRP and improve program function:

- Requested Ed Laatsch to identify if salaries or existing projects from alternate state agencies could be used as part of the cost-share match.
- Requested that FEMA allows multiple states to be in on the decision making process of what projects will be funded.
- Agreed that a committee needs to be created by the states to identify how to push NEHRP through legislation; this committee should determine if there needs to be a whole new authorization created or just a re-authorization to the 2004-2009 legislation.
- Requested that FEMA, states, and Partners all create a common message and talking points regarding NEHRP so as we forward it through legislation, there will be a common message going up the correct channels and chain of command.
- States would like to see NEHRP reflect the Tsunami Program in relation to how funds are distributed. Would like to see it reflect the High Winds Legislation since it was recently passed unanimously.
- States would like to see all of the other states proposed, accepted and rejected projects as they move through the funding process to identify potential partnerships and ideas for projects as part of networking and cross-state collaboration.
- Requested that a state program manager is a part of the NEMA sub-committee if it is created.
- Requested that future white-papers are created and pushed forward by the states, not consortia or partners.

Recap and Action Items from FEMA/Consortia and Partners Breakout Session:

Based on discussion amongst FEMA HQ and Regional staff, Consortia and Partners, Ed Laatsch presented the following items that were identified as ways to advance NEHRP and improve program function:

- State Assistance 101: Develop State Assistance 101 Package, which clearly defines how the process works and what it does; this tool will be produced through a FEMA HQ/Regional workgroup and will be shared through webinars.
- State EQ PM 101 and Training: Develop State EQ PM 101 package, which would be developed in coordination with the states; this package would include Roles and

Responsibilities documents and templates. FEMA would not direct the content of this package, but would facilitate and support, and gather information from states, Consortia and Partners.

- Regional EQ PM Back Up Plan and Crossover: System to address FEMA Regional PM Status and Vacancies. FEMA HQ would develop a Regional PM back up system and identify people to backfill vacancies on the Regional level to help with communication and support consistency.
- Regional PM Roles and Responsibilities and Brief Upward to Regional Leadership: As we think about importance of EQ program and need to maintain at all levels, commitment by Regional EQ PMs to develop Roles and Responsibilities and brief up to Regional Directors – brief upwards and push up importance

V. ROVER Application in Charleston, SC – Tammie Dreher-Wells

Tammie Dreher-Wells provided an overview of ROVER application done in Charleston, and the successes and challenges they had with this effort. The effort focused on school inspections and used Citadel college students to build their capabilities and support professional development of students through multiple training courses. This was a great opportunity to apply classroom training to in-field exercises and have data for post-disaster inspection, etc. Challenges included coordination with schools and release of their inspection data, and the learning curve associated with using ROVER. South Carolina is already looking at doing another round of ROVER to look at Charleston critical facilities. The state saw success in leveraging university students and this led to a good partnership and was mutually beneficial.

VI. FEMA P-154/ROVER Updates – Ayse Hortacsu, ATC and Mai Tong, FEMA HQ

Ayse Hortacsu provided an overview presentation on the updated methodology of ROVER and the 3rd Edition of P-154 and P-155: Rapid Visual Screening of Buildings for Potential Seismic Hazards. ATC has offered training for the 3rd Edition since February 1st. FEMA P-154 is for use in the screening of buildings; P-155 contains all supporting documents on the methodology developed. Hortacsu also discussed the Seismic Evaluation Tool, which is a simple sidewalk survey, developed for agencies/organizations considering an inspection/evaluation program and screening. The update included added building types and mobile homes, and further clarification on how to categorize and capture evaluation results. NETAP offers courses on this training and states can submit requests within the deadline, which is February. Mai Tong provided an overview of the FEMA ROVER Version 2, and discussed the features of the update. ROVER Version 2 is completely based online and consists of a suite of application tools (ROVER web server, Red ROVER, ROVERLoad, supporting resources for field data, and a complete user/project guide). A trial site is available: <http://testbed.isti.com>, Username: admin, Password: rover. Recent ROVER and RVS projects have occurred in Oregon, California, Idaho, Utah, Vermont, Puerto Rico and South Carolina. It's important to share ROVER project experience and help promote earthquake risk awareness and mitigation.

VII. EERI's School Earthquake Safety Initiative, Mike Mahoney

Mike Mahoney provided an overview of EERI's school safety initiative, SESI. SESI is funded through the EERI board, Coastal Zone Fund and FEMA, and is a global and collaborative network of diverse, expert and passionate professionals who are committed to creating and sharing knowledge and tools that enable progressive, informed decision making around school earthquake safety. The goal of the program is to leverage extensive expertise and reputation to conduct regionally appropriate actions that make a tangible and positive difference in communities around the world by protecting the lives of all who inhabit school buildings. Why schools? Occupants have to be in school/vulnerable population/schools may be community shelters/large assembly rooms = more vulnerability/destruction would cripple recovery. This

effort is targeting whole communities. There are five subcommittees involved: Safety Screening, Inventory and Evaluation; Code Updating and Improvements; Earthquake Education; Safety Advocacy and Messaging; Tsunami Mitigation for schools. People can contact members of SESI Program Committee to get involved.

Close of Day Two

Thursday, May 7, 2015

I. Napa Earthquake Case Study, Jodi Traversaro and Kate Long

Jodi Traversaro and Kate Long presented a case study on the response to and recovery from the Napa Earthquake. This was a significant event in California, and while retrofitting helps for life safety, there was still significant damage, specifically with chimneys. Several tools were used successfully immediately following the earthquake, including all California alert systems, ShakeMap, Did You Feel it?, and the USGS Pager. The California Earthquake Early Warning was not operational, but in testing mode for BART and worked. Traversaro spoke to details of the incident and California's response through their Emergency Management System. It was important to be able to immediately identify the populations affected and determine socio-economic factors. It was also important to be able to mobilize, assess public reaction through 911, and immediately launch assessment staff. Battle rhythms were immediately established, liaisons placed in all the EOCs that were activated, and ShakeMaps helped direct assistance to areas of high impact. The Public Assistance Declaration came in September. Traversaro spoke to challenges related to not receiving an Individual Assistance Declaration until October; they had to push people to wait on repairing their damage so it could be captured to push for an Individual Assistance Declaration. Communities wanted to recover fast, but there was a waiting process for the determinations for IA, etc.; this created some tension. Several publications have been developed as a result of the lessons learned from this event, and these reflect some challenges which included water supply and infrastructure damage, and variations between Initial Damage estimates and PDAs since earthquake damage can be hidden.

Kate Long also spoke on several lessons learned from the Napa Earthquake. Long praised the use of the California Earthquake Clearinghouse which was used to collect data from the large number of scientists present after the event; California was able to use their data and use them as windshield surveyors. These scientists helped identify and track the afterslip that was occurring in the area. Another lesson learned focused on measurement machine calibration; changes in magnitude from machines can discredit an organization in the public eye if they are unable to give good measurement – something to be aware of. When speaking with the public, work to establish uniform data and responses with scientists prior to releasing information. Traversaro and Long also spoke to specific challenges California encountered during response, which included getting best possible data during IDAs and PDAs to avoid having to go out multiple times after the event; education on recovery process and the resources available, and what needs to be documented for reimbursement and aid; keeping relationships with academics and scientists strong and establishing clearinghouse to use their data; rapid recovery, but could have benefitted from looking at larger issues/resiliency when implementing recovery actions; and hazard mitigation grants – benefit cost analysis is important and need to show losses avoided from money spent.

II. Retrofitting Case Studies for Various Structures, Mike Mahoney

Mike Mahoney presented on a case study on retrofitting for a variety of structures and performance. The philosophy behind retrofitting is not a “one sizes fits all,” it depends on building type, location, etc. Retrofitting requires adoption and enforcement of building codes. A study recently looked at cost of building with building codes and it showed that cost wasn’t much higher. Another updated study funded by NIST and ATC looked at the cost of enforcing a seismic building code; costs were not much higher and this led to Tennessee adopting the national building codes. Seismic retrofitting guidance is provided by ASCE/SEI; updates have been made. FEMA has a complimentary guide to implement ASCE 41.

Mahoney discussed building types for seismic retrofitting. The types of construction in an area is a factor in determining a seismic retrofitting policy; the more hazardous the construction, the higher the risk and the greater the need for seismic retrofitting. Some types are more hazardous than others, such as URMs, non-ductile reinforced concrete, etc. URMs are the most hazardous as displayed in the Napa earthquake. Non-ductile concrete buildings are not as hazardous as URMs, but tend to be larger buildings with more population inside, and have experienced failures throughout several earthquakes. Not all non-ductile concrete buildings are hazardous; often collapse comes from other weaknesses, such as inadequate reinforcing, but is difficult to determine weaknesses. Expensive evaluation is needed to determine these weaknesses; FEMA and ATC is funding the development of an evaluation tool currently and will be released soon in FEMA P-1000. Case study also captured seismic retrofit using base isolation; steel buildings retrofit, specifically welding points; wood frame, multi-story multi-unit; masonry chimneys; cripple wall foundation homes; and non-structural retrofitting. Overall, seismic retrofitting is an effective way of reducing risk; however, it needs to be tailored to an area and its building types. Discussion focused on the development of a building ratings system; there are a lot of efforts looking at this and would be most successful if it was demand driven, and it would increase the value of buildings.

III. Mitigation Cost Benefit Analysis for Low-Risk States, Matthew Wall

Matthew Wall presented on how to develop positive mitigation cost benefit analysis for low-risk states. Wall framed the discussion by highlighting the earthquake in Virginia, a low-risk state. Several actions/support were requested following the Louisa, VA earthquake; however, due to the low-risk status of Virginia, some assistance was denied. For earthquake mitigation activities, Wall ran a FEMA BCA Analysis, retrofit cost vs. risk, and no actions produced a positive cost benefit per FEMA guidance. Wall developed a strategy. For structural mitigation, blend benefits across hazards for the BCA; for non-structural, outreach and education is key and must demonstrate cost savings from resiliency. Wall employed several communication strategies: convey benefits for homeowners and businesses for taking protective measures; lay out criteria and benefits for mitigation actions; and help communities prioritize projects.

IV. Panel Discussion - Doug Bausch, Gala Gulascik, Brian Blake

Scenarios, Training and Exercise Creation, Doug Bausch and Gala Gulascik

Doug Bausch began the panel by presenting on modeling and analysis for earthquake risk scenarios. Credibility is key for scenarios and he recommended using the Hazus Resources. The fundamental input for Hazus is the USGS ShakeMaps, which are credible, scientifically sound scenarios; ground motion data from ShakeMap is easily pulled into Hazus for real time scenarios. Bausch has done several Hazus-NEHRP demo projects in California, New England, and Utah which plugged into Hazus. When building a scenario, it’s important to identify scope, size, location, etc. of event and gather consensus from partners before moving forward. Scenario planning is beneficial in how it brings together stakeholders to understand connectivity of emergency planning. Good inventory is an important piece in delivering a good scenario for building assessment/damage estimation. Comprehensive risk assessment needs both hazard identification and inventory data; Hazus is a comprehensive assessment and it really triggers

conversation, especially when you have accurate numbers. States can also pull in FEMA/ROVER 154 to do a building inventory and plug information into the scenario. The FEMA GeoPlatform is a great tool that can document and store data; an online application is available and can be used by state and local partners.

Gala Gulascik presented on using scenarios for exercises and how to digest the data into successful exercises. Gulascik used the Cascadia Rising 2016 exercise as an example, which had many states and partners involved. A detailed Scenario Document is important and should include an overview of hazards, modeled impacts, etc.; this document is important for those developing the exercise. The exercise developer picks which data they want to address in the exercise. The exercise can be broken out into regions and can look at specific impacts throughout these areas, including impact on the population. It's important to document the considerations used when developing the scenario and they need to be shared when you host the exercise. A scenario is a suite of impacts to be chosen from when having an exercise; you need to determine what you want the exercise to focus on.

Developing Building Inspector Programs, Brian Blake

Brian Blake provided an overview on CUSEC's Building Inventory and Resource Deployment (BIRD) program, which core functions are rapid visual inspections, exterior only, for structural life safety on a statewide level. From the state legislative perspective, there are concerns regarding liability, worker's comp and EMAC deployment across state lines. In the effort to establish a statewide program, you need to establish a program authority and outline how and where people deploy. There are programmatic issues including technology and equipment, and personnel and training. Several CUSEC member states are hosting building inspection programs, and liability protection of volunteers is the number one issue with these types of programs. Next steps to further this effort include workshops and further development of assessment tools; a national survey of legislative issues that would affect the program; development of model legislation and work with the NEMA earthquake subcommittee on these issues; and to incorporate FEMA 154 rapid visual screening data for pre-disaster mitigation and planning, and use new technologies to improve data collection and situational awareness.

V. Response Planning, Joseph Landoli, FEMA Region 6

Joseph Landoli provided an overview of the FEMA Response Planning process, and highlighted his experiences with earthquake planning and earthquake involvement in the planning process. Earthquake planning is always done in partnership with the states, and it also needs to involve other federal agencies as well. Response planning focuses on the 72-hour window after an event. It is important to pick key staff to staff the support team and to form the collaborative planning team. You need to get good data for modeling to be able to successfully analyze what will happen to systems, transportation and housing. This will help to determine what you have to develop courses of action for as part of the potential damage report. This report needs to capture the facts vs. assumptions; you will need to make assumptions to move forward with planning and you need to document these. Response planning occurs in phases - Phase 1: PreIncident, Phase 2: Response, and Phase 3: Recovery. In the process, you will determine goals and objectives; plan development and develop Courses of Action (a key point for the involvement of earthquake SMEs); followed by implementation and maintenance.

VI. FLASH Actions and Leveraging Partner Opportunities, Barbara Harrison

Barbara Harrison presented on the public-private partnerships that FLASH has leveraged and lessons learned from these efforts. Harrison shared a video project with Virginia that partnered with home building organizations to promote retrofitting opportunities and bundling hazards mitigation benefits. On the path to collaboration, it is important to find likeminded

organizations and find ways to work within the comfort zone of an organization and expand from there. Most importantly, give credit where due. Harrison also highlighted efforts for the Texas State Collaborative to promote building codes and using QuakeSmart to help small businesses. Overall, bring likeminded organizations in early to help with the development of programs and they will be more inclined to promote the finished product in the end. Leverage and use existing programs and determine what you want to ask for from each organization. There are challenges for states regarding working directly with private industries – don't work directly with the private business, work with their organizations or leverage a partner that is 501c3 that can partner with the private sector. Finally, be sensitive and use logos appropriately.

VII. Best Practices in Social Media Use, Derrec Becker and Rick Fahr

Derrec Becker presented on the use of social media in emergency response and planning from the South Carolina perspective. When using social media during an emergency, you determine your level of engagement; choose your message and how you want to showcase it; and you choose your vehicle (recommended Twitter); and remember to use the media. When joining a network, make sure to fill out the profile completely and provide all relevant info and links to your websites and include partner websites as well. In social media it is important to find your voice and tone, official vs casual, and remember to be authentic. It's important to pick a posting strategy and determine when, why and how often you post, and connect with brand advocates. Be cautious of "newsjacking" which is pushing out information that is only somewhat related to current news or events. Cross-link accounts to save time in critical situations, but create unique content for each site, especially file/design format. Test and analyze your content and reach. Create policies that address social media issues, but are flexible enough to adapt to new sites and new technology. Most social media sites offer analytics - use them to help you determine your success, next steps and level of engagement.

Rick Fahr presented additional information on the importance of analytics in social media. In social media analytics, engagement is currency. You need to assess your analytics to show how you are doing; determine if people like your content; and identify how people engage with your page. Make sure to look at demographic opportunities and identify outreach tactics based on these opportunities. Google analytics are great and make sure to look at bounce rate and time spent on pages, especially for pages that house important documents. States and public entities should tap into Twitter Alerts; this is offered to states and is almost like a reverse 911.

VIII. Closing Remarks

Ed Laatsch began the closing remarks with a recap of the main topics of discussion and themes of the NEPM. He touched on the following: social media is a valuable tool for states and the program; partnership and collaboration can leverage your efforts, but always be aware of sensitivity; recognize the importance of ShakeOut and work to increase awareness; share data and experience to advance NEHRP, and use tools like GeoPlatform and the Earthquake Clearinghouse; link to other hazards where appropriate to leverage earthquake hazard mitigation; reauthorization is important and we need to determine where we stand as a program and state involvement is important in this process; and finally show how important your earthquake projects are within your own states, be a part of the conversation.

Katie Belknap walked the group through a reflection on the NEPM with a focus on what went well, room for improvement and suggestions. Participants felt that more time could be allotted for networking and discussion on the presentations. Many expressed interest in building working items in to the agenda that would result in tangible products to bring back to their states. Participants enjoyed the presentations and the variety of content, but felt more time for discussion and application would be useful. State expressed a desire for more time to be

allotted for the State Updates. Participants also expressed a desire for the opportunity to provide all NEHRP agencies with feedback on the development and path forward for the program. Other recommendations included a tabletop exercise for emergency planning and scenarios; building codes workshops with materials to bring back to states, including blending of mitigation actions across hazards. Participants appreciated the blend of policy, research and application, and appreciated having an outside facilitator for the State Assistance discussion. In terms of format, a recommendation was made to consider adding an additional day to the meeting. All meeting materials, presentations, etc. will be posted online at EQprogram.net for everyone to access.

Close of Day Three

2015 NEPM Action Items

- Distribute 2014 NEPM notes and action items to states, Consortia and Partners.
- Email a table of Consortia and Partner capabilities to all states and send out again with each call for state projects.
- Make determination on state request for state participation in the State Assistance project prioritization and selection process.
- Establish FEMA/state/Consortia/ Partners Quarterly Conference Calls.
- Develop path forward for pursuing NEHRP Reauthorization with focus on state involvement.
- Develop State Assistance 101 training and webinars.
- Develop State EQ PM 101 package, which would be developed in coordination with the states.
- Develop Regional EQ PM Back Up Plan and Crossover System.
- Develop FEMA Regional PM Roles and Responsibilities and Brief Upward to Regional Leadership.
- Share Arkansas outreach business card.
- Develop FEMA HQ position on state break out session request for “Ed Laatsch to identify if salaries or existing projects from alternate state agencies could be used as part of the cost-share match.”
- Create a states-led committee to identify how to push NEHRP through legislation; this committee should determine if there needs to be a whole new authorization created or just a re-authorization to the 2004-2009 legislation.
- Create common messages and talking points for FEMA, states, and Partners regarding NEHRP to ensure common message when working on program legislation.
- Determine path forward for state request: “States would like to see NEHRP reflect the Tsunami Program in relation to how funds are distributed. Would like to see it reflect the High Winds Legislation since it was recently passed unanimously.”
- Determine path forward for state request: “States would like to see all of the other states proposed, accepted and rejected projects as they move through the funding process to identify potential partnerships and ideas for projects as part of networking and cross-state collaboration.”
- Develop formal request that a state program manager be part of the NEMA sub-committee, if/when created.
- Allow future white-papers that are created to be pushed forward by the states, not consortia or partners.