

FEMA REGION IX FLOODPLAIN MAPPING PROGRAM
SBEFRA 2nd Community Executive Committee (CEC) MEETING
AGENDA & MINUTES

MAP IX-Mainland

A Joint Venture of URS, Dewberry, Schaaf & Wheeler, Airborne 1, and TerraPoint



AGENDA

Subject:	San Bernardino County Essential Facilities Risk Assessment (SBEFRA) Project 2nd Community Executive Committee (CEC) Meeting		
	Wednesday, July 23, 2008	2:00 pm to 3:30 pm	
Leader:	Ray Lenaburg, FEMA	Location:	San Bernardino County Dept. of Behavioral Health
	Denise Benson, SB County Fire/OES		850 E. Foothill Blvd
			Rialto, CA 92376
			Room C-105
Purpose:	To update the CEC on the on-going SBEFRA project, including data collection and hazard modeling, and to solicit the CEC's input on earthquake scenario selection		
Attendees:	Community Executive Committee members, FEMA Region IX, MAPIX-Mainland, MAPIX-Mainland (MRC LLC consultant), MAPIX-Mainland (ABSG consultant), MAPIX-Mainland (MMI Engineering consultant)		

Topic	Description	Facilitators	Time
Welcome & Introductions		Denise Benson, SB County Fire/OES	5 minutes
Overview	Meeting Objectives	Ray Lenaburg, FEMA	5 minutes
Data Collection Update	Summary of data collection status for Fire Stations, Police Stations, EOCs, Hospitals and Schools	Hope Seligson, MMI Engineering	15 minutes
Earthquake Hazards	Presentation on Seismic Hazards Impacting San Bernardino County	Dr. Sally McGill, California State University, San Bernardino, Dept. of Geological Sciences	30 minutes
Scenario Selection	Review of candidate earthquake scenarios, and selection by CEC	Hope Seligson, MMI Engineering	20 minutes
Flood Hazards	Update on DFIRM Development for San Bernardino County, Modeling of DFIRM data within HAZUS, including flood depth grid creation	Stephanie Routh, Dewberry/MAP-IX	15 minutes
Open Discussion	Current and future use of HAZUS within CEC Member Agencies Questions & Answers Next Meeting	SBEFRA Project Team	15 minutes



MEETING MINUTES

Meeting Attendees:

CEC Members & Their Representatives

Randall Avery, San Bernardino County Information Services Department
Manuel Benitez, Special Districts
Denise Benson, San Bernardino County Fire/OES, CEC Chair
Christina Bivona-Tellez, Hospital Association of Southern California
Phebe Chu, San Bernardino County Counsel
Kalina Cox, San Bernardino County Fire OES
Glenn Grabiec, San Bernardino County Sheriff
Tom Hendrix, City of Colton Fire Department
Annesley Ignatius, San Bernardino County Public Works
Debra Kreske, City of Colton
Ron Matyas, San Bernardino County Land Use Services Department
Rhonda Pfeiffer, San Bernardino County Assessor
Cindy Serrano, San Bernardino County Fire/OES
Jim Squire, San Bernardino County Land Use Services Department
Russ Tingley, San Bernardino County Department of Public Health
Brad Terkeurst, San Bernardino County Information Services Department
Miles Wagner, San Bernardino County Fire/OES
Liz Wojdak, Southern California HAZUS User's Group

Project Team

Ray Lenaburg, FEMA
David Montague, ABS Consulting
Massoud Rezakhani, MRC LLC
Stephanie Routh, Dewberry
Hope Seligson, MMI Engineering

Guests

Dr. Sally McGill, California State University San Bernardino, Department of Geology Sciences

The meeting began with a status report on the Project Team's data collection efforts, which have been very successful. A few remaining agencies are preparing data for submission, but are expected to provide their data shortly.

Dr. Sally McGill gave a very informative presentation on earthquake hazards in San Bernardino County. The Project Team provided the CEC with hard copy versions (**see Attachment 1**) of 9 USGS ShakeMaps (generated by the USGS and available on the CISM website: <http://www.cism.org/shakemap/sc/shake/archive/scenario.html>) impacting San Bernardino County, plus 1 special ShakeMap generated for the "ShakeOut" scenario (a M7.8 earthquake on the southern San Andreas Fault) developed for Golden Guardian California state-wide disaster exercise scheduled for November 2008. Fault information available from the Southern California Earthquake Center (http://www.data.scec.org/fault_index/) and other sources was provided with the graphical maps of shaking intensity. Dr. McGill recommended that at least

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one scenario be selected for an event on the southern San Andreas Fault. After a short discussion, the CEC selected the **M7.8 "ShakeOut" San Andreas scenario earthquake**, and the **M6.7 scenario earthquake on the San Jacinto Fault** as the two scenarios to be included in the SBEFRA project risk assessment.

The Project Team provided an update on the DFIRM release schedule for San Bernardino County, indicating that the final DFIRM has an effective date of 8/28/2008 and has recently been released. Flood scenarios for analysis within HAZUS, and required input from the community were also discussed.

A brief discussion of decisions facing the CEC at the next meeting included the issues of determining a data repository location, and agreeing to a data release policy and procedure. The CEC agreed to begin discussions on these topics prior to the next meeting.

In an effort to support Golden Guardian planning activities, the Project Team agreed to make essential facilities data processing a higher priority than Assessor's data processing, with the goal of providing the improved essential facilities database back to the County in the October timeframe, if possible. In order to release of data to the County prior to the next CEC meeting, the Project Team will need the CEC to have addressed the issues of data storage and data sharing.

Christina Bivona-Tellez suggested that the CEC consider coordinating and sharing data with Riverside County (e.g., San Bernardino County would agree to share their improved essential facilities data with Riverside County and vice versa), to make regional scenario loss estimates more meaningful. CEC Chair Denise Benson agreed to contact Riverside County to discuss the issue.

The next CEC meeting will be held next year, in the January/February timeframe, when preliminary risk assessment results will be available.



ATTACHMENT 1: SAN BERNARDINO SCENARIO SHAKEMAPS AND FAULT DATA

<p>Chino Hills M6.7 TYPE OF FAULT: right-reverse LENGTH: 21 km NEAREST COMMUNITIES: Corona, Chino MOST RECENT SURFACE RUPTURE: Late Quaternary SLIP RATE: about 1.0 mm/yr INTERVAL BETWEEN MAJOR RUPTURES: unknown PROBABLE MAGNITUDES: M_w6.0 - 7.0 OTHER NOTES: The dip of this fault is to the southwest</p> <p>Source: Southern California Earthquake Center (SCEC) http://www.data.scec.org/fault_index/chino.html</p>	
<p>Coachella Valley M7.1 (San Andreas Fault) TYPE OF FAULT: right-lateral strike-slip LENGTH: 1200 km; 550 km south from Parkfield; 650km northward. NEARBY COMMUNITY: Parkfield, Frazier Park, Palmdale, Wrightwood, San Bernardino, Banning, Indio LAST MAJOR RUPTURE: January 9, 1857 (Mojave segment); April 18, 1906 (Northern segment) SLIP RATE: about 20 to 35 mm per year INTERVAL BETWEEN MAJOR RUPTURES: average of about 140 years on the Mojave segment; recurrence interval varies greatly -- from under 20 years (at Parkfield only) to over 300 years PROBABLE MAGNITUDES: M_w6.8 - 8.0 http://www.data.scec.org/fault_index/sanandre.html</p>	



<p>Elsinore M6.8 (Elsinore Fault) TYPE OF FAULTING: right-lateral strike-slip LENGTH: about 180 km (not including the Whittier, Chino, and Laguna Salada faults) NEARBY COMMUNITIES: Temecula, Lake Elsinore, Julian LAST MAJOR RUPTURE: May 15, 1910; Magnitude 6 -- no surface rupture found SLIP RATE: roughly 4.0 mm/yr INTERVAL BETWEEN MAJOR RUPTURES: roughly 250 years PROBABLE MAGNITUDES: $M_w 6.5 - 7.5$ MOST RECENT SURFACE RUPTURE: 18th century A.D.(?) http://www.data.scec.org/fault_index/elsfault.html</p>	
<p>Puente Hills M7.1 TYPE OF FAULT: Blind Thrust Fault MOST RECENT MAJOR RUPTURE: at least four times in the last 11,000 years INTERVAL BETWEEN MAJOR RUPTURES: once every 3,000 years. PROBABLE MAGNITUDES: 7.2 to 7.5. http://www.scec.org/research/050525puentehills.html</p>	

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<p>Raymond M6.5 TYPE OF FAULTING: left-lateral; only minor reverse slip LENGTH: 26 km NEAREST COMMUNITIES: San Marino, Arcadia, South Pasadena MOST RECENT MAJOR RUPTURE: Holocene SLIP RATE: between 0.10 and 0.22 mm/yr INTERVAL BETWEEN MAJOR RUPTURES: roughly 4500 years (?) PROBABLE MAGNITUDES: M_w6.0 - 7.0</p> <p>http://www.data.scec.org/fault_index/raymond.html</p>	
<p>San Andreas M7.4 TYPE OF FAULT: right-lateral strike-slip LENGTH: 1200 km; 550 km south from Parkfield; 650km northward. NEARBY COMMUNITY: Parkfield, Frazier Park, Palmdale, Wrightwood, San Bernardino, Banning, Indio LAST MAJOR RUPTURE: January 9, 1857 (Mojave segment); April 18, 1906 (Northern segment) SLIP RATE: about 20 to 35 mm per year INTERVAL BETWEEN MAJOR RUPTURES: average of about 140 years on the Mojave segment; recurrence interval varies greatly -- from under 20 years (at Parkfield only) to over 300 years PROBABLE MAGNITUDES: M_w6.8 - 8.0</p> <p>http://www.data.scec.org/fault_index/sanandre.html</p>	

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<p>"ShakeOut" San Andreas Scenario M7.8</p> <p>TYPE OF FAULT: right-lateral strike-slip</p> <p>LENGTH: 1200 km; 550 km south from Parkfield; 650km northward. NEARBY COMMUNITY: Parkfield, Frazier Park, Palmdale, Wrightwood, San Bernardino, Banning, Indio</p> <p>LAST MAJOR RUPTURE: January 9, 1857 (Mojave segment); April 18, 1906 (Northern segment) SLIP RATE: about 20 to 35 mm per year INTERVAL BETWEEN MAJOR RUPTURES: average of about 140 years on the Mojave segment; recurrence interval varies greatly -- from under 20 years (at Parkfield only) to over 300 years</p> <p>PROBABLE MAGNITUDES: M_w6.8 - 8.0 http://www.data.scec.org/fault_index/sanandre.html</p>	<p>Legend</p> <p>County Boundary</p> <p>ShakeOut M7.8 Scenario PGA (max MMI = X)</p> <ul style="list-style-type: none"> <0.04g (~MMI IV & less) 0.04 - 0.09g (~MMI V) 0.09 - 0.18g (~MMI VI) 0.18 - 0.34g (~MMI VII) 0.34 - 0.65g (~MMI VIII) 0.65 - 1.24g (~MMI IX) >1.24g (~MMI X)
<p>San Jacinto M6.7</p> <p>TYPE OF FAULTING : right-lateral strike-slip; minor right-reverse</p> <p>LENGTH: 210 km, including Coyote Creek fault</p> <p>NEARBY COMMUNITIES: Lytle Creek, San Bernardino, Loma Linda, San Jacinto, Hemet, Anza, Borrego Springs, Ocotillo Wells</p> <p>MOST RECENT SURFACE RUPTURE: within the last few centuries; April 9, 1968, M_w6.5 on Coyote Creek segment</p> <p>SLIP RATE: typically between 7 and 17 mm/yr</p> <p>INTERVAL BETWEEN SURFACE RUPTURES: between 100 and 300 years, per segment</p> <p>PROBABLE MAGNITUDES: M_w6.5 - 7.5 http://www.data.scec.org/fault_index/sanjacin.html</p>	<p>Legend</p> <p>County Boundary</p> <p>San Jacinto M6.7 pga</p> <p>ShakeMap PGA</p> <ul style="list-style-type: none"> <0.04g (~MMI IV & less) 0.04 - 0.09g (~MMI V) 0.09 - 0.18g (~MMI VI) 0.18 - 0.34 (~MMI VII) 0.34 - 0.65 (~MMI VIII)

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<p>Verdugo M6.7 TYPE OF FAULTING: reverse LENGTH: 21 km NEARBY COMMUNITIES: Sun Valley, Burbank, Glendale MOST RECENT RUPTURE: Holocene; Late Quaternary along northern segment SLIP RATE: roughly 0.5 mm/yr INTERVAL BETWEEN MAJOR RUPTURES: unknown PROBABLE MAGNITUDES: M_w6.0 - 6.8 OTHER NOTES: Dips to the northeast. http://www.data.scec.org/fault_index/verdugo.html</p>	
<p>Whittier M6.8 TYPE OF FAULTING: right-lateral strike-slip with some reverse slip LENGTH: about 40 km NEARBY COMMUNITIES: Yorba Linda, Hacienda Heights, Whittier MOST RECENT SURFACE RUPTURE: Holocene SLIP RATE: between 2.5 and 3.0 mm/yr INTERVAL BETWEEN MAJOR RUPTURES: unknown PROBABLE MAGNITUDES: M_w6.0 - 7.2 OTHER NOTES: The Whittier fault dips toward the northeast http://www.data.scec.org/fault_index/whitfaul.html</p>	