

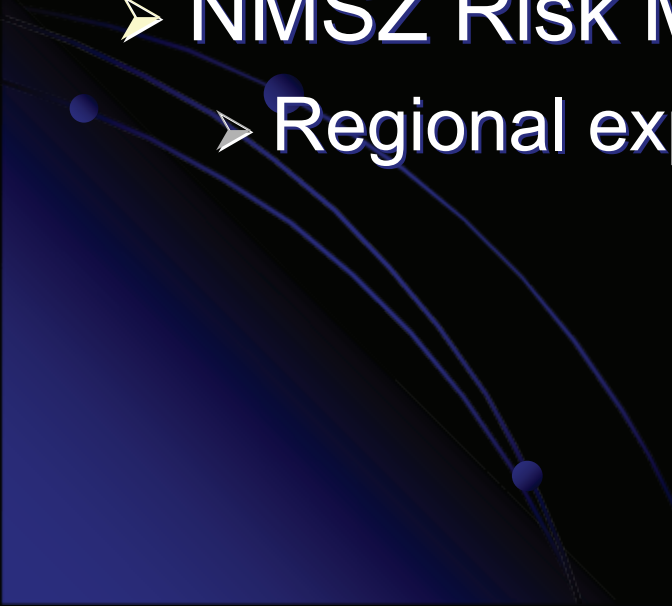
# New Madrid Earthquake Catastrophic Planning Project Overview



Presented by  
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NAIC – Property and Casualty Insurance Committee  
Earthquake Study Group  
September 21, 2009

# Briefing Points

- NMSZ Catastrophic Planning
    - History
    - Planning status
    - NLE 2011
  - NMSZ Risk Modeling
    - Regional expected losses
- 

# Planning Mission

The mission of the New Madrid Seismic Zone (NMSZ) Catastrophic Planning Project is to create a comprehensive preparedness plan for a catastrophic earthquake in the NMSZ based on the most advanced impact assessment techniques and new response and recovery methodologies.

# New Madrid Seismic Zone Catastrophic Planning

## What is a Catastrophic Event

**A catastrophic event, as defined by the *National Response Plan* is:**

***Any natural or man-made incident, including terrorism, that results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national morale, and/or government functions.***

***A catastrophic event could result in sustained national impacts over a prolonged period of time; almost immediately exceeds resources normally available to State, local, tribal, and private-sector authorities in the impacted area; and significantly interrupts governmental operations and emergency services to such an extent that national security could be threatened. All catastrophic incidents are Incidents of National Significance. These factors drive the urgency for coordinated national planning to ensure accelerated Federal/National assistance.***

# What Makes an Earthquake in the Central US Catastrophic?

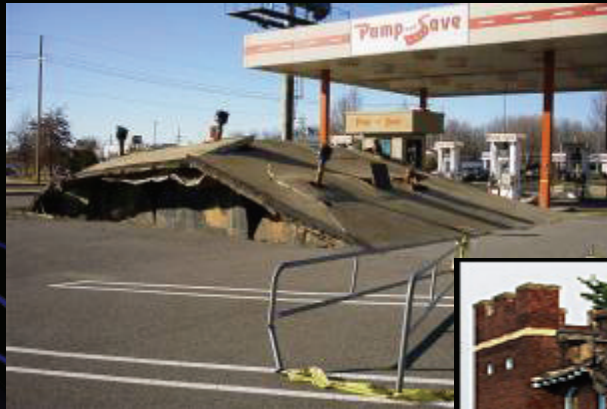
## Problems on a Good Day – *What if...*



Lance Murphy – Commercial Appeal Photographer



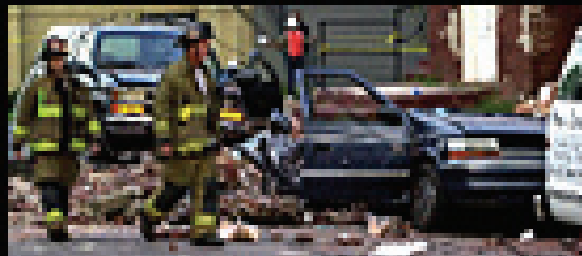
J. Wilkinson CUSEC



Dave Darnell – Commercial Appeal



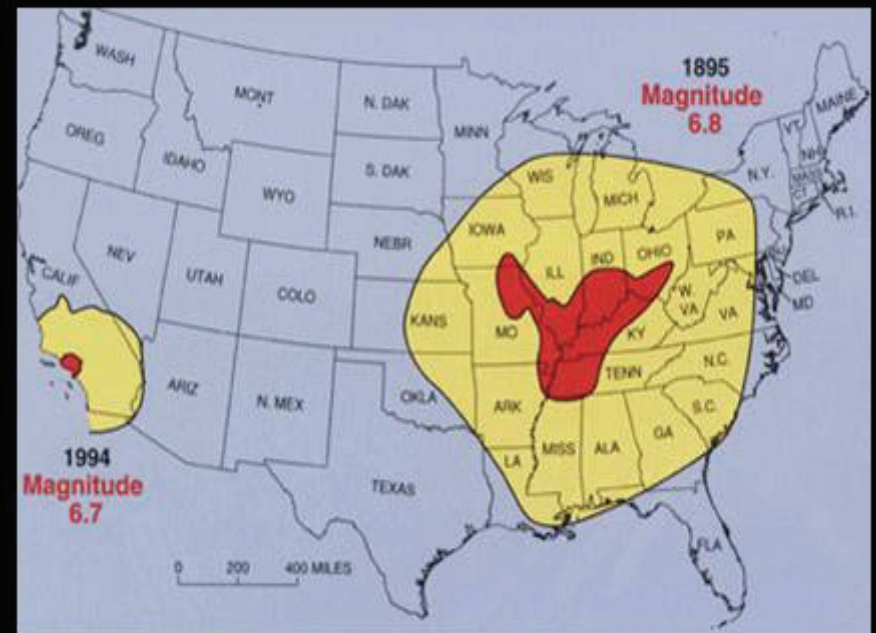
J. Wilkinson CUSEC



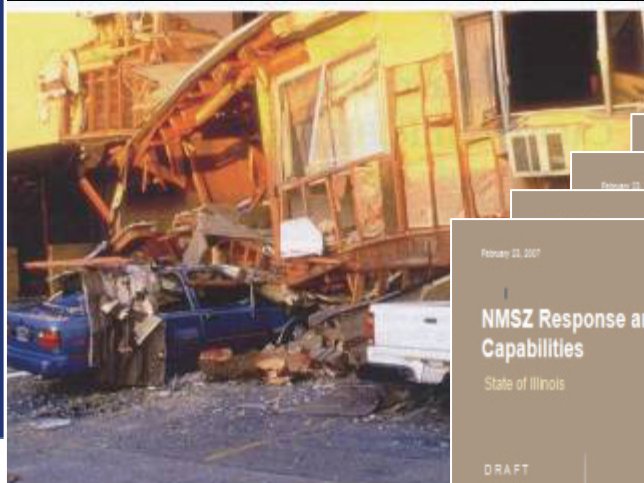
Dave Darnell – Commercial Appeal

# What Makes an Earthquake in the Central US Catastrophic?

- Highest seismicity East of the Rockies – Avg. 150-200 events a year
- Wider reaching effect than quake in CA
  - (See Map insert)
- NMSZ → Significant Fault Systems, High Consequences
- 44M people live in eight-state region
  - 12M in high risk area
  - 1- 3 million in Memphis and Saint Louis areas
- Building codes have only recently addressed the seismic hazard
  - High percentage of buildings not designed for earthquakes
  - Tremendous impact on civil infrastructure and critical facilities
- Significant national impact
  - Ripple effect across America



# FEMA/CUSEC New Madrid Catastrophic Planning – Addressing the Problem



New Madrid Seismic Zone  
Catastrophic Planning

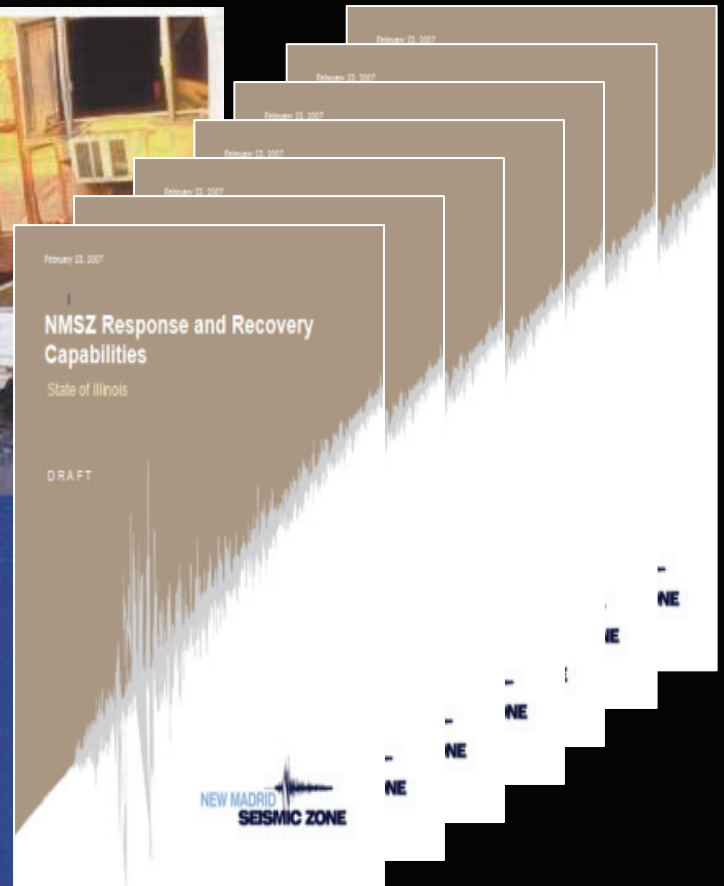
Project Overview



## Interim Contingency Plan–DRAFT

New Madrid Seismic Zone Catastrophic Earthquake  
Response Planning Project

January 11, 2007



# FEMA/CUSEC Cat. Planning At a Glance

- Multi-State Planning Effort that is Scenario driven
  - USGS / State Surveys Provides Scientific aspects of the Scenario – which forms basis for expanded planning area – m7.7 & m6.2, maps
  - Mid America Earthquake Center / VT/GW - Risk Modeling
    - Phase one – Individual state worse
    - Phase two – regionalized impact
  - Contractor support
    - Planner assigned to each of the CUSEC state EMA's and four FEMA Regions
  - CUSEC Board Established Multi-state Priorities
    - Most of which were adapted to local / state planning

# NMSZ Planning A Partnership Approach

- Involving Federal, State, Local participants
- Central US Earthquake Consortium (CUSEC)
  - AL, AR, IL, IN, KY, MS, MO, TN
  - Leading the way with the States
- Mid-America Earthquake Center
- Virginia Tech - Center for Technology, Security, and Policy;  
George Washington University - Institute for Crisis,  
Disaster & Risk Management
- DHS components
- FEMA Hq and Regions IV, V, VI, VII – Response, Recovery &  
Mitigation Directorates
- Federal and Sector Specific Agencies
  - Critical Infrastructure
- Emergency Management Assistance Compact (EMAC)
- Tribal and local governments
- Private Sector
- Business, Industry, and Volunteer Organizations
- Innovative Emergency Management and
- Many other



# New Madrid Seismic Zone Catastrophic Planning

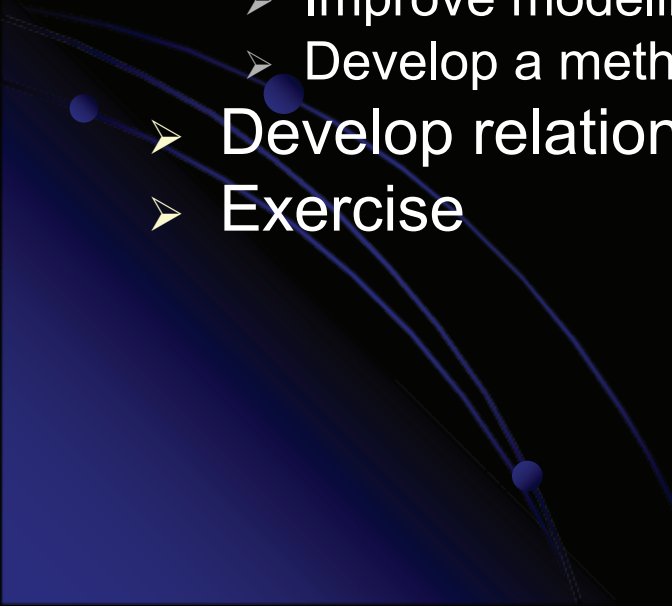
## Key Goals

A multi-year effort as part of the Catastrophic Annex to the National Response Framework (NRF) to:

- Improve response, recovery and mitigation planning for a **no-notice Catastrophic Earthquake**.
- To plan for a coordinated response and recovery effort for Federal, State, and local agencies.
- To incorporate key lessons from the Hurricane Katrina response, the Southeast Louisiana Catastrophic Hurricane Planning, and previous earthquake response and recovery actions



# New Madrid Planning Goals Continued

- Address areas for improvement
  - Develop DHS/FEMA Emergency Operations Plan Procedures to deal with catastrophic events under the NRP/Framework
  - Create an environment for continued planning
    - Improve modeling tools (HAZUS-MH)
    - Develop a methodology for collecting and standardizing data
  - Develop relationships and contacts
  - Exercise
- 

## Workshop Structure

- Three levels of workshops:
  - State workshops in all 8 CUSEC States
    - Integration of local at-risk communities planning
  - Regional Workshops
    - Atlanta, GA (R4),
    - Indianapolis, IN (R5),
    - Little Rock (R6), and
    - Jefferson City, MO (R7)
  - Final integration workshop includes results from all regions


# Products

## Plans Specific to Earthquake Hazard in the central US:

- local, state EMA
  - Operational/response plans - completed
  - State Geological Survey response plans
  
- Regional
  - Multi-State Coordination Plan
  - FEMA Regional plans – deadline Dec 31, 09
  
- Federal (National)
  - National Response Framework – Catastrophic annex
  - Federal Interim Contingency Plan
  - USGS Response Plan

# Testing of Plans

A national Level Exercise (NLE) is set for May 2011 to test the various plans developed over the course of the planning initiative at the local, state, and federal levels.



# Initial exercise planning achievements

- Exercise Working Group established
- General Timeline of Events Set
  - Up to and including NLE 2011 (May)
- Exercise Play
  - Five Days
  - Three phases (Initial response, extended response, short-term recovery)
- Long-Term Recovery
- Overarching Objectives
  - Communications
  - Critical Resource Logistics and Distribution
  - Mass Care (Sheltering, Feeding, and Related Services)
  - Citizen Evacuation and Shelter-in-Place
  - Emergency Public Information and Warning

# Summary

- NMSZ catastrophic planning is a major initiative involving countless organizations and individuals addressing the risk from all levels of government.
- The work is not done - other priorities need to be addressed
  - Secondary Hazards
    - Fire
    - Landslide/levee/dam failures
    - Hazardous material releases
  - *Social / Economic Impact*
  - Long term recovery
  - And many others

# MS Catastrophic Planning Initiative

## Contact Information

Catastrophic planning effort – contact Jim Wilkinson at 901-544-3570 or [jwilkinson@cusec.org](mailto:jwilkinson@cusec.org)

Scenario model enhancement - Contact Dr. Amr Elnashai at 217-244-6302 or [aelnash@uiuc.edu](mailto:aelnash@uiuc.edu)  
Dr. Theresa Jefferson - [tjeff@vt.edu](mailto:tjeff@vt.edu)