

New Madrid Earthquake Catastrophic Planning Project Overview



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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.

Catastrophic Planning Background

- 1999 there were four hazards identified by FEMA as catastrophic – LA Earthquake, Miami Hurricane, New Orleans Hurricane, New Madrid Earthquake
- Since 9/11 the National Planning Scenarios list has evolved to 15 catastrophic events – earthquakes and hurricanes being the only two natural hazards.
- 2004 New Orleans planning kicked off with Hurricane Pam
- 2005 New Madrid was scheduled but Katrina caused a delay
- 2006 New Madrid workshop geared up – contracts, planners, and key organizations in place
 - March 2007 Official kickoff
 - Interim-Contingency plan developed
- 2007 Miami planning got underway

New Madrid Seismic Zone Catastrophic Planning

What is a Catastrophic Event

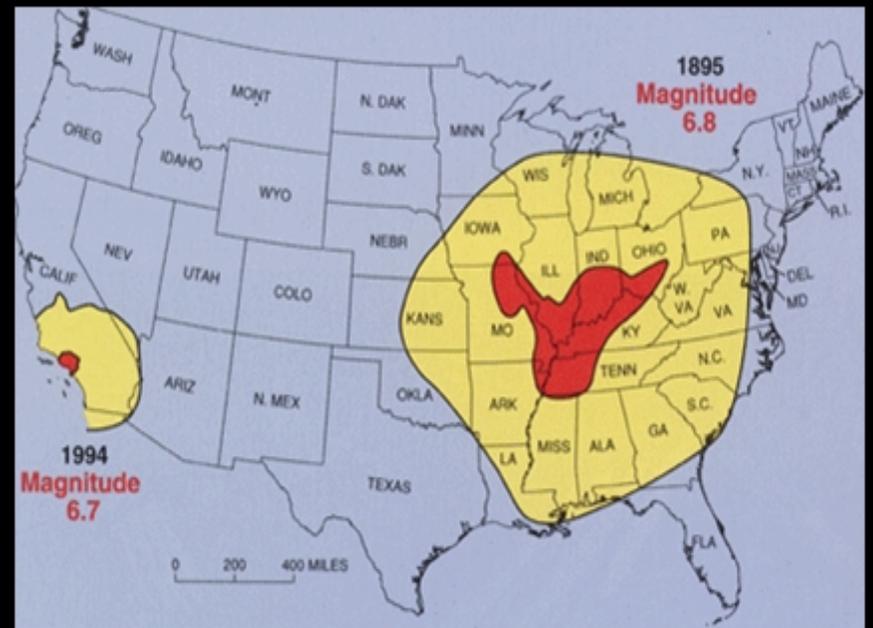
A catastrophic event, as defined by the *National Response Plan* is:

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 Worthy of a Separate Plan?

- 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
- High percentage of buildings not designed for earthquakes
- Tremendous impact on civil infrastructure and critical facilities
- Significant national impact
 - Ripple effect across America

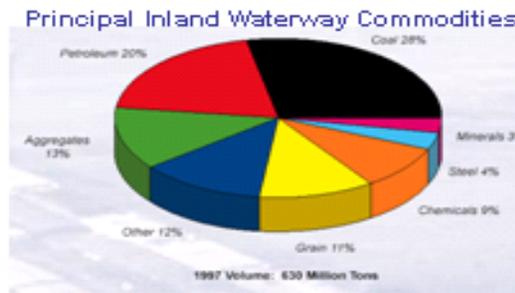
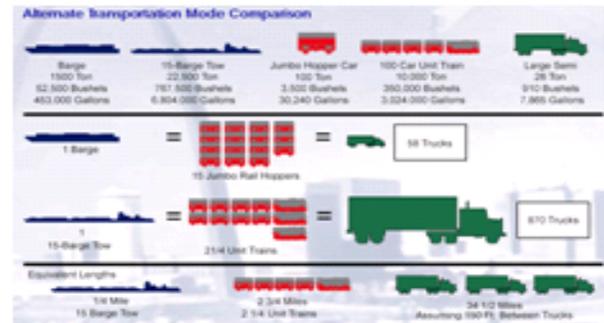


What Makes an Earthquake in the Central US Worthy of a Separate Plan?



Consequences: Earthquake on New Madrid Fault National Commodity Flow and Economic Consequences

- Effects of a significant quake in the NMSZ would have wide-ranging impact on the Nation's economy
 - A mere 10-day disruption to the local economies of those areas structurally damaged by the 1895 quake (e.g., due to fallen power lines) would have a \$50B impact (2/3 of this outside the affected region)
 - Commodity flows (pipeline, rail, highway, barge) through the impacted area likely disrupted for a much longer period
 - Infrastructure for alternative modes likely damaged as well
 - Alternative modes, even if available, are resource constrained
 - Products/services impacted include
 - Fuel (NG, Oil) for the upper Midwest (seasonally dependent)
 - Coal supplies to generation plants in the Southeast and Midwest
 - Food exports (seasonally dependent)
 - Availability of critical transportation facilities (e.g., Memphis FedEx SuperHub)
 - Availability of routes for insertion of emergency services personnel



Natural Gas Pipelines in Seismic Zone (Platts)

NISAC

New Madrid Seismic Zone Catastrophic Planning Meeting The Challenge

The Federal Government and all levels of government in the NMSZ recognize the need for comprehensive catastrophic planning.

The NMSZ Project addresses this need, providing:

A Bottom-Up Planning Approach with participation from all levels of Government and the Private Sector “All Disasters are Local”

Comprehensive ON-SITE Project Work: Plan Development and Enhancement, establishment of Sustainable Planning Processes

A template to use in other parts of the country for all hazard no-notice catastrophic disasters



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

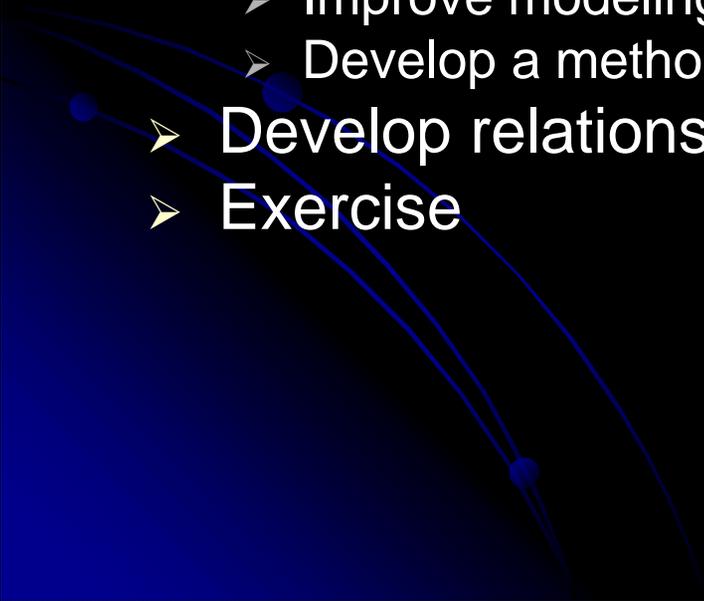
Key Goals

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
- 

NMSZ Scenario Based Planning Utilizes HAZUS-MH

- **Mid America Earthquake Center, George Washington University are the lead partners for the modeling**
- **Regional, State, and local models built around magnitude 7.7 NM event. 7.0 Wabash**
- **Regional, and state baseline model provided through CUSEC**

New Madrid Seismic Zone Catastrophic Planning:

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

CUSEC Board Established Multi-State Priorities

- Multi-State Coordination
- Communications
- Damage Assessment
- Search and Rescue
- Emergency Medical
- Transportation
- Post Earthquake Investigation Clearinghouse
(Coordination of research response)

Potential Functional Areas Of Emphasis

- Command & Control
- Saving Lives
- Search & Rescue
- Temporary Medical Care
- Evacuation including Medical/Special Needs
- Transportation/staging & distribution of critical resources
- Sheltering
- Hosting
- Schools
- Access control & reentry
- Power, water & ice distribution
- Volunteer & donations management
- Hazardous materials
- External affairs
- BIG partnership
- Private sector coordination
- Critical infrastructure

Products

- Response Plans Specific to Earthquake Hazard in the central US

- local, state
- Operational/response plans
- Improved Mitigation plans

- Regional

- Multi-State Coordination Plan
- FEMA Regional plans

- Federal (National)

- National Response Framework – Catastrophic annex
- Federal Interim Contingency 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

Exercise Objectives

- Five Overarching Objectives to the 2011 Exercise for the CUSEC States
 - 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

NMSZ Planning Schedule

➤ FY06

- Project coordination with FEMA Regions and States (ongoing)
- Deploy contractor personnel to sites (completed)

➤ FY07

- Complete Interim S-1 Decision Matrix and Playbook
- Develop catastrophic NMSZ earthquake scenarios
- Establish Performance Metrics and outcomes
- Complete existing plans review
- Conduct state/local workshops
- Conduct regional workshops to develop draft catastrophic plans

➤ FY08

- Conduct Final Integration Workshops
- Finalize and disseminate plan

New Madrid Seismic Zone Catastrophic Planning:

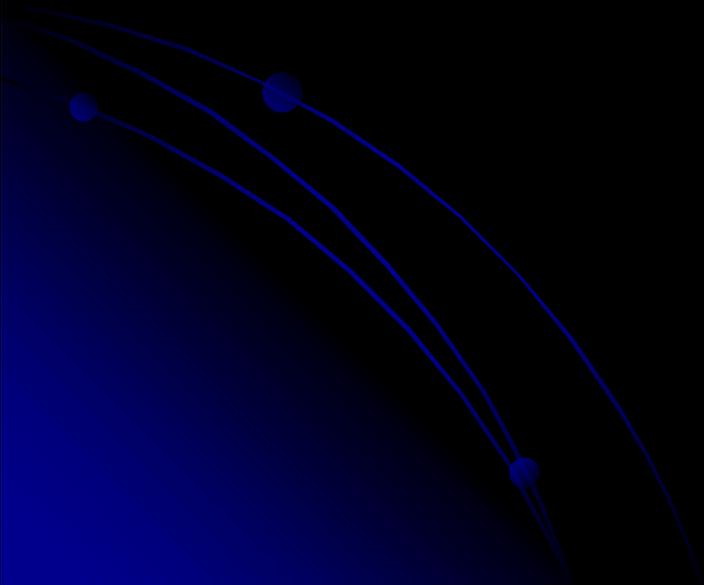
Plan Validation

➤ FY 2010

- Scenario based training and exercise of the plan
- State and local community participation

➤ FY 2011

- Major Command Post exercise



Catastrophic Planning Initiative Contact Information

NMSZ Catastrophic planning effort – contact Jim Wilkinson, 901-544-3570, jwilkinson@cusec.org

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Questions?

