

# FEMA National Earthquake Hazard Reduction Program HQ Update

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# What Happens After a Disaster?

- Response
- Research
- Recovery
- Rebuild – Safer, better, more resilient
- Prepare for next one...
  - (not if but when!)



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# **New Publications: and Good Ones Not to Miss**

Publications are opportunities to share:

- New Guidance
- Policy Changes
- Training
- Increase in Life Safety
- Increase in Building Safety
- Less damage to Structures
- Decreases Inventory Losses
- Increases Economic Stability



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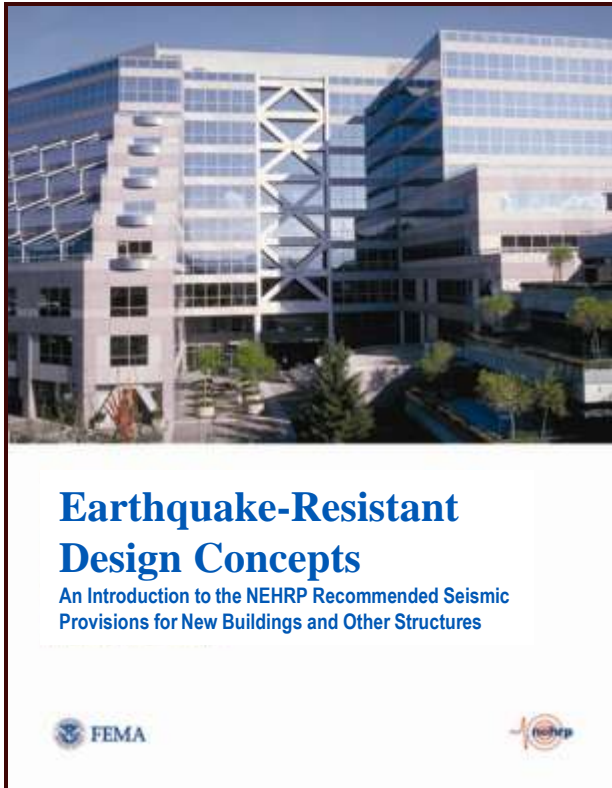
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# Earthquake Resistant Design Concepts

An Introduction to the NEHRP Recommended Seismic Provisions for New Buildings and Other Structures – FEMA P-749

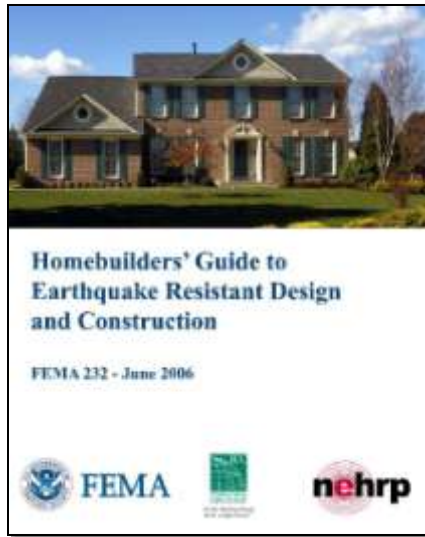


- Provides non-technical explanation of:
  - US building codes and standards.
  - Earthquakes and seismic risk.
  - Seismic design requirements.
- New training course is now available.
  - Training course is divided into six chapters.
    - Building Regulatory Process
    - Seismic Risk and Performance
    - Important Design and Construction Features
    - Structural and Nonstructural Components
    - Design Requirements
    - Future Directions

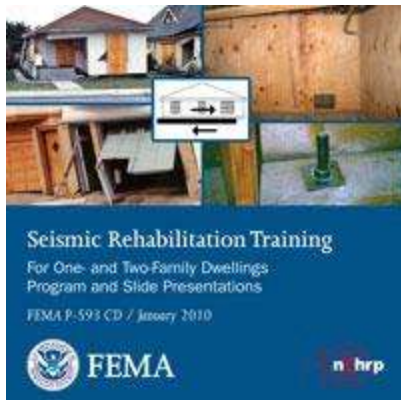


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# Residential Buildings Guidance



- Homebuilders Guide to Earthquake Resistant Design and Construction (FEMA 232)
  - Co-sponsored by the International Code Council.
  - Commentary for the seismic sections of the IRC.
  - Includes “Above Code Recommendations”
  - New Spanish translation and training material to be included on a new FEMA 232CD.



- Seismic Rehabilitation Training for One and Two Family Dwellings (FEMA P-593)
  - PowerPoint training for retrofitting existing homes.
  - Basis for NETAP and ICC training courses.
  - A new California CEA version being developed.

# Existing Buildings Guidance

- Seismic Retrofit of Multi-Unit Wood Frame Buildings With Weak First Stories (FEMA P-807).
  - Developed in coordination with the San Francisco CAPPs Project.
  - Targets SF “Marina District” and Northridge style multi-unit wood frame residential structures with weak first stories due to tuck-under parking.
  - Retrofit limited to first (weak) story only.
  - Includes a CD with a calculation spreadsheet, called the Weak Story Tool, to take into account strength of all walls in the building, including non-structural.
  - Available in paper/CD from FEMA and on the ATC and NEES websites.



## Seismic Evaluation and Retrofit of Multi-Unit Wood-Frame Buildings With Weak First Stories

FEMA P-807 / May 2012



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# Seismic Rating of Residential Buildings

- FEMA recently completed *Simplified Seismic Assessment of Detached, Single-Family, Wood-Frame Dwellings* (FEMA P-50).
- Based on a similar product developed by ATC for City of Los Angeles after Northridge using HMGP funds (ATC-50).
- FEMA P-50 includes a Simplified Seismic Assessment Form to rate a dwelling's structural and non-structural systems, hazard, and site conditions to calculate a Seismic Performance Grade.
- The form provides a list of conditions that, if seismically retrofitted, would allow the owner to improve their seismic rating score.
- *Seismic Retrofit Guidelines for Detached Single-Family, Wood-Frame Dwellings* (FEMA P-50-1) is a guide to provide assistance.
- Training course under development; will be funded under NETAP.
- FEMA is only providing the tool, it is up to others to use.



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# Seismic Rehabilitation Cost Estimator

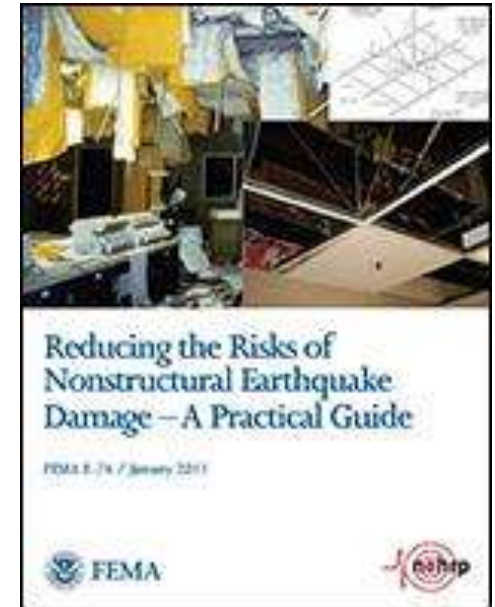
- The Seismic Rehabilitation Cost Estimator (SRCE) is an online program for calculating cost estimates for seismic retrofitting.
- SRCE is based upon a new statistical evaluation of the cost data from approximately 2,000 seismic retrofitting projects from FEMA 156, Typical Costs for Seismic Rehabilitation.
- Recently used in Utah seismic retrofitting analysis.
- SRCE was recently removed from FEMA website.
  - (new policy forbidding active programs that may require support).
- Our plan is to add the SRCE to a new Existing Building compilation CD. Timetable unknown due to staffing issues.



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# Nonstructural Mitigation Guide

- Nonstructural Design Guide (FEMA E-74)
  - Web-based design guide.
  - Provides design guidance for over 70 different nonstructural components.
  - Provides examples of damage and plans or photos of the recommended mitigation technique for each component.
  - Includes technical specifications, risk rating forms and sample inventory checklists.
  - Short web-based and longer NETAP-based training now available.
  - New update to capture recent earthquake data.
  - CD version with training material currently under development.



■ <http://www.fema.gov/plan/prevent/earthquake/fema74/index.shtm>



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# Ongoing Projects:

- ☐ Updating FEMA 154 Rapid Visual Screening of Buildings
- ☐ FY 2012 Study of Losses Avoided Due to the Adoption and Enforcement of Building Codes
- ☐ Development of a Methodology to Quantify the Environmental Benefits of Seismic Retrofitting



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# **ROVER Update and ROVER Ready Alliance - A User Community**



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# ROVER Software Update

- A new version of FEMA ROVER 2.0
  - Web-based mobile software tool
  - Additional add-ons for import and export data into and out the server
  - Interface with HAZUS and ShakeCast
  - New user manual and training materials
  - Website support information and other resources
- Scheduled release
  - Sept, 2013
  - Trial version is available at the ROVER user community site
- ROVER Support
  - Public testbed: <http://testbed.isti.com> username: user1 password: test1
  - NETAP ROVER trainings



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A social media user group in LinkedIn called "ROVER Users Group"



# ROVER Ready Alliance – A User Community

## **Focus:**

1. **Connect existing and potential ROVER users**
2. **Promote the uses of ROVER in earthquake mitigation and response activities**
3. **Offer a common platform to support and share ROVER information and experiences**

## **RRA User Community**

- State Governments
  - Emergency Management
  - Facilities and Construction Departments
  - School Buildings/Facilities
- Local Government
  - Building and Planning Departments
  - Emergency Services – Police, Fire
- Public Service Providers
  - Hospitals
  - Utilities
- Private Building Owners
  - Religious Institutions
  - Companies

**More information at the ROVER user community site:**

**<http://roverready.org>**



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# Upcoming Rover Ready Alliance Activities

- Kick off event for User Community
- Download site for ROVER 2.0
- Web based training video
- Targeted training opportunities
- Project information sharing

## State of Utah

- *HB 278 S01 Public Schools Seismic Studies* – Rapid Visual Screening of pre-1975 schools when receive bonds. Results to Utah Seismic Safety Commission
- *School Building Earthquake Inspection* program – funding RVS of all Utah schools. Governor's initiative to support seismic review of schools



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# My Job at FEMA HQ - Wendy

- **Basics - I do what you do... only different zipcode and players**
  - Part of your team – not something I say, something I believe in – it's in my blood!
- Part of the Outreach and Implementation Team
  - Share that job with Tamra and Jennifer
  - Tamra – St Assist, SCEC -; Jennifer – NETAP, Contractors
- Building and strengthening partnerships
  - Internally within FEMA: ICPD, Recovery, Preparedness, Regional Disaster Support, Grants, External Affairs
  - Externally such as: NEPM, Annual Mtgs, Board Meetings, Conferences



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- **Project Manager for EQ Consortia, EERI, FLASH**
  - NESEC – URM Mapping Project using Google Maps, local planning dept.
  - CUSEC – Capstone 14: Exercise Jun 2014 completing the circle from NLE 11 New Madrid and the Cat Planning with area states, ShakeOut
  - WSSPC – CREW/WSSPC Policy Workshop tomorrow, Ongoing Policy Guidance for States
  - CREW – NEPM Host, Policy Workshop, Ongoing work with businesses resilience
  - EERI – Research team lead for technical EQ Engineering information and disseminating to user groups of engineers, scientists, EMs, political leaders
  - FLASH – EQ/Flood/Wind Support: QuakeSmart Outreach, EQ Video, Preparedness FLASH Cards; Wind Support VOADs Hurricane Sandy – FLASH Cards for Mitigation



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## ■ **Projects and Duties**

- Develop trainings
  - P 909 Home and Bus EQ Safety and Mitigation
  - EMI – EQ Basics: Science, Risk, and Mitigation (trained 4,320 people since rollout less than a yr ago)
  - NEHRP Accomplishments – both copies on the table!
- ShakeOut
  - Central US, NE, SE, PR, FEMA, FIMA
  - Media Events – Coordinator leadership support
- Coordination with FEMA HQ/Regional EQ Program Managers on all things including budget issues, policies, Cooperative Agreements
- Support to National Response Coordination Center
- Other duties and projects as assigned support HQ Team – Tasker from Sr Leaders to Ed, # 3,425,999 due in one hour and is spreadsheet hell....



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# What's my job?

- Communicator at FEMA HQ, gopher, liaison, developer, stone, researcher, marketer , opportunity seeker...
- Listener - to help all partners with ideas, needs develop life saving information tools, trainings, and actions ...
  - **Emergency Manager**
- Believer in “pay it forward concept” – that’s what we all do...
  - Doing what you do best (or needs to be done!)
  - Doing “More with Less – or Less with Less”
  - Doing it as best **you** can with members of the team – everyone you know ... work with... **and inspire.**



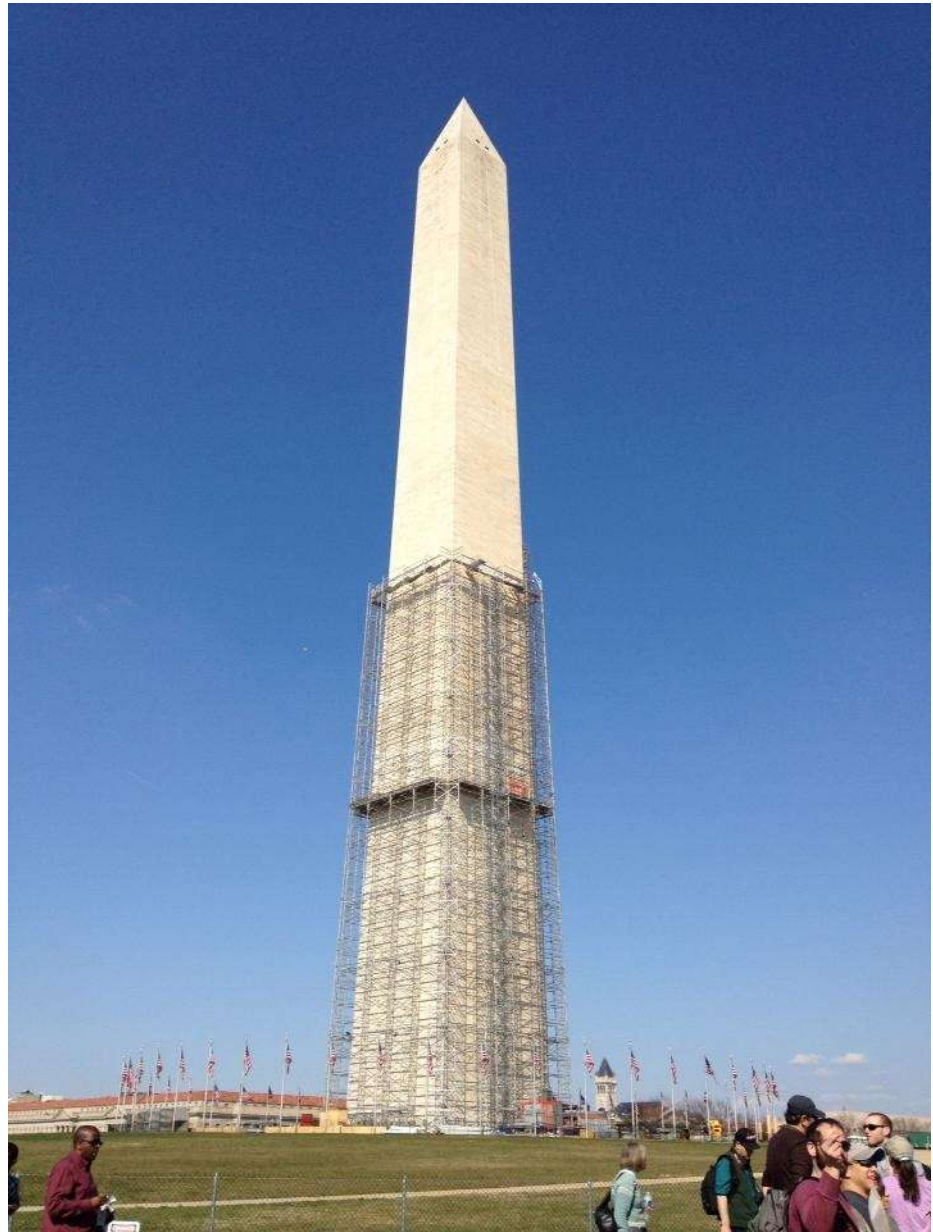
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**Washington Monument  
today after 2011 M5.8  
Mineral, VA Earthquake**

Needs scaffolding  
temporarily for support  
while getting stronger ...

EQ Community is like  
this... may need support  
from our team  
sometimes...

But we will gain our  
strength back and  
continue... it's in our  
blood!



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