

NIST Research Program Update

Presentation
to the

NEHRP Advisory Committee on Earthquake Hazards Reduction

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national **earthquake** hazards reduction program

Outline

- Budget
- Workforce development
- Intramural activities
- Extramural activities



Budget

- Currently operating under provisions of continuing budget resolution (thru March 2009), with funds at FY 2008 levels.
- FY 2008 was governed by year-long continuing budget resolution that held budget at FY 2007 levels.
- Secretariat funding: \$750K (+ support from other agencies), if current budget resolution is extended for entire year.
- Research funding: \$964K, if current budget resolution is extended for entire year.
- President's FY 2008 and FY 2009 budget requests would add \$4,750K to the current total of \$1,714K.



Workforce Development

- Jay Harris began work in August 2008.
 - Research Structural Engineer.
 - NC State/UCSD academic background.
 - Varied experience in practice.
 - **Now scoping initial studies in PBSO and assisting with ATC-CUREE project management.**
- Second research structural engineer will start in January 2009.
 - Primary emphasis in analytical area.
 - Previously engaged in academia.
- Future staff growth will be based on future appropriations.



Ongoing Intramural Research Activities

- Developing PBSD initiative (Jay Harris – see previous slide).
- Ongoing effort in BFRL Office of Applied Economics – **Computer-Based Clearinghouse for Retrieving NEHRP-Funded Earthquake Research.**
 - FY 2009: Compile searchable/downloadable database of ~ 1,500 NSF-supported publications in NTIS database.
 - FY 2010 (planned): Add USGS, FEMA, and NBS/NIST documents.



Ongoing Extramural Research Activities

Secretariat

- Initiated project with National Research Council: **National Earthquake Resilience – Research, Implementation, and Outreach**.
 - Objective: Provide an independent, updated, and validated roadmap of national needs, to achieve broad technical objectives of NEHRP Strategic Plan over 20 year time period.
 - Roadmap is to include validated and defensible costs for achieving broad goals.
 - Primary vehicle will be 2009 national workshop.



Ongoing Extramural Research Activities

NEHRP Consultants Joint Venture (ATC-CUREE)

- Task Orders 1 & 4: *Beta-testing of ATC-63 procedure to Quantify Building System Performance and Response Parameters*, in partnership with FEMA.
 - Special & Ordinary Reinforced Masonry Shear Wall Systems.
 - Special & Ordinary Reinforced Concrete Shear Wall Systems.
 - Steel Concentric Braced Frame Systems.
 - Special Steel Moment Frame Systems.
 - Currently designing/analyzing archetype systems.
 - Progress meeting this week!



Ongoing Extramural Research Activities

NEHRP Consultants Joint Venture (ATC-CUREE)

- Task Order 2: *Development of Seismic Design Guidelines for Port and Harbor Facilities, Phase 1.*
 - Partnership with NSF-funded NEES Grand Challenge project at Georgia Tech.
 - Phase 1 covers scoping level of effort needed to transition basic research products into design pre-standards that can be used by FEMA and code organizations.
 - Team being formed.
 - Phase 2 to be based on availability of funds.



Ongoing Extramural Research Activities

NEHRP Consultants Joint Venture (ATC-CUREE)

- Task Order 3:
Development of Technical Briefs on Structural Design Issues – Steel and Reinforced Concrete Special Moment Frames.
 - R/C SMF report completed.
 - Currently forming team for producing Steel SMF techbrief.



Ongoing Extramural Research Activities

NEHRP Consultants Joint Venture (ATC-CUREE)

- Task Order 5: *Integration of Collapse Risk Mitigation Standards & Guidelines for Older Reinforced Concrete Buildings in National Standards, Phase 1.*
 - Partnership with NSF-funded NEES Grand Challenge project at UC Berkeley.
 - Phase 1 covers scoping level of effort needed to transition basic research products into design pre-standards that can be used by FEMA and code organizations.
 - Award pending availability of funds.



Ongoing Extramural Research Activities

NEHRP Consultants Joint Venture (ATC-CUREE)

- Task Order 6: *Improved Nonlinear Multi-Degree of Freedom Modeling.*
 - Partnership with FEMA.
 - Outgrowth of ATC-62, *Improved Seismic Analysis.*
 - ATC-62 was outgrowth of FEMA 440, *Improvement of Nonlinear Static Seismic Analysis Procedures.*
 - Awarded in September 2008 - Team being formed.

