

Community Resilience Panel: Buildings & Facilities Standing Committee Meeting

MEETING DATE: April 4, 2016
TIME: 1:00 pm PDT to 4:30 pm PDT
LOCATION: University Place Hotel & Conference Center, Portland, OR
ISSUE DATE: April 28, 2016

ATTENDEES:

Attendee	Affiliation
Don Scott (Chair)	PCS Structural Solutions
Rachel Minnery (Vice Chair)	American Institute of Architects
Tien Peng (Secretary)	National Ready Mixed Concrete Association
Stuart Adams	Stantec
Robert Ashcraft	Accume Partners
Navid Attary	Colorado State University
Lindsay Brugger	American Institute of Architects
Joshua Bergerson	Argonne National Laboratory
David Cross	Henry Schein
Gary Ehrlich	NAHB
Rosemarie Grant	State Farm
Rakesh Gupta	Oregon State University
Jon Heintz	ATC
Tom Hurd	Spatial Design Architects
Jennifer Jones	AIA San Francisco
Paula Loomis	US Coast Guard
Sherri Moore	U.S. Army Corp of Engineers
Kevin Mueller (Aerik Carlton)	Hinman Consulting Engineers, Inc.
Krista Murphy	Affiliated Engineers, Inc.
Jonna Papaefthimiou	Portland Bureau of Emergency Management
Robert Pkelnicky	Degenkolb Engineers
David Perkes	Mississippi State University Gulf Coast Community Design Studio
Chris Poland	Chris D Poland Consulting Engineer
Adrienne Sheldon	AECOM
Bryan Soukup	The International Code Council
John W. van de Lindt	Colorado State University
Peter Vickery	Applied Research Associates, Inc.
Michael Widdekind	Zurich Services Corporation

DISTRIBUTION: Attendees and Buildings & Facilities Standing Committee
NOTES BY: Tien Peng, National Ready Mixed Concrete Association

1. Welcome and Presentation

Jonna Papaefthimiou of Portland’s Bureau of Emergency Management kicked-off the standing committee meeting by presenting Portland’s Mandatory Unreinforced Masonry (URM) policy as a framework for the group to consider. Her presentation included the impetus and urgency for the policy, the phases of policy development, and the work of the technical, finance, and policy committees. She concluded with a

discussion of future projects, which included lightly-reinforced concrete, seismic risk disclosure, and preserving architectural fragments. She also addressed questions of process, inventory, market-value of safety, insurance and early adopters.

2. Introductions and Goals

Don Scott (Chair) introduced the participants and reviewed the meeting goals, including:

1. Identify areas where deficiencies in codes and standards would help making buildings more resilient
2. Identify policies that need revision/make recommendations for implementation
3. Share best practices and applications aligned with the Guide

Don also encouraged participants to read the Guide and offer update and corrections: (e.g. IBC Drift Limitations for Wind).

Rachel (Vice-Chair) then shared the Survey results, which included the list of issues the committee wanted to work on – five (5) categories: Performance Metrics (PM), Policy (P), Capacity Building (CB), Research (R), Education (E). The results formed the basis of the subgroups.

There were 26 Total Respondents:

Performance Metrics

- Recommendations for Performance Standards: unified design criteria and performance goals (buildings cannot be recovered without the functionality of other infrastructure systems) (11)
- Recommend protocol for incorporating climate data projections into base code design (9)

Capacity Building

- Recommendations for building and planning department competencies and processes. Include building industry professionals in a participatory process. (8)

Policy

- Recommendations for ongoing existing building evaluation and monitoring. (7)
- Recommendations for federal resilience programs that focus on mitigation (7)

Research

- Recommend top priorities for research required to inform resilience practice and policy, such as investigating unintended consequences vs. public health, and completing cost-benefit analysis of building resilience (7)

The large standing committee split into four subgroups to work on addressing the questions discussed herein (Performance Metrics and Capacity Building merged). Don directed them to reconvene to provide their input and discuss the results of the group discussions. Rachel asked the group to consider a SWOT (strength-weakness-opportunity-threats) analysis-approach in their group discussions; use the opportunity

to leverage the diversity of the subcommittee; consider what steps are addressed from the Community Resilience Planning Guide; check the group's capacity; and have deliverable outcomes in one-year time.

3. Developing a Project Plan: Develop a shortlist of 3-5 potential products/documents to include in project plan. Begin formulating how to split products into sub-categories and set their priorities, if necessary.

Performance Metric / Capacity Building Working Group

The participants felt a methodology was needed to determine the functionality of a facility, which would in turn drive the design attributes for "above code" initiatives. They noted that the term "functional" can be interpreted as many things. Some felt a better understanding of how return periods are selected is needed.

The working group named their potential project "Defining a Methodology for Modeling Building Functionality Model." The goal would be to develop a unified design criteria and evaluation methodology. Steps to accomplish this goal could include: assessing hazards; developing an inventory of structures; and assessing the age of structures. Common terminology must be discussed, including technical attributes for "above code" strategies. The group also identified planning development of unification of code design criteria was a need, along with creating and evaluating criteria. The working group identified ATC-21 Rapid Visual Assessment as usual reference.

Education Working Group

The participants felt there were three distinct audiences for education. Although education was distinct from other subgroup activities, the group felt it could also be a prerequisite to transportation, communication, metrics, advocacy and policy. The working committee developed a number of possible projects that would be aimed at different audiences. For a public audience, the group identified the following products as potential projects:

- Highlight success stories with developer/owner and design team in graphic form via PSA (public service announcement), info-graphic, social media campaign
- "Things to talk about with your design team" tip a day social media campaign
- Cell phone alert app – to communicate frequency of disasters (and minor events)

The group also listed potential projects aimed at a legislator/public office audience, including:

- "Evaluate your existing building stock" – education on code development process over time, and what codes are meant to protect
- Identifying co-benefits, how retrofits can be leveraged
- Tie message to economic loss/time to return to function
- Message encouraging legislator/public official to leverage building industry to help identify how hazard mitigation plan relates to built environment vulnerabilities, specifically critical facilities

Finally, the working group developed a list of potential projects that would be targeted toward the building industry, including:

- Education on interdependencies of building systems and how they function/react to various hazards
- List of performance based reference standards/resource documents
- Create a performance-based specification template

Policy Working Group

Participants asserted a need to identify federal programs associated with resilience to better understand gaps and opportunities. The group's first stated step was identifying existing federal programs related to resilience, which may include reaching out directly to federal agencies. Based on the results from the Performance Metric/Capacity Building Working Group, the Policy Working Group stated it would need to categorize federal resilience programs into three categories: Grants; Hazard Mitigation programs; and Improvement of the Built Environment.

Moreover, based on the results from the Education Working Group, the Policy Working Group must identify areas where existing policies are inadequate or where new policies might be needed. The group also discussed the future need for programs to self-evaluate effectiveness. The Working Group could identify criteria/metrics for evaluating effectiveness of existing/new policies.

Research Working Group

The participants recommended priorities required to inform resilience practice and policy and completing cost-benefit analysis of building resilience with significance. The group suggested that research needs to have a multi-hazard approach and include a time element (fragility may change over time, which will affect functionality and risk). Moreover, participants felt research gaps need to be addressed (specifically non-life safety, emerging (cyber), non-top-of-mind risks). The working group could work with the Performance Metrics working group as the metrics will drive research direction. The group also felt it was important to inform policy by providing supporting data and encourage data sharing with groups that own relevant study data.

4. Summarizing the Proposed Projects for Report-Out

The whole Standing Committee regrouped to present project ideas and discuss. The participants then labeled their top three priorities with dots and the results were tabulated.

The Standing Committee elected to report out three projects, as follows:

Performance Metric / Capacity Building Working Group

Defining a Methodology for Modeling Building Functionality Model

- Goal: develop a unified design criteria and evaluation methodology

- Steps may include:
 - Assess hazards
 - Inventory structures
 - Assess age of structures
- Common terminology must include technical attributes for “above code” strategies
- Planning development of unification of code design criteria
- Create / evaluate criteria
- Reference asset: ATC-21 Rapid Visual Assessment

Education Working Group

Legislator/Public Official Audience:

- “Evaluate your existing building stock” – education on code development process over time, and what codes are meant to protect
- Identify co-benefits, how retrofits can be leveraged
- Tie message to economic loss/time to return to function
- Message encouraging legislator/public official to leverage building industry to help identify how hazard mitigation plan relates to built environment vulnerabilities, specifically critical facilities

Research Working Group

The participants recommend priorities required to inform resilience practice and policy and completing cost-benefit analysis of building resilience with significance to:

- Research needs to have a multi-hazard approach
- Research needs to include a time element (fragility may change over time, which will affect functionality and risk)
- Research gaps need to be addressed – non-life safety, emerging (cyber), non-top-of-mind risks
- Work with the Performance Metrics group as the metrics will drive research direction
- Informing policy by providing supporting data (encourage data sharing with groups that own relevant study data)

5. Next Panel Meetings

The Standing Committee will meet monthly on conference calls to advance the projects.

6. Adjournment

There was no other business and the meeting adjourned at approximately 4:30 pm PDT.