

Community Resilience Panel: Buildings & Facilities Standing Committee Meeting

MEETING DATE: November 9, 2015
TIME: 1:45 pm EST to 4:15 pm EST
LOCATION: National Institute of Standards and Technology (NIST), Gaithersburg, MD
ISSUE DATE: December 7, 2015

ATTENDEES:

Attendee	Affiliation
Don Scott (Chair)	PCS Structural Solutions
Rachel Minnery (Vice Chair)	American Institute of Architects
Stuart Adams	Stantec
Robert Ashcraft	Accume Partners
W. Brett Barclay	Independent
Lisa Barr	Department of Homeland Security, National Protection and Programs Directorate
Joshua Bergerson	Argonne National Laboratory
Daniel Berkman	Montgomery County Office of Emergency Management and Homeland Security
Donald Bliss	National Fire Protection Association
Kevin Bush	HUD
Aerik Carlton	Hinman Consulting Engineers, Inc.
Ryan Colker	National Institute of Building Sciences
Carol Considine	Old Dominion University
William Coulborne	Coulbourne Consulting
Scott Davis	RAND Corporation
Kenneth Dungan	Perfromance Design Technologies, Inc
Gary Ehrlich	NAHB
Bruce Ellingwood	Department of Civil & Environmental Engineering/Colorado State University
James Goetschius	U.S. Army Health Facility Planning Agency
Rosemarie Grant	State Farm
David Hattis	Institute for Building Technology and Safety
John Hayes	NIST/NEHRP
Andrew Huff	NAMIC
Michael Johnson	City of Gaithersburg
Stephen Jones	Township of Millburn
Vladimir Kochkin	Home Innovation Research Labs
Edward Laatsch	FEMA
Marc Levitan	NIST
Christopher Lindsay	The IAPMO Group
Kathleen McGimpsey	Affiliated Engineers, Inc.
Tien Peng	National Ready Mixed Concrete Association
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
Donn Thompson	Portland Cement Association
David Vaughn	Clemson University
Peter Vickery	Applied Research Associates, Inc.
Michael Widdekind	Zurich Services Corporation

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NOTES BY: Peter Vickery, Applied Research Associates, Inc.

1. Welcome and Introductions

Don Scott (Chair) led introductions of participants and reviewed the goals for the meeting. Since there was a large standing committee, he split it into four groups to work on addressing the questions discussed herein. He then directed them to reconvene to provide their input and discuss the results of the group discussions.

2. Discussion of first question for report-out: What are the largest gaps and needs within your sector that need to be addressed in resilience planning and guidance products?

When discussing the largest gaps/needs in the buildings sector, the participants felt that a methodology was needed to determine the criticality of a facility, which would in turn drive the design requirements. However, it was noted that the term “critical” can be highly subjective. Some felt that a better understanding of how return periods are selected was needed.

Participants felt that better communication of hazard risks, and where those risks exist, is needed. It was also noted that the life cycle of buildings and risk changes due to climate change needs to be better communicated. Moreover, some felt land use and transportation planning and policy could also be informed by risk and resilience.

Some participants felt that federal resilience programs were focusing too heavily on response, and should keep in mind that mitigation can actually be less expensive. Moreover, it was discussed that emergency managers should be trained to engage in mitigation rather than just response.

The standing committee felt that code adoption and, more importantly, enforcement was needed. Special inspections for quality assurance during construction were also listed as a need. Moreover, it was discussed that building codes are minimum design standards only intended for life safety in many cases. It was felt that designing to a higher-level to become resilient would improve the general health and well-being of a whole community. To accomplish a higher level of adaption and enforcement, it was noted that more personnel in the sector to perform inspections or serve as code officials are needed.

Participants did feel that more research was needed on resilience, such as investigating unintended consequences vs. public health, and completing cost-benefit analysis of building resilience. Additional research on dependencies was also listed as a need.

3. Discussion of the second question for report-out: Identify significant interdependencies and gaps with other sectors that impact resilience.

In response to the second question, the group discussed the need for unified design criteria and performance goals. This was seen as very important since performance of the buildings cannot be recovered without the functionality of other infrastructure systems (e.g., energy, water, wastewater).

One big challenge is that codes for buildings and infrastructure systems are developed in silos, resulting in different levels of performance, and creating dependency challenges. It was also discussed that codes are written as prescriptive standards, but resilience requires performance standards. Addressing the existing built environment through regulation was seen as a challenge because codes can be triggered based on voluntary upgrades, which may cause some building owners not to make the voluntary upgrades. Again, it was noted that communication of risk should be more adequately.

Participants felt that performance modeling based on hazards and other impacts is needed. Vulnerability assessment design tools that consider surge capacity for emergency use are also needed.

Some participants felt that creation of a codes timelines would be a useful step to understand changes in technology, lessons learned, etc. Education of risk to public and property managers was also seen as a need by the group. Development of standards and education for shelter-in-place and continued operations for basic and critical needs facilities was also discussed.

4. Discussion of the third question for report-out: How do we address the needs and gaps we identified?

The standing committee felt that a number of strategies could be used to address the needs and gaps previously identified. Participants wanted to ensure that all community needs were included in the planning process. It was also discussed that optimizing the use of existing community rating systems (e.g., CRS Rating System) would be helpful. Moreover, some wanted to see a risk analysis take place in a community with a resilience building performance score like a credit score.

Participants felt that resilience could be a driver for Bond Rating or Property Assessed Clean Energy (PACE). It was also discussed that lessons learned from the sustainability movement could be used to develop certification. Some wanted to promote and advocate for policies and practices that reduce impacts (e.g., green infrastructure). Others wanted the Panel to serve as the voice of the built environment.

The need for insurance incentives or other immediate rewards to implement resilience strategies was discussed. Some felt that the NIBS MMC incentivizing resilience should be reviewed as a starting point. Many felt that federal dollars would be better invested ahead of disasters rather than the current practice of reacting after an event.

Participants felt that land use opportunities could be used to implement resilience strategies and promote community service redundancies. Moreover, it could be used as an incentive to meet community vision and goals.

5. Discussion of the fourth question for report-out: Are there others we need to engage to help us address these needs? Others may include SMEs/groups not at the meeting in your sector or SMEs/groups from other sectors.

This standing committee did have a large, diverse group of participants at the first meeting. However, the groups wanted to engage more stakeholders to make participation even broader by including associations representing the commercial sector. They also wanted to engage communities (cities and counties), emergency responders, VOADs, faith-based, non-profit, and non-government organizations, chambers of commerce, business improvement districts, and corporations. The groups also wanted to engage representatives from Rockefeller's 100 Resilience Cities initiative, and other similar ventures, to have them share their lessons learned.

6. Discussion of the fifth question for report-out: What are existing codes, standards, guidance, goals, and/or protocol that have been published, or are in-process, in your respective sectors?

The participants listed a number of codes, standards, and guidance documents that could be evaluated as a starting point, including:

- NIST Community Resilience Planning Guide
- ANSI
- Homeland Security Panel standards
- ULI Report
- OARS
- RELi
- ASTM committee E06, resilience standards for buildings
- Passive House
- NFPA 1616, mass evacuation and sheltering (NFPA 1600 series & NIST)
- IBHS Fortified

Participants also discussed that TISP and NIBS MMC already developed a similar, more comprehensive list that should be reviewed by the standing committee members.