



National Institute of BUILDING SCIENCES

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Docket ID FEMA-2007-0008

Comments on March 30, 2011, Presidential Policy Directive 8 (PPD-8) on National Preparedness

Dear Members of the National Advisory Council:

The National Institute of Building Sciences is pleased to provide the following comments in response to the U.S. Department of Homeland Security (DHS) request for comments on Presidential Policy Directive 8 on National Preparedness. As you may know, the Institute was established by the U.S. Congress to engage the private and public sectors in efforts to advance building science and the design, construction and operation of buildings. Additionally, the Institute is charged with the “Development, promulgation, and maintenance of nationally recognized performance criteria, standards, and other technical provisions for maintenance of life, safety, health, and public welfare suitable for adoption by building regulating jurisdictions and agencies, including test methods and other evaluative techniques relating to building systems, subsystems, components, products, and materials with due regard for consumer problems.”

We commend President Obama for recognizing the need to establish a National Preparedness Policy that seeks to strengthen security and resilience with a systematic approach to the threats that pose a risk to the Nation. The goal to provide “a secure and resilient Nation that has created the capacity for the organized commitment of the whole community, in the shortest possible time and under all conditions, to successfully prevent, protect, mitigate, respond, or recover from the threats that pose the greatest risk to the Nation” inherently recognizes the need for multi-sector engagement. In establishing a National Preparedness System, the framework for such a system must be robust in its outline to include consideration of overlapping issues that can be addressed through common metrics and identifies areas where such an approach may provide resistance to and protection against multiple threats.

Building security and sustainability are not mutually exclusive and should be viewed as dual goals that, when achieved, will result in the greatest degree of in-depth protection against immediate threats while also providing long-term operational viability for buildings and infrastructure. These concepts should be incorporated into a program that affords communities an approach that identifies potential threats, offers proposed solutions and quantifies the various obstacles to achieving the level of protection the community determines to be most suited for its situation.

Each potential threat, whether man-caused or natural, is accompanied by unique hurdles a community must overcome. These hurdles may involve amassing the assets needed to resist hurricane winds, storm surges, a raging river's flood waters, or earthquake ground motions that cause devastation, as well as to protect vulnerable buildings and infrastructure from terrorist threats. In each of these cases, the built environment is vulnerable and needs science and engineering to propose solutions that are affordable, achievable and practical, based on the given circumstances.

A National Preparedness Plan must be flexible and nimble to respond to the many conditions that exist throughout the United States. Formulating a plan that considers the risk and the potential damage and that accounts for the safety and security of America's citizens is paramount in the discussion.

To this end, the councils of the National Institute of Building Sciences seek to achieve these goals. The efforts of the Institute's Building Seismic Safety Council to develop codes and standards that provide the needed guidance for the construction and reconstruction of buildings in high seismic areas is one example of the work being conducted. The Institute is currently developing a tool for the Department of Homeland Security for use by building designers and owners to assist them in making choices for the design of building enclosures. This tool includes metrics relating to chemical, blast and radiological protection and it can be applied to existing structures as well as new designs.

The Institute's Multihazard Mitigation Council continues its work to identify ways in which the damage caused by natural hazards can be mitigated. As recognized in the draft preparedness goal, "mitigation stands as a critical linchpin to buy down the long-term risks to life and property." Results of a study submitted to the Congress of the United States on behalf of the Federal Emergency Management Agency (FEMA), *Natural Hazard Mitigation Saves: An Independent Study to Assess the Future of Savings from Mitigation Activities*, documented "that money spent on reducing the risk of natural hazards is a sound investment. On average, a dollar spent by FEMA on hazard mitigation provides the nation with about \$4 in future benefits."¹

The goal clearly recognizes the desire for a resilient community: "these efforts [preparedness, mitigation, recovery planning, and capacity building] result in a resilient community with an improved ability to withstand, respond to, and recover from disasters." An adopted and enforced building code system assists communities in assuring their buildings provide a minimum level of safety and security. However, building departments often struggle with a lack of resources—both technical and financial—to assure adequate enforcement. Assisting states and local communities in the adoption and enforcement of building codes is an effective mitigation strategy.

¹ Volume 1 – *Findings, Conclusions, and Recommendations, Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Saving from Mitigation Activities*, National Institute of Building Sciences, Washington DC, 2005

The use of building information modeling (BIM) as defined by the Institute's buildingSMART alliance has demonstrated business process improvements that have allowed many of the advances identified above to be incorporated without increasing costs. In fact, it has been demonstrated that high-quality, sustainable facilities can be delivered sooner and at lower cost through the use of BIM. More research, standards and education are required to ensure these modeling, analysis and simulation tools can be used by the facilities industry to attain repeatable results.

In December 2010, the Institute hosted "Designing for a Resilient America: A Stakeholder Summit on High Performance Resilient Buildings and Related Infrastructure²." During this two-day summit, national experts in hazards and buildings developed comprehensive recommendations for increasing resiliency in six areas, including:

- Role of Government
- Public/Private Partnerships
- Codes and Standards
- Research and Development
- Design Practice and Performance Outcomes
- Education and Outreach

The 82 experts from the building industry, Federal agencies, state and local governments, universities, and professional and trade organizations participating in the summit set forth 18 specific recommendations for consideration by the President, members of Congress, and senior representatives from Federal Government departments and agencies, and issued a call for action by government and industry to address the critical requirements of resiliency that resulted from the summit.

We appreciate the opportunity to comment on the President's Policy Directive on National Preparedness and hereby submit these comments for consideration by the National Advisory Council. Please consider the National Institute of Building Sciences as a resource available to you for this and other building-related activities.

Sincerely,

A handwritten signature in black ink, appearing to read "Henry L. Green". The signature is fluid and cursive, with a large loop at the end.

Henry L. Green, Hon AIA
President

² Designing for a Resilient America: A Stakeholders Summit on High Performance Resilient Buildings and Related Infrastructure, National Institute of Building Sciences, Washington DC, 2010