Asks of the NCST Advisory Committee

Dr. Howard Harary
Director
NIST Engineering Laboratory

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- Can the Committee recommend criteria for deployment teams to various hazard events (EQ, hurricane, wildfire, etc.) to ensure the right expertise is available to collect necessary data and make assessments?

- Can the Committee advise NIST on best practices for standardizing the type and format of data collected during deployment for various hazard events?

- Please review the Engineering Laboratory's First Level Hazard Review for field deployments, and respond with best practices for improving field safety.

NCT Advisory Committee Meeting
May 3, 2016

Response to NCST Advisory Committee's 2015 Recommendations

Dr. Howard Harary
Director
NIST Engineering Laboratory

NIST
National Institute of Standards and Technology
U.S. Department of Commerce

NIST Response to 2015 NCST Advisory Committee Recommendations

Recommendation	NIST Response	Responsible Party
1. Fire investigations The committee commends the efforts of NIST to investigate Wildland-Urban Interface fires. Data gathered from 2012 Waldo Canyon, CO fire and similar incidents have led to the recognition that such fires are often spread by embers. This critical finding may lead to improvement in current fire codes. The committee notes the advances that GPS technology and communications are beginning to aid the efficient management of firefighting teams, and urges NIST to give high priority to gathering information on team coordination. The committee notes the effectiveness of the Fire Dynamics Simulator (FDS) software developed at NIST as an aid to understanding how fire spreads in buildings. The software is based on solid science including verification and validation, features good visualization graphics and now has a commercially available user interface that facilitates its wide application. The committee encourages NIST to use FDS as a way to educate fire fighters in how fire spreads. The possibility of developing a comparable simulator for Wildland-Urban Interface fires can be considered.	No Response These recommendations are out of the Committee's scope	

NIST Response to 2015 NCST Advisory Committee Recommendations

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2. Community Resilience Center of Excellence. The committee is aware that the Community Resilience Center of Excellence is not a NCST activity. The committee notes, however, that data collected in investigations supporting the Community Resilience Center may assist future NCST investigations in making in-depth assessments that extend knowledge beyond immediate damage. The committee urges NIST to remain aware of possible mutual benefits.	Agree. NIST agrees about the potential usefulness of tools and methods for future NCST disaster investigations that result from the CoE's research. We will place a high priority on integrating CoE research tools and data into our investigations as these tools and data become available. Future NCST disaster and failure investigations will benefit from that work. NIST staff, including the acting director of the Disaster and Failure Studies Program, is actively collaborating with the CoE on community models, data architecture and management, and field studies research.	J. Averill T. McAllister

NIST Response to 2015 NCST Advisory Committee Recommendations

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3. Implementation of Joplin Report Recommendations The committee is very pleased at how quickly NIST is implementing the 16 important recommendations resulting from the NCST investigation of the Joplin Tornado. As an example, the recommendations for safe assembly areas in facilities such as schools will be incorporated in the 2015 International Building Code. This provision is expected to encourage the development of commercially available, affordable products that satisfy code provisions. The pace of safety improvements appears now to be set by such commercial developments.	Agree. NIST appreciates the Committee's recognition of the traction we have gained among standards and code organizations regarding recommendations from our Joplin investigation. NIST has been working with code developers, state and local officials, and other federal agencies -- such as FEMA and NOAA -- to follow up on *all of* NIST's proposed improvements for tornado protection and resilience. Among our most significant accomplishments are the first approved *building code* changes resulting from the investigation. They are slated for publication in ICC codes. Those changes will be published in ICC's 2018 International Building Code (IBC) and 2018 International Existing Building Code (IEBC). • These will help to protect schools and their associated high-occupancy buildings from violent tornadoes. • The NIST Joplin team will brief the committee in detail during the Committee meeting. • They will cover implementation of recommendations and ongoing research.	L. Phan M. Levitan E. Kuligowski D. Jorgensen

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4. Disaster Data Repository The committee encourages NIST to expand the Data Repository to include data from all events that satisfy the NCST investigation criteria, including and especially Wildland-Urban Interface fires. The committee urges NIST to begin expanding the range of data types as soon as the two pilot hubs — 2010 Chile earthquake and 2011 Joplin Tornado— have reached the appropriate stage of development. Based on a brief demonstration, the committee liked the look and feel of the Repository user interface. The committee supports the concept of allowing pre-qualified users from outside NIST to add data to the public Repository and urges NIST to address the development of such pre-qualifications.	No Response. These recommendations are out of the Committee's scope	

NIST Response to 2015 NCST Advisory Committee Recommendations

Recommendation	NIST Response	Responsible Party
5. Criteria for Deploying NCST Teams The Committee encourages NIST to consider expanding the criteria for deployment of teams investigating disasters to include factors that lead to increase in resiliency as well as to reduction in risk. An example of an event that might be considered as a result of incorporating such a criterion is the Oso, Washington landslide, which under the current criteria would not be investigated. A report from NIST on the ramifications of such an expansion would be appropriate at our next face-to-face meeting.	NIST has considered expanding its criteria for NCST deployment to address issues related to resiliency in addition to reducing risk. Doing that would extend the types and numbers of disasters NIST might investigate under NCST authorities. A primary consideration for us is the limited resources available within the Disaster and Failure Studies program and the Engineering Laboratory, more broadly. With the variety of current commitments and uncertainties about future budgets, at this point we are not in a position to modify the criteria. But we appreciate the recommendation, understand its value, and will continue to consider modifications, especially if we receive additional resources.	NIST