

National Construction Safety Team Advisory Committee
National Institute of Standards and Technology

July 20, 2015

The Honorable Barbara Comstock
Chairwoman
Subcommittee on Research and Technology
Committee on Science, Space, and Technology
United States House of Representatives
Washington, D.C. 20515

Dear Madam Chairwoman:

I am pleased to submit the 2015 Annual Report of the National Construction Safety Team (NCST) Advisory Committee (Committee) of the National Institute of Standards and Technology (NIST). The Committee serves as NIST's advisor on implementation of the NCST Act (P.L. 107-231) and the opinions and recommendations expressed in this letter reflect our views as an independent, private sector body.

The Committee met face-to-face at NIST in Gaithersburg, MD on March 26, 2015. Public comments were invited for this meeting; however, none were received. The Committee also met by teleconference on July 02, 2015, to review the Committee's draft report. An overarching, unanimous recommendation of the Committee is that Congress continues to fund NIST in its vital role as an impartial provider of factual, science-based information for the codes and standards development process.

Topics of discussion included:

- Status of the Engineering Laboratory's fire investigations
- Status of the Community Resilience Center of Excellence
- Implementation of the Joplin Tornado Recommendations
- Status of the Disaster Data Repository
- Disaster Investigations

Engineering Laboratory's 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 bringing to aid the efficient management of firefighting teams, and urges NIST to give high priority to gathering information on team coordination.

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Yours,



Jeremy Isenberg
NCSTAC chair

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National Construction Safety Team Advisory Committee
National Institute of Standards and Technology

July 20, 2015

The Honorable Ted Cruz
Chairman
Subcommittee on Space, Science, and Competitiveness
Committee on Commerce, Science, and Transportation
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

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National Construction Safety Team Advisory Committee
National Institute of Standards and Technology

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The Honorable Eddie Bernice Johnson
Ranking Minority Member
Committee on Science, Space, and Technology
United States House of Representatives
Washington, D.C. 20515

Dear Representative Johnson:

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National Construction Safety Team Advisory Committee
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The Honorable Dan Lipinski
Ranking Minority Member
Subcommittee on Research and Technology
Committee on Science, Space, and Technology
United States House of Representatives
Washington, D.C. 20515

Dear Representative Lipinski:

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National Construction Safety Team Advisory Committee
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The Honorable Bill Nelson
Ranking Minority Member
Committee on Commerce, Science, and Transportation
United States Senate
Washington, D.C. 20510

Dear Senator Nelson:

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The Honorable Gary Peters
Ranking Minority Member
Subcommittee on Space, Science, and Competitiveness
Committee on Commerce, Science, and Transportation
United States Senate
Washington, D.C. 20510

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Chairman
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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.

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.

Implementation of Recommendations from the Joplin Tornado Report

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.

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.

Disaster Investigations

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.

Yours,

A handwritten signature in black ink, appearing to read "Jeremy Isenberg". The signature is fluid and cursive, with a large loop at the end. It is positioned above the printed name and title.

Jeremy Isenberg
NCSTAC chair

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