

June 30 & July 1, 2020
NCST Advisory
Committee Meeting

Response to NCST Advisory Committee's 2019 Report to Congress

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Background Material on NCST Investigations

- The National Construction Safety Team (NCST) Act authorizes the Director of NIST to:
 - establish NCST Act Teams for deployment after events causing the **failure of a building or buildings that has resulted in substantial loss of life or that posed significant potential for substantial loss of life.** (15 U.S.C. §7301(a))

- Under the NCST Act established Teams shall:
 - (A) establish the likely technical cause or causes of the building failure,
 - (B) evaluate the technical aspects of evacuation and emergency response procedures,
 - (C) recommend, as necessary, specific improvements to building standards, codes, and practices based on the findings made pursuant to (A) and (B), and
 - (D) recommend any research and other appropriate actions needed to improve the structural safety of buildings, and improve evacuation and emergency response procedures, based on the findings of the investigation.

(15 U.S.C. §7301(b)(2))

Background Material on NCST Investigations

- Under the NCST Act (15 U.S.C. 7301 (b)(1)), the **purpose** of the investigations by Teams is to improve the safety and structural integrity of buildings in the United States.
- Under the NCST Act implementing regulations (15 CFR § 270.100(c)), the number of **fatalities considered to be “substantial”** will depend on:
 - the nature of the event,
 - the event’s impact,
 - the event’s unusual or unforeseen character,
 - historical norms, and
 - other pertinent factors.
- Under the NCST Act implementing regulations (15 CFR § 270.100(b)), **building failure** may involve one or more of the following:
 - structural system,
 - fire protection (active or passive) system,
 - air-handling system, and
 - building control system.

Background Material on NCST AC

- In accordance with 15 U.S.C. § 7310 (a) and restated in the NCST Advisory Committee Charter, the NCST Advisory Committee (Committee) shall:
 - advise the NIST Director on carrying out the NCST Act, and
 - review the procedures developed under Section 2 (c)(1) of the Act, and
 - review the reports issued as a result of an NCST investigation.

- In accordance with 15 U.S.C. § 7310 (b), on January 1 of each year the Advisory Committee shall transmit to the Committee on Science, Space and Technology of the House of Representatives and to the Committee on Commerce, Science, and Transportation of the Senate a report that includes:
 - an evaluation of Team activities, along with recommendations to improve the operation and effectiveness of Teams, and
 - an assessment of the implementation of the recommendations of Teams and of the advisory committee.

Background Material on NCST AC

- Based on the NCST Advisory Committee Charter (2016), the NCST Advisory Committee shall:
 - meet at least once per year,
 - hold additional meetings, whenever called by the NIST Director or the DFO
 - meet in person annually, and for any additional meetings, meet in person or in the form of telephone conference calls and/or videoconferences.

- Based on the NCST Advisory Committee Charter (2016), NIST may establish subcommittees from among the NCST AC members, as may be necessary:
 - subject to the provisions of FACA (Federal Advisory Committee Act), and its implementing regulations, and applicable Department of Commerce guidance., and
 - whom must report back to the parent committee, and must not provide advice and work products directly to the agency.

NIST Response to 2018 NCST AC Report to Congress

Recommendation	Response
<p>1. Incremental Measures for Tornado Shelters</p> <p>While it is probably not realistic nor in the public's best interest to require that common commercial buildings and single-family homes be designed for the most severe tornadoes, some individuals and/or jurisdictions may want to improve their tornado protection voluntarily and such protective measures should be described incrementally so that voluntary improvements can be incorporated with cost-benefit considerations. The Advisory Committee encourages NCST to continue to explore alternative strategies, especially the improvement of tornado shelter standards and public tornado sheltering strategies.</p>	<p>We agree.</p> <p>NIST's plan for the Joplin Tornado NCST investigation's Recommendation 6 includes working collaboratively with FEMA to develop and publish a NIST/FEMA tornado design guide that includes cost-benefit considerations.</p> <p>Work is progressing towards improving tornado shelter standards, as part of the implementation of Joplin Tornado NCST investigation's Recommendation 7.</p> <p>In 2022, NIST plans to conduct a series of workshops to identify opportunities, challenges, and best practices associated with design and operation of public tornado shelters. These workshops will be similar to the one held in March 2019 in collaboration with NOAA, FEMA, academia, local governments, and the private sector.</p>

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Recommendation	Response
<p>2. Social Media Data</p> <p>We note that NIST has engaged in exploring the possibility of obtaining and analyzing social media data for future research endeavors. We understand the complexity of data collection, storage, management, and analysis that accompanies this process, and we recommend continued perseverance and ongoing efforts in this area.</p>	<p>We agree.</p> <p>NIST researchers are working to better standardize methods for collecting this type of information at the time of the hazard event for future analyses. Twitter’s current policies allow third-party access to its application programming interfaces (APIs) to collect information that its users chose to share publicly. In April 2020, NIST submitted an application to Twitter to obtain an API Key for a Developer Account; we provided additional information in May 2020 and are awaiting approval. NIST will continue to explore partnership options with Facebook.</p> <p>Content analysis of previously collected social media messages will be revisited at a later date.</p> <p>NIST has an ongoing commitment to enabling NIST researchers to ethically access, collect, analyze, and use social media data in post-disaster contexts.</p>

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Recommendation	Response
<p>3. Rapid Response</p> <p>It is crucial that NIST capitalize on current efforts by institutionalizing the procedures and capabilities deployed for the Hurricane Maria study in order to ensure efficient and effective NCST responses in the future.</p> <p>Given the importance of documenting and collecting time-sensitive data with NCST activities, we recommend that NIST investigate whether other federal agencies, such as the NTSB, have developed protocols for quick response activities. This could be crucial for potential future disasters such as an earthquake in a heavily populated area.</p>	<p>We agree.</p> <p>Under the Hurricane Maria Investigation, NIST has implemented new practices to ensure efficient and effective NCST responses that extend beyond the current investigation.</p> <p>We developed new procedures for gaining access to information from other federal agencies. For example, MOUs signed with FEMA will serve as models for future information-sharing agreements that will likely yield easier, faster access to information in future investigations. Additional activities include:</p> <ul style="list-style-type: none"> • Privacy Impact Assessment • OMB Paperwork Reduction Act Generic Clearance • New NCST 'Data Handling and Use' clauses for contracts • Data management and science staffing <p>NIST will continue to engage other partners to learn about protocols that will improve our ability to respond efficiently and effectively.</p>

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Recommendation	Response
<p>4. Revisions to the NCST Act</p> <p>We (the Committee) also want to restate our recommendation to Congress that the Act be revised. The Act focuses exclusively on safety from building failures. NIST has studied failures of construction that cannot be characterized purely as buildings and should do so again in the future.</p> <p>While investigations of failures of nonbuilding structures have been and could be carried out under the authorities granted NIST in its organic act, in the National Windstorm Impact Reduction Program, and in the National Earthquake Hazard Reduction Program, we recommend that formal consideration be given to amending the NCST act to emphasize the important role NIST should play in such investigations.</p>	N/A

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Questions?



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