

National Construction Safety Team Advisory Committee (NCSTAC)
Meeting Summary
National Institute of Standards and Technology (NIST)
Gaithersburg, Maryland
(Public Meeting conducted via web conference)
September 12, 2024
9:00 am – 5:00 pm

Advisory Committee Members:

José Izquierdo-Encarnación, Chair	PORTICUS CSP
Kimberley Shoaf, Vice Chair	Utah School of Medicine
Donald Dusenberry	Consulting Engineer
John Oстераas	Exponent Engineering & Scientific Consulting
Lori Peek	University of Colorado, Boulder
Aspasia Zerva	Drexel University

NIST Leadership:

Laurie Locascio	Under Secretary of Commerce for Standards and Technology and NIST Director
Jennifer Huergo	Director of Public Affairs and Family Liaison, Champlain Towers South NCST Investigation
Joannie Chin	Director, Engineering Laboratory
Jason Averill	Deputy Director, Engineering Laboratory
Aron Newman	Chief, Materials & Structural Systems Division (MSSD)

NIST Staff and Associates (listed in alphabetical order):

Glenn Bell	Champlain Towers South NCST Associate Lead Investigator
Judy Bowie	Designated Federal Officer
Tanya Brown-Giammanco	Director, Disaster and Failure Studies
Nicholas de Toledo	Associate, Structures Group, MSSD
Maria Dillard	Hurricane Maria NCST Associate Lead Investigator
Jennifer Helgeson	Acting Group Leader, Community Resilience Group, MSSD
Marc Levitan	Research Engineer, Structures Group, MSSD
Joseph Main	Hurricane Maria NCST Lead Investigator
Judith Mitrani-Reiser	Champlain Towers South NCST Lead Investigator
Daniel Rhee	Research Structural Engineer, Structures Group, MSSD

Public Speakers:

Pablo Langesfeld

I. Welcome and Opening Remarks

Ms. Judy Bowie, serving as the Designated Federal Officer (DFO), called the meeting to order and conducted a roll call to establish quorum. She informed everyone that the meeting would be recorded. Ms. Bowie then introduced Dr. Laurie Locascio, the Under Secretary of Commerce for Standards and Technology and NIST Director, who welcomed the Committee and Investigation Team members, and thanked them for their commitment and dedication to the success of the National Construction Safety Team (NCST) Act. She noted the importance of the Committee and highlighted key topics that would be presented.

II. Review of Meeting Goals

The NIST Director of Disaster and Failure Studies, Dr. Tanya Brown-Giammanco, described the meeting goals.

- Review Disaster and Failures Studies Program scoring of events and readiness of teams,
- Review recent preliminary reconnaissance missions and the implementation of recommendations from the Joplin tornado NCST investigation,
- Review the status of the NCST investigation of the partial collapse of Champlain Towers South in Surfside, Florida,
- Review the status of the NCST investigation of Hurricane Maria's effects on Puerto Rico, and
- Develop the Committee's annual report to Congress.

III. Disaster and Failure Studies (DFS) Program Updates

Dr. Brown-Giammanco presented an update on the DFS Program's deployment team readiness, including safety and equipment, and cross-investigation coordination, including streamlined internal report reviews and policies. She also discussed recent outreach activities, NCST authorities, the Committee's role, and updates to the structure of future meetings. She also discussed event scoring from March 2024 - present, and preliminary reconnaissance missions.

[Disaster and Failure Studies Program Updates](#)

Discussion: The Committee and NIST staff discussed NIST's approach to evaluating and scoring future wildfire events. They also discussed report recommendations and the appropriate place to document processes that should be implemented for future investigations. They also discussed the demands placed on field teams and progress the agency has made in the last six months, such as focusing on the equipment, safety and physical protections, as well as exploring options for mental health safety. They also discussed the different reviews required for NCST reports and how to maintain the technical integrity of the reports, and the review timeline, including the committee's opportunity to review when reports are released for public comments.

IV. Progress on Implementation of Recommendations from Joplin tornado NCST Investigation

Dr. Daniel Rhee and Mr. Nicholas de Toledo discussed trends of significant damage and fatalities in large warehouse-like structures caused by tornadoes, and recent targeted reconnaissance focused on sheltering, identifying failure modes, and wind speed estimations to examine lessons learned that could result in improved design and construction of these buildings and designated shelters within them.

Dr. Marc Levitan provided an overview of the implementation of recommendations from NIST's NCST Investigation of the Joplin Tornado. He discussed recent tornado wind speed measurement research efforts by universities and others, progress on improving the Enhanced Fujita (EF-) Scale, the adoption of the tornado-resistant design standard, and how the reconnaissance mission presented by Dr. Rhee and Mr. de Toledo would inform future activities. He also described recent stakeholder outreach and impacts, recent efforts to improve the tornado loading methodology, and summarized remaining implementation tasks.

[Progress on Implementation of Recommendations from Joplin Tornado NCST Investigation](#)

Discussion: The Committee and NIST staff discussed the variability of the wind speed with height for tornadoes, including differences in the wind profile between the boundary layer winds versus tornadoes. They also discussed the tornado treefall wind speed estimation methodology, as well as code requirements for storm shelters, egress from shelters, and what is currently required by the ICC 500 standard. They also discussed operations plans, communications, training, and signage required for formal shelters versus best available refuge areas, and availability of any maps to communicate location of community shelters. They discussed opportunities to consult OSHA regarding sheltering requirements in workplaces, and the Committee complimented the team on the comprehensive work. The Committee also noted the importance of addressing tornado safety in existing structures.

V. Champlain Towers South NCST Updates

Dr. Judith Mitrani-Reiser, Team Lead, and Mr. Glenn Bell, Associate Team Lead of the Champlain Towers South NCST Investigation, provided an investigation overview and update. They briefly described activities that took place in the first three years of the investigation and highlighted activities that have occurred over the last six months. They also discussed the budget and contracts and highlighted the value of submissions that have been made to the Data Submission Portal. They provided updates on challenges they have experienced with laboratory tests and results, loss of key staff, and the time required to receive approval for interview instruments. They discussed the overall impact on the investigation's timeline, recent progress for each of the six technical projects in the investigation and provided a look-ahead for the next six months.

[Champlain Towers South NCST Updates](#)

Discussion: The Committee and NIST discussed the difficulties related to the full-scale test specimen fabrications, and corrective actions the team has taken. They also discussed submissions that have been made to the DFS portal and the significance of the portal being created as a platform for the public to use to communicate information to NIST for consideration in NCST investigations, while also logging the data permissions. They discussed uncertainty quantification associated with variability in materials, and impacts of new data on the ranking and narrowing of failure hypotheses. NIST discussed how the analyses of the column test results are providing very important insights.

The Committee thanked the Champlain Towers South team for being as creative as they could be in managing delays and limiting the impact of unforeseen circumstances that affect the timeline. They noted that delays were not unexpected given the complexity of tasks associated with the investigation.

VI. Announcement of New NCST Committee Members

Dr. Brown-Giammanco announced that final approvals were just received for two new members to join the NCST Advisory Committee. She announced the appointments of Dr. Kurtis Gurley and Dr. John Osteraas. Dr. Osteraas joined the Committee discussions for the duration of the meeting.

VII. Hurricane Maria NCST and NWIRP Updates

Dr. Joseph Main, Team Lead, and Dr. Maria Dillard, Associate Team Lead of the Hurricane Maria NCST Investigation, provided a summary of the Hurricane Maria Program. They provided an overview of the program and projects, as well as recent activity highlights. They discussed new contract actions, staffing, budget, the integration of Hurricane Fiona activities, and the timeline for delivery of draft reports for public comment, including highlights on the internal review process.

[Hurricane Maria NCST Updates](#)

Discussion: The Committee and NIST discussed how the report writing process is structured, the process and timeline for completing internal and interagency reviews, as well as integration of reports across projects. They also discussed the potential for continued data collection when the investigation is completed. They also discussed the use of generators in hospitals, what survey data have revealed about generator use in Hurricane Fiona for schools and hospitals, and how results from the investigations are intended to be widely applicable beyond just Puerto Rico. The Committee noted challenges that are still ongoing to restore the electrical grid in Puerto Rico.

VIII. Public Comment Period

Ms. Bowie opened the public comment period. Mr. Pablo Langesfeld, described his disappointment with the lack of concrete answers or conclusions in determining why the Champlain Towers South building collapsed. He noted a desire for increased intensity of investigations as well as concerns that new construction is being developed on the land while it has not yet been proven to not be a contributor to the collapse, noting that the land should be a part of the investigation and considered a crime scene. He noted the land still requires ongoing pumping to remove water from the site and expressed frustration with the wait for NIST's final report.

IX. Closing Remarks

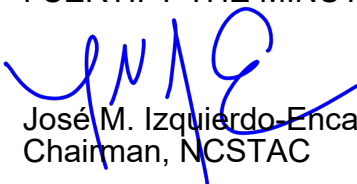
Mr. Jason Averill, Deputy Director of the Engineering Lab at NIST, gave the closing remarks. He thanked Ms. Bowie for her service as the DFO, and noted how the presentations showed the lasting value of NCST investigations. He thanked the Committee members for their participation and advice and welcomed Dr. Osteraas and Dr. Gurley to the committee. He also thanked all the presenters and summarized the presentations. He thanked the members of the public who have submitted information to the NIST disaster data portal or have agreed to participate in surveys and interviews. He thanked Mr. Langesfeld for providing public comments and provided assurance that the NIST team is committed to doing everything possible to get the answers he is looking for and make lasting changes in building safety. He concluded by thanking everyone for their attendance.

X. NCSTAC Preparation of Annual Report to Congress

The Committee discussed the preparation of their report to Congress. Committee Chair, Mr. Izquierdo-Encarnacion led the discussion and confirmed the members' understanding of their individual roles in completing the report. They noted their satisfaction in how NIST responded to the Committee's 2023 report to Congress and discussed the timeline and process to complete the report.

Following the Committee's discussion, Ms. Bowie adjourned the meeting at approximately 3:50 pm ET.

I CERTIFY THE MINUTES REPRESENT THE MEETING DISCUSSIONS,



José M. Izquierdo-Encarnación
Chairman, NCSTAC