

Subcommittee to Review Final National Fire Research Laboratory (NFRL) Incident Investigation Report

NIST Safety Commission

Dr. Joseph Kolly, Dr. James Bagian, and Dr. Darryl Hill
Review Subcommittee Members

NIST Director's Charge to the Review Subcommittee:

Conduct an independent review of the written final NIST investigation report on the death of an experienced NIST staff member in September 2022, in a fall from an elevated height when part of a research structure collapsed.

The Subcommittee will assess:

- the quality and thoroughness of the incident investigation,
- the quality and thoroughness of the analysis of root causes and causal factors, and
- the applicability and robustness of the planned corrective actions.

The Subcommittee's written report of this independent review — and any recommendations for additional corrective and preventive actions for inclusion in the Commission's final report — will be:

- discussed at the Commission's third public meeting, and
- incorporated as a standalone appendix in the Commission's final report.

Review Subcommittee Members



Subcommittee Members Appointed by NIST Director:



James P. Bagian, M.D., P.E.
Professor of Industrial and Operations
Engineering; Co-Director, Center for Risk
Analysis Informed Decision Engineering
University of Michigan



Darryl C. Hill, Ph.D., MBA, CSP
Senior Vice President, Safety and Security
First Group America



Joseph M. Kolly, Ph.D.
(Subcommittee Chair)
Director, Transportation Innovation Center
MITRE Corporation

- **NIST provided the Review Subcommittee with the following materials:**
 - [NIST Internal Investigation Report: Director's Message and Executive Summary](#)
 - [NIST Internal Investigation Report: Full Report](#)
 - [OSHA Notices of Violation](#)
- **The Subcommittee held two preparatory meetings to be briefed on the report and proposed corrective actions:**
 - On April 21, the lead investigator for the NIST investigation report Dr. Steven Banovic briefed the Subcommittee on the report's scope, methodology, and findings.
 - On May 5, the NIST Chief Safety Officer Dr. Elizabeth Mackey briefed the Subcommittee on the Corrective Actions in response to the NIST investigation report.

Observations

Investigation quality and thoroughness



- **Correct proximate cause of the accident was identified**
- **Thoroughness of investigation sufficient to find proximate cause**
- **Additional topics should be addressed for completeness**
- **The investigation and report as a whole are a useful foundation for further development**

Observations

Quality and thoroughness of root causes and causal factors **NIST**

- **Root causes (and causal factors) as written are more accurately described as proximate causes**
- **Causes as written are correct as proximate causes**
- **True root causes have not been identified**

Observations: Applicability and robustness of the planned corrective actions



- **Corrective actions as written address the proximate causes**
- **The corrective actions as written are not sufficient in and of themselves. If not supplemented or superseded by additional corrective actions that address true root causes it is unlikely that effective and sustainable improvements will be accomplished.**

Proposed Additional Draft Recommendations

- **RECOMMENDATION 1:** OSHE take the time afforded by the NIST Director to further develop the proximate causes they have already identified and go back further into the causal chain, to arrive at organizational and systemic level root causes and contributing factors.
- **RECOMMENDATION 2:** Upon reaching the root causes mentioned in Recommendation 1 above, derive corrective actions that address the deeper elements of the causal chain focusing systemic mitigations for actions taken at the organizational level.