



Briefing for the National Construction Safety Team Advisory Committee

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U.S. Department of Commerce

April 29, 2003

NCST Advisory Committee Charter

The Committee will:

- Advise the NIST director on carrying out investigations of building failures, including advice on investigation team composition and function.

Members selected based on:

- Technical expertise and experience;
- Established records of distinguished professional service; and
- Knowledge of issues affecting investigation teams.

Working with others...

- Government agencies (federal, state, local)
- Professional societies
- Trade associations
- Standards and code organizations
- Public

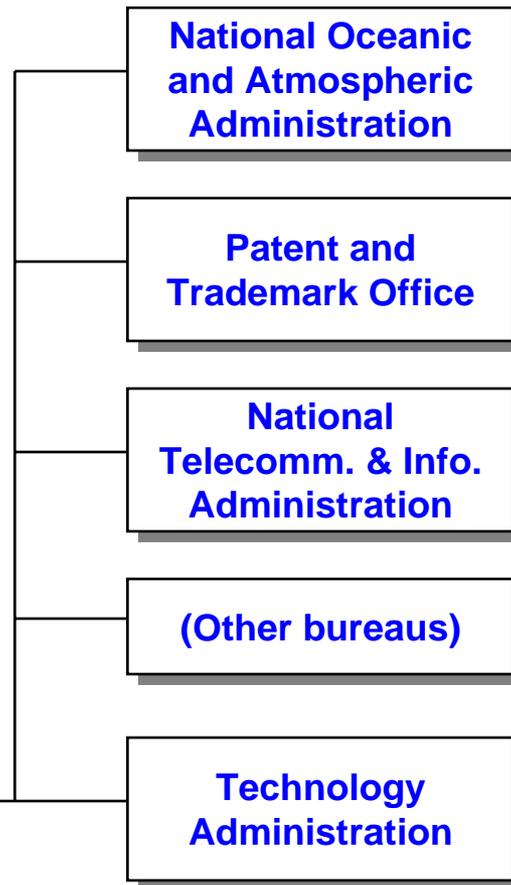


Department of Commerce



Donald Evans
Secretary

Secretary
Deputy Secretary



Dr. Samuel Bodman
Deputy Secretary



Phillip Bond
Under Secretary



Dr. Arden Bement
Director



Dr. Karen Brown
Deputy Director

National Institute of Standards and Technology

NIST's mission is to develop and promote measurement, standards, and technology to enhance productivity, facilitate trade, and improve the quality of life.

NIST Assets Include:

- 3,000 employees
- 1,600 guest researchers
- \$865 million operating budget
- NIST Laboratories -- National measurement standards
- Advanced Technology Program -- R&D partnerships with industry
- Manufacturing Extension Partnership -- 400 centers nationwide to help small manufacturers
- Baldrige National Quality Award -- promotes and recognizes organizational performance excellence



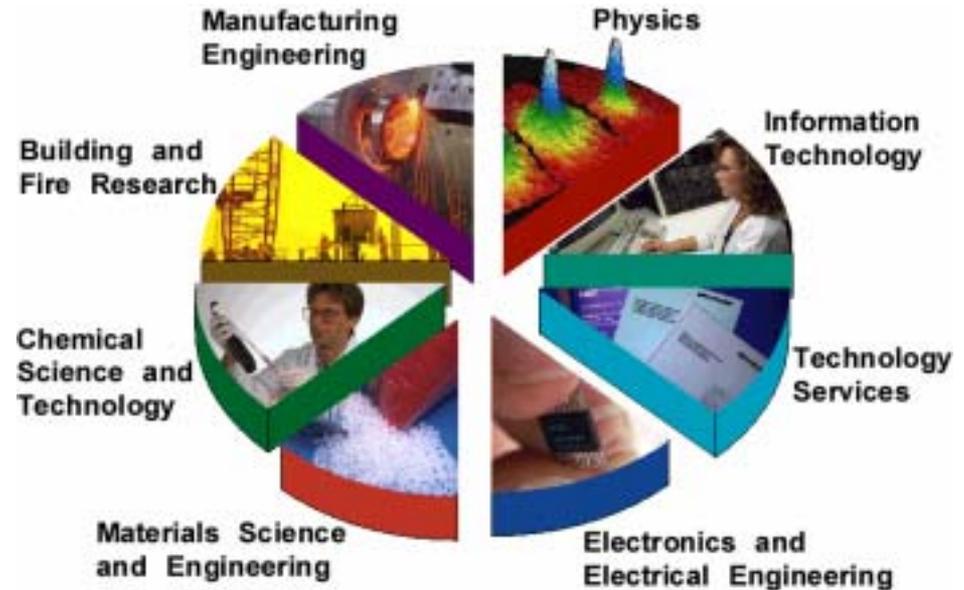
NIST Laboratories

Broad technical expertise to develop measurements and standards to enable:

- Science
- Technology innovation
- Trade
- Public benefit

Core programs include:

- Building construction and fire safety standards
- Computer security
- Radiation measurements
- Analytical chemistry measurements
- Law enforcement and first responder technologies



1904 Baltimore fire



1,500 buildings burned to the ground because fire companies from outside Baltimore could not attach their hoses to fire hydrants.

Following this tragedy, NIST helped develop a national standard for fire-hose couplings.



...dedicated to improving performance and safety of constructed facilities

About BFRL

- [What BFRL Does](#)
- [Organization](#)
- [Staff](#)
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- [Working with BFRL](#)
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Products and Services

- [Publications](#)
- [Software](#)
- [Research Facilities](#)
- [Fire on the Web](#)
- [Fire Research Information Service \(FRIS\)](#)

Project Spotlight

- [Computer Integrated Construction](#)
- [Fire Dynamics Simulator \(FDS\) and Smokeview](#)
- [Virtual Cement and Concrete Testing](#)

Research Areas

- **Advanced Building Materials:** Provides the means for evaluating and predicting performance of next generation materials/products.
- **Fire Loss Reduction:** Enable engineered fire safety for people, products, facilities; and enhanced firefighter effectiveness with 50% reduction in fatalities.
- **Enhanced Building Performance:** Provide the means to assure buildings work better throughout their useful lives.
- **Advanced Construction Technology:** Enable technology-based innovation to modernize, and assure the safety and performance of, construction.
- **Homeland Security:** Use the lessons learned from the World Trade Center disaster to better protect people and property, enhance the safety of fire and emergency responders, and restore public confidence in the safety of tall buildings nationwide.



Building and Fire

BFRL News



First Meeting of the National Construction Safety Team (NCST) Advisory Committee to be held April 29. [Details...](#)

NIST Plans Interviews on World Trade Center Evacuation. [Details ...](#)

BFRL Researchers featured in *SWE Magazine* (Magazine of the Society of Women Engineers) [Read the Excerpt...](#)

Prior NIST investigations

Earthquakes

San Fernando, CA (1971)
Mexico City, Mexico (1985)
Loma Prieta, CA (1989)
Northridge, CA (1994)
Kobe, Japan (1995)
Kocaeli, Turkey (1999)

Hurricanes

Camille, MS/LA (1969)
Alicia, Galveston, TX (1983)
Hugo, SC (1989)
Andrew, FL (1992)
Hurricane Mitch and Georges, LAC (1998)

Construction/Building

Skyline Plaza Apartments, Bailey's Crossroads, VA (1973)
Willow Island Cooling Tower, WV (1978)
Kansas City Hyatt Regency, Kansas City, MO (1981)
Riley Road Interchange, East Chicago, IN (1982)
Harbor Cay Condominium, Cocoa Beach, FL (1981)
L'Ambiance Plaza, Hartford, CT (1987)
Ashland Oil Tank Collapse, Floreffe, PA (1988)
U.S. Embassy, Moscow, USSR (1987)
Murrah Federal Building, Oklahoma City, OK (1995)

Tornadoes

Jarrell, TX (1997)
Spencer, SD (1998)
Oklahoma City, OK (1999)

Fires

DuPont Plaza Hotel, San Juan, PR (1986)
First Interstate Bank Building, Los Angeles, CA (1988)
Loma Prieta Earthquake, CA (1989)
Hillhaven Nursing Home (1989)
Pulaski Building, Washington, D.C. (1990)
Happyland Social Club, Bronx, NY (1990)
Oakland Hills, CA (1991)
Hokkaido, Japan (1993)
Watts St, New York City (1994)
Northridge Earthquake, CA (1994)
Kobe, Japan (1995)
Vandaila St, New York City (1998)
Cherry Road, Washington, DC (1999)
Keokuk, IA (1999)
Houston, TX (2000)
Phoenix, AZ (2001)

Prior NIST investigations (cont.)

Results:

- Probable technical cause
- Lessons learned: successes and failures
- Improvements to standards, codes, and practices, technologies
- Establish future research priorities

NIST Responsibility:

- Recommend changes to codes, standards, practices

National Construction Safety Team Act, PL 107-231

Issue: No one had lead responsibility to investigate and derive lessons for the future

Proposal: An “NTSB-like” body...

- Independent, objective, fact, not fault-finding
- Ability to collect, analyze, make public critical information

National Construction Safety Team Act:

- Introduced by Boehlert in House, Clinton in Senate
- Signed into law October 1, 2002
- Establish Federal Advisory Committee
- Applies to WTC investigation as well.

Tasks NIST Director to establish teams, develop reports:

- When practical, launched within 48 hours
- Teams include at least one NIST employee

Authorities:

- Entry/inspection
- Subpoena, briefings, hearings, witnesses
- Priority (except for criminal investigations)

Liaison...Special emphasis

- Professional societies
- Briefings, progress reports
- Extensive web site
- Liaison to victims' families
- NYC authorities

Liaison...Special emphasis

- Port Authority of NY and NJ
- FDNY
- NYPD
- more...

Cooperation

- Large volumes of information received from designers, owners, leaseholders, suppliers, contractors, and insurers.
- More information is still needed...and we are pursuing.
- Systematic collection of information under way.

Rhode Island Nightclub Fire Investigation

- **February 20, 2003**
- **West Warwick, R.I.**
- **Nearly 100 deaths**
- **NIST decided to launch investigation**

Bottom line...

Make all buildings safer for occupants and first responders.

Expectations

The NCST Advisory Committee will

- Provide sound judgment and counsel in helping NIST fulfill its statutory responsibilities,
- Help us think outside-the-box in analyzing extreme events,
- Keep us on track in performing our roles under the NCST Act, and
- Help us assure that the public interest in construction safety is well served.