

Remarks by Dr. Arden L. Bement, Jr.
Director, National Institute of Standards and Technology
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[Remarks as prepared]

Thank you, Michael.

Welcome to the National Institute of Standards and Technology—NIST—for this formal announcement of the details of our federal building and fire safety investigation into the World Trade Center disaster.

This tragic event, the worst building disaster in recorded history, led to the death of some 2,800 people, including more than 400 fire and emergency responders.

Before I go into the details of our investigation, I would like to speak briefly about NIST.

As an agency of the Commerce Department's Technology Administration, NIST works with the private sector to develop and promote measurement, standards, and technology to enhance productivity, facilitate trade, and improve the quality of life. Established in 1901, NIST is the only federal agency with this mission.

Over the past century, NIST researchers have helped to pave the way for the innovation, economic growth, and quality of life that have made the United States the world's most prosperous nation. You would be hard pressed to think of any aspect of modern-day life that is not affected, directly or indirectly, by the research, products and services of NIST.

In times of war or other national emergencies, NIST scientists and engineers have stepped forward with a vast array of expertise and knowledge in areas as diverse as radio transmission and forensic DNA typing.

NIST has more than three decades of experience in investigating fires and structural failures. Our scientists and engineers are world-renowned experts in fire science, and in analyzing a structure's failure and determining the most probable technical cause -- sort of like forensic structural scientists. Past failure investigations include the 1981 collapse of a walkway in the Kansas City Hyatt Regency Hotel, the 1986 Dupont Plaza Hotel fire in San Juan, and the terrorist bombings of the World Trade Center in 1993 and the Murrah Federal Building in 1995.

NIST is not a regulatory agency. So, our investigations always focus on finding facts and deriving lessons learned -- not finding fault. The findings and recommendations of our investigations are given serious consideration by the communities we serve and have led to important changes in practices, standards, and codes.

This investigation is one part of a three-part NIST response to the WTC disaster. These concurrent—and let me emphasize the word *concurrent*—programs are:

- A building and fire safety investigation into the probable causes of the World Trade Center disaster, which will take an estimated 24 months;
- A multi-year R&D program to provide the technical basis for improved building and fire codes, standards, and practices; and

- An industry-led program to disseminate practical guidance and tools to help building owners, contractors, and designers, as well as emergency responders and regulatory authorities better respond to future disasters.

All three elements of the NIST response program address major recommendations in the report of the building performance assessment team—known as BPAT—sponsored by the Federal Emergency Management Agency and led by the American Society of Civil Engineers—and build on the endeavors of the National Science Foundation's academic grantees. I commend all of the organizations that were involved in the initial study.

NIST has also identified other critical issues that need study, especially in areas that impact life safety and engineering practice.

Our objectives in the technical investigation—which will go well beyond the BPAT study—are to determine:

- Why and how the World Trade Center buildings collapsed following the impact of the aircraft.
- Why the number of injuries and fatalities were so low or high depending on location, including all technical aspects of fire protection, occupant behavior, evacuation, and emergency response.
- What procedures and practices were used in the design, construction, operation, and maintenance of the World Trade Center buildings, and
- Which building and fire codes, standards, and practices warrant revision and are still in use.

We will use our existing legislative authority which allows NIST to initiate and conduct such failure investigations in consultation with local authorities. The statute prevents the use of any data, reports, or findings resulting from our investigations in legal proceedings.

NIST will charter a federal advisory committee to advise me on all aspects of the investigation and in ensuring its successful completion.

We will maintain active liaison with the professional community, the general public, and local authorities throughout the investigation via briefings, meetings, and other means of information exchange.

We have assigned a special liaison to the families of building occupants and first responders and to organizations representing families of victims such the Skyscraper Safety Campaign.

Led by Dr. Jack Snell, Director of our Building and Fire Research Laboratory who has developed and overseen the NIST World Trade Center response plan, we have consulted extensively with local authorities in New York about our plans. These organizations—which have expressed their desire to cooperate with us in the investigation—include the Port Authority of New York and New Jersey, the Fire Department of New York, the New York City Department of Buildings, the New York City Department of Design and Construction, and the New York City Office of Emergency Management.

We will be asking all of these groups—as well as World Trade Center occupants, first responders, victims' families, and others—for information as we move ahead with our investigation, research, and outreach efforts.

From the investigation we are launching today, we expect to derive—and pass on—many, many lessons in several different areas, including structural fire protection, life safety, and engineering practice. While

the investigation portion of our three-part response plan will focus on three World Trade Center buildings, we expect the lessons to be learned can and will be applied much more broadly.

We expect the results of the investigation and the companion R&D program to lead to

- Improvements in the way buildings are designed, constructed, and used;
- Better tools and guidance for industry and safety officials;
- Revisions to building and fire codes, standards, and practices; and
- Improved public safety.

Let me repeat those last three words: "Improved public safety." For us, and the many people and organizations we will be working with, the bottom line is to make all buildings safer for occupants and for those who must respond to emergencies in these buildings.

Of course, in typical NIST fashion, we will draw on the capabilities and expertise of world-class private and public-sector experts and organizations.

That process has already begun. At the end of June, we held a public meeting in New York City to gather views on the scope of NIST's plan for the investigation. We wanted to make certain that our plan is complete and on track.

We have completed a careful review of all of the written and oral comments from the public and today are releasing a final investigation plan that incorporates many of the excellent suggestions that we received.

A copy of the plan is in your press kits. The plan, and other information, also is available on our website at <http://wtc.nist.gov>. This website also contains highlights of the revisions that were made to the plan based on the public input.

To carry out the eight component projects detailed in the plan, we will use teams of NIST and external world-class technical experts.

The investigation that we are now moving full speed ahead on is a huge responsibility, and an even bigger challenge. The extensive planning effort we've already undertaken puts us in a position to move ahead now. Our folks are eager to begin.

Now, I would like to ask Dr. Shyam Sunder, the lead investigator for the World Trade Center project, to briefly discuss specific aspects of the investigation, including our study of the steel that you see behind me that was recovered from the site of the fallen World Trade Center buildings.