



November 7, 2017

Testimony of Chief Timothy Rice, WMD Branch Coordinator, FDNY

**“How Effective is the Science and Technology Directorate?: Stakeholder Perspectives”**

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Good afternoon Chairman Donovan, Ranking Member Payne, and Members of the Subcommittee on Emergency Preparedness, Response and Communications. My name is Battalion Chief Timothy Rice and I am the Weapons of Mass Destruction Branch Coordinator for the New York City Fire Department (FDNY). Thank you for the opportunity to discuss the relationship between the FDNY and the Department of Homeland Security’s Science and Technology Directorate (S&T).

In May of 2001, FDNY’s Chief of Hazardous Materials Operations – Jack Fanning – appeared and testified before Congress on the topic of Government Capabilities Against Terrorism. Chief Fanning was one of the firefighters who responded to the World Trade Center bombing in 1993. Beginning with that attack, the role of the fire service began to shift into the area of disaster preparedness and responding to acts of terrorism. In his testimony, Chief Fanning described this shift and he detailed some of the plans and coordination that the FDNY and federal partners were undertaking as a result. He made it clear that these efforts were the tip of the iceberg and that much work remained to be done.

I have seen this firsthand throughout my own career. As a young firefighter in Engine 84 in Manhattan, I remember that our firehouse had a radiation survey meter. At the time, we kept it in the office under the Captain’s bunk. However, as the range of threats against New Yorkers has grown and the risk of terror incidents broadened, the Department has had to adapt. We now confront a wide variety of challenges beyond the traditional view of firefighters running into burning buildings. As Chief Fanning put it in 2001, at mass casualty incidents – no matter the scale – firefighters and other first responders will be there within minutes and they will do what they have always done: act to protect the public they serve. Knowing this, he urged Congress, “let’s provide them with the tools they need to perform their duties safely and effectively.”

Four months after delivering that testimony, Chief Fanning made the ultimate sacrifice at the World Trade Center. However, his tremendous legacy endures, as does the point that he made during that congressional hearing. Members of the FDNY, NYPD, Emergency Management and all first responder agencies are going to show up and protect the public, and we are tremendously appreciative of the ways in which our federal partners such as our colleagues at S&T provide us with the tools to perform our duties safely and effectively.

It is not an easy task for a fire department to evolve from a role of traditional firefighting to a department that is also responsible for disaster preparedness, including acts of terrorism and the deliberate release of chemical and/or radiological materials and explosives. To stay ahead of emerging threats, the FDNY sought a partner in the scientific community to provide independent scientific research, data, expertise, and testing.



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For more than 15 years, the National Urban Security Technology Laboratory (NUSTL) in New York City has been a valuable resource to the FDNY. NUSTL is our conduit to S&T and it helps the FDNY develop capabilities necessary to provide the highest levels of security for the New York Urban Area Security Initiative (UASI) region. The scientific data, equipment testing, training, and support provided by NUSTL assists the FDNY in navigating the thousands of products, equipment, technology and reports that we would otherwise be left to evaluate on our own. We have invested heavily in All Hazards preparedness and chemical, biological, radiological and nuclear (CBRN) preparedness in units throughout the Department including HazMat and Marine resources. In addition to our partnerships, I must also highlight the critical importance of Homeland Security grants - particularly UASI - in facilitating the FDNY’s ability to make many of these investments. We pride ourselves on being good stewards of those programs, and with the support of S&T, we have been very successful.

NUSTL also helps to enhance the Fire Department’s capabilities to prepare for, respond to, and mitigate potential radiological and nuclear threats. Incidents around the world like Goiana, Chernobyl and Fukushima, have all shown that radioactive contamination will lead to widespread public panic. By working together with our partners at S&T and the scientific community, we have been able to operationalize procedures that will greatly assist the response and recovery from incidents of this magnitude, such as the deployment of Community Reception Centers (CRCs), which will enable us to rapidly screen nearly a million people or more who may fear contamination. By performing screenings at CRCs, we will avoid flooding area hospitals and emergency rooms and preserve resources for the seriously injured, thereby saving more lives. We’ve also provided input to an S&T operational guide covering RDD Guidance for the First 100 Minutes.

The knowledge we have gained and the plans we have developed inform first responder agencies across the nation. New York City agencies have broad outreach and it is through these avenues that we disseminate what we have learned, gain valuable feedback, and consistently work to improve preparedness.

To give one example, understanding the impact of a dirty bomb on the City involves understanding and predicting a number of scientific factors. Firefighters do not receive intensive training to study the physics of radiological material or to model plume clouds. NUSTL and other partners within S&T help first responders to understand the relationship between modeling and ground truth data, and they provide us with the capability to use data to better inform our radiation modeling. This allows us to respond in a more, informed and effective manner. It is a collaboration that empowers the FDNY to make educated decisions about where we should set up equipment, create zones in which first responders may safely operate, and understand dangerous areas to be avoided. The Department benefits from having access to subject matter



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experts in close proximity and in turn we share the knowledge and experience we have gained with first responder agencies nationwide.

The NUSTL lab’s location in lower Manhattan enables Fire Department personnel to access it with regularity. Our members attend monthly meetings for first responders and periodic forums on CBRN preparedness and emerging threats. NUSTL hosts and manages the New York Area Science and Technology Forum, which brings together government and private sector resources to promote and discuss advances in science and technology. NUSTL personnel also travel to Fire Department facilities across the city to provide critical on-site guidance and evaluation. NUSTL plays a key role in the Department’s preparedness and response planning for terrorist incidents, industrial accidents, and routine emergencies.

This level of ongoing support and engagement with NUSTL has helped the Department build a preparedness cycle of continuous learning and training. The more we train for specific scenarios, the more prepared we are to face them when they arise.

With the help of NUSTL, the Department developed the Tiered Response System, which functions as a force-multiplier, outfitting FDNY with a mechanism to scale and adapt the appropriate expertise to the incident or emergency. We also build systems of collaboration, partnering with other City agencies and regional responders to share lessons learned and to develop interagency plans, protocols, and drills. Members of the Department have acquired a tremendous amount of knowledge and know-how since 9/11 and this knowledge is helping the City plan and prepare for extreme hazards and emergencies.

Specific NUSTL programs that FDNY participates in include:

- **Radiological/Nuclear Response and Recovery (RNRR) Research and Development**
  - This project is aimed at improving state and local response to radiological and nuclear events. FDNY and other New York-area agencies participate in working groups and coordinate to develop guidance and tools to enhance preparedness and response capabilities.
- **System Assessment and Validation for Emergency Responder (SAVER)**
  - The SAVER program provides first responder agencies with the results of NUSTL testing and assessments of commercially available emergency response technologies. As a city agency, the SAVER program is useful for learning about the existence of new technology as well as the availability and performance of that technology. This enables us to redeploy resources that may otherwise have



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been consumed by the process of investigating, testing, and assessing potential advances in the market. In addition, FDNY and other New York-area agencies have the opportunity to articulate gaps and needs and receive guidance about potential solutions.

- **Critical Incident Management Technology Assessment (CIMTA)**

- The Critical Incident Management Technology Assessment is an annual event that is staged by NUSTL in order to provide FDNY and other New York-area agencies with an opportunity to test cutting-edge first responder technologies on a large scale under real-life conditions. In the course of the event, first responder agencies are able to provide training, field-test equipment, understand the strengths and weaknesses of preparedness training, and collaborate with technology developers to fill potential equipment gaps. Past examples have included testing handheld mobile detection and collection equipment, wide-angle thermal imaging cameras, and video content analysis and video analytics.

- **Urban Operational Experimentation (OpEx)**

- Urban Operational Experimentation provides first responder agencies such as FDNY an opportunity to view demonstrations of innovative products and a chance to experiment with those products in an urban environment. The program brings private sector partners in contact with first responder agencies, serving as a catalyst to allow agency feedback to spur advances in technology.

- **New York Area Science and Technology Forum (NYAST)**

- The New York Area Science and Technology Forum convenes federal, state, and local first responders as well as groups from academia and the private sector to meet and discuss advances in science and technology. These regular meetings bring together a wide variety of groups and lead to critical sharing and learning among the participants, helping the entire first responder community stay up to date on advances in the field.

- **Performance Test and Evaluation (PTEN)**

- NUSTL’s Performance Test and Evaluation program provides testing of radiation detection equipment to ensure that it works properly and that all supporting accessories and devices are functional. Performed in conjunction with the Domestic Nuclear Detection Office’s Securing the Cities program, PTEN



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involves not only equipment testing but also provides first responder agencies with technical guidance and support and expert advice regarding storage and deployment of the devices. This includes equipment such as personal radiation detectors, backpack detectors, mobile detection units, and isotope identifiers.

- **Responder Training and Exercise (RTE)**
  - Also performed in conjunction with the Domestic Nuclear Detection Office’s Securing the Cities program, NUSTL’s Responder Training and Exercise program provides first responder agencies with radioactive sources, training equipment, and technical expertise to enhance training on radiation detection equipment. This includes supplying health physicists and technical staff, training equipment and materials.

Homeland security is an immense challenge and the New York City Fire Department is in a constant state of assessing and improving our resources to meet that challenge. Through our frequent and valuable interactions with NUSTL, FDNY has greatly benefitted from our partnership with S&T. The advantages of this relationship – both tangible and intangible – strengthen the Department’s ability to save life and property and ultimately make the people of New York and millions of visitors to the region safer each day.

I thank you for your invitation to share our experience with the Science and Technology Directorate and I am happy to answer your questions at this time.