



## **Staff Statement No. 14**

### ***Crisis Management***

Members of the Commission, with your help, your staff is prepared to report its preliminary findings regarding the lessons learned from the emergency responses on September 11, 2001, to the attacks on the World Trade Center and the Pentagon. These initial findings may help frame some of the issues for this hearing and the development of your judgments and recommendations.

This report represents the results of our work to date. We remain ready to revise our current understanding in light of new information as our work continues. Sam Caspersen, Emily Walker, Mark Bittinger, Kevin Shaeffer, George Delgrosso, Jim Miller, Madeleine Blot, Cate Taylor, Joseph McBride, and John Farmer conducted most of the investigative work reflected in this statement.

We begin this statement with profound admiration for the first responders of 9/11: the civilians, firefighters, police officers, emergency medical technicians and emergency management professionals, living and dead, who exhibited steady determination and resolve under horrifying, overwhelming conditions. Along with the passengers and crew aboard the airplanes, the first responders on 9/11 were the first soldiers on the frontlines of a new kind of war. Some of them became its first casualties; some of them became its first heroes.

### **Civilian/Private Sector Preparedness**

Unless a terrorist's target is a military or other secure government facility, the "first" first responders will almost certainly be civilians. The private sector controls 85 percent of the critical infrastructure in the nation. Homeland security and national preparedness therefore often begins with the private sector.

Private sector preparedness should include: (1) a plan for evacuation; (2) adequate communications capabilities; and (3) a plan for continuity of operations. All three elements were tested in the private sector experience at the World Trade Center (WTC).

#### ***Evacuation***

The centerpiece of preparedness is an evacuation plan. One of the lessons learned from the 1993 bombing was that evacuation procedures were inadequate. Although an estimated 50,000 civilians were evacuated, it took over four hours to complete the general evacuation of the buildings, with specific rescues going on for hours more. By

all accounts, many steps were taken to improve evacuation procedures in the years between 1993 and 2001.

The evacuation effort on 9/11 was largely successful on floors below where the planes hit. Some of the evacuees have told us that the pre-9/11 drills helped them that morning; others indicated that the drills had not helped, or could not recall having participated in pre-9/11 drills. The Port Authority's post-1993 installation of glow strips on the stairs and emergency lighting in the stairwells was cited by evacuees as significantly assisting their progress, as was the Port Authority's provision of flashlights to some tenants.

Some who worked in the WTC told us that fire drills conducted by the Port Authority were extremely useful in their evacuation on September 11. Others, however, felt that the drills were formalities which did not engage the full attention or participation of most office workers on the floor.

A former fire warden labeled the office workers as "very uncooperative," claiming that most people refused to leave their offices because they were too busy and that those who did participate did not pay attention.

The WTC complex did not conduct a full evacuation training exercise. Individual companies had practiced drills isolated to their floors. In no case, to our knowledge, did any tenant in the WTC practice a drill where the employees walked down the stairs and exited the building. They did not know that the rooftop doors were kept locked, and that there was no plan for rooftop evacuation. They did not know they should not evacuate up, and so some people began climbing stairs instead of trying to find clear paths of descent.

Some companies in the WTC had developed their own evacuation plan separate from the Port Authority Plan. Particularly notable was the plan in place for Morgan Stanley. Employees had practiced the plan; some had a copy both at the office and at home. Generally speaking, however, companies located in the WTC did not have independent evacuation plans.

### *Communications*

The second part of private sector preparedness is communications. Once a decision is made to react to an emergency, there must be an effective way to communicate that decision to tenants and/or employees, to account for tenants and employees in the aftermath of an event, to communicate with concerned family members, and to continue operations. The tenants of the WTC varied widely in their success in meeting these challenges.

Like the first responder community, tenants at the WTC experienced severe communications problems on 9/11. The phone system in the WTC continued to work immediately after the planes struck both towers, perhaps with the exception of the floors that were hit and those above them. During the time between 9:03 and 9:59 a.m.,

however, there was abnormally high calling volumes and the network, both landline and wireless, could not successfully respond to every request for service which affected those placing 9-1-1 calls. When the South Tower collapsed, the Verizon switching station went down, and all phone service was lost in the 16-acre WTC complex.

Blackberries worked well during the day of September 11 when other means of communication were failing. This was because the control channel on the wireless network had a great deal more capacity than the wireless voice channel.

Once evacuated, companies needed to locate their employees. Finding employees and accounting for those missing became a full-time mission for several days. Most companies did not have any record of who was in the office on September 11, 2001. There were few cases where employees were given a place to congregate following an evacuation or a location to call. Few companies had a crisis communications plan in place before disaster struck.

### *Continuity of Operations*

Once employees have been evacuated and accounted for, the third pillar of private sector preparedness is continuity of operations. The response to 9/11 illustrates that continuity is among the most difficult challenges because many of the people involved in continuity are also closely involved in the event.

Some companies had backup sites and redundant facilities that were outside Lower Manhattan, and, although it was difficult for some employees to reach them, these preparations provided the best opportunities for resuming business operations. In those cases where there were usable and operable backup spaces, the issues the companies faced included lack of plans for personnel, equipment, files, and training to use these redundant facilities.

Those tenants that did not have backup facilities located outside of Lower Manhattan faced the additional challenge of scrambling for new locations.

The spirit of cooperation was, however, enormous. Companies offered competitors their space. Suppliers rerouted supplies such as computers and phones to those in need. Corporations were donated time, expertise, and valuable equipment to the entire City of New York's physical operations as it tried to regroup days after the event. The Mayor's Office of Emergency Management, by all accounts, did a superb job coordinating these efforts.

### *The Current State of Private Sector Preparedness*

At a hearing held at Drew University last November, witness after witness told the Commission that despite 9/11, the private sector remains largely unprepared for a terrorist attack. We were also advised that the lack of a widely embraced private sector preparedness standard was a principal contributing factor to this lack of preparedness.

The Commission responded by asking the American National Standards Institute (ANSI) for help. To develop a consensus, the Institute convened safety, security, and business continuity experts from a wide range of industries and associations, as well as from federal, state, and local government, to consider the need for standards for private sector emergency preparedness. It has recommended to the Commission a voluntary National Preparedness Standard, based on prior work of the National Fire Protection Association, with a common framework for emergency preparedness. The Commission will be considering whether to endorse this standard.

### **Public Sector Emergency Response: Developing an Integrated Command System**

We now turn to the public sector emergency response. In this statement we step back from the specifics of the tactical decisions on the scene. We focus on potential lessons in three areas:

- Develop an integrated command system;
- Size up the situation and keep reevaluating it; and
- Communicate and implement decisions

We will first discuss incident command at the Pentagon. On any other day, the disaster at the Pentagon would be remembered as a singular challenge, an extraordinary national story. Yet the calamity at the World Trade Center included catastrophic damage 1,000 feet above the ground that instantly imperiled tens of thousands of people. The two experiences are not comparable. Nonetheless, broader lessons in integrating multi-agency response efforts are apparent in analyzing the Pentagon response.

Emergency response at the Pentagon represented a mix of local, state, and federal jurisdictions. The response was generally effective. It overcame the inherent complications of a response across jurisdictions because the Incident Command System—a formalized management structure for emergency response—was in place in the National Capital Region on 9/11.

Because of the nature of the event—a fire and partial building collapse—the Arlington County Fire Department served as Incident Commander. Different agencies had different roles. The incident required a major rescue, fire and medical response from Arlington County at the U.S. military’s headquarters—a facility under the control of the Secretary of Defense. Since it was a terrorist attack, the Department of Justice was the lead federal agency in charge (with authority delegated to the FBI for operational response). Additionally, the terrorist attack impacted the daily operations and emergency management requirements for Arlington County and all bordering and surrounding counties and states.

At 9:37 a.m., the west wall of the Pentagon was hit by the hijacked American Airlines Flight 77, a Boeing 757. The crash caused immediate and catastrophic damage. All 64

people aboard the airliner were killed, as were 125 people inside the Pentagon (70 civilians and 55 military service members). Approximately 110 people were seriously injured and transported to area hospitals.

While no emergency response is flawless, the response to the 9/11 terrorist attack on the Pentagon was mainly a success for three reasons: first, strong professional relationships and trust established among emergency responders; second, the adoption of the Incident Command System; and third, the pursuit of a regional approach to response. Many fire and police agencies that responded to the Pentagon had extensive prior experience working together on regional events and training exercises. Indeed, just before 9/11 preparations were underway by many of these agencies to ensure public safety at the annual meetings of the International Monetary Fund and the World Bank that were scheduled later that month in Washington, DC.

Local, regional, state, and federal agencies immediately responded to the Pentagon attack. In addition to county fire, police, and sheriffs departments, the response was assisted by the Metropolitan Washington Airports Authority, Ronald Reagan Washington National Airport Fire Department, Fort Myer Fire Department, the Virginia State Police, the Virginia Emergency Management Agency, the FBI, the Federal Emergency Management Agency, the National Medical Response Team, the Bureau of Alcohol, Tobacco, Firearms and Explosives, and numerous military personnel within the Military District of Washington.

Command was established at 9:41 a.m. At the same time, the Arlington County Emergency Communications Center contacted the Fairfax County, Alexandria, and the District of Columbia fire departments to request mutual aid. The incident command post provided a clear view of and access to the crash site, allowing the Incident Commander to assess the situation at all times.

At 9:55 a.m., the Incident Commander ordered an evacuation of the Pentagon impact area because of imminent partial collapse, which occurred at 9:57 a.m. No first responder was injured in the partial collapse.

At 10:15 a.m., the Incident Commander ordered a full evacuation of the Command Post because of the warning of an approaching hijacked aircraft passed along by the FBI. This was the first of three evacuations caused by a report of incoming aircraft. This first evacuation order was well communicated and coordinated.

Several factors facilitated the response to this incident, and distinguish it from the far more difficult task in New York. There was a single incident. The incident site was relatively easy to secure and contain. There are no other buildings in the immediate area. There was no collateral damage beyond the Pentagon.

As noted yesterday in Staff Statement No. 13, in July 2001 Mayor Giuliani signed a directive entitled "Direction and Control of Emergencies in the City of New York." Its purpose was "to ensure the optimum use of agency resources while...eliminating

potential conflict among responding agencies which may have areas of overlapping expertise and responsibility.”

To some degree, the Mayor’s directive for Incident Command was followed on 9/11. It was clear that the lead response agency was the FDNY, and that the other responding local, federal, bi-state, and state agencies acted in a supporting role. As we described yesterday, there were instances of coordination at high levels of command. In addition, information was shared on an ad hoc basis, such as when NYPD rescue teams passed their evacuation order to FDNY units they encountered in the North Tower.

Any attempt to establish a unified command on 9/11 would have been frustrated by the lack of communication and coordination among responding agencies. The Office of Emergency Management headquarters, which could have served as a focal point for information-sharing, was evacuated. Even prior to its evacuation, moreover, it did not play an integral role in ensuring that information was shared among agencies on 9/11. Certainly, the FDNY was not “responsible for the management of the City’s response to the emergency,” as the Mayor’s directive would have required.

One question looking forward, in light of the experience of 9/11, is whether establishing a single Incident Commander is possible or appropriate in a city like New York, or at an incident like the World Trade Center. The Incident Commander point is important. More important, though, is to embrace the concept of an integrated command *system*. On 9/11, the problem was less about turf battles on the scene. It had more to do with command systems designed to work independently, not together.

Since 9/11, a consensus is emerging within the emergency response community that a clear Incident Command System should be required of all response agencies. As of October 1, federal homeland security funding will be contingent upon the adoption and regular use of such a system by emergency response agencies. In New York City, the Mayor’s office announced a new Incident Command System plan last week.

Regional mutual aid, as in Northern Virginia, could become a formal joint response plan with neighboring jurisdictions working together, along with state and federal representatives, to be sure they have the collective capability to respond to catastrophic events. In other words, every county may not need its own HAZMAT team. States are also considering Emergency Management Assistance Compacts to help insure that regional resources are available for a comprehensive response, so every city does not need to buy the capacity to deal with extreme events.

### **Sizing Up the Situation**

The FDNY command structure immediately grasped the massive scale of the catastrophe. The commanders called for a large number of units.

The FDNY commanders also immediately and correctly judged that the North Tower should be evacuated as quickly as possible. The decision to evacuate the still intact South

Tower was a more difficult judgment which they made, after they talked with Port Authority police and building personnel in their tower, about five minutes after these chiefs arrived at the scene.

The FDNY commanders also had to decide whether they should try to fight the fires. They rapidly and accurately judged that this was impossible, so they should concentrate on evacuation and consider firefighting only in the context of freeing trapped civilians.

The FDNY commanders needed information on the situation within the buildings. Here they encountered more difficulty. They did not have good information on which building systems were operating, or which—if any—stairwells were open. As ascending firefighters discovered situations, they could not always communicate this information to others. But if they could have communicated it, there was not a protocol in place for receiving and integrating this information in order to enhance the situation awareness for all the fire commanders, including those beyond the lobby command post. As evacuees descended, there was no protocol for quickly debriefing them on what floor they came from, what the conditions were like on that floor, and how they got down. Again there was no focal point to receive and integrate this information. Such a field intelligence setup, suggested by military experience, could be valuable in large and complex incidents, though it might not be necessary for more ordinary situations.

Lacking adequate situation awareness, the FDNY made key decisions about how to deploy personnel to help in the South Tower after it was hit. The commanders decided to dispatch more units to the scene, assigning them to the South Tower. If they had understood that units were still arriving at the North Tower or were already there but still in the lobby, they could have considered whether to reassign some of the units already at the scene to render immediate assistance in the South Tower. The decision to handle the South Tower by dispatching new units meant that the number of firefighters available to help evacuees in that tower was relatively small for at least the first 20 minutes after the tower was hit, though that number sadly was rising in the minutes before that tower collapsed.

As the conditions deteriorated, the FDNY commanders had to judge whether the buildings were in danger of collapse. Building collapse, like other dangers to response personnel, is a constant concern in firefighting. Specific chiefs are tasked with responsibility for tracking these safety issues. The best estimate of one senior chief, provided to the Chief of the Department sometime between 9:25 and 9:45 a.m., was that there might be a danger of collapse in a few hours, and therefore units probably should not ascend above floors in the sixties. We did not see any evidence that this assessment had any impact on operations before the collapse of the South Tower effectively disabled every FDNY command post. Even after the South Tower collapsed, another senior chief reportedly thought that the North Tower would not collapse because its corner frame had not been struck.

Other than observation from the ground and a Fire Department boat in the Hudson River, the only other source of information on the building condition was from the air. NYPD

aviation had helicopters observing the situation. There was no video feed from these helicopters to the overall command post. With the evacuation of the Office of Emergency Management headquarters, their radio observations were not readily available to chiefs either. Repeated updates from the NYPD aviation unit were not communicated to the FDNY.

NYPD aviation did not foresee the collapse of the South Tower, though at 9:55 a.m., four minutes before the collapse, a helicopter pilot radioed that a large piece of the South Tower looked like it was about to fall. Immediately after the collapse of the South Tower, a helicopter pilot radioed that news. This transmission was followed by others, beginning at 10:08 a.m., warning that the North Tower might collapse, beginning at 10:08, 18 minutes before the building fell. These calls reinforced the urgency of the NYPD's evacuation of the area.

Although evacuation orders were also transmitted immediately by FDNY commanders, we earlier mentioned that those orders did not reflect the situation awareness reflected in the NYPD transmissions. The NYPD warning could not be relayed to the overall FDNY command post, since that post was disabled. Nor was there any capacity to relay this warning directly to the chiefs trying to regroup near the North Tower.

Looking forward, a fully integrated Incident Command System will assure that evolving situation awareness is shared among responding agencies and will assist first responders in sizing up the situation at hand.

### **Communicate and Implement Decisions**

Effective decision-making in New York was hampered by limited command and control and internal communications. Beyond the point we made earlier about a command system integrated across agencies, the FDNY had limited command and control of its own personnel. This was true for five main reasons:

- (1) the magnitude of the incident was unforeseen;
- (2) commanders had difficulty communicating with their units;
- (3) FDNY personnel who were not dispatched self-dispatched and units which were dispatched consistently "rode heavy" with extra firefighters, a particular problem in some of the scarce elite units;
- (4) more units were actually dispatched than were ordered by the chiefs; and
- (5) once units arrived at the WTC they were not accounted for comprehensively and coordinated.

The NYPD's 9-1-1 operators and FDNY Dispatch were not adequately integrated into the emergency response. This is an issue for an integrated command system, but it



manifested itself as an inability to communicate key decisions to the people who most needed to hear about them.

In several ways, the 9-1-1 system was not ready to cope with a major disaster. As we explained yesterday, these operators and dispatchers were one of the only sources of communication with individuals on the damaged floors. Once the seriousness of the situation was apparent and evacuation decisions had been made, this guidance should have been made available to these operators and dispatchers. If it had been, individuals could have been told to evacuate. They could have been told not to go upstairs, which might have helped people in the South Tower. In future disasters, it is important to analyze how victims or the public will attempt to get information and help, and to be sure the people giving that information are part of the emergency response team.

The Port Authority's response was hampered by inadequate communication. For example, although the FDNY commanders at the North Tower advised Port Authority police and that tower's building personnel to evacuate the South Tower, shortly before 9:00 a.m., there is no evidence that this advice was communicated effectively to the building personnel in the South Tower. A vital few minutes may have been lost and, when that tower did make its announcement to evacuate at 9:02 a.m., it was the ambiguous advice that everyone may wish to start an orderly evacuation if warranted by conditions on their floor. The Port Authority's Jersey City Police desk was also unaware of the evacuation decisions when, at 9:11 a.m., it advised workers on the 64<sup>th</sup> floor of the South Tower to stay near the stairwells and wait for assistance.

In general it was the practice of the Port Authority's differing commands to use localized frequencies. When officers reported from the tunnels and airports, they could not hear the commands being issued over the WTC command frequency.

The NYPD experienced comparatively fewer internal command and control and communications issues. Because the department has a history of mobilizing thousands of officers for major events requiring crowd control, its technical radio capability and major incident protocols were more easily adapted to an incident of the magnitude of 9/11. In addition, its mission that day lay largely outside the towers themselves. Although there were rescue teams and a few individual police officers climbing in the towers, the vast majority of NYPD personnel were staged outside assisting with crowd control and evacuation and securing other sites in the city.

The Pentagon response too was plagued with difficulties that echo those experienced in New York. As the Arlington County After-Action Report notes, there were significant problems with both self-dispatching and communications:

Organizations, response units, and individuals proceeding on their own initiative directly to an incident site, without the knowledge and permission of the host jurisdiction and the Incident Commander, complicate the exercise of command, increase the risks faced by bonafide responders, and exacerbate the challenge of accountability.

With respect to communications, the Arlington County After-Action Report concludes:

Almost all aspects of communications continue to be problematic, from initial notification to tactical operations. Cellular telephones were of little value.... Radio channels were initially oversaturated..... Pagers seemed to be the most reliable means of notification when available and used, but most firefighters are not issued pagers.

It is a fair inference, given the differing situations in New York City and Northern Virginia, that the problems in command, control, and communications that occurred at both sites will likely recur in any emergency of similar scale. The task looking forward is to enable first responders to respond in a coordinated manner with the best situational awareness possible.

### **Summary**

Much of this statement has focused on the FDNY. We must therefore also note that the FDNY has responded with particular energy to the lessons of 9/11, and has acted to address many of the concerns we have identified.

There may be a need, however, to expand the understanding of these lessons across the nation. The President's National Strategy for Homeland Security called for national standards in emergency response training and preparedness. Many experts have cited the National Fire Academy training program as a useful benchmark. We hope this hearing will contribute to education about the kinds of challenges emergency response agencies may face in the future.