



# Hurricane Sandy: An Operational Overview

by Chief of Operations James E. Esposito

**O**n Wednesday, October 24, 2012, the National Weather Service predicted a high possibility of a major hurricane impacting the New York City metropolitan area. Hurricane Sandy was the second most powerful Atlantic storm to hit the eastern coast of the United States since Hurricane Katrina in 2005. It took the lives of more than 100 people in the United States and Canada, affecting 24 states from Florida to Maine. Although its 80-mph winds were not particularly powerful, when it hit landfall south of Atlantic City, New Jersey, it proved devastating.

Hurricane Sandy absorbed another low-pressure center working its way over the eastern seaboard and its effect was an increase in its strength, with a record low pressure at its center that produced a storm spiral of approximately 1000 miles wide. The record high water surge that impacted the New York City communities was a significant challenge for Fire and EMS Operations. Nevertheless, despite the obstacles, the men and women of the FDNY performed superbly, rescuing and removing from harm's way more than 1500 people on Monday night, October 29. On-duty, as well as off-duty members living in the City, made these rescues, often at great personal risk.

Preparing for this severe storm, the Bureau of Operations implemented All Units Circular (AUC) 159, Phase "A," on Friday, October 26, at 1800 hours. This signal was transmitted to field units, based on weather reports of an impending major storm reported to be 72 hours out. Highlights of assignments included:

- Field units identified appropriate checklists (72-, 48- and 24-hour) to begin surveys of hospitals, health care institutions and infrastructure of low-lying areas.
- Fleet Services and the Tool Room worked closely with Operations to acquire fuel for all firehouse storage tanks and equip reserve apparatus and deploy additional pumps, chain saws, generators, tools and special equipment throughout the City for use in the anticipated affected areas.
- Host companies were identified for high water relocations and Commands affected by Hurricane Irene the previous year were notified to take similar precautions for potential flooding conditions.
- The FDNY Incident Management Team reported to MetroTech Center on Saturday, October 27. Operations had identified its goals and objectives for the impending storm and tasked the IMT to develop an Operational Incident Action Plan (IAP) for Hurricane Sandy. The IMT, with the designated Incident Commander, Assistant Chief James Manahan, began their work.
- Subsequently, the Office of Emergency Management (OEM) contacted Operations on Saturday, October 27, and requested assistance with homebound evacuations. Additionally, the FDNY IMT was charged with developing and implementing a plan to assist OEM with these efforts. The IMT brought in approximately 20 additional members to work on the Homebound Evacuation Plan. The IMT now was operating at full capacity with its 60 members.
- On Sunday, October 28, homebound evacuation efforts began as



Across evacuation Zones A, B and C, the possibility existed of 2,330,659 total potential evacuees, to be sheltered throughout the City, in coordination with local authorities.

Mayor Michael Bloomberg ordered mandatory evacuations of people residing in areas identified in Flood Zone "A." These efforts were concluded at 2200 hours with the assistance of the FDNY field units. Unfortunately, many people whose homes were in the mandatory evacuation zone never did evacuate and that contributed to the 43 Hurricane Sandy-related deaths throughout the five boroughs. Additionally, New York City bridges and tunnels, transit systems, LIRR and Metro North rail systems were shut down at 1900 hours, Sunday night. Bus and ferry service was stopped at 2100 hours and the Mayor announced the closing of the public schools on Monday. Many of these schools were identified as evacuation shelters for those who were displaced in the flood zones.

- Operations initiated daily conference calls twice a day, beginning Sunday and Monday, October 28 and 29, and the subsequent post-Hurricane Sandy week, with Borough and Division Chiefs and Commanders to discuss and review the daily IAP, identify any issues and develop solutions. These conference calls were quite beneficial.



photo by Stephen "Butch" Moran

Brooklyn units operate during Hurricane Sandy.

The release of the IAP coincided with the implementation of AUC 159, Phase "B," at 0900 hours, on October 29. This included coordinating all the additional resources authorized by Operations identified in the IAP and facilitating the actions required for an impending major storm. Highlights included:

- Staffing all engine companies in flood-prone areas with five Firefighters.
- Staffing an additional Battalion Chief in Queens and Staten Island and an additional Deputy Chief in Brooklyn.
- Staffing an additional 15 reserve apparatus and strategically positioning them throughout the five boroughs.
- Staffing the Special Operations Command's (SOC) six Swift Water Teams, an additional Rescue Company and Squad Company and deploying them throughout the City.
- Deploying FDNY's eight Brush Fire Units to assist EMS resources in low-lying areas.
- Deploying SOC's large dewatering pumps at Bellvue Hospital, based on experience with Hurricane Irene.

The FDNY had invested heavily in preparedness after 9/11 as outlined in *The McKinsey Report*. Many of the resources, organizational restructuring, training and investment in its personnel proved invaluable in providing the FDNY with the capability and flexibility to respond effectively to the life safety challenges presented by Hurricane Sandy and post-Hurricane Sandy recovery efforts. Recommendations from *The McKinsey Report* included:

- Investing in training and developing an IMT. The FDNY IMT is an all-hazard team that was developed as a result of the terrorist attacks at the World Trade Center on September 11, 2001. The team consists of approximately 60 trained members and is a federally recognized Type 2 Team. They are fully equipped to designate all of the required Command and General Staff positions and each member trains across the United States at incidents on Type 1 and Type 2 teams. FDNY's team has deployed across the United States on multiple occasions between 2005 and 2011 prior to deployment in New York City for Hurricane Sandy.

The FDNY IMT operated for an unprecedented 60 straight days with four distinct missions until relieved by a Texas IMT. The missions included the New York City Homebound Evacuation Plan, the Management of the Rescue and Recovery Efforts, Dewatering and Tree and Debris Removal and the New York City Support to Residents in Their Homes.

- Creating a decentralized Borough Command System. Each Borough Commander was on-duty, supervising emergency operations in his borough. Each Borough Commander had the flexibility to work autonomous of Operations, addressing specific needs and challenges unique to his borough. (See sidebar on page 7.)
- Investing in a state-of-the-art Fire Department Operation Center (FDOC) at Headquarters with the latest in communications, technology and information systems. The Chief of Operations, James E. Esposito, and the Chief of the Bureau of EMS, Abdo Nahmod, oversaw the FDNY resources and efforts in all boroughs, working out of the FDOC. They coordinated the response of outside resources, including the Army National Guard with their high water vehicles. The Borough Commanders were consulted, to identify their needs and locations.

The FDNY developed a tiered system of response of targeted resources that included specialized training for thousands of Firefighters since 9/11. The Department relied heavily on these resources during the storm as members assigned to these units conducted hundreds of rescues and removals and provided critical



Members are urged to review the following references:

- All Units Circular (AUC) 159, *Procedures for Hurricane and Severe Storm Emergencies*.
- *Increasing FDNY's Preparedness*, by McKinsey & Company.
- "The McKinsey Report," by then-Deputy Assistant Chief Joseph W. Pfeifer, in the 1st/2003 issue of *WNYF*.

functions with specific resources in the post-Hurricane Sandy recovery effort.

These resources are identified in SOC Command Marine, Haz-Mat and Rescue Operations.

Thousands of downed trees were cut and private homes and commercial basements dewatered. Additionally, SOC units were called upon to assist in a complex de-

## Overview of Borough Activity During Hurricane Sandy

The following summarizes preparations and some of the major incidents and operations that FDNY's Borough Commanders supervised.

**Queens** Borough Commander, Deputy Assistant Chief Robert R. Maynes, focused on concerns that included the firehouses located in the low-lying areas. He proactively relocated companies prior to the storm surge. His focus was on life safety issues that affected multiple residential occupancies in Queens, in general, and the Rockaway Peninsula, in particular. During the storm, he set up a Command Post on Cross Bay Boulevard at water's edge in Howard Beach and addressed the major fires and life safety issues in the flood zone with an East and West Sector.

Operations mobilized an additional Staff Chief that night, Assistant Chief Joseph Pfeifer, and had him report to Chief Maynes. Chief Pfeifer was tasked with the Breezy Point Sector and accessed the Rockaway Peninsula via the Marine Park Bridge. Division 13 Commander, Deputy Chief James D. DiDomenico, was assigned the East Sector and accessed the Rockaway Peninsula via the Nassau Expressway.

Battalions 47 and 51 were the most severely impacted in Queens. Nine units and five special units were forced to relocate before the storm surge. Five firehouses suffered significant damage due to the storm surge. There were five significant fires within the boundaries of Division 13. At four of these fires, access was delayed because of the water surge of six feet or greater. An estimated 126 buildings were destroyed by fire with an additional 22 buildings damaged (some seriously) by fire. More than 200 civilians were rescued from fire and/or water through the combined efforts of traditional fire units, SOC Swift Water Teams and Marine Carolina Skiff units. Units operated on the Rockaway Peninsula at the equivalent of three sixth alarms without serious civilian or Firefighter injury, while stopping catastrophic fire in three to four feet of water, saving an estimated 90 buildings and homes.

Meanwhile, Deputy Assistant Chief Michael Marrone, **Staten Island** Borough Commander, who was dedicated to Staten Island, had similar issues and, at times, was supervising operations in waters that were chest-deep. Members on Staten Island used creativity and resourcefulness in conducting hundreds of rescues and battling fires.

Under the guidelines of AUC 159, *Procedures for Hurricane and Severe Storm Emergencies*, engine company staffing was increased to five Firefighters in Battalions 21, 22, 23 and 43. One reserve engine was activated, as well as one reserve Squad, two reserve ladders, one Swift Water Team and one additional Battalion Chief. All five Brush Fire Units were staffed, along with the two Marine Auxiliary Rescue Craft (MARC) boats. Three engines and two ladders were relocated to Staten Island.

Call volume increased as the storm came in on October 29. Responses started with downed trees and power lines, dramatically intensifying to people trapped in cars and water flooding homes with people unable to exit. There was a complete collapse of four buildings on Yetman Avenue in Tottenville due to the storm surge, resulting in one rescue and two fatalities. This operation involved an *all hands* assignment and is a testimonial to the dedication and hard work of FDNY members.

**Brooklyn** Borough Commander, Deputy Assistant Chief James Leonard, was operating with an additional Deputy Chief assigned to South Brooklyn at a unified Command Post on the Belt Parkway at the Coney Island overpass. He supervised operations with his units heavily engaged in high waters, fighting fires and making rescues of people in imminent danger in many communities south of the Belt Parkway.

During an eight-hour period, Division 11 responded to two second-alarm fires, plus two *all hands* and a Major Emergency Response, Code 10-60. Under normal circumstances, one of the two-alarm fires would have been a third alarm, due to the five hand-lines that were stretched. Division 15 responded to two two-alarm and four *all hands* fires during the height of the storm.

Many companies conducted single-unit operations at incidents, such as downed wires, assisting civilians and vehicle emergencies, that usually required multi-unit assignments, due to unit unavailability. There were many challenges that night



Crippled crane at West 57th Street, Manhattan (Box 916), dictated a four-alarm response by FDNY units during the storm.

and, by all accounts, field units, in cooperation with each other, met those challenges through professionalism and teamwork. One such account, not often mentioned, were Engines 201 and 282 working together and extinguishing approximately 50 vehicle fires in the vicinity of the Brooklyn waterfront at 39th Street.

Deputy Assistant Chief Kevin Butler, **Bronx** Borough Commander, battled a third alarm on City Island during the height of the storm and faced a storm surge that was an hour out, according to weather reports. His primary task was to control the fire and remove fire resources not dedicated to the Island prior to the surge. This was accomplished in coordination with Operations in the Fire Department Operation Center (FDOC). Many Bronx units on the mainland had their own fires and floods to deal with, as well as relocations, assisting Manhattan units on their sea level island.

Compared to the other boroughs, the Bronx fared quite well. After the high tide passed, the Swift Water Team was sent to Rockaway, where the need was greater. In fact, most additional resources were sent to Staten Island, Rockaway and Breezy Point for this reason.

Assistant Chief John Sudnik, **Manhattan** Borough Commander, had some unique challenges. A crane collapsed on 57th Street, between 6th and 7th Avenues, in the afternoon. This incident required a fourth-alarm assignment and operations spanned several days. An estimated several thousand people were safely evacuated from the area.

Manhattan units had subsequent major operations, involving a four-story building collapse on 8th Avenue at 14th Street, major hospital evacuations and major flooding of the FDR Drive and West Side Highway, as well as the entire Wall Street area and lower Manhattan.

Division 1 and 3 units responded to and secured numerous incidents involving collapsed and unstable scaffolds, sidewalk sheds and structural members that loosened from buildings and had the potential to become projectiles. Unit operations in and around the streets and buildings in the flood-prone areas included mitigating electrical emergencies/fires, securing manhole problems, rendering assistance to reported stranded motorists and investigating flooded structures.

As electrical power was lost to most areas south of 34th Street, FDNY responses and workload increased dramatically. At many of these operations, there were reports of FDNY personnel rescuing people from rising waters and who were trapped in buildings, elevators (necessitating EMS patient carry-downs), vehicles, parking garages and warehouses. Additionally, critically ill people on ventilators in hospitals were rescued. Electrical systems and utilities became inundated with sea water, necessitating relocation of many.



(Above and below) Firefighters worked in horrendous conditions as they tried to extinguish the Breezy Point, Queens, fires.



watering operation involving a Port Authority PATH tube. This, in itself, was quite an extensive operation involving hard work over a period of a week and extensive use of rebreather units.

## Conclusion

Hurricane Sandy has marked its place in history. The problems encountered, along with the devastation left behind, are unprecedented. Overall, this Department prepared well and overcame many of these obstacles. A positive aspect to come from this storm is that the problems encountered and the aftermath of Hurricane Sandy have helped to serve as a learning experience that FDNY will use to be better prepared and equipped for the future when another storm of this magnitude impacts the metropolitan area.

FDNY played a dominant role in saving life and protecting property during and after Hurricane Sandy. As a result of FDNY's preparedness, the Department was uniquely positioned to assume a leadership role in the New York City recovery efforts. FDNY members performed with professionalism, dedication and efficiency that were second to none. The operations of on-duty members, as well as the efforts of off-duty members assisting residents in the hardest hit communities, will never be forgotten.

## About the Author...

Chief of Operations James E. Esposito is a 39-year veteran of the FDNY. Previously assigned as the Manhattan Borough Commander. He holds a BS degree in Business Administration from Manhattan College. He is an Editorial Advisor for WNYF and has written several articles for the magazine.



photos by Todd Maisel, New York Daily News