A Cascade of Emergencies (B):
Responding to Superstorm Sandy in New York City

At around 7:30 pm on Monday, October 29, Superstorm Sandy made landfall at Brigantine, New Jersey, a little more than 100 miles south of New York City. The timing of the storm’s landfall could not have been worse for the city. Sandy arrived during a full moon high tide, which meant that the Atlantic’s waters in the greater New York area were at their peak height (up to a half foot higher than during a normal high tide). And although its winds didn’t have the awesome strength of a major hurricane, their wide span powered a large storm surge. Combined with the unusually high water level, this resulted in an unprecedented “storm tide” of more than 14 feet, as measured at the southern tip of Manhattan. Moreover, the direction from which Sandy approached the city only made matters worse. As the storm edged closer to land, its winds moved counterclockwise, powering the storm surge directly and forcefully into the city’s south-facing coast, with parts of Brooklyn, Queens, and Staten Island experiencing its most dire effects.¹

Sandy’s surge, along with its winds and rain, triggered a series of emergencies – both small and large in scale, across almost every part of the city – Monday night and into Tuesday. In addition to damaging infrastructure and decimating homes and businesses, the storm quickly caused power failures across multiple boroughs. By 8:30 pm on the 29th, water from the East River had flooded Con Edison electrical substations on Manhattan’s Lower East Side, resulting in the loss of power on the island almost anywhere south of 34th Street. Many other parts of the city experienced outages as well, including the Rockaways in Queens and Coney Island in Brooklyn, both of which were left entirely without power. ² Over time, these power failures caused a number of additional problems, from disrupting communication networks – that in turn complicated responders’ ability to maintain situational awareness and coordinate with one another – to taking critical hospital systems offline, seriously compromising the safety of hundreds of patients.

Agencies “Pushed to the Limit”

As Sandy barreled through the city, a number of agencies and organizations scrambled to respond to the hundreds of different emergencies that were beginning to surface. One of the busiest was the New York City Fire Department (FDNY), which, as the agency’s leadership later put it, “was pushed to its operational limit” during the height of the storm.³

Indeed, the numerous tasks FDNY members undertook in the face of Sandy were daunting. They included fighting multi-alarm fires, performing waterborne rescues, supporting the evacuation of healthcare facilities, and providing medical aid. Taken together, these demands dramatically exceeded normal operations. The department later determined that between the mornings of October 29 and October 30, firefighters were involved in 3,800 formal responses, three times more than on average, while the number of calls received by the department’s emergency medical services (EMS) ran two times higher than usual.⁴

At first, FDNY’s response was largely focused on several demanding, but relatively contained incidents, such as the mid-afternoon partial collapse of a tower crane (a type of crane often used in the construction of tall buildings) located in midtown Manhattan. With the collapse posing a major safety hazard for the surrounding area (the upper section of the crane dangled 75 stories high as Sandy’s winds swirled around it), Manhattan-based FDNY units and members of the department’s Special Operations Command worked to stabilize the crane. Because high pressure steam and gas lines were located underneath the street where the crane was located, FDNY had to evacuate 28 nearby buildings as part of the operation.⁵ (Also on Manhattan, FDNY responded to a building façade collapse in the Chelsea neighborhood shortly after 6:30 pm on Monday.)

As the evening of the 29th progressed, FDNY units – sometimes independently, although often in partnership with other public safety agencies, including the New York City Police Department (NYPD) and New York National Guard – found themselves confronting a rapidly multiplying number of emergencies throughout the city. Among other things, FDNY teams performed thousands of water rescues, often in harrowing conditions, over the course of the storm. Along with special operations divisions of the NYPD, they ultimately rescued more than 2,200 people, with hundreds more rescues likely unreported.⁶

At the same time, several major fires broke out across the city, including on the Rockaway Peninsula in Queens, where flames overtook the Breezy Point neighborhood, which had long been home to many firefighters and their families. There, the fire propelled by Sandy’s strong winds spread quickly, consuming one house after

³ Chief of Department’s Office, FDNY, “After Action Report: Superstorm Sandy, October 2012.”
⁴ Chief of Department’s Office, FDNY, “After Action Report: Superstorm Sandy, October 2012.”
⁵ Chief of Department’s Office, FDNY, “After Action Report: Superstorm Sandy, October 2012.”
another, eventually destroying or causing serious damage to 148 residential properties. “The entire sky was just lit up in the reddest, organgest color you could ever imagine,” observed Ariel Fahy, a Breezy Point resident initially trapped by the fire. “It was a very emotional time. I didn’t know how I was going to get out.”

On-duty and volunteer firefighters scrambled to aid Fahy and her neighbors. Late Monday night, Assistant Fire Chief Joseph Pfeifer, FDNY’s Chief of Counterterrorism and Emergency Preparedness, began making his way to Breezy Point to take command of the unfolding response. (FDNY’s Queens Borough Commander Robert Maynes, meanwhile, oversaw the response to a separate set of fires in the neighborhood of Belle Harbor, also on the Rockaways.) But accessing Breezy Point proved extremely difficult, as the road leading to the neighborhood was now buried under three feet of water. Pfeifer’s SUV could not move forward. Fortunately, Pfeifer was able to flag down and travel the rest of the way onboard a fire engine that was arriving from Manhattan to help fight the Breezy Point fires. Still, the journey was harrowing. As Pfeifer later recalled of the drive, “The engine smoked and the exhaust gurgled like a boat while the chauffeur plowed through two miles of flooded streets as high as the apparatus’ headlights.”

Upon arriving at Breezy Point, Pfeifer immediately discovered he was now in command of an enormously challenging operation, the likes of which he’d never seen before. Firefighters had to navigate downed power lines and debris as they waded through chest-high waters, while Sandy’s winds whipped flames in every direction. Perhaps most seriously, they also had to grapple with a loss of water pressure in neighborhood hydrants that had been damaged by the storm. How would they manage to douse the raging inferno? Under Pfeifer’s direction, they adapted to the conditions around them and turned some of Sandy’s most extreme effects to their advantage, drafting and then channeling the floodwaters that had swamped the area to their pumps and tower ladders.

Ultimately reaching six alarms and drawing resources from across the rest of the city (where they otherwise could have been of help), the fire continued to rage until 7:00 Tuesday morning. In total, it took FDNY nine hours to bring the fire under control — but thanks to its efforts, hundreds of people were able to safely escape the flames. Incredibly, not one life was lost during the event.

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9 Pfeifer, who had served as incident commander for multiple fires and other emergencies in the years preceding Sandy, later described the Breezy Point blaze as the “perfect storm.”


FDNY’s EMS units faced similarly difficult challenges over the course of the storm. In addition to providing emergency medical assistance throughout the city, they also helped evacuate several major healthcare facilities, including the Bellevue, New York University/Langone (NYU), and Coney Island hospital complexes, all of which faced rapidly deteriorating conditions due to flooding and the subsequent loss of power. (Bellevue and NYU were located in close proximity to one another on the east side of Manhattan; Coney Island was located in southern Brooklyn.) The evacuation of these healthcare facilities was complicated by communication issues triggered by power and telecommunication system failures, which hindered the city’s understanding about the conditions and needs at the different facilities. But hospital staff, FDNY, and other public safety organizations managed to mount a valiant response; and as at Breezy Point, the hospital evacuations resulted in zero deaths – an impressive feat, given the extremely fragile health of many of the affected patients, including several dozen newborns from NYU’s neo-natal intensive care unit. In total, five hospitals and about 30 nursing homes and other adult residential facilities, involving 6,300 individuals, had to be evacuated during or following Sandy. 13

The National Guard also played an important role in responding to the crises at the hospitals, most notably at Bellevue, which did not start evacuating its patients until Tuesday. (NYU evacuated its patients Monday night.) There, the Guard provided crucial assistance in several different ways. To start with, after Bellevue’s fuel pumps failed late Monday, Guard troops joined hospital staff and others to form a bucket brigade, passing one bucket of fuel after another up 13 flights of stairs, in a dogged effort to keep the emergency generators going and, thereby, maintain a minimal amount of power throughout the facility. Worried that patients’ oxygen supplies would run out, Guardsmen also lugged oxygen tanks – each weighing 180 pounds – up ten flights of stairs. (The hospital’s elevator shafts had flooded, taking the elevators offline.) And when the evacuation of Bellevue finally commenced, teams of Guardsmen spent hours carrying obese patients down the stairs and onto ambulances, an operation that required careful coordination among team members. 14

Meanwhile, starting Monday evening, New Yorkers had been calling the city’s 9-1-1 line in record numbers, threatening to overwhelm the official channel for reporting emergencies. With approximately 20,000 calls coming in per hour, individuals experienced wait times as high as 5-½ minutes; others complained of receiving busy signals or a recorded message. (The city later argued that the 9-1-1 system “did not fail or drop any calls” and that the


busy signals were due to issues with the phone carriers.) Some callers eventually turned to social media to broadcast their predicaments and to express frustration with the 9-1-1 system. In a surprise to many, this often led to them receiving the assistance they had sought when initially dialing 9-1-1.

Emily Rahimi, Social Media Manager for FDNY, explained how she suddenly found herself helping to facilitate the department’s response:

I was prepared to be tweeting out safety information, and I started getting a lot of tweets from people who said they did not have phone service, that they would try calling 9-1-1 and they’d have them on there for a second, and then it would drop. A lot of them still had some connectivity, with their phones, to something like Twitter, and so that was just their way of reaching out, somehow, to get to somebody to help them.16

Seeing these tweets, Rahimi began contacting FDNY dispatchers to convey the information and activate a response. At the same time, city officials sought to relieve the stress on the 9-1-1 system by reducing the number of non-urgent calls. Accordingly, during a press briefing late in the evening of the 29th, Mayor Bloomberg emphasized that 9-1-1 was only intended for the reporting of serious emergencies.17 All other requests for assistance, he continued, should be directed to the city’s 3-1-1 system. (The majority of calls made to 9-1-1, the city later noted, were for “downed trees and other non-life-threatening emergencies.”)18

Transportation Systems Under Water

The surge of 9-1-1 calls was just one of the many challenges confronting first responders as they scrambled to respond to the multitude of emergencies now taking place in one neighborhood after another. As with Chief Pfeifer’s experience trying to access Breezy Point, they were now finding it increasingly difficult to just get around the city, as floodwaters overwhelmed its transportation infrastructure, inundating streets and pouring into subway stations and tunnels. Major thoroughfares like the FDR Drive, which ran along Manhattan’s east side, were swamped. Water quickly filled seven subway tunnels that ran under the East River and that served as the primary points of connection between Manhattan and Brooklyn for millions of New Yorkers. Multiple subway stations were

also inundated, including the South Ferry station in lower Manhattan, which the transportation authority described as being flooded from “track to ceiling.” 19

The city’s major tunnels fared no better. Late Monday evening, when Metropolitan Transportation Authority (MTA) Chairman Joseph Lhota arrived at the Manhattan entrance of the Brooklyn-Battery Tunnel, he was shocked to discover that it had been overtaken by floodwaters. He had previously been told that since its construction, the tunnel had “never had a puddle in it.” 20 Lhota described the scene before him:

This was worse than my worst fear. ... Water from the Hudson River was flowing down into the Battery tunnel; there were white rapids flowing into the tunnel, and it sounded like a waterfall. ... Each tunnel had 43-million gallons of water, over 6,000 feet, more than a mile, filled with water, floor to ceiling, side to side, completely filled up, all the way. 21

As a result of Sandy, both the Brooklyn-Battery and the Queens-Midtown Tunnel, which was also swamped by the storm, would be offline for several days. 22

Staten Island – In the Bull’s Eye of the Storm

Even as Sandy disrupted care in major Manhattan hospitals, triggered destructive fires in Queens, and swamped neighborhoods and transportation infrastructure across the city, the storm saved its very worst for Staten Island. Geographically positioned to take the brunt of Sandy’s massive storm surge, the borough endured terrible damage and suffered a tragically high number of casualties. 23 As FDNY Commissioner Salvatore Cassano recalled, “Just dealing alone with Staten Island would’ve been enough for the department, without everything else going on.” 24

23 James Barron, Joseph Goldstein, and Kirk Semple, “Staten Island was Tragic Epicenter of Storm’s Casualties,” November 1, 2012, available at http://www.nytimes.com/2012/11/02/nyregion/staten-island-was-tragic-epicenter-of-new-york-citys-storm-casualties.html?_r=0 [accessed November 1, 2016]. In addition to its location, some observers noted that the intense development of the island also made it highly vulnerable to coastal storms. According to Dr. William J. Fritz, interim president of the CUNY College of Staten Island, “What have we done on Staten Island? We’ve hardscape our sponge [that could have absorbed the energy and force of a hurricane]. We’ve made roads and parking lots and houses and paved over the sponge. We’ve created an urban area, and you no longer have a sponge.”
Even before Sandy made landfall Monday evening, waves of water had begun washing across the island’s beaches and coastal roadways.\(^{25}\) A particularly hard-hit part of the borough was the Midland Beach neighborhood, centrally located on the island’s east coast. The New York Times vividly described how the emergency there unfolded:

> [Midland] turned into a lake that was more than nine feet deep in some places – nearly enough to fill the victims’ homes. …. Water pushed relentlessly into the neighborhood [from almost every direction], slowly in some places, more quickly in others. ... Throughout the pitch-black neighborhood, people were fighting for their lives.”\(^{26}\)

In this darkness, a small crew of firefighters, along with several civilians who had self-mobilized in canoes and on inflatable rafts, searched the neighborhood for survivors. One of the firefighters, Anthony Guida, described how he and the others operated in the dire conditions. “From nowhere, we’d get a beam of light [from a stranded resident, often on their rooftop] and we’d have to track where the light was coming from,” he recalled. Noting just how daunting their task was, he continued, “Covering the entire Midland Beach area was impossible for one boat, or three. ... It would have been impossible for 10 boats.” Yet even though they were woefully undermanned, the firefighters successfully rescued scores of neighborhood residents throughout the night, only leaving Midland at 3 Tuesday morning because they had been directed to deal with another emergency elsewhere on the island.\(^{27}\)

In the end, eight people, mostly elderly or with medical issues, lost their lives in Midland Beach, which had the tragic distinction of experiencing the highest concentration of Sandy-related deaths in the U.S.\(^{28}\) As in other Zone A neighborhoods, the city had made a point to disseminate news of Bloomberg’s evacuation order in advance of the storm’s arrival — but many Midland residents either reported not hearing the announcements or simply chose not to relocate, with memories of the disruption caused by the ultimately “unnecessary” Hurricane Irene evacuation 2011 still fresh in their minds.\(^{29}\)


Linda Gibbs, the city’s Deputy Mayor for Health and Human Services, later argued that while the city had tried to facilitate evacuations, especially for the area’s most vulnerable residents, “if a person does not want to leave their own home, we cannot force them.” But City Councilman James Oddo, who represented Midland, lamented that the city had not done enough to prevent the deaths in his neighborhood. “It weighs heavily on me,” he said. “It means to a certain degree that we in government failed.”

Sandy Departs, Response Challenges Mount

Shortly after midnight on Tuesday, October 30, President Obama issued a Major Disaster Declaration for New York (and another for New Jersey), authorizing additional federal support for post-storm recovery. The declarations were issued following verbal – instead of written – requests by the governors, an exception to the norm that indicated just how seriously the states and the Obama administration took Sandy.

By Tuesday morning, with Sandy now having moved out of the region, the city began the difficult process of assessing the storm’s impact. In many ways, it was worse than what many had originally anticipated. Joseph Lhota of the MTA observed, “[Until then], we had no idea of the severity of the situation. We knew it was bad, we just didn’t know how bad it was.” Indeed, it soon became abundantly apparent that the city could not meet the challenge on its own and instead would require significant assistance from the state and federal governments.

As it turned out, the ensuing relief effort stretched not over just a few days, but for several months. And the tasks were many, requiring the involvement of multiple agencies operating on a number of different fronts. For instance, the city’s sanitation department played a key role in the aftermath of the storm by moving an enormous amount of debris off city streets and other public places (the city estimated that Sandy had left approximately 700,000 tons of debris, including trees, sand, and concrete, in its wake.) With clearing the debris an urgent concern from both a public safety point of view and from a longer-term recovery perspective, thousands of workers from the city’s department of sanitation worked days on end, beginning as early as Tuesday, October 30, to remove the debris from storm-ravaged areas and to relocate it to seven state-designated temporary storage sites. (In the eight days following the storm, more than 6,000 sanitation workers collected and sorted almost 110,000 tons of

According to city officials, this was an immensely valuable (and all-too-often-overlooked) contribution to the overall relief effort – and, ultimately, was an important factor in sparking the early stages of recovery in neighborhoods across the city.

Meanwhile, to conduct some of the most critical post-storm relief activities, city, state, and federal governments worked together in multi-agency team formations. For example, in partnership with FEMA and the National Guard, FDNY and NYPD scoured the city for trapped or injured residents, organizing and implementing a grid search of more than 31,000 homes and businesses. After a less than optimal start to the search, the city tasked FDNY’s incident management team (IMT) with bringing order to the effort by coordinating the activities and resources of the different agencies involved, especially that of the Guard. According to FDNY Assistant Chief Pfeifer, shifting management of the door-to-door search to the IMT provided some badly needed structure and oversight, which in turn led to more effective data collection and greater clarity on residents’ whereabouts and conditions. Having an accurate understanding of who was where and what their needs were was critical not only in the immediate aftermath of Sandy but also for the longer term, Pfeifer continued, since the city had decided, post-storm, to encourage as many people as possible to shelter-in-place in their homes, scattered across numerous neighborhoods, as opposed to housing large numbers of people in trailers or other types of temporary housing. (Not only did sheltering in place cost less in the long run, Pfeifer noted, but it was a much more psychologically positive experience for survivors.) Other interagency short term recovery task forces were organized to assess storm damage, perform wellness checks in the homes of people with special needs, conduct tree removal, implement dewatering operations, and distribute food and supplies.

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36 Personal communication with Joseph Pfeifer, FDNY, August 15, 2017.
37 As a result of this experience, leaders of FDNY, the New York National Guard, and the city and state offices of emergency management subsequently collaborated to develop a decision-making guide for utilizing the Guard during future emergencies. The guide articulated structures and processes for improving coordination between the Guard and local response agencies, with the goal of getting “the right critical resources in the right place at the right time.” Among other things, it called for the creation of a “National Guard Integration Team” that would imbed itself with FDNY’s IMT to optimize and accelerate the integration of Guard and FDNY assets during an emergency response. (City of New York Fire Department, State of New York Division of Military and Naval Affairs [NY National Guard], State of New York Office of Emergency Management, and City of New York Office of Emergency Management, “Decision-Making Guide: Engagement of NY National Guard during Disasters,” May 28, 2013).
38 Personal communication with Joseph Pfeifer, FDNY, August 15, 2017.
FEMA Federal Coordinating Officer (FCO) Michael Byrne explained that only by leveraging the manpower of several agencies in a collective, unified effort could the city and its partners successfully manage many of these tasks, especially the massive post-storm search. “We had convoys that went into the neighborhoods, block by block, building by building, to go door to door,” Byrne noted. “That’s a big task in New York, but [with so many agencies involved] it worked. It worked very well.” Byrne also noted that FEMA’s involvement in this effort had an added benefit: it reassured survivors that the federal government took their concerns seriously and was working to address them. He continued, “One of the things my boss at the time, [FEMA Administrator] Craig Fugate, always said is ‘presence is a mission.’ So how do I get people to realize that we’re there? Because that alone makes people feel better that they have access and that they know that there’s somebody there who cares and somebody who is not forgetting their part in the city.”

**Staten Island – Frustrations Go Public**

Unfortunately, Byrne and other response leaders would soon learn that some survivors – particularly those on Staten Island – felt that they had, in fact, been forgotten. There, floodwaters that were slow to recede kept roadways closed for days on end, and residents who had evacuated in advance of Sandy were unable to return to the borough until the Verrazano-Narrows Bridge fully reopened to general traffic on Wednesday, October 31.

The Associated Press captured the desolate scene across large swaths of the borough in the days immediately following Sandy:

Dazed survivors roamed Staten Island’s sand-covered streets amid ruined bungalows sagging under the weight of water that rose to the rooftops. Their contents lay flung in the street: Mud-soaked couches, stuffed animals and mattresses formed towering piles of wreckage. Boats were tossed like toys into roadways. ... Spray-painted on the plywood that covered the first floor of one flooded home were the words: ‘FEMA CALL ME.”

Tensions on Staten Island escalated with each passing day, and on Thursday, November 1, Borough President James Molinaro publicly vented his frustration with the response. One of his complaints was the lack of information from government agencies about the status of relief efforts. “There was no one there to answer the questions,” Molinaro declared. “I need answers, and the people need answers.” Pleading for assistance, Molinaro added, “This is America. This is not a Third World nation. We need food. We need clothing. We need everything

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40 Telephone interview with Michael Byrne, Federal Coordinating Officer for Hurricane Sandy, Federal Emergency Management Agency, September 5, 2013. Unless noted, all subsequent quotations by and attributions to Byrne are from this interview.
you can possibly think of." He then proceeded to direct much of his ire at the Red Cross, going so far as to say, “My advice to the people of Staten Island is: don’t donate to the American Red Cross. Put their money elsewhere.” The group’s slow response, he alleged, was an “absolute disgrace.”

Other elected officials representing the borough joined Molinaro in his criticism. Staten Island City Councilman James Oddo took to Facebook, where he posted about the plight of his constituents, who were also expressing their frustrations to the media. “We’re going to die! We’re going to freeze! We got 90-year-old-people,” Donna Solli bemoaned, pleading for officials to provide survivors with basic necessities. “You don’t understand. You gotta get your trucks down here on the corner now. It’s been three days!” The New York Post captured residents’ despair, dubbing the island the “forgotten borough.”

By Friday, the outcry on Staten Island had become so intense that senior federal officials, including Obama’s Secretary of Homeland Security, Janet Napolitano, and FEMA Deputy Administrator Richard Serino, personally visited the borough to reassure residents, and their political representatives, that they took their concerns seriously. During their visit, they toured a Red Cross distribution center, where they were joined by Borough President Molinaro and Red Cross CEO Gail McGovern. Napolitano promised residents that they would receive the

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45 In response to Molinaro’s and his constituents’ complaints, defenders of the Red Cross noted that both it and the National Guard had begun arriving on the island as early as Tuesday. Moreover, according to the Red Cross, its first eight trucks carrying relief supplies had actually arrived just before Molinaro went public with his frustrations, having been delayed by the extensive traffic gridlock that followed on the heels of Sandy. Jennifer Abbey, “‘We Need Food, We Need Clothing’; Staten Island Residents Plead for Help 3 Days After Sandy,” ABC News, November 1, 2012, available at http://abcnews.go.com/blogs/headlines/2012/11/were-going-to-die-staten-island-residents-plead-for-help-3-days-after-sandy/ [accessed October 1, 2013]; and David M. Halbfinger, “Anger Grows at Response by Red Cross,” New York Times, November 2, 2012, available at http://www.nytimes.com/2012/11/03/nyregion/anger-grows-at-the-red-cross-response-to-the-storm.html [accessed November 2, 2016].


47 Jennifer Abbey, “‘We Need Food, We Need Clothing’; Staten Island Residents Plead for Help 3 Days After Sandy,” ABC News, November 1, 2012, available at http://abcnews.go.com/blogs/headlines/2012/11/were-going-to-die-staten-island-residents-plead-for-help-3-days-after-sandy/ [accessed October 1, 2013].


49 Adding to the anger of many borough residents was Mayor Bloomberg’s plan to go ahead with the New York City Marathon, which was scheduled for that weekend. With the race beginning on the Verrazano-Narrows Bridge, the mayor no doubt wanted to signal that Staten Island, along with the city at large, was on the rebound. Instead, many Staten Islanders were outraged at the idea of holding the Marathon amidst so much death and destruction. With the clamor over the Marathon growing louder by the day, Bloomberg announced on Friday that he had canceled the race. Meghan Barr, “Battered by Storm, Staten Islanders Feel Forgotten,” The Associated Press, November 3, 2016.

help they needed, “We know that Staten Island took a particularly hard hit from Sandy,” she said, “So we want to make sure that the right resources are brought here as quickly as possible to help this community, which is very strong, recover even more quickly.”

Molinaro, meanwhile, now struck a much more conciliatory tone when it came to the Red Cross. “You see what the Red Cross is doing here today. They got 11 trucks out here,” he told reporters, as he then sought to put his previous criticism in perspective. “For four days, this borough was cut off. No bridges, no way of getting off or on. Sometimes you get frustrated, you get angry. So I got angry, I was frustrated. I think they’re doing a good job.” During a return visit by Secretary Napolitano about a week later, Molinaro continued to focus on the positive. In particular, he said that FEMA had done “an outstanding job. ... No matter what the problem was, they were there to answer, and they gave comfort to the people.”

FEMA Decentralizes

Such positive assessments of FEMA’s work stemmed in part from FCO Byrne’s determination that his team be as responsive as possible at the most local of levels. The city, Byrne observed, was really a collection of neighborhoods, and “if I missed one neighborhood, I was toast the next day, either from a neighborhood group or elected officials.”

According to Byrne, FEMA’s decision to organize its New York City operations geographically, instead of by functional area, was a significant reason the agency largely managed to avoid serious conflict in Sandy’s wake:

If we had centralized, if we had set up a functional organization, where everything had to come in to my JFO [Joint Field Office], I would have been dead in the water. ... But because we had [organized geographically] – and I pushed out decision making, I gave spending authority, I gave decision authority all the way out, into those divisions – we were able to handle the sheer volume and the complexity of the requests that we were getting.

To implement this strategy, Byrne appointed fellow FCOs – senior officials with extensive knowledge of FEMA’s capabilities and systems – as division supervisors in each of the boroughs (as well as in counties outside of the city). “The reason I used the boroughs and the counties as the centers [was] because that’s where they could connect with the political leadership. Each one in the city linked themselves deliberately to the borough president and their staff.” And with the city’s OEM adopting a similar model, FEMA and the city’s emergency response apparatus were able in large part, as Byrne put, to work together “arm and arm ... to get things done.”

Byrne acknowledged, however, that in the first few days after Sandy, Staten Island was clearly a “glaring” exception to this rule. Although he asserted that FEMA had been on the ground, doing good work on the island in

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the immediate aftermath of the storm, he realized that “we weren’t in front of Jim [Molinaro] and a lot of people there.” As the situation threatened to evolve into a full-blown political crisis, Byrne moved quickly to bring it under control, directing the FEMA official he had assigned to Staten Island to more proactively liaise with Molinaro.

I gave him Jim’s number, and I told him, ‘You better be on the steps of Borough Hall tomorrow morning at 6 AM – and you call this number and whatever he wants, you get him [that]’. That’s what we did, and Jim turned out to be a great partner. His knowledge of Staten Island, his knowledge of what was needed, and what kinds of support his constituents needed, was just unsurpassed.

For Byrne, Molinaro’s initial criticism had served as a helpful “early warning shot.” Failing to engage closely with local political leaders, he quickly learned, could seriously complicate, and potentially up-end, even the most well-intentioned relief operation.

Military Support and Dual Status Command

The extent of the destruction wrought by Sandy also soon led to an expansion of the military’s involvement in the emerging relief efforts – which over the ensuing days and weeks came to include not just state-controlled Guard resources but federal Title 10 assets as well. As a consequence, Brigadier General Mike Swezey of the New York National Guard, who served as Dual Status Commander (DSC) for New York during Sandy, proceeded to work though both his state and federal chains of command to coordinate the military response. Swezey’s effort, along with that of Brigadier General James Grant, who was the DSC in New Jersey, marked the first time in U.S. history that DSCs actively commanded both state and federal troops and equipment in response to a major natural disaster.  

As DSC for New York, Swezey commanded more than 3,000 members of the state’s National Guard, as well as almost 800 additional Guardsmen provided through the multi-state Emergency Management Assistance Compact (EMAC) and nearly 800 federal troops, the latter of which ended up supporting relief efforts on several different fronts. One of the key ways in which they did so was by helping to implement an extensive dewatering effort across the city, particularly in Manhattan and Brooklyn, where Sandy’s massive storm surge had flooded subway, train, and car tunnels, along with the basements of thousands of homes, offices, and healthcare facilities. Since the New York National Guard didn’t have the pumps required for this type of operation, officials turned to the Army

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Corps of Engineers, as well as active-component Army and Marine Corps engineer battalions to perform the mission. Federal forces provided support by other means, too, including by clearing debris, removing trees from roadways, and helping to restore electricity, with Title 10 aircraft (C17s and C5s) transporting trucks and personnel from power companies located in different parts of the country to New York.  

Proponents of Dual Status Command believed that it generally worked well during Sandy. “The dual-status commander concept was validated during the Sandy response,” Swezey asserted. His deputy, Colonel Paula Gregory, concurred, elaborating, “Having that one person [the DSC] able to oversee both efforts that were happening within their states brought a lot of synergy into the overall effort and better support to the citizens that needed the help.” Dr. Paul Stockton, who at the time of Sandy was U.S. Assistant Secretary of Defense for Homeland Defense and Americas’ Security Affairs, added, ‘Frankly, [dual status command] functioned with terrific effectiveness. And I’m proud of both the National Guard leadership and the Title 10 components that contributed to that effectiveness – and [of] Northern Command, [through] the leadership of General [Charles] Jacoby and his team.”

But Swezey and others also acknowledged that Sandy provided some important lessons for dual status command and the utilization of Title 10 assets. To start with, Swezey felt that when compared with commanding Guard troops, it was extremely difficult to reorient federal military forces from one mission assignment to another. He explained, “In the early days, I had a real demand to get food and water out” to survivors. “It’s no problem for me as a National Guard general to task forces not to clear debris today, but [instead] to deliver food.” That was most definitely not the case, however, when it came to federal forces. The active-component troops under Swezey’s command operated under very specific mission assignments, and if that assignment happened to be to clear debris, Swezey couldn’t suddenly ask them to instead deliver food and water. In fact, Swezey noted, federal mission assignments were originally so specific that Title 10 troops assigned to “debris clearance” (i.e., moving debris to the side of the road) could not even perform “debris removal” (i.e., removing debris from the immediate area).

By design, requesting, reviewing, and issuing mission assignments for federal resources, including Title 10 military assets, was a multi-layered process involving several different agencies and levels of government. In the

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59 Telephone interview with Dr. Paul Stockton, former Assistant Secretary of Defense for Homeland Defense and Americas’ Security Affairs, U.S. Department of Defense, August 29, 2013. Unless noted, all subsequent quotations by and attributions to Stockton are from this interview.
simplest terms, a locality like New York City would make known to its state emergency management/homeland security office what support it required to address the demands of response and relief operations. The state would first try to meet those needs first with its owns assets (e.g., National Guard equipment or personnel). If it could not provide the required support by its own means, it would then attempt to do so either with resources from other states through EMAC or with resources provided by the federal government. If the latter, the state worked with FEMA, which coordinated all aspects of the federal mission assignment process, including by determining what federal agency (e.g., DOD, the Department of Transportation, or the Department of Energy) was best suited to provide the required support. To help facilitate requests involving Title 10 assets, DOD deputized an active duty officer to serve as Defense Coordinating Officer (DCO) in each of FEMA’s regional offices, including Region 2 in New York. The DCO was responsible for working with NORTHCOM to identify and deliver the appropriate assets, which would then be commanded by the Dual Status Commander.⁶¹ (See Exhibit 1 for a diagram depicting the FEMA mission assignment process.)

While this process generally functioned as intended during Sandy, several senior officials noted some complications when it came to mission assigning Title 10 assets. In addition to Swezey’s frustrations with how rigidly some federal partners adhered to the specifics of an assignment, others noted that poor situational awareness created problems for identifying and communicating needs and for developing an appropriate mission assignment to address those needs. Speaking specifically to how this affected DOD, former DOD Assistant Secretary Dr. Paul Stockton observed, “Our ability to prioritize the delivery of scarce but especially valuable assets (including high-volume water pumps) depended on the availability of information, communications, and – above all – agreement by state and city leaders on where such Defense assets should be deployed. Those prerequisites for providing effective Defense support posed a major challenge in Sandy, due to the scale and severity of the disruption inflicted by the storm. We should expect that even more catastrophic events in the future will create still greater difficulties for prioritizing DOD assistance operations.”

Stockton also saw, in Sandy, several other ways in which the military could improve its involvement in disaster response. For one thing, he believed that going forward, DOD and the states had to make more of an effort to ensure that “the total force [i.e., the entirety of the National Guard, all active components of the federal military, as well as reserves] be familiar with the precepts of dual status command.” He also stressed the need to better utilize the “very valuable” military assets that had participated in Sandy relief, especially the Marine Corps, “to make sure that those assets from the sea can be utilized even more effectively in future disasters.”⁶²

Swezey, too, acknowledged the potential of the Marines. But he also pointed to their involvement in the Sandy relief effort as a partially cautionary tale, with one experience in particular revealing how difficult it could be to coordinate with Title 10 units. As be bluntly put it, “The State of New York was unofficially invaded by the

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⁶² Stockton saw sea-based capabilities as a critical component of military support to civil authorities in the event that a catastrophic disaster made land-based operations too difficult to organize and implement.
Marines about 10 days into the hurricane.” Swezey explained that on Sunday, November 4, the day after federal forces were first authorized to support relief efforts in New York, he participated in a conference call with officials from NORTHCOM. During the call, Swezey was shocked to learn that a contingent of about 40 Marines from the aircraft carrier USS Wasp, which DOD had positioned in waters close to New York City, had landed on Staten Island and had started to perform debris removal.

“We had no [prior] knowledge of that,” Swezey said. “We were not happy when we heard that. Where was the authorization?” In addition to his annoyance that the clear lines of authority involving Title 10 assets and the DSC had been bypassed, Swezey felt that the mission was simply unnecessary. At that point, he said, the state and city had the assets to deal with the situation. But, after Swezey expressed his frustration and confusion to the others on the call, a NORTHCOM officer replied, “They are in, they are doing good work. ... We are going to do this.”

For their part, the Marines had been keen from the start of Sandy to demonstrate their value in domestic disaster relief. Speaking in general terms about their readiness to respond in the aftermath of the storm, Maine Corps Col. Matthew G. St. Clair, commanding officer of the 26th Marine Expeditionary Unit (MEU) aboard the Wasp, declared, “What’s important here is that the American public sees that their military can provide support to American cities, to American citizens, in a time of need. ... We’re able to respond quickly. We’re able to self-deploy. ... This is an example of what a true crisis response force is.”

In the end, the Marines continued their operation on Staten Island – but Swezey and the New York National Guard also made it clear to National Guard Bureau and NORTHCOM leadership that they were frustrated by the incident. Above all else, they worried what precedent the Marines’ actions would set, pointing out that one of the first deployments of federal military forces under the DSC framework had occurred with neither the DSC’s nor the governor’s knowledge. As Swezey put it,

If governors around the country see that you bring in federal forces and you basically lose control of your military – because you’re going to end up getting these people pushed into you, whether you want them or not – the next time there’s an emergency, you’re not going to see governors being as receptive to asking for a dual status commander.

Swezey later observed that while such disagreements were quickly overcome (and, thankfully, were otherwise few and far between), having the two different chains of commands had the potential to be problematic, putting the DSC in the awkward and extremely difficult position of possibly having to navigate conflicting orders. Swezey

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63 Telephone interview with Michael Swezey, Brigadier General, New York National Guard, and Dual Status Commander in New York State for Superstorm Sandy. Unless noted, all subsequent quotations by and attributions to Swezey are from this interview.

stressed that it was not up to him, as DSC, or his military colleagues to resolve such problems. “I’m not the umpire,” he said. “An issue like that needs to be tossed back to civilian channels.”

FEMA FCO Michael Byrne added that although DOD was a particularly rich source of response assets, involving the military added a level of complexity that could often be more trouble than it was worth. To start with, he believed the active component military was generally not “as well practiced with domestic missions” as it could be. Moreover, he worried that the proactive manner in which the military typically operated had, despite the obvious benefits derived from quick action, some serious drawbacks. He observed,

They train them to take initiative on the ground, not to wait. They give them broad, sweeping, generalized orders, and they basically cut them loose and say ‘do good things.’ … [Consequently] you’ll then have an aggressive young lieutenant colonel or major go into a neighborhood, encounter a problem, and want to solve the problem and will sort of report up that they’ve got this or that challenge to do. And they’ll put pressure, coming from the field back up to us, to write a mission assignment to have them do that. That all sounds great. … [But] I also have responsibilities to use resources appropriately and I certainly have a fiduciary responsibility when I am the FCO. … DOD is almost always the most expensive option, and [if] I have other ways to solve that problem that are just as effective and just as fast, I have the responsibility to use those other assets.

A Scramble for Fuel

As the days passed, one issue in particular came to symbolize just how challenging the situation had become in and around New York: a real, but partially perceived, fuel shortage had emerged as a dominant narrative of the response, with major media outlets covering the story extensively. Not only had it started to stoke panic among area residents desperate to refuel their cars, but it had also begun to threaten many responders’ ability to keep their vehicles running—and, consequently, to provide relief services.

A number of factors had contributed to this problem. First, in a well-intentioned effort to protect critical infrastructure, fuel tankers had been moved out of New York Harbor and out to sea in advance of Sandy. This meant that in the aftermath of the storm, it took several days for the tankers to make their way back to port and for the fuel they carried to reach the region’s gas stations. The storm had also damaged essential components of the region’s fuel supply chain, including terminals, pipelines, and refineries, which also contributed to delays in the delivery of fuel. Moreover, the loss of power in parts of the city meant that some stations that had fuel on hand could not pump it from their storage tanks and into vehicles. And finally, stations that had both power and fuel

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were quickly overwhelmed by long lines of drivers, who waited for hours on end to fill up their tanks, causing congestion on nearby city roads. Taken together, these factors led, as an FDNY report later stated, to “a short-term fuel crisis in the tri-State area the likes of which [had] not been seen since the mid-1970s.”

Power was restored fairly rapidly throughout the region, which theoretically should have then alleviated the crisis as gas stations regained the ability to pump the fuel they had on hand. But the problem had evolved from one of limited supply to one of overwhelming demand, as media coverage intensified and citizens continued flocking to gas stations. In response, on Saturday, November 3, just three days before the presidential election, federal authorities informed their city and state counterparts that they were sending five fuel tankers to five different locations in New York City and on Long Island. The plan was for the Guard to then pump fuel for any citizen who showed up. “Well, then a public announcement was made, listing these five locations, and literally, and I’m not exaggerating, tens of thousands of people descended upon each of these five locations,” Brigadier General Ray Shields of the New York National Guard recalled. … “I mean, it was just – in the Bronx, the pictures of it, it’s amazing to see. People showed up with literally soda bottles, pots, and pans.” Despite addressing intense demand on the part of the public, this effort was, in Shields’ view, “one of the worst things that transpired” in the aftermath of Sandy. The operation had been put together so hastily, he pointed out, that three of the designated distribution points were at former armories that the National Guard no longer owned or operated.

The fuel crisis also had serious implications for the relief effort itself. City agencies had made a point to fuel their fleets in advance of Sandy, and NYPD even managed to supply some city vehicles with gas in the storm’s aftermath. All the same, worries arose that the days-long fuel crunch was now threatening the city’s ability to keep essential vehicles running. Thus, on Sunday, November 4, the city – in partnership with the New York National Guard, the federal Defense Logistics Agency, and several other federal entities – established a fueling center for city vehicles at Floyd Bennett Field, located in southeast Brooklyn.

But it wasn’t entirely all smooth sailing to set up this operation, either. As Shields recalled, the Guard was surprised to discover at the last minute that the tanker it had brought in to support the effort was equipped with nozzles to fuel military vehicles – but not with ones suitable for civilian vehicles. After identifying a warehouse in Kentucky that had the right nozzles in stock, the Guard quickly sent an airplane down to pick them up and deliver them to Floyd Bennett Field. Once the new nozzles were in place, Shields said, the operation “literally fueled

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68 Spearheaded by the federal government, this initiative was managed through a multi-agency task force. Title 10 troops, under the command of DSC Swezey (and DSC Grant in New Jersey), implemented the effort, ultimately delivering more than 1.8 million gallons of fuel to the region (William Matthews, “Two Hats Are Better Than One,” National Guard, March 2013, pp. 20-25, available at http://www.nationalguardmagazine.com/display_article.php?id=1341937 [accessed October 26, 2016]).
69 Interview with Raymond Shields, Brigadier General, New York National Guard, August 29, 2013, Latham, New York. Unless noted, all subsequent quotations by and attributions to Shields are from this interview.
thousands of vehicles” – starting with ambulances, fire trucks, and police cars, before expanding to include school and city buses, and eventually doctors and nurses and even taxis.

FEMA FCO Mike Byrne saw both the pluses and minuses of the government intervening in the fuel crisis. “I think if we had kept it to just fuel for public safety officials … I think that would have been much more manageable,” he said. “[But] we crossed the threshold and they asked us to start supplying it to civilians. We just didn’t have the capacity to do it.” He added that the government’s involvement might have even intensified and prolonged the crisis, observing that the long lines at the armories and other distribution points stemmed in part from the fact that the fuel was being provided for free. Meanwhile, nearby gas stations with power were functioning as normal – but because they were selling their fuel, customers bypassed these stations.

“The role of government is to support and not supplant. We were there to support,” Byrne emphasized. “When we start to supplant an industry and take on their responsibilities for being an essential function that these industries are in a place to do, that’s where we get into trouble and that’s where quite frankly we’re never going to meet that requirement. We’re not designed to do it; we certainly don’t have the capacity. ... To do it in a New York, a Los Angeles, a Chicago, a Boston, even – I think it’s an unrealistic expectation in my view.”

Sandy as Catastrophe?

As the days and weeks wore on, response and relief evolved into early- and then long-term recovery, with the city and its partners increasingly focused on issues like home and infrastructure repair. At the same time, the Bloomberg administration launched serious, far-ranging conversations about how to make the city more resilient against the growing threats posed by climate change. Response officials, meanwhile, proceeded to reflect on just how extreme an event Sandy had been – and what lessons they could apply to similar or more severe disasters in the future. Many acknowledged that the scale of damage and the extent of casualties attributable to Sandy didn’t reach the levels experienced along the Gulf of Mexico during Hurricane Katrina or in Japan following its massive 2011 earthquake and tsunami. All the same, local, state, and federal officials agreed that Sandy’s impact on Greater New York had been severe. The storm had affected millions of area residents in a multitude of ways, while also straining the city’s emergency response apparatus and testing the ability of state and federal government to provide support in a speedy and effective manner. As FEMA FCO Mike Byrne put it, “I don’t think that it was a catastrophic event but ... as history will now show, it’s the second mostly costly disaster in FEMA’s history, second only to Katrina.”

Former DOD Assistant Secretary Paul Stockton echoed Byrne as he summed up Sandy’s lessons for large-scale responses requiring significant federal support. “We saw a glimpse in Sandy of what a complex catastrophe could be,” he said, “not only in terms of increasing the demand for life saving and life-saving federal capabilities at the request of governors, but also the consequences of having such a severely disrupted environment in order to know what the support requirements were and to get the assets there.”
For Stockton and other emergency response leaders, the near-catastrophe that was Sandy foreshadowed what might be in store for New York City and other coastal US cities in the years to come. They now had to determine what had worked well during Sandy – and, just as importantly, to identify what needed fine-tuning as they prepared for future responses requiring such a wide range of resources, supplied by so many agencies from every level of government.
Exhibit 1:

FEMA Mission Assignment Process
