

DEPARTMENT OF THE ARMY

COMPLETE STATEMENT

OF

THE HONORABLE JO-ELLEN DARCY

ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

BEFORE

**THE COMMITTEE ON HOMELAND SECURITY
AND GOVERNMENTAL AFFAIRS**

UNITED STATES SENATE

ON

**HURRICANE SANDY: GETTING THE RECOVERY RIGHT
AND THE VALUE OF MITIGATION**

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Mr. Chairman and Members of the Committee:

I am honored to testify before you today on Army's role in Hurricane Sandy – response and recovery. I am Jo-Ellen Darcy, the Assistant Secretary of the Army (Civil Works).

Hurricane Sandy was a catastrophic storm that struck the Atlantic coastline in late October 2012, resulting in loss of life, severe damage to the coastline, widespread power outages, damage to infrastructure, businesses and private residences. Degraded coastal features have resulted in increased risks and vulnerability from future storm events, and expected changes in sea level rise, extreme weather events, and other impacts of climate change are likely to increase those risks even further.

Damages were experienced as far south as Florida, as far north as New England, and as far west as the Great Lakes. Particularly hard hit were areas in the greater New York City metropolitan area, including Long Island, New York, New Jersey and the Connecticut shoreline.

On October 22, 2012, Hurricane Sandy originated in the Caribbean. It strengthened as it crossed over eastern Cuba and the Bahamas on October 25, 2012, at which point, it was a Category 3 storm with winds in excess of 125 mph. Upon its approach to the Atlantic coastline, a trio of weather factors combined to create the super storm: (1) an intense Category 1 hurricane, (2) a trough of low pressure dipping down from the Arctic feeding the hurricane and (3) a block of high pressure in the northeastern Atlantic Ocean pushing Sandy toward the east coast.

On October 27, Sandy briefly weakened to a tropical storm and then re-strengthened to a Category 1 hurricane. While it was a Category 1 storm off the coast of the Northeastern United States, the storm became the largest Atlantic hurricane on record (as measured by diameter, with winds spanning 1,100 miles). Prior to impacting the mid and north Atlantic coastline, Hurricane Sandy devastated portions of the Caribbean. Early on October 29, Sandy curved north-northwest and moved ashore near Atlantic City, New Jersey.

Due to the massive size of the storm, the brunt of the energy and damages were north of Atlantic City for a distance of hundreds of miles. Due to the size and energy of the storm, it caused damage not previously experienced along the north Atlantic coastline, including widespread flooding, erosion and wave attack resulting in power outages, damage to infrastructure, businesses and residences. Lesser impacts were experienced in the Southeastern and Midwestern states and Eastern Canada. Existing Corps projects helped to mitigate some of the flood damages to the residents.

RESPONSE ACTIVITIES

The Corps has authority under Public Law (PL) 84-99, Flood Control and Coastal Emergencies (FCCE) (33 U.S.C. § 701n), for emergency management activities in

response to natural disasters. Under PL 84-99, as amended, the Chief of Engineers, acting for the Secretary of the Army, is authorized to undertake activities including natural disaster preparedness, advance measures, emergency operations (flood response and post flood response), rehabilitation of eligible flood control works threatened or destroyed by flood, repair of federally authorized shore protective works threatened or damaged by coastal storms, and provision of emergency water assistance due to drought or contaminated source. The Corps also responds to disasters at the direction of the Federal Emergency Management Agency (FEMA) under the Robert T. Stafford Act (42 USC 5121, *et seq.*). Under the National Response Framework, the Corps is assigned as the Coordinator for Emergency Support Function (ESF) #3, "Public Works and Engineering," and during disasters the Corps is the primary agency for response activities, such as, water, emergency temporary power and debris management and removal. FEMA is the primary agency for ESF#3 recovery activities and can assign missions to the Corps to assist in the execution of these and other recovery missions. Disaster response activities authorized by the Stafford Act, and prescribed by mission assignments by FEMA, are funded by FEMA's Disaster Relief Fund.

Under PL 84-99, the Corps emergency assistance prior to and during a flood event is temporary in nature to meet an immediate threat and may only be undertaken to supplement non-federal efforts. The assistance is undertaken to mitigate risk to life and public safety by providing protection to critical public infrastructure against flood waters. Therefore, PL 84-99 is not used to protect private residences or other developments unless such protection is incidental to protect critical public facilities and infrastructure within the area. Tribes and states must commit all available resources such as supplies, equipment, funds and labor as a general condition to receiving Corps assistance. Furthermore, the Corps emergency efforts are not intended to provide permanent solutions to flood risks. Therefore, the removal of all flood fight material at the conclusion of a flood event is the responsibility of the respective Tribe or state.

During preparation for Hurricane Sandy, the Corps supplemented state, local and Tribal efforts with over 218,000 sandbags, and with cold weather gear. The Corps was also engaged with numerous federal agencies and provided technical assistance to state governments for flood response. This experience improved multiple partners understanding the Corps capabilities and PL 84-99 authorities.

PREPAREDNESS AND TRAINING

The FCCE appropriation account provides funds for the Corps preparedness with regard to emergency response to natural disasters, flood fighting and infrastructure search-and-rescue operations, and rehabilitation of flood control and hurricane protection structures. Disaster preparedness activities include coordination, planning, training, and conducting response exercises with local, state, and federal agencies. District Commanders, Tribal liaisons, and emergency management staff meet with federal, state, and local officials and other interested parties to discuss Corps authorities

under PL 84-99, share lessons learned from previous flood events, conduct “tabletop” exercises, which are designed to help an organization test a hypothetical situation, such as a natural or man-made disaster, and evaluate the group’s ability to cooperate and work together, as well as test their readiness to respond. At these meetings, they also review sandbagging and other flood fighting techniques, and strengthen the collaboration among the Corps, state and local governments and Tribal entities.

COLLABORATION AND COORDINATION

The Corps collaborates and coordinates with federal, Tribal, and state partners and close coordination occurs with appropriate state emergency management offices. During Hurricane Sandy, the Corps was part of FEMA’s joint information center to coordinate activities among all response agencies and transparently communicate to all affected parties and the communities. The Corps has also participated in national and regional exercises held by the Department of Homeland Security/FEMA. These exercises provide federal and non-federal agencies an opportunity to plan for natural disasters, and to learn about partner agency capabilities, resources, and responsibilities. The Corps works closely with other federal emergency response partners to include: Department of Transportation (DOT), Housing and Urban Development (HUD), United States Coast Guard (USCG), National Guard Bureau (NGB), Department of Energy (DOE), Department of Agriculture (AG), Department of Commerce (DOC) and state and local agencies. The Corps also works closely with the Interior Department’s U.S. Geological Survey (USGS). USGS provides vital resources to support the Corps by deploying both personnel and equipment prior to and in response to an event, such as stream gauges and a variety of sensors to aid in data collection to support decision making.

HURRICANE SANDY RESPONSE

On October 29, 2012, Hurricane Sandy was centered 285 miles east of Cape Hatteras, North Carolina and moving north with sustained winds of 85 mph, a category 1 hurricane. The forecast had the center of Hurricane Sandy coming to shore at Ocean City, New Jersey. Peak wind for the National Capitol Region was projected to reach 74 mph. Along with wind damage, Sandy was expected to cause dangerous rip currents, beach erosion, minor coastal flooding, with an increase in inland flooding potential, and power outages. Highest threat of storm surge was expected from 6 to 11 feet in Long Island Sound, Raritan Bay, and New York Harbor. Highest rain projections were predicted in the Delaware, Maryland, and Virginia Peninsula with isolated maximum amounts of 12 inches. Hurricane force winds would affect Mid-Atlantic States, and New York City and Long Island. Gale to tropical storm force winds would affect most of the northeast. Six Corps divisions and districts’ Emergency Operation Centers were activated and teams were moved into place.

During Hurricane Sandy, the Corps responded to missions assigned by FEMA, and provided 1,039 highly trained technical personnel and the 249th Prime Power Battalion in 13 states. The Corps response to Hurricane Sandy included 68 FEMA mission assignments for over \$351.6 million in New York, New Jersey, Massachusetts, Delaware, Ohio, Pennsylvania, Connecticut, West Virginia, and Rhode Island. These missions included; ESF#3 Management support for each state, Technical Assistance, Temporary Housing, Commodities (bottled water delivery), Temporary Power, and Debris Management and removal. The Corps worked closely with the USCG to determine threats to navigation and navigation closures, and the affected ports cleared and returned to operation.

The type of support from the federal government was unprecedented, and the Corps provided technical assistance and response to federal, state, and local entities. This included removing 475 million gallons of water from 14 areas identified by local entities, to include the New York City (NYC) subway systems and tunnels, the Passaic Wastewater Treatment Plant, and restoring operation to the Hoboken terminal. These efforts were successful due to a dedicated and determined team including the Corps, the Navy, the USCG, the DOT, NYC Transit System, and many others.

As of March 1, 2013, completed Corps response efforts also included:

- Completion of 567 power assessments, and installation of 211 generators. At peak, the Corps generated 55MW of power, enough to support the needs of 55,000 families.
- Operation of 162 pumps to un-water 14 strategic sites, resulting in removal of over 475M gallons, equivalent to 720 Olympic size pools
- Delivery of 512 truckloads of water to New York, New Jersey, Pennsylvania, and West Virginia
- Completion of coastal restoration missions: Cupsogue County Park, New York; Smith Point, New Jersey, Mantoloking Breach, New Jersey.
- Refurbishing of 115 transitional housing units
- Delivery of Infrastructure Systems Mission Scoping Assessments per its role as defined under the National Disaster Recovery Framework.

Ongoing activities include:

- In New York City, 693,855 CY of an estimated 1.3M CY of debris has been removed by long haul in accordance with ongoing missions assigned to the Corps.
- On Fire Island, 1,765 of the 1,784 Property Debris Removal (PPDR) assessments received have been completed.
- Coordination of Infrastructure Systems elements of the Recovery Support Strategies per its role under the National Disaster Recovery Framework.

DAMAGES TO CORPS OF ENGINEERS PROJECTS FROM RECENT FLOODING

Damage sufficient to warrant repair under PL-84-99 was reported for 19 Hurricane/Shore Protection Projects (HSPPs) within the North Atlantic Division. The Project Information Reports (PIRs) for these 19 projects have been approved and engineering and design work has begun on each of the 19 projects. An addendum to each PIR is being prepared for each of the 19 projects to provide documentation necessary to allow for each to be restored to its design profile. Addendums for each of the 19 projects are being developed and coordinated within the North Atlantic Division at this time. Additionally, four PIRs are being prepared for projects in Connecticut, and two PIRs are being prepared for projects in Rhode Island. There were damages to projects outside of the North Atlantic Division, and PIRs are being prepared as warranted. Finally, there were damages to Corps navigation projects. Work is beginning to address these issues.

HURRICANE SANDY SUPPLEMENTAL

The Disaster Relief Appropriations Act of 2013 was passed by Congress and signed into law by the President on January 29, 2013 as Public Law 113-2 (P.L. 113-2). The Army is in the process of developing an implementation plan for the funding provided under the Disaster Relief Appropriations Act, 2013. The Act provided \$5.35 billion for the Civil Works program. That amount includes \$3.461 billion for Construction, \$1.008 billion for Flood Control and Coastal Emergencies, \$821 million for Operation and Maintenance, \$50 million for Investigations, and \$10 million for Expenses. The legislation provides supplemental appropriations to address damages caused by Hurricane Sandy and to reduce future flood risk in ways that will support the long-term sustainability of the coastal ecosystem and communities and reduce the economic costs and risks associated with large-scale flood and storm events.

Funds provided in the FCCE account and some funds in the construction account were provided to address immediate repairs. The Corps is allocating these funds accordingly to address such immediate needs.

More than 80 percent of the construction funding provided to the Corps in chapter 4 of title X of the Act was provided “to reduce future flood risk in a way that will support the long-term sustainability of the coastal ecosystem and communities and reduce the economic costs and risks associated with large-scale flood and storm events...” Furthermore, the Act requires all Corps projects funded for construction under chapter 4 to incorporate current science and to also incorporate current engineering standards. In addition, the Act provides for such modifications as the Secretary of the Army determines are necessary to incorporate these current standards and to meet the goal of providing for the sustainable reduction to flooding and storm damage risks. Finally, for projects under study by the Corps, the Secretary of the Army may use the construction funds provided in chapter 4 to construct any such project if the Secretary determines that the project is technically feasible, economically justified, and environmentally acceptable.

To meet these interrelated statutory objectives, the Corps will undertake a broad, conceptual examination of the best ideas and approaches to reducing the vulnerability to major storms over time, in a way that is sustainable over the long-term, both for the natural coastal ecosystem and for communities. In some or many cases, the restoration of an existing Corps project to its original design profile may not meet these interrelated objectives, and a fundamentally different approach may be more suitable.

When determining how to move forward in implementing project specific measures in accordance with the funding and direction in the Act, the Corps will perform an expedited limited re-evaluation that addresses resiliency, economics, risks, environmental compliance, and long-term sustainability and will enter into an amended Project Partnership Agreement with the non-Federal partner that, among other things, will ensure an updated flood plain management plan is developed. This approach will enable the Corps, working with its Federal and local Partners, to take a broad, long-term conceptual examination of the best approaches to reduce future vulnerability in a manner that is sustainable over time for the natural coastal ecosystem, for individuals, and for the communities in which they live.

CONCLUSION

Mr. Chairman, Members of the Committee, this concludes my testimony. I would be happy to answer any questions you or other Members of the Committee may have.