

DEPARTMENT OF THE ARMY

COMPLETE STATEMENT OF

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BEFORE

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UNITED STATES SENATE

ON

**A REVIEW OF THE 2011 FLOODS AND THE CONDITION OF THE
NATION'S FLOOD CONTROL SYSTEMS**

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INTRODUCTION

Madam Chairman and Members of the Committee, I am Jo-Ellen Darcy, Assistant Secretary of the Army (Civil Works). I am pleased to be here today to testify on the 2011 floods events and to discuss the condition of the Nation's flood control systems. I am joined today by Major General Michael Walsh, Commander of the Mississippi Valley Division and President of the Mississippi River Commission, Brigadier General John McMahon, Commander of the Northwestern Division and Colonel Christopher Larsen, Acting Commander of the North Atlantic Division. The year 2011 has been extremely challenging for the nation, in terms of natural disasters across multi-state areas. Along with other federal agencies, Tribes, States and numerous local entities, the Corps has a multitude of response activities underway in an effort to mitigate the public risk and recovery from these severe weather events.

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, 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 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 ice, water and temporary power. FEMA is the primary agency for ESF#3 recovery activities and can assign Corps missions to assist in the execution of these and other recovery missions, to include debris management. Disaster response activities authorized by the Stafford Act, and prescribed by Mission Assignments by FEMA, are funded by FEMA's Disaster Relief Fund.

PREPAREDNESS and TRAINING

The Flood Control and Coastal Emergencies appropriation account provides funds for preparedness with regard to emergency response to natural disasters, flood fighting and 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, review sandbagging techniques, and strengthen the relationship among the Corps, State and local governments and tribal entities.

RESPONSE ACTIVITIES

Under PL 84-99, 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, 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.

COORDINATION

The Corps coordinates with federal, Tribal, and state partners and close coordination occurs with appropriate state emergency management offices. This year, the Corps used a joint information center to coordinate activities among all response agencies and transparently communicate to all affected parties. 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: the Department of Transportation, the United States Coast Guard, the National Guard Bureau, the Department of Energy, the Department of Agriculture, the Department of Commerce (NOAA) and state and local agencies. The Corps also works closely with the Interior Department's Bureau of Reclamation, which has been an exceptional partner, providing vital resources to support the Corps' surge requirements for quality assurance personnel.

2011 OPERATIONS

This year, the Corps supplemented state, local and tribal efforts with over 37 million sandbags, 342 pumps, 5,500 rolls of poly sheeting, 275,000 linear feet of HESCO barriers, and 1,280 linear feet of Rapid Deployment Flood Wall and the Corps also issued 176 emergency contracts to protect critical infrastructure from flood threats. The Corps also was engaged with numerous federal agencies and provided technical assistance to state governments and Tribal organizations for flood response. This

experience improved multiple partners understanding the Corps' capabilities and PL 84-99 authorities.

- In March, the winter flooding from rain and snowmelt began with over 120 personnel engaged in the flood response effort from Illinois to Alabama. \$5 million of FCCE funds were allocated for this event, during which Corps projects in the Great Lakes and Ohio River Valley Division reached the 4th highest average flood control reservoir storage level recorded.
- Beginning in April 2011, the Nation witnessed historic flooding along the Mississippi, Missouri, and Souris River basins. During these events, the flood stages exceeded the historical Mississippi River flood stage records set in 1937 and 1927. The Birds Point-New Madrid Floodway was operated on May 2, 2011 and opening of two additional floodways was synchronized to best manage the flows in the Mississippi River Basin, preventing flooding of over 9.8 million acres and preventing damages in excess of \$60 billion. Over 800 personnel were engaged, with more than \$76 million of FCCE funds allocated and over \$59 million in FEMA mission assignments under the Stafford Act. The Mississippi River and Tributaries project safely passed a record 2.3 million cubic feet per second (cfs).
- Flooding along the Missouri River approximately doubled the historic record for water flows. The combined May through July runoff of 34.3 million acre-feet made 2011 an historic year of record for reservoir water storage along the Missouri River. Flood response efforts engaged over 400 personnel and \$83 million of FCCE funds were allocated.
- On June 24, 2011 more water passed along the Souris River at the Sherwood gage in one day than had been recorded in entire year for 45 out of 82 years. During the recovery phase for this event, the Corps received seven FEMA mission assignments focusing on debris removal and temporary housing and worked closely with the Department of Agriculture.
- In late April, tornados caused significant destruction in both Alabama and Mississippi. The Corps received 27 FEMA mission assignments focusing on debris removal, power, and critical facilities involving more than 460 personnel, including retired personnel, and activated reserve soldiers for a total of \$262 million.
- On May 22, 2011, an EF5 tornado (worst damage category) devastated Joplin, Missouri, destroying homes, schools, fire stations, and hospitals. Debris and temporary housing teams as well as subject matter experts for debris, infrastructure assessment and critical public facilities required deployment of over 270 Corps personnel for 9 FEMA mission assignments totaling \$239 million.

- The severe weather continued with Hurricane Irene's path from North Carolina to Vermont, compounded by Tropical Storm Lee. Over 260 personnel were engaged in the Corps support to FEMA in 11 states and Puerto Rico with 83 FEMA mission assignments for over \$33 million (technical assistance, dam safety, commodities, water, power, debris, infrastructure assessment, government liaison, ESF#3 support). The Corps worked closely with the U.S. Coast Guard to determine threats to navigation and navigation closures.

FLOODING AND RESPONSE IN THE MISSISSIPPI RIVER BASIN

During the 1927 flood, the Mississippi Valley region only employed a haphazard system of public and private levees as a flood control measure, trying to confine the river within the levee system. The result was 72% of the lower valley was under water. More than 26,000-square-miles or 16.8 million acres were flooded, 500 people dead and another 700,000 left homeless.

After the 1927 flood, the nation authorized and funded the Mississippi River and Tributaries (MR&T) system that includes levees supplemented by reservoirs, floodways, backwater areas and channel improvements. During the 2011 event, flood flows were greater than those experienced during the 1927 flood, but because of the MR&T project, only 38% of the area that flooded in 1927 flooded during the 2011 event. In other words, only 6.35 million acres flooded, with most of that being the land between the levees. The MR&T system had room to handle more floodwaters. There were an additional 1.8 million acres designed to "make room for the river" between the unused floodway and the backwater areas that were not used as flood storage during the 2011 event. It is important to note that not a single life was lost in this historic flood event.

In early May, concerned with the rapidly increasing flood waters on the Mississippi and Ohio rivers, Major General Michael Walsh, established Operation Watershed. During the flood event, Operation Watershed concentrated efforts on current, future and recovery operations. Current and future operations focused on planning, preparing and executing safety plans that protected the lives and livelihoods of nearly 4.5 million citizens and infrastructure. Recovery operations were tracking the damages, documenting the event and projecting the recovery needs.

While the flood waters have now receded, recovery efforts are broken down into three critical components: Damage Assessments, System Performance Evaluation and Constructing Repair/Restore projects. For the first time, three of the system's floodways were placed in simultaneous operation to help relieve the enormous stress on the levee system and to reduce the danger to people, their homes and the businesses that bolster our economy. A watershed approach was used to keep the system intact, and a watershed approach will be needed to repair and restore it, as well. The creation of an Interagency Recovery Task force was meant to do just that. The Corps invited seven states and ten federal agencies to help set priorities and plan a comprehensive approach to restoring the flood protection system. All share a responsibility in the

recovery efforts and by pooling resources, talents and expertise, the task force will focus on key elements that protect the lives and livelihoods of millions of Americans, while preparing for spring floods. The Mississippi River is a major artery in America's heartland, and as such is a key element of state and local government economic development and job-creation efforts, which is essential in maintaining economic competitiveness and national security.

Since the beginning of the flood, the Corps and its partners have been assessing and documenting flood effects. With recession of flood waters, multidisciplinary teams were deployed to inspect, investigate and record damages to project areas. These teams have now largely completed this effort with careful documentation that characterize the location, nature, extent, and repair alternatives for hundreds of damaged areas.

System performance evaluation is a look at how the system performed and what flood risk managerial or operational improvements should be made. Though the system performed as designed, the purpose of this evaluation would be to assess the MR&T system performance, identify and prioritize funding requirements for system components necessary to repair/restore the system for future flood events, and assess areas of improvement for water control communication and coordination across the watershed. The resulting document would be a valuable resource for system management, operation and improvements. It would also serve as a reference guide for future flood risk management.

As the Mississippi River Valley rebounds from the 2011 flood, the Corps will continue the work that is crucial to the protection and restoration of the watershed.

FLOODING AND RESPONSE IN THE MISSOURI RIVER BASIN

Actions by the Omaha and Kansas City Districts during the Missouri River flooding this summer were extremely effective in reducing flood damages. The Corps expended approximately \$83 million on fortifying existing levees, building temporary levees, monitoring dam and levee safety and other activities, such as providing flood fight supplies to state emergency offices, within Corps authorities under Public Law 84-99. For example, in South Dakota, the Corps constructed approximately four miles of temporary levees at Pierre and Ft. Pierre, and approximately 1.5 miles of temporary levees in the community of Dakota Dunes. Temporary measures were also constructed for the Standing Rock Sioux Tribe to mitigate risk to the causeway and the water intake.

Now that the river has receded, the Northwestern Division is initiating post-flood actions. These include: 1) a concerted effort to inspect, assess and repair damaged levees and dams; 2) an assessment of operation of the Missouri River dams and reservoirs during the flood – this includes an independent external review now underway; and 3) a technical review of the flood fight response. Repair work will begin soon on seven of the highest priority levees that breached or were overtopped with significant damage during the flooding.

Concurrent with these actions, the Corps, FEMA, and the U.S. Department of Agriculture are co-chairing the Missouri River Flood Task Force (MRFTF). The Task Force provides a forum for coordination among the federal, tribal, state, stakeholder and local governmental partners within the States of Nebraska, Montana, Iowa, South Dakota, North Dakota, Wyoming, Kansas, and Missouri on flood recovery and related flood risk management actions and initiatives. The Task Force will streamline governmental processes and decision making, accelerate necessary assessments, coordinate permitting requirements, and apply agile and critical thinking to the problem set. While coordination is ongoing, the task force has its initial face-to-face meeting this week.

FLOODING AND RESPONSE TO HURRICANE IRENE AND TROPICAL STORM LEE

In late August and early September, extreme weather conditions continued, this time centered in the Northeastern section of the Nation. Hurricane Irene traveled along the Atlantic coast impacting the entire area from coastal North Carolina to Maine. Just a week later, the remnants of Tropical Storm Lee tracked up from the Gulf along the Appalachian chain and severely flooded northeastern Pennsylvania and the lower southern Tier of New York State. Rainfall from that 10 day period closely matched yearly amounts for the region. Record flood stages were set at over 90 USGS stream gages within the region. Although flood damages in the area were devastating, in many areas where Corps projects exist, their operation by the Corps effectively reduced an additional estimated \$6 billion of damages to the residents in the Northeast.

During Irene and Tropical Storm Lee, the Corps assisted FEMA and also provided over 260 highly trained technical personnel in 11 states and Puerto Rico. Ultimately the Corps response to the northeast included 83 FEMA mission assignments for over \$33 million. These missions included; ESF#3 Management support for each state, Technical Assistance (in one instance this included assisting in the performance of post-event locally-owned dam safety visual inspections), Temporary Housing, Commodities Distribution planning, Temporary Power, Debris Management assistance and Infrastructure assessment (Assessing Bridges, Structures, Roads and locks and Dams). The Corps worked closely with the U.S. Coast Guard to determine threats to navigation and navigation closures.

DAMAGES TO CORPS OF ENGINEERS PROJECTS FROM RECENT FLOODING

The Corps of Engineers continues to assess the extent of damages to Civil Works projects and non-Federal projects that are eligible for assistance from the Corps under PL 84-99 as a result of the major flood events this past year. The Corps first used \$46.6 million of available funds within the FCCE appropriation account for immediate floodfighting and response to the Spring flooding. As the flood events continued, the Corps was unable to respond to the requirements from available FCCE funds alone.

Since May, 2011, I have exercised my emergency authority provided in PL 84-99 to transfer funds from other appropriation accounts to the FCCE appropriation account to respond to the flooding and to begin addressing repairs from the ongoing disasters. To date, I have authorized four transfers totaling \$212 million. The last transfer, \$137 million, allowed the Corps to begin addressing a portion of the highest priority life and safety repair requirements.

In order to develop the best estimates of repair requirements nationwide, local Corps districts, working with non-Federal sponsors, are inspecting damaged projects and preparing assessments reports. The Corps has set up a rigorous process at the Headquarters level for technical experts to examine the requirements and to prioritize those requirements based on risk to life and safety, among other parameters in order to make the best use of available funds. I may have to authorize the additional transfer of funds from other Corps accounts to the FCCE account to address ongoing emergency needs.

CONCLUSION

In conclusion, the Corps of Engineers stands ready to respond to, and to assist in recovery from, disasters as they occur, both relying on its own authority and funding and under the Stafford Act in support of FEMA as missions are assigned. Madam Chairman, this concludes my testimony. I would be happy to answer any questions you or other Members of the Committee may have.