

DEPARTMENT OF THE ARMY

COMPLETE STATEMENT

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BEFORE

**AD HOC SUBCOMMITTEE ON DISASTER RECOVERY
AND
AD HOC SUBCOMMITTEE ON STATE, LOCAL AND PRIVATE
SECTOR PREPAREDNESS AND INTEGRATION**

**COMMITTEE ON HOMELAND SECURITY AND GOVERNMENT
AFFAIRS**

UNITED STATES SENATE

**ON
FLOOD PREPAREDNESS AND MITIGATION: MAP MODERNIZATION,
LEVEE INSPECTIONS AND LEVEE REPAIRS**

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Chairs Landrieu and Pryor and distinguished members of the Subcommittees, thank you for the opportunity to testify before you today and present information on the roles and responsibilities of the U.S. Army Corps of Engineers (Corps) in community flood preparedness and mitigation efforts, specifically related to the national flood plain remapping efforts and levees.

Before I discuss the details of the Corps efforts, I believe it would be of value to give an overview of our broad roles and responsibilities.

The Corps Roles and Responsibilities in Flood Risk Management

The Corps shares with the Federal Emergency Management Agency (FEMA), both the expertise and mandate under its respective authorities and missions to address the nation's vulnerabilities to flood related disasters and damages. Since passage of the Flood Control Act of 1936 established a federal role in flood management, the Corps authorized responsibilities have expanded to include developing structural and nonstructural solutions to managing flood risks, inspecting the condition of existing flood management infrastructure, providing technical and planning support to states and communities, conducting advance emergency measures to alleviate impending flooding, providing emergency floodfight support, and rehabilitating levees and other flood management infrastructure damaged by flooding.

In recent years, the Corps has placed an increasing emphasis on nonstructural approaches to flood risk management. Nonstructural alternatives focus on efforts and measures to reduce flood damages in an area by addressing the development in the flood plain, such as: flood plain zoning, participating in the National Flood Insurance Program (NFIP), developing and implementing flood warning systems (coordinated with the National Oceanic and Atmospheric Administration's (NOAA's) flood warning program) and emergency evacuation plans, and flood proofing individual structures as well as removing structures from the extreme flood hazard areas. Other measures, such as setback levees, are also being encouraged by the Corps, as they offer greater natural use of the floodplain while still providing structural protection from floodwaters if completely non-structural alternatives are not viable.

The Corps can provide flood risk management technical or emergency assistance through a wide variety of authorities and programs. For example, through its Flood Plain Management Services Program (FPMS), the Corps can provide information, technical assistance and planning guidance (paid for by the federal government) to states and local communities to help them address flood risk management issues. Typical focus areas are flood hazard evaluation, dam break analysis, flood warning preparedness, flood plain management and much more. In cases where flooding is imminent in a specific area, the Corps is authorized to take immediate advance measures to protect life and property, such as constructing temporary flow restriction structures and removing log debris blockages.

The responsibility for managing the nation's flood risks does not lie exclusively with federal agencies, such as the Corps and FEMA. Rather, it is shared across multiple federal, state, and local government agencies with a complex set of programs and authorities, including private citizens and private enterprises such as banking and insurance industries, as well as developers.

Traditionally, Corps efforts to address flooding hazards have been through Civil Works projects to reduce the probability of flooding through the construction of levees or other flood management infrastructure. Today, the Corps is focusing on the most effective combination of tools available that citizens may use to lower or “buy down” their flood risk. The Corps will consider not only reducing the probability of flooding, but also reducing the consequences should a flood occur. Furthermore, the decision on which tools to implement involves all stakeholders. For example, the Corps can help reduce risk by building levees, whereas in a coordinated but independent action, local government can further reduce flood risk by implementing flood plain management actions such as evacuation plans, zoning ordinances and public outreach.

This cannot be achieved without a new paradigm of joint partnerships in a comprehensive approach of public education and flood risk management. For this reason, in May 2006, the Corps implemented the National Flood Risk Management Program (NFRMP). Its purpose is to integrate and synchronize the ongoing, diverse flood risk management projects, programs and authorities of the Corps with counterpart projects, programs and authorities of FEMA, other federal agencies, state organizations, and regional and local agencies.

The Corps Roles and Responsibilities in Emergency Management and Preparedness

Public Law 84-99 (1955), as amended (33 USC 701n) established the Flood Control and Coastal Emergencies (FCCE) program. It includes responsibility for disaster preparedness, emergency operations, rehabilitation of flood damage reduction projects, provision of emergency water, advance measures when the threat of flooding is imminent, and participation in FEMA led hazard mitigation teams.

Disaster preparedness consists of functions required to ensure that the Corps is ready to respond to a broad range of disasters and emergencies. Corps flood preparedness includes coordination, planning, training, and the conducting of response exercises with key local, state, and tribal stakeholders/partners. Establishing and maintaining good working relationships benefits both the Corps and its partner and improves communications during a flood response. Also, confirming points of contact for both state/local partners and the Corps on a periodic basis allows for exchanges of information and updating on key areas of interest. Being aware of state and local authorities, requirements, capabilities and expectations helps the Corps determine how it can best supplement state and local needs. Conversely, educating state and local entities about Corps authorities, requirements and expectations illuminates potential gaps and overlaps. These activities ensure Corps personnel assigned emergency assistance responsibilities are trained and equipped to accomplish their missions.

Emergency operations provides for response to disasters and includes field investigations of potential natural disasters, flood response and rescue operations, protection of federally authorized and completed hurricane and storm damage reduction projects, preparation of after action reports, post flood response, operational supplies and equipment, and operational support. Flood response includes flood fight assistance (Corps flood fight assistance is 100% federally funded with the exception of supplies and equipment), technical assistance, and direct assistance

such as sandbags, pumps, and emergency contracting. The Corps first concern is always public safety. Each person should be aware of current and future flood events, stay in touch for the latest updates and warnings, particularly changing weather and river conditions as monitored and forecasted by the National Weather Service, have evacuation plans prepared and implemented, and avoid flooded areas and moving water unless involved in the flood fight effort.

The Rehabilitation and Inspection Program (RIP) provides for the inspection and rehabilitation of federal and non-federal flood damage reduction (FDR) projects damaged or destroyed by floods, and the rehabilitation of federally authorized and constructed hurricane and storm damage reduction projects damaged or destroyed by wind, wave or water action of an other-than-ordinary nature. A project is eligible for rehabilitation as long as it is properly operated and maintained as determined by a Corps inspection, which is conducted annually.

The Corps Roles and Responsibilities in the Map Modernization Program

Both the Corps and FEMA have a long history of partnering on flood plain mapping as part of the NFIP. Over the past 30 years, the Corps has completed more than 3,000 studies for FEMA related to identifying the flood potential of various areas across the country. These studies involved activities such as flood plain delineations and detailed flood insurance studies. In August 2005, both agencies signed an agreement that further streamlined the process for the Corps to provide flood plain mapping and other related services to FEMA.

FEMA has embarked on a program, known as the Map Modernization Program (MapMod), to update and improve the nation's Flood Insurance Rate Maps (FIRMs). This nationwide program has provided an excellent opportunity for the two agencies to strengthen their working relationship. As a result, they have been very successful through MapMod in leveraging data, partnering on flood plain studies, collaborating on related policy changes and jointly communicating flood hazard information to the public.

The Corps cooperates with FEMA and other federal, state and local agencies through numerous avenues in support of FEMA's remapping program. These are to:

- Provide data collected from previous or current Corps studies such as hydraulic and hydrologic models and topographic mapping;
- Perform new flood plain mapping studies or provide technical assistance directly to FEMA or through partnerships with state and local governments under the FPMS Program or Planning Assistance to States (PAS) Program;
- Provide available levee information collected through the Corps Levee Safety Program. This includes the development of the National Levee Database and improved levee inspections and assessments;
- Support levee certification when possible; and
- Conduct more detailed flood risk reduction studies through the Corps cost-sharing processes in order to evaluate an array of alternatives to reduce flood risk; thus, influencing how the area would be remapped in the future.

The Corps and FEMA will continue this partnership as FEMA transitions into their Risk Mapping, Analysis, and Planning (RiskMAP) program.

The Corps Roles and Responsibilities with Levees

The Corps has a long history of planning, designing, constructing, floodfighting, and rehabilitating numerous levee systems throughout the nation. Hurricane Katrina in August 2005 and the Midwest Floods of June 2008 highlight the importance of evaluating and communicating the risks associated with levee systems to the public and decision makers. There are many questions that need to be answered - How many miles of levees exist? Where are they? What is the condition of these levees? What are the consequences of poor performance? Which entity is responsible for these levees? What areas are at the highest risks? How should federal, state, and local resources be prioritized to reduce these risks? What can be done, together, in the interim to reduce these risks? In order to begin answering these questions, levees need to be identified and the risks associated with these levees assessed in a consistent manner across the nation.

In November 2007, the Corps officially established its Levee Safety Program, an important step forward to ensure the public is aware of the risks associated with levees within Corps authorities. The mission of the program is to assess the integrity and viability of levee systems and recommend actions to ensure these systems do not pose unacceptable risks. The main objectives are to hold public safety paramount, reduce adverse economic impacts, and develop reliable and accurate information.

Levees within the Corps Levee Safety Program include those, regardless of design level, which are 1) federally authorized and Corps operated and maintained; 2) Corps constructed and locally operated and maintained; and 3) locally constructed and locally maintained, but have been accepted into the Corps Rehabilitation and Inspection Program (RIP). Levees within the Corps program consist of approximately 14,000 miles or 2,000 levee systems. It should be noted that the total number of miles of all other levees nationwide is currently unknown, but has been estimated to be up to 100,000 miles.

Within the Corps Levee Safety Program, a National Levee Database has been created to serve as a national source of information to facilitate and link activities, including flood risk communication, levee certification, levee inspection, flood plain management, and risk assessments. The database presently includes levees within the Corps program. The Water Resources Development Act (WRDA) of 2007 extended the Corps authority and allows the inclusion of all non-federal levees on a voluntary basis. Also, a methodology for performing technical risk assessments of existing levee infrastructure is under development to serve as a consistent framework to evaluate levees nationally and assist in making risk-informed decisions. Additional activities within this program include the creation of national teams to focus on developing new policies in other areas concerning levee safety, such as inspections of existing levee systems in the Corps program, levee screening, tolerable risk guidelines, and interim risk reduction measures.

Levee Inspections and Levee Screening

The Corps has improved how it inspects and assesses levees, which improves the ability to better communicate the overall condition and associated risks of levee systems to the local sponsors and the public. Improvements include a single consistent inspection checklist to be used on all levee systems the Corps inspects. Additionally, the Corps developed an automated Levee Inspection System tool as part of the National Levee Database. It is a Geographic Information Systems (GIS) / Global Positioning System (GPS)-based inspection tool that incorporates the levee inspection checklist and links directly with the National Levee Database.

The objectives of Corps levee inspections are to –

- Ensure the levee system will perform as expected.
- Identify deficiencies or areas that need monitoring or immediate repair.
- Continuously assess the integrity of the levee system in order to identify any changes over time.
- Collect information in order to make risk-informed decisions about future actions.
- Determine eligibility for federal rehabilitation funding for the levee in accordance with PL 84-99. For levees with an acceptable or minimally acceptable inspection rating, they are eligible for levee rehabilitation assistance for damages incurred during a flood event.
- Determine if the levee is being properly operated and maintained.
- Determine if the local sponsor is in compliance with the project partnership agreement, if applicable.

The Corps conducts two types of levee inspections. The first one is the routine inspection, also referred to as annual inspection or continuing eligibility inspection. It is performed on an annual basis to ensure the levee system is being properly operated and maintained. The periodic inspection is the next level and conducted by a multidisciplinary team led by a professional engineer. It includes a more detailed, comprehensive and consistent evaluation of the condition of the levee system and is conducted every five years. Components of the periodic inspection include evaluating routine inspection items; verifying proper operation and maintenance; evaluating operational adequacy, structural stability and, safety of the system; and comparing current design and construction criteria with those in place when the levee was built. Starting in Fiscal Year 2009, the Corps began conducting periodic inspections of levees with the allocation of \$90 million from the American Recovery and Reinvestment Act of 2009. Because of existing authorities, periodic inspections are limited to those levees the Corps operates and maintains; those levees that the Corps performed the initial design and construction; and those levees that have been incorporated by law into the Corps program as a federally authorized levee system. Local sponsors participate on the inspection teams and all final inspection results are provided to the local sponsor and FEMA.

Beginning this fiscal year, the Corps is applying a levee screening tool to all levees in its inventory. The tool combines inspection data with a preliminary engineering assessment taking into account consequence data and local knowledge of levee performance. Results will be used to rank levee systems based on relative risk to help inform decision makers about future actions to improve public safety associated with the levees. The Corps is developing policy and procedures required for the implementation of Tolerable Risk Guidelines (TRG) within this program. The TRG build on the TRG policies implemented for the Corps Dam Safety Program. We anticipate having final policy and procedure completed within the timeframe of the comprehensive Levee Safety Engineering Regulation currently under development and to be published in Jan 2012.

The Corps Role with Levee Certification for the NFIP

As the federal agency responsible for administering the NFIP, FEMA identifies flood hazards and risks, and provides appropriate flood hazard and risk information to communities nationwide in the FIRMs. Communities in turn, use this information for land-use planning, flood plain management, and flood insurance rating purposes. A community must submit documentation to FEMA demonstrating the levee meets the requirements outlined in Title 44 of the Code of Federal Regulations, Section 65.10 (44 CFR 65.10), *Mapping Areas Protected by Levee Systems*, for a levee to be recognized on a FIRM. This is commonly referred to as “levee certification.” The purpose of levee certification is to determine how FEMA will map the floodplain behind the levee for flood insurance purposes. The 1% annual-chance flood is the minimum requirement of the NFIP and is not a safety standard for levees. The Corps strongly recommends purchasing flood insurance even for levees that meet NFIP criteria.

The Corps Levee Safety Program and FEMA’s NFIP implement distinctly different authorities, although both agencies work closely to share information between the programs. Corps policy for levee certification is based on who is responsible to provide the levee certification documentation to FEMA, which is the local sponsor or community. It is also based on prioritization of limited funding to focus on its Levee Safety Program activities. The Corps can conduct certifications when requested by a local entity for (1) levees that are operated and maintained by the Corps and (2) levees that the Corps is designing or constructing. Many previous Corps certifications were provided to FEMA upon project completion when the project sponsor assumed operation and maintenance responsibilities in accordance with the project partnership agreement. Certification of levees that are operated and maintained by entities other than the Corps is to be provided by the local levee sponsor. The Corps may perform levee certifications using funds provided by non-federal sponsors if the local sponsor can demonstrate the Corps is uniquely equipped to do so and that such services are not reasonably and quickly available through ordinary business channels.

There is no direct correlation between Corps Levee Safety Program activities and levee certification. For example, an “Acceptable” inspection rating by the Corps does not equate to a levee certification and an “Unacceptable” inspection rating by the Corps does not automatically “decertify” a levee. Certification for FEMA purposes only evaluates a levee at the 1% annual-chance flood (or 100-year or base flood), so an assessment will need to be made to determine how an identified deficiency may impact the levee’s ability to perform at the 100-year event.

The Corps performs Levee Safety Program activities, such as inspections, on a regular basis. It is important to communicate any identified deficiencies as soon as possible. If the Corps is on record of certifying the levee for FEMA purposes, then the Corps will evaluate how inspection or assessment results may or may not impact the certification. If the Corps did not certify the levee, then FEMA will decide if the certification needs to be revisited based on the information provided by the Corps.

Many Corps Levee Safety Program activities, such as routine and periodic inspections, may help inform and support the certification process. Corps districts will work with local sponsors to provide them with available levee information and technical data.

In order to clarify the Corps role and process involving levee certifications for the NFIP, the Corps will be issuing updated guidance soon - Engineer Circular (EC) 1110-2-6067, *USACE Process for the National Flood Insurance Program (NFIP) Levee System Evaluation*. The purpose of this EC will be to consolidate, supplement, and clarify existing policy and procedures. It should be noted that the term “levee certification” is not used in the title. Additionally, the term “levee certification” is not used at all in this EC. The reason is over the years, the term “levee certification” has led to the misperception that the community is completely safe from flooding if the levee is “certified” or a “levee certification” guarantees performance of that levee. Some in the private sector have stated that using the term “levee certification” contributes to the liability concerns related to levees.

In recognition of this, the Corps was willing to take the initial step and try to start changing this misperception about “levee certifications” by using the term “NFIP Levee System Evaluation” instead. The process and requirements remain the same, but this term better supports FEMA’s actual definition of “certification” defined in 44 CFR 65.2(b), which focuses on certification of analysis and data and is not meant to imply a warranty or guarantee.

Next Steps Involving the Corps

A local sponsor has responsibility for operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) of the levee system for most of the levees in the Corps Levee Safety Program. The Corps will communicate the condition and associated risk of the levee system and recommend actions that may include immediate repair of certain deficiencies and/or interim risk reduction measures. The Corps will assist the local sponsor and other stakeholders to develop the best path forward. Given existing authorities, the Corps may provide technical assistance through the FPMS or PAS programs or the local sponsor may want to initiate a cost-shared study under the Corps General Investigations or Section 216, Review of Completed Projects authority.

From a long-term comprehensive flood risk management approach, the Corps is cooperating with FEMA and other federal agencies through the Silver Jackets Program to create interagency teams at the state level to develop and implement solutions to state natural hazard priorities. The Silver Jackets Program’s primary goals are to leverage information and resources, improve public risk communication through a united effort, and create a mechanism to collaboratively solve issues and implement initiatives. These teams have improved communication leveraged resources and programs between federal agencies.

Title IX National Levee Safety Program

I would like to mention the work accomplished under Title IX of WRDA 2007, the National Levee Safety Program. The National Levee Safety Act of the Water Resources Development Act of 2007 (PL 110-114, Title IX, Section 9003) established the National Committee on Levee Safety and directed it to develop recommendations for a national levee safety program. The committee completed its draft report in January 2009, and put forward 20 recommendations for creating a National Levee Safety Program. In May 2009, the Army provided the final draft report to Congress and also participated in a hearing before the House Transportation and Infrastructure Subcommittee on Water Resources and Environment on the recommendations in the report. Related information can be found at the following website:

<http://www.iwr.usace.army.mil/ncls/>.

Although the Corps chairs the committee, its recommendations do not and were not intended to represent an Administration position.

The specific draft recommendations of the committee for a National Levee Safety Program embrace three main concepts: (1) the need for leadership via a National Levee Safety Commission that provides for state delegated programs, national technical standards, risk communication, and coordinating environmental and safety concerns; (2) the building of strong state levee safety programs in all states; and (3) a foundation of well-aligned federal agency programs. The committee recently reconvened and is working to clarify three areas of the report: costs and benefits of a National Levee Safety Program; governance and strategic implementation; and stakeholder involvement. While the committee conducts these activities, the Corps is also working to implement certain components of Title IX and coordinate agency levee safety activities with the committee for activities that align with the recommendations.

This concludes my testimony and I would be happy to answer any questions you or other members of the Subcommittees may have. Thank you.