

**Statement of David I. Maurstad  
Assistant Administrator, Mitigation**

**Federal Emergency Management Agency  
Department of Homeland Security**

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Good Morning Chairman Norton, Ranking Member Shuster, Chairman Johnson, Ranking Member Duncan and members of the Subcommittees. My name is David Maurstad. I am the Assistant Administrator for Mitigation in the Department of Homeland Security's (DHS's) Federal Emergency Management Agency (FEMA). I am honored to appear before you today to discuss FEMA's National Dam Safety Program (NDSP) and the Agency's policies as they relate to levees and areas of residual risk.

The December 22, 2006 reauthorization of the National Dam Safety Program will greatly benefit the States and enable the Program to continue effectively addressing the risks associated with more than 79,500 dams across the Nation.

Through grants, training support, research, data collection, and other activities, the Program provides a much needed impetus for the continued safeguarding and protection of people, property, and the dams themselves.

**THE ROLE OF THE NATIONAL DAM SAFETY PROGRAM**

The National Dam Safety Program, which was formally established by Section 215 of the Water Resources and Development Act of 1996 (Public Law 104-303), provides critical support for the operation, maintenance, and improvement of our Nation's dams. The Dam Safety Act of 2006 (Public Law 109-460), which reauthorizes the National Dam Safety Program through Fiscal Year 2011, continues all of the programs established by the 1996 Act.

The NDSP's primary purpose is to provide the States the financial resources they need to strengthen their dam safety programs. The Program supports activities such as: grant assistance to States; State dam safety program improvements; training for State dam safety staff and inspectors; and a technical and archival research program that develops dam safety monitoring devices. The Program also facilitates information exchange between Federal and State dam safety partners through the National Dam Safety Review Board and the Interagency Committee on Dam Safety (ICODS), both of which are chaired by FEMA.

**State Dam Safety**

According to the 2004-2005 National Dam Safety Biennial Report to Congress, there are

approximately 79,500 dams in the United States. The states regulate approximately 95 percent of these.

From FY 2004 through 2007, FEMA distributed a total of approximately \$12.9 million in grant assistance to 49 participating states and Puerto Rico for dam safety.

In 2005, Delaware joined the Program after passing legislation to establish a State dam safety program. The only State not currently participating in the Program is Alabama, which is currently developing the legislation needed to participate in the Program.

Thanks to the recent reauthorization, the National Dam Safety Program continues to improve. Using the Program's 1998 Review Board performance criteria, the NDSP captures information on (1) the state-regulated "high-and significant-hazard potential" dams with Emergency Action Plans (EAPs); (2) the number of dam inspections each State conducts annually; and (3) the dams each State has identified as needing remediation.

NDSP data indicates that since 1998, the number of EAP's for state-regulated "high-and significant-hazard potential" dams has increased about 50 percent, from 4,000 to approximately 8,000 dams. Today, about 42 percent of all state-regulated high-and significant-hazard potential dams have an Emergency Action Plan. In fact, Alaska, Kansas, Nevada, New Jersey, Utah, Vermont, Washington and Puerto Rico have reported significant increases in EAP activity. Finally, the Program is seeing increased emphasis on basin-wide EAP exercises – Federal-State collaborations that efficiently use the time and resources of dam safety and emergency response personnel.

State dam inspections have also increased. Since NDSP started collecting such data in 1998-1999, total inspections have increased from approximately 13,000 inspections to approximately 15,000 inspections annually. This increase is impressive considering that State dam safety budgets have been declining. According to the most recent Association of State Dam Safety Officials (ASDSO) information, State dam safety budgets have decreased by 12 percent over the past two years, from a total of approximately \$33 million in 2003 to approximately \$29 million in 2004.

Although relatively small, National Dam Safety Program support is crucial because of the significant number of dams that are considered unsafe – dams with identified deficiencies that make them more susceptible to failure triggered by a storm event, earthquake, or inadequate maintenance. In the American Society of Civil Engineers (ASCE) 2005 Report Card for America's Infrastructure, dams received a grade of D. Additionally it has been noted that there are 3,500 dams in the United States which have deficiencies that leave them highly susceptible to failure. In the National Inventory of Dams, more than 11,000 U.S. dams are classified as high-hazard potential, meaning that the consequences of the dam's failure would likely result in loss of human life. Finally, the NDSP reauthorization will play an important role in the Program's efforts to develop tools and technologies that will help identify and prioritize the risks associated with the State-regulated high-and significant-hazard potential dams and the Nation's aging dam infrastructure.

## **Research**

NDSP research funding addresses a cross-section of issues and needs, all in support of making U.S. dams safer. To guide funding decisions for specific research projects, the National Dam Safety Review Board developed a 5-year Strategic Plan, which ensures that priority is given to research projects that (a) demonstrate a high degree of collaboration and expertise; and (b) will

yield products that will contribute to dam safety in the United States.

From a National Security standpoint, the Department of Homeland Security (DHS) is integrating the Review Board's Strategic Plan with the Dam Security Research Plan, which was developed for the Dam Sector Annex to the National Infrastructure Protection Plan.

### **Training**

Since the National Dam Safety Program's inception, FEMA has supported a strong, collaborative training program for dam safety professionals and dam owners. Training funds have enabled FEMA to expand training programs, start initiatives to keep pace with evolving technology, and enhance information exchange.

Available at the National, Regional, Local, and even individual "self-paced" levels, NDSP training includes: National Dam Safety Program Technical Workshops on hydrologic deficiencies and potential failure mode analysis and monitoring; the ASDSO Regional Technical Seminars; state training assistance funds; hydrologic modeling system and river analysis system workshops at FEMA's Emergency Management Institute, and the Training Aids for Dam Safety Program.

NDSP is also coordinating with the U.S. Army Corps of Engineers to make training materials available on the Corps' Learning Network website at <http://usaceln.org/technical>, which gives these informative products broad exposure and distribution.

### **Information Technology**

Technology provides critical tools for the National Dam Safety Program's mission, since an important NDSP objective is to identify, develop, and enhance technology-based tools that can educate the public and help decision-makers.

Important initiatives such as The National Inventory of Dams, the National Performance of Dams Program, and the Dam Safety Program Management Tools system all receive Program funding allowing them to collect invaluable data on dam status, dam incidents, and dam safety. In turn, this information helps National Dam Safety Program partners effectively document failure modes and identify critical research and training needs.

### **Federal Programs**

Although the Federal Government owns or regulates only about five percent of the dams in the United States, many of these facilities are significant in terms of size, function, public benefit, and hazard potential. Since the implementation of the Federal Guidelines for Dam Safety, the Federal agencies responsible for these dams have made significant strides in ensuring the safety of dams within their jurisdictions.

All of the federal agencies responsible for dams have implemented the Federal Guidelines. Many of the agencies maintain comprehensive training programs as well as research and development programs, and have even incorporated security considerations into these efforts to protect their dams against terrorist threats.

In addition, Federal-State cooperation and coordination has increased in many areas, such as emergency action planning, inspection, research and development, training, and information exchange.

## **Dam Security**

Dam safety and dam security are complementary programs, and collaboration between dam sector stakeholders certainly will continue. For example, FEMA coordinates with the DHS Risk Management Division, the Sector Specific Agency for the Dam Sector. We fully support and will participate in the framework established by the National Infrastructure Protection Plan, including the Government Coordinating Council (GCC) and the Sector Coordinating Council (SCC), and the GCC Workgroups.

There is significant cross-representation of the federal and state professionals involved in dam safety and dam security. These professionals serve on the DHS-chaired groups, as well as the FEMA-NDSP chaired groups, including the National Dam Safety Review Board and the Interagency Committee on Dam Safety. FEMA's continued participation on the GCC and in support of the Sector Coordinating Council, will facilitate the ability of both groups to address critical issues of common concern.

## **CHALLENGES**

Despite the National Dam Safety Program's achievements, there continue to be challenges for the dam safety community.

### **Aging of America's Dams**

The aging of U.S. dams continues to be a critical issue. The American Society of Civil Engineers (ASCE) 2005 Report Card for America's Infrastructure indicates that that the number of deficient dams in the United States has gone up by more than 33 percent since 1998, to more than 3,500. These statistics reflect the crux of one of dam safety's most important issues: the aging of the Nation's water control infrastructure and developing a coping strategy in an era of diminishing resources. The *Report Card* states that while federally owned dams are in good condition – and there have been modest gains in repair – the number of dams identified as deficient is increasing at a faster rate than the dams being repaired. It is estimated that as of 2002, 85 percent of dams across the United States were 50 years or older.

The dam safety community is working on a number of options to remediate dam deficiencies, including model loan programs for the repair of dams, dam removal projects, and rehabilitation programs. Some progress is being made through the repair of small watershed dams constructed with assistance from the U.S. Department of Agriculture. Although the Dam Safety Act of 2006 states that funds provided to the states cannot be used for the construction or rehabilitation of dams, the National Dam Safety Program intends to track data on the identification and remediation of high-hazard potential deficient dams so the information can be used as an indicator of overall progress.

### **Identification and Classification of Dams**

Another long-standing issue relates to dam identification and classification. There are a number of unregulated dams, incorrectly classified dams, and dams whose classifications have changed over time – particularly in light of downstream population increases. Moreover, hazard classification alone does not give a clear picture of the risk of failure. Such a classification is independent of the dam's condition and only represents potential consequences in terms of loss of life and downstream property damage. Several federal agencies are strengthening their focus on developing risk analysis methods and effectively incorporating risk analysis into evaluation and decision-making processes.

Tracking inspection data should provide valuable information to help identify those dams in the United States that are in need of remediation.

## **Emergency Action Planning**

Emergency Action Planning also continues to be a critically important dam safety and security issue. First Responders use Emergency Action Plans as their primary tool to warn and evacuate vulnerable populations below the dams. The Emergency Action Planning Program, established by the Federal Energy Regulatory Commission, incorporates all of the procedures and products needed for implementing and exercising EAP's among all sectors.

## **Participation of all States in the National Dam Safety Program**

As mentioned above, Alabama is the only state not participating in the National Dam Safety Program, and an important NDSP objective is to bring the State on board soon, making United States NDSP participation complete.

## **Mapping Areas of Residual Risk – Levees**

Finally, a primary challenge FEMA is facing is how to depict areas of residual risk – areas situated behind levees – on the Agency's Flood Insurance Rate Maps (FIRMs).

These maps, which are currently being updated through FEMA's Map Modernization Program, are important community planning tools that depict flood risk levels and enable FEMA's National Flood Insurance Program (NFIP) to set fair and affordable rates.

As Map Modernization converts paper FIRM panels into digitized floodmaps, accurately depicting "levee-protected areas" has become a critical matter. Some FIRM panels may depict levees that have never been evaluated for compliance with Section 65.10 criteria – "**Mapping Areas Protected by Levee Systems,**" yet the Map Modernization program does not include the authority for FEMA to conduct levee evaluations since FEMA does not own any levees.

- In the case of private levees, it is the responsibility of the levee owner, with appropriate oversight from State and local government officials, to provide documentation that the levee complies with regulatory requirements.
- In the case of Federally owned levees, it is the responsibility of the Federal owner agency.

Map Modernization is a catalyst in FEMA's effort to accurately depict levee systems and the areas situated behind them; however, the Program continues to operate in an environment where levee-protection levels in many areas are not identified, recognized, and understood.

If FEMA, the NFIP, and our floodplain management partnership do not address this important matter expeditiously and wisely, the production of modernized maps – maps that accurately reflect flood risk in areas behind levees – could be significantly delayed.

Of course, we must balance this concern with the need to provide levee owners enough time to evaluate levees and to submit required data to appropriate authorities.

That said, FEMA is doing all it can to make sure that the risks in communities with levees are properly documented and communicated, and that areas behind decertified or failed levees are mapped in a manner that clearly identifies risk to life and property.

Finally, to effectively prioritize and address issues of concern, we believe that a comprehensive, geospatially based, National levee inventory system and database should be developed, monitored, and maintained. FEMA is encouraged by the Corps of Engineers initiative to develop a National Levee Inventory. Such an effort will serve as a foundation for levee-related decision-

making at all governmental levels, and the Agency looks forward to continuing to support the Corps in this effort.

FEMA and the Corps are now working closer than ever – meeting regularly to address the flood risk and flood insurance implications of levee certification. Most important, these meetings are not just occurring in Washington between headquarters leadership and staff, but across the Nation, in the field, at the FEMA Regional and Corps District Offices.

Finally, it is important for policymakers, as well as the public, to clearly understand FEMA’s role within the levee arena:

- FEMA establishes appropriate risk zone determinations and reflects these determinations on the NFIP flood maps.
- We do not design, operate, certify, or maintain levee systems.
- We do not examine levees.
- We do not determine how a structure or system will perform in a flood event.
- We establish mapping standards, and we rely on others to provide the information we need to clearly represent the flood risks of areas behind levees.

### **Conclusion**

Although the National Dam Safety Program is a relatively small program, it has helped significantly to encourage appropriate actions that address the risks associated with the Nation’s more than 79,500 dams. Through grants, training support, research, data collection, and other activities, the Program provides for the ongoing safeguarding and protection of people, property, and the dams themselves.

Regarding the accurate mapping of areas behind levees and other areas of residual risk, FEMA and the NFIP will continue to work with the Corps and other Federal and State entities to make sure that the people living and working in high risk areas are aware of the risks they face and that they understand that they can purchase flood insurance as a financial safety net.

Thank you for the opportunity to testify before you today, and I will be pleased to any questions that Members may have.