AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

PROPOSED AMENDMENTS TO AND REAUTHORIZATION OF THE NATIONAL DAM SAFETY PROGRAM ACT

(109–93)

HEARING

BEFORE THE

SUBCOMMITTEE ON
ECONOMIC DEVELOPMENT, PUBLIC BUILDINGS AND
EMERGENCY MANAGEMENT

OF THE

COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED NINTH CONGRESS

SECOND SESSION

JULY 26, 2006

Printed for the use of the
Committee on Transportation and Infrastructure

U.S. GOVERNMENT PRINTING OFFICE

30–663 PDF WASHINGTON : 2007

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2250 Mail: Stop SSOP, Washington, DC 20402–0001

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

DON YOUNG, Alaska, *Chairman*

THOMAS E. PETRI, Wisconsin, *Vice-Chair*
SHERWOOD L. BOEHLERT, New York
HOWARD COBLE, North Carolina
JOHN J. DUNCAN, JR., Tennessee
WAYNE T. GILCHREST, Maryland
JOHN L. MICA, Florida
PETER HOEKSTRA, Michigan
VERNON J. EHLERS, Michigan
SPENCER BACHUS, Alabama
STEVEN C. LATOURETTE, Ohio
SUE W. KELLY, New York
RICHARD H. BAKER, Louisiana
ROBERT W. NEY, Ohio
FRANK A. LOBIONDO, New Jersey
JERRY MORAN, Kansas
GARY G. MILLER, California
ROBIN HAYES, North Carolina
ROB SIMMONS, Connecticut
HENRY E. BROWN, JR., South Carolina
TIMOTHY V. JOHNSON, Illinois
TODD RUSSELL PLATTS, Pennsylvania
SAM GRAVES, Missouri
MARK R. KENNEDY, Minnesota
BILL SHUSTER, Pennsylvania
JOHN BOOZMAN, Arkansas
JIM GERLACH, Pennsylvania
MARIO DIAZ-BALART, Florida
JON C. PORTER, Nevada
TOM OSBORNE, Nebraska
KENNY MARCHANT, Texas
MICHAEL E. SODREL, Indiana
CHARLES W. DENT, Pennsylvania
TED POE, Texas
DAVID G. REICHERT, Washington
CONNIE MACK, Florida
JOHN R. 'RANDY' KUHL, JR., New York
LUIS G. FORTUÑO, Puerto Rico
LYNN A. WESTMORELAND, Georgia
CHARLES W. BOUSTANY, JR., Louisiana
JEAN SCHMIDT, Ohio

JAMES L. OBERSTAR, Minnesota
NICK J. RAHALL, II, West Virginia
PETER A. DEFAZIO, Oregon
JERRY F. COSTELLO, Illinois
ELEANOR HOLMES NORTON, District of Columbia
JERROLD NADLER, New York
CORRINE BROWN, Florida
BOB FILNER, California
EDDIE BERNICE JOHNSON, Texas
GENE TAYLOR, Mississippi
JUANITA MILLENDER-MCDONALD, California
ELIJAH E. CUMMINGS, Maryland
EARL BLUMENAUER, Oregon
ELLEN O. TAUSCHER, California
BILL PASCRELL, JR., New Jersey
LEONARD L. BOSWELL, Iowa
TIM HOLDEN, Pennsylvania
BRIAN BAIRD, Washington
SHELLEY BERKLEY, Nevada
JIM MATHESON, Utah
MICHAEL M. HONDA, California
RICK LARSEN, Washington
MICHAEL E. CAPUANO, Massachusetts
ANTHONY D. WEINER, New York
JULIA CARSON, Indiana
TIMOTHY H. BISHOP, New York
MICHAEL H. MICHAUD, Maine
LINCOLN DAVIS, Tennessee
BEN CHANDLER, Kentucky
BRIAN HIGGINS, New York
RUSS CARNAHAN, Missouri
ALLYSON Y. SCHWARTZ, Pennsylvania
JOHN T. SALAZAR, Colorado
JOHN BARROW, Georgia

SUBCOMMITTEE ON ECONOMIC DEVELOPMENT, PUBLIC BUILDINGS AND EMERGENCY MANAGEMENT

BILL SHUSTER, Pennsylvania, *Chairman*

JIM GERLACH, Pennsylvania
KENNY MARCHANT, Texas, *Vice-Chair*
CHARLES W. DENT, Pennsylvania
JOHN R. 'RANDY' KUHL, JR., New York
DON YOUNG, Alaska
(Ex Officio)

ELEANOR HOLMES NORTON, District of Columbia
MICHAEL H. MICHAUD, Maine
LINCOLN DAVIS, Tennessee
JULIA CARSON, Indiana
JAMES L. OBERSTAR, Minnesota
(Ex Officio)

CONTENTS

TESTIMONY

	Page
Kelly, David P., County Legislator, District 23, Dutchess County, New York	16
Maurstad, David I., Director, Mitigation Division and Federal Insurance Administrator, Federal Emergency Management Agency	6
Moore, Ruth A., Deputy Commissioner, Natural Resources and Water Quality, Department of Environmental Conservation, New York State	16
Roth, Larry, Deputy Executive Director, American Society of Civil Engineers	16
Smith, Kenneth, President, Association of State Dam Safety Officials, Assistant Director, Indiana Department of Natural Resources, Division of Water	16
Stockton, Steven L., Deputy Director of Civil Works, U.S. Army Corps of Engineers	6

PREPARED STATEMENTS SUBMITTED BY MEMBERS OF CONGRESS

Carson, Hon. Julia, of Indiana	33
Matheson, Hon. Jim, of Utah	37
Michaud, Michael, of Maine	54
Norton, Hon. Eleanor Holmes, of the District of Columbia	65

PREPARED STATEMENTS SUBMITTED BY THE WITNESSES

Kelly, David P	35
Maurstad, David I.	39
Moore, Ruth A	56
Roth, Larry	69
Smith, Kenneth	83
Stockton, Steven L	116

SUBMISSIONS FOR THE RECORD

Maurstad, David I., Director, Mitigation Division and Federal Insurance Administrator, Federal Emergency Management Agency, responses to questions from Rep. Shuster	46
Moore, Ruth A., Deputy Commissioner, Natural Resources and Water Quality, Department of Environmental Conservation, New York State, responses to questions from Rep. Shuster	61
Roth, Larry, Deputy Executive Director, American Society of Civil Engineers, responses to questions	75
Smith, Kenneth, President, Association of State Dam Safety Officials, Assistant Director, Indiana Department of Natural Resources, Division of Water, responses to questions	92
Stockton, Steven L., Deputy Director of Civil Works, U.S. Army Corps of Engineers, responses to questions from Rep. Shuster	119

ADDITION TO THE RECORD

American Rivers, Rebecca Wodder, President, letter, July 25, 2006	122

PROPOSED AMENDMENTS TO AND REAUTHORIZATION OF THE NATIONAL DAM SAFETY PROGRAM ACT

Wednesday, July 26, 2006

HOUSE OF REPRESENTATIVES, COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, SUBCOMMITTEE ON ECONOMIC DEVELOPMENT, PUBLIC BUILDINGS AND EMERGENCY MANAGEMENT, WASHINGTON, D.C.

The subcommittee met, pursuant to call, at 2:00 p.m., in Room 2167, Rayburn House Office Building, The Honorable Bill Shuster [Chairman of the subcommittee] presiding.

Mr. SHUSTER. The Subcommittee will come to order.

First, I would like to ask unanimous consent that our colleagues, Mrs. Kelly of New York and Mr. Matheson of Utah, be permitted to sit with the Subcommittee at today's hearing to offer testimony and ask questions. Without objection, so ordered.

Welcome, Mrs. Kelly, and welcome, Mr. Matheson. We are glad to have you here.

We are here today to discuss the proposed amendments and reauthorization of the National Dam Safety Program.

Dam safety has been a national and Federal concern since President Franklin Delano Roosevelt signed into law the Flood Control Act of 1936. The legislation, which authorizes the Federal Government to construct flood control systems throughout the Nation's high-risk flood zones, was in direct response to the deadly floods that hit Johnstown, Pennsylvania in 1936.

After additional dam failures in the 1970s, President Carter further expanded the Federal Government's role in addressing the dam safety issue by creating the National Dam Safety Program we know today.

Administered by FEMA, the program's mission is to reduce the risks to life and property from dam failure in the United States. This is achieved through a number of program components, which include the National Inventory of Dams, the National Performance of Dams Program, and the Dam Safety Program Management Tools. The program also helps exchange information between Federal and State dam safety partners through the National Dam Safety Review Board and the Interagency Committee on Dam Safety.

Funds from the program also benefit research, development of information technology, and the training of the State dam safety officials who are considered the Nation's first line of defense from dam failures.

Over the past 25 years, the National Dam Safety Program helped mitigate the risk of dam failure by providing technical and financial assistance to State dam safety officials and the 80,000 or so dams they oversee. Of great concern to the Nation is the ever-growing number of high-hazard dams. These dams, whose failure could result in loss of life or severe property damage, total over 10,000 nationwide. The increasing number of high-hazard dams will continue as our population grows and spawns new downstream development.

The National Dam Safety Program has increased the level of knowledge and preparedness to prevent and mitigate the effects of dam failures, including the ever-growing number of high-hazard dams.

Mr. Kuhl has introduced H.R. 4981, which reauthorizes and improves the National Dam Safety Program. Mr. Kuhl has been a leader on the issue and I commend him on his efforts to see this program reauthorized.

Mrs. Kelly has introduced H.R. 1105, which amends the program to provide funding for repairs to publicly owned dams across the United States. This grant program would fund repair of the most critical dams, which the Association of State Dam Safety Officials estimates is a $10 billion need over the next 12 years.

I am proud to be cosponsor of both bills and anticipate reauthorization of the program in the near future.

I, with my fellow Pennsylvanians, understand the need for programs such as the National Dam Safety Program. Our region has faced numerous costly and deadly floods over the past 200 years. I look forward to hearing from all of you today, as our witnesses.

And with that, I would like to recognize our Ranking Member, Ms. Norton from the District of Columbia, for an opening statement, if she has one.

Ms. NORTON. Thank you, Mr. Chairman. I am going to put my opening statement in the record except to make one or two remarks.

This is not a controversial bill. I am sure it is a bill that the States welcome. The National Dam Safety Program had its origins, of course, in the New Deal, when the kind of dam safety we were talking about involved what cannot be predicted, and that is the kind of floods that States and localities now have gotten hold of.

It is important to understand that while the Federal Government has leadership responsibilities, for the most part, the Federal Government does not build dams. Who builds these dams are private corporations, States, and individuals.

There are, however, 10,000 dams that are considered to have high hazard potential. Their failure could not only result in loss of life from hazards, natural hazards, but, of course, this bill takes on new meaning in the post-9/11 world. Anyone who is dealing with critical infrastructure today really has to have an all-hazards approach. And, thus, we look at this bill in that important light as well.

The Federal Government is not a major funder. The Federal Government, of course, gives grants. The Federal Government, however, at least this Committee has been generous in its authoriza-

tion, $11.8 million. That is almost double the authorization last time.

However, the appropriators appropriate, and we can't guarantee how much will be appropriated. We do know that this is critical funding for States. By authorizing this bill, I think we are exerting leadership, calling attention, as well, to States and localities about the importance of dam safety, of inspections, of focusing on dam safety for all hazards.

Here in Washington, as you might imagine, we don't have many dams, but I have to tell you we do have one that concerns me, it is a small dam called Pierce Mill Dam in Rock Creek Park. It is a Park Service dam, but it has significant hazard potential.

I caution everyone to look at their own dams for all of the hazards, not only the hazards that have been most feared and most common.

And I thank you very much, Mr. Chairman.

Mr. SHUSTER. Thank you, Ms. Norton.

I would now like to recognize the gentleman from New York who has taken up this bill. And since it is my first time publicly, I can thank him for taking this bill up. I will pass on the words from you, that the first public time I was commended for doing this bill, which I did a couple years ago, I was to say, in the worlds of Dick Armey, this is a damn good bill if this is your first bill to pass.

So, with that, Mr. Kuhl.

Mr. KUHL. Thank you, Mr. Chairman. I was thinking that this was a good dam bill.

[Laughter.]

Mr. KUHL. Whichever way.

But first let me thank you, Mr. Chairman, for your commitment to dam safety programs and for holding this important hearing today.

I would also like to thank Representative Jim Matheson for working with me on the Dam Safety Act of 2006 and Ruth Moore, who is here to testify from the New York State Department of Environmental Conservation, for coming to Washington to testify.

In addition, I would also like to thank the other witnesses for coming to testify before us.

During today's hearing, I look forward to discussing the current state of the dams in our Country and how we can work together to pass effective legislation that will improve the safety of dams.

People forget how vital dams are to all of us. Dams provide many benefits, including protection from flooding, a clean source of power, safe drinking water, recreational opportunities, and irrigation for farming. However, without proper maintenance, dams can be hazardous. Their failure or improper operation can result in the loss of human life, economic loss, lifeline disruption, and environmental damage.

On the American Society of Civil Engineers' The Infrastructure Report Card, our Nation's dams received a failing grade of D. This should send a strong and urgent message that we must act now. According to the U.S. Army Corps of Engineers' national inventory of dams database, there are nearly 2,000 dams in New York State, of which 133 lie in my congressional district. Of those 133 dams, 30 of them are considered to be high-hazardous and 41 are of sig-

nificant hazard. That means if there is a dam failure, there is a high risk of death and destruction.

Some of the hazardous dams in my district include the Newton Creek Dam in Chemung County, the Cuba Lake Dam in Allegany County, the Gates Creek Dam in Cattaraugus County.

In addition, of the 133 dams in my district, 38 of them were built prior to 1940. These dams pose a particular threat to their surrounding area simply because of their age.

We cannot jeopardize the safety of our citizens, and we must take action to repair these hazardous dams. In order to do so, we must pass legislation that will grant States and localities the necessary tools to fix this very dangerous problem.

I am proud to be the sponsor of H.R. 4981, the Dam Safety Act of 2006, which I introduced with Representative Jim Matheson. The bill increases the authorization for funding for the National Dam Safety Program, an important national program administered by the Federal Emergency Management Agency that seems to improve the safety and security of the Nation's dams.

This bipartisan bill provides funding for the next five fiscal years, through 2011, for FEMA grants to States for dam safety. It will also allow FEMA to continue leading national safety efforts. It will augment research, technology transfer, communication between State and Federal agencies, and provide much needed training for safety dam engineers. The grant assistance component of the Act will provide vital support for the improvement of State dam safety programs which regulate 95 percent of the more than 78,000 dams in the United States.

Along with H.R. 4981, I am proud to be a cosponsor and supporter of H.R. 1105, the Dam Rehabilitation and Repair Act, introduced by my colleague and my next seat mate, Mrs. Kelly of New York. This Act establishes a program within the Federal Emergency Management Agency to fund publicly-owned dam rehabilitation repairs.

I am confident that both of these bills take significant legislative steps to address our aging dams. I look forward to continue working with members of this Subcommittee, Representative Matheson and Chairman Shuster particularly, to report legislation out of this Committee that protects and adequately authorizes funding for our dams.

Mr. Chairman, I look forward to hearing today's testimony, and I yield back the balance of my time.

Mr. SHUSTER. Thank you, Mr. Kuhl.

And now I would like to recognize Mr. Michaud for an opening statement.

Mr. MICHAUD. Thank you very much, Mr. Chairman and Ranking Member, for having this hearing. It is an important issue.

I know in the State of Maine we have over 1,000 dams in the State of Maine, and they are all aging, and safety concern is vitally important.

With that, Mr. Chairman, once again, I want to thank you for having this hearing, and would request unanimous consent to have the remainder of my opening statement be submitted for the record.

Mr. SHUSTER. Without objection, so ordered.

I now recognize Mrs. Kelly.

Mrs. KELLY OF NEW YORK. Thank you, Mr. Chairman—and I appreciate your allowing me to participate in this important hearing—for taking on an issue that has unfortunately been ignored at the Federal level for far too long.

The events over the past year in Massachusetts, Missouri, Hawaii, and in my home State of New York have clearly demonstrated the need for us to pay more attention to our Nation's dam inventory. The recent flooding in the Northeast that crippled much of my district in New York's Hudson Valley would have been far worse had the vital dam structures completely failed.

The Dam Safety Program in FEMA should be reauthorized to continue the work it has fostered over the last 10 years, including providing critical training to State engineers and establishing unprecedented cooperation between Federal dam safety agencies and State dam safety agencies. But the program should also be strengthened to provide critically needed funding for the repair and rehabilitation of our Nation's aging dams.

My bill, H.R. 1105, the Dam Repair and Rehabilitation Act, would provide $350 million over four years to help protect our Nation's ailing dam infrastructure. While at first glance this number may seem high, it represents only a fraction of the actual cost for rehabilitating our dam infrastructure.

The Association of State Dam Safety Officials, represented here today, estimates rehabilitating all the dams in the United States would require an investment of $36 billion.

My legislation represents a wise, but fiscally sound, investment: aiding our financial limited State and local governments to repair our Nation's most unsafe and unstable dams. Passing this bill into law would ensure that our homes, small businesses, and local infrastructure won't be put in any further risk from failure of a substandard dam.

H.R. 1105 has 33 cosponsors in the House, including the distinguished Chairman of this Subcommittee, Mr. Shuster. And we thank you. It has also been endorsed by many of today's witnesses, including ASDSO, the New York State Department of Environmental Conservation, the American Society of Civil Engineers, the Dam Safety Coalition, American Rivers, and a constituent of mine who is here to tell us about that burden of unsafe dams place on local communities, my friend, David Kelly.

Incidentally, David is not related to me.

The Whaley Lake Dam in Pawling, New York has been holding back 1.2 billion gallons of water for more than 150 years, and, as it continues to age, the residents in the surrounding community are becoming increasingly apprehensive. I have been working closely with Mr. Kelly and the residents of Pawling to find a solution to the threat the dam poses, including inserting language into the Water Resources Development Act to try to get this dam repaired.

With the Senate passing the bill last week, I hope that the differences between our bills can be resolved quickly in conference so that this important funding can be delivered. I look forward to hearing Mr. Kelly's testimony and hearing him recount for this Subcommittee the numerous obstacles that he and the residents of Pawling have tried to overcome because of Whaley Lake Dam. His

story is representative of countless other local officials around this Nation in dealing with crumbling dams.

Mr. Chairman, our local communities simply don't have the money to fix all the dams; they need our help. The Dam Safety Program Reauthorization Act that is introduced by my colleague from New York, Mr. Kuhl, and my bill, H.R. 1105, can provide our States with a significant jump start to fixing our Nation's dams that we so desperately need. I look forward to the testimony of all of the witnesses, and, again, I thank you so much for allowing me to sit in on this very important hearing.

I yield back the balance of my time.

Mr. SHUSTER. Thank you, Mrs. Kelly.

Now I would like to recognize the original sponsor of the bill, Mr. Matheson.

Mr. MATHESON. Well, thank you both, Chairman Shuster and Ranking Member Norton, for letting me sit in on the Subcommittee hearing today, and I certainly want to thank Mr. Kuhl for his leadership on the issue and appreciate the opportunity to introduce this bill with him.

And I have a written statement that I would like to ask unanimous consent to submit for the record. I won't take all my time, I just want to make one observation, and you have heard from a number of people here.

Every State has issues with this. There are dams in every State that are critical in terms of the service they provide, in terms of water retention or flood control, but they also represent a potential hazard. So this is truly a national issue, and that is why it is important we are here today to talk about this and to continue this program, because it makes a difference across this Country.

And so, with that, Mr. Chairman, I again thank you for the opportunity to be here today, and I yield back the balance of my time.

Mr. SHUSTER. Thank you, Mr. Matheson.

I would ask unanimous consent that our witnesses' full statement be included in the record. Without objection, so ordered.

Since your written testimony has been made part of the record, the Subcommittee would request that you summarize them today in five minutes. If you would, we would appreciate that.

We have two panels of witnesses today. Our first panel has Mr. David Maurstad, who is Director of Mitigation Division and Federal Insurance Administrator at FEMA, and Mr. Steven Stockton, who is Deputy Director of Civil Works for the U.S. Army Corps of Engineers.

I would like to thank both of you for being here today. We look forward to hearing your testimony.

Mr. Maurstad, would you proceed first?

TESTIMONY OF DAVID I. MAURSTAD, DIRECTOR, MITIGATION DIVISION AND FEDERAL INSURANCE ADMINISTRATOR, FEDERAL EMERGENCY MANAGEMENT AGENCY; STEVEN L. STOCKTON, DEPUTY DIRECTOR OF CIVIL WORKS, U.S. ARMY CORPS OF ENGINEERS

Mr. MAURSTAD. Good afternoon, Chairman Shuster, Ranking Member Norton, and members of the Subcommittee. My name is David Maurstad. I am the Director of the Mitigation Division in

the Department of Homeland Security's Federal Emergency Management Agency. I appear before you today to testify on the need for the reauthorization of the National Dam Safety Program.

FEMA is the lead agency for this program, which provides critical support for the operation, maintenance, and improvement of our Nation's dams. The need for Federal leadership to support dam safety in the United States has never been clearer. The reality is that our Nation's dams are getting older and, like all things man-made, as they age, more prone to failure. It is estimated that 85 percent of dams across the United States are 50 years old.

The National Dam Safety Program provides leadership and accountability to identify dangerous dams and recommend ways to mitigate the risks associated with them before they become a problem. Our number one concern, however, is to mitigate the risks to the people who live below America's dams. Since the establishment of the National Dam Safety Program in 1979, there has been a significant reduction in the loss of life associated with dam failures.

According to the Association of State Dam Safety Officials, there were 28 failures in the United States from 1874 to 1979 resulting in 3,424 deaths, an average of 122 fatalities per dam failure. From 1979 to 2004, there were 55 dam failures resulting in 28 fatalities, a dramatic reduction in the number of fatalities per dam failure.

In order to maintain this safety record, the program focuses primarily on providing financial and technical assistance to the States. There are approximately 79,500 dams in the United States. Of these, the States regulate approximately 63,000. The program offers grant assistance to the States supporting improvement of State level dam safety programs.

The program also supports dam inspections; aids in the development, implementation, and exercise of emergency action plans; offers training for State dam safety staff and inspectors; and provides technical and archival research programs that includes development of devices to monitor the safety of dams.

As a result of this support, the Nation's dam safety continues to improve. In the past eight years, the number of emergency action plans for State-regulated high-and significant-hazard dams has doubled. The number of dam inspections conducted by the States has also increased over the past eight years, from approximately 12,000 inspections to approximately 14,000 inspections.

One of the key components of the dam safety program is ensuring that dams are owned, operated, and maintained by skilled and well trained individuals. Since the inception of the National Dam Safety Program, FEMA has supported a strong collaborative training program for dam safety professionals and dam owners.

I have focused so far on the program's support to the States because they regulate the majority of the Nation's dams, but I would like to speak briefly about the role that the program plays in keeping Federal dams safe.

Although the Federal Government owns or regulates only about 5 percent of the dams in the United States, many of these dams are significant in terms of size, function, benefit to the public, and hazard potential. Since the implementation of the Federal Guidelines for Dam Safety, the Federal agencies responsible for dams

have performed an exemplary job in ensuring the safety of dams within their jurisdiction.

All of these agencies have implemented the provisions of the Federal guidelines. Many agencies continue to maintain comprehensive research and development programs, training programs, and have also incorporated security considerations and requirements into these programs to protect their dams against terrorist threats.

Although the National Dam Safety Program is a relatively small program, FEMA is proud to lead it. The program has helped significantly to encourage appropriate actions that address the risks associated with the Nation's more than 79,000 dams. Through grants, training support, research, data collection, and other activities, the program provides a much needed impetus for the ongoing safeguarding and protection of people, property, and the dams themselves.

Mr. Chairman, thank you for the opportunity to testify before you today, and I would be pleased to take any questions from you or other members of the Committee.

Mr. SHUSTER. Thank you, Mr. Maurstad. Appreciate that.

And, Mr. Stockton, you may proceed.

Mr. STOCKTON. Thank you, Chairman Shuster, Ranking Member Norton, and other members of the Subcommittee. I am Steven Stockton. I am Deputy Director of Civil Works for the U.S. Army Corps of Engineers. I am a registered professional engineer in the State of Oregon.

I am pleased to be here today and have the opportunity to speak to you about the proposed amendments and reauthorization of the National Dam Safety Program Act. My testimony today will provide a brief discussion of the benefits of the program, the need for reauthorization, and the proposed reforms to the National Dam Safety Program.

As far as the benefits of the program, the U.S. Army Corps of Engineers operates a large number of dams in the United States, and we have been active in promoting dam safety for many years. The Corps was a member of the ad hoc committee that wrote the Federal Guidelines for Dam Safety in 1979, after dam failures occurred early in the 1970s.

Since that time, the Corps has been active in the activities of the Interagency Committee on Dam Safety and also with the National Dam Safety Review Board, which was established in 1997. The National Dam Safety Review Board has been meeting regularly and is active in the development of joint Federal and State dam safety policies and training.

The National Dam Safety Program provides benefits to the Nation by reducing risks to life and property from dam failure in the United States through an effective dam safety program that brings together the expertise and resources of the Federal and non-Federal communities in achieving dam safety hazard reduction. These benefits are being achieved through the publications of various technical guidelines for the dam owner, through dam safety training, in Federal and State government on inspection and evaluation of dams, through cooperative dam safety research, and through publication of the National Inventory of Dams.

The National Dam Safety Program has allowed the Corps to leverage its resources through work with other Federal agencies and with the various States. The program has improved safety programs by providing a forum for the States to share information. The National Inventory of Dams lists nearly 80,000 dams in the United States.

Since the current version of the National Dam Safety Act expires at the end of fiscal year 2000, in order for the Nation to continue to realize the benefits to the Nation of the program, reauthorization would be required. Workgroups under the National Dam Safety Review Board are currently engaged in research to improve the safety of dams and the development of additional technical guidelines for dam owners.

Since most of the 80,000 dams in the U.S. are owned by private companies and individuals, the National Dam Safety Program provides a single point of access for dam safety information. The Corps of Engineers believes that the cost of providing dam safety for dams operated by the Corps is reduced as a result of Corps participation and cooperation in programs such as this.

Most of the proposed amendments in the National Dam Safety Program Act are administrative in nature; however, there are two amendments that make substantial changes to the program. These amendments are: one, the addition of assessment for each dam based on inspections completed by either a Federal agency or a State dam safety agency to the National Inventory of Dams, and, two, the extension of the authorization for appropriations.

The addition of an assessment for each dam to the inventory will enhance the value of the inventory when used by various emergency agencies and local governments during times of natural disasters. The assessments will allow the first responders to focus their actions where dam failures are most likely to occur. This will save time and possibly lives in emergency situations. In addition, these assessments will provide information that can assist local governments, public utilities, and private individuals when making investment decisions concerning property protected by the dams.

If the proposed legislation is enacted in its current version, authorization of appropriations for the National Inventory of Dams would increase from $500,000 per fiscal year to $1 million per fiscal year to accomplish the addition of the assessments to the inventory.

The current version of the proposed legislation also calls for the program appropriations to be increased to allow the program to continue at the present level and to improve the ability of the National Dam Safety Review Board to evaluate the performance of State dam safety programs. We are committed to continuing to improve the safety of Federal dams, continuing to cooperate with other Federal agencies and the States to reduce the risk to public safety in areas located below dams, continuing to help decision-makers set priorities for future dam safety investments, and continuing to ensure that all Americans can make more informed decisions on building homes, locating businesses, and purchasing flood insurance based on the actual risk of flood and storm damages where they live.

This concludes my statement. Again, I appreciate the opportunity to testify today. I would be pleased to answer any questions you may have.

Mr. SHUSTER. Thank you, Mr. Stockton.

My first question is to both of you. I think I get from your testimony that you generally support the National Dam Safety Act, but there are some changes, I think I hear you saying. Could you elaborate on those changes or things that you might want to add to it or take out of it? I wasn't quite clear on that.

Mr. STOCKTON. Yes, sir. This is an excellent program. As you know, there are a lot of unmet water resource needs in the Nation, this being one of them. Dam safety is of paramount importance, and I think what it has really allowed us to achieve is a lot of cooperation and collaboration in sharing of information with other Federal agencies and State agencies so we can leverage technical knowledge, educational materials, and those kinds of things.

With respect to the changes, it basically is adding one of the functions, which is to not only include the data that is in the National Dam Inventory—which is basically location, size, hazard category—but also to include the hazard assessments that the States perform on an annual or during their regular periodic schedules. We would actually put those in the database. Now, those would be there for use by State and Federal officials, but not be open to the public. And that is the primary change that is in the legislation, which we support.

Mr. SHUSTER. Okay. So you support it as it is written today?

Mr. STOCKTON. Yes, sir. Yes, sir.

Mr. SHUSTER. Okay. Both of you?

Mr. MAURSTAD. Yes, sir.

Mr. SHUSTER. Okay. And concerning H.R. 1105, the Dam Rehabilitation and Repair Act, what are both your organizations' positions on that bill, is that something you support? Would you make changes to it that you see?

Mr. MAURSTAD. Well, I think that at this point I am not sure we have a formal position on the legislation. I think that we would certainly have a couple of suggestions that the Committee might be willing to entertain. Because of the large volume of unmet need, you may want to look at, at least initially, looking at one-time only grants per dam. You may want to look at making sure that the funding is for those that would provide the greatest cost-effectiveness. You may want to consider a different cost-sharing scheme, more along the lines of equal partners between whoever is responsible for the dam and the Federal Government; and look at that whoever the owner of the dam is makes a commitment toward the future maintenance of the dam.

Mr. SHUSTER. So, in other words, you think it has merit, but you are concerned about the amount of money and the amount of dams that are in the programs.

Mr. MAURSTAD. Yes, sir.

Mr. SHUSTER. Mr. Stockton, comment?

Mr. STOCKTON. Yes, Mr. Chairman. As I stated, there are huge unmet needs with respect to dams, and I think we need to look at innovative financing mechanisms, because everybody realizes there

are not enough Federal or State or local dollars to do it all themselves.

Mr. SHUSTER. Right.

Mr. Maurstad, over the past few years, FEMA'S role in mitigation has become somewhat unclear. Do you still believe that the National Dam Safety Program, mitigation program, is something that fits under FEMA'S mission still to this day?

Mr. MAURSTAD. Oh, very much so. We have gotten good support from FEMA and the Department of Homeland Security for mitigation programs. There is still very much a commitment to reducing the Nation's vulnerability to future risks, regardless of whether they are manmade or natural hazard risk, and we are certainly supportive and, as I indicated in my testimony, proud to be the lead agency for the National Dam Safety Program.

Mr. SHUSTER. And we have heard you have had some difficulty at FEMA developing a specific criteria to define what a State-regulated dam is for the purpose of allocating State assistance programs. Is that true, are you having some problems with that, or have you been able to work that out?

Mr. MAURSTAD. It doesn't come to the front of my mind, but my sense would be, my response would be if we are having difficulties at that, we would continue to work with the National Dam Safety Review Board to work out those issues. If it is something that is overdue, we will have to get on top of it. But we have a good working relationship with the National Dam Safety Review Board and the Association of State Dam Safety Officials, so there is no reason in my mind to believe we can't resolve that issue.

Mr. SHUSTER. Okay. Thank you.

At this time I recognize Ms. Norton for questions.

Ms. NORTON. Thank you, Mr. Chairman. I just have a couple of questions.

One to Mr. Maurstad. The testimony about dams that may in fact be at risk, and gathering that data in one place, I applaud, particularly given FEMA'S post-9/11 concerns. Something like 10,000 dams have the potential for loss of life or property, and yet these dams, most of them, I understand, have been built by private individuals or corporations, or owned by private individuals and corporations, not States. I can understand that you would want to gather—or I am sorry, I guess this is Mr. Stockton who would want to gather this information about at what risk these dams are in one place, and it does seem to me that a certain amount of that information you would not want to be public. But my question, first, am I correct that most dams are owned by individuals or corporations?

Mr. STOCKTON. Yes, ma'am, that is correct.

Ms. NORTON. Now, it does seem to me—and I have to ask you this question—while there are certain kinds of information, of course, that we would want not to be public, it does seem to me that, to the extent that these dams need some repair or attention, the general public has the right to know and to bring the pressure that in a democracy you bring. But if you don't know that you are sitting right there where there is a high-risk dam, either because the risk is a natural hazard or a terrorist hazard, you are just sitting there while the poor data collectors gather their data and kind

of talk among themselves and perhaps talk to those who own the dam. Where is the pressure going to come from to in fact remedy the problems that you discover and put in the database?

Mr. STOCKTON. Yes, ma'am. Currently, we are posting what hazard categories each of the dams poses, but that is kind of a gross classification. What we would not publish are the detailed information that would expose the critical flaws—

Ms. NORTON. So what you are publishing, you mean even now, says what, for example?

Mr. STOCKTON. Yes, ma'am

Ms. NORTON. What does it say now? Give me typically what you can learn from what you have been able to post or intend to post.

Mr. STOCKTON. It is a public website that has, you know, name, location, capacity, height, general characteristics, as well as the hazard classification of that project.

Ms. NORTON. And the hazard classification tells you, okay, this is hazard classification what, A, 1, 2? What is it, please?

Mr. STOCKTON. The hazard classification system is explained and does rank them by risk of damage that they pose.

Ms. NORTON. It does seem to me that that is information that needs to be made public. The details of it, the public can't much handle anyway, since it is technical information, but it does seem to me that what you are doing to gather the data could not be more important, and acting on the data is important. How do you get the individuals and corporations to act on the data? Who does that?

Mr. STOCKTON. The responsibility for regulation of the non-Federal dams—the Federal agencies are responsible for managing their own, but the States have the primary responsibility for regulation of dams within each State.

Ms. NORTON. Just as any public funding usually comes from the State, as well, I take it.

Mr. STOCKTON. Yes, ma'am.

Ms. NORTON. Have they been doing a decent job of regulating so that, if you expose hazards, the State then does its job and gets the owner to attend to the hazard?

Mr. STOCKTON. I think, generally speaking, the States have been doing an incredibly good job. That said, each State, it depends on the resources that they have available and can devote to this, and was stated in prior testimony, I think there are some critical needs.

Ms. NORTON. Yes. Well, I think this authorization will help if for no other reason than to draw attention to the issue.

Let me ask you one more question. The WRDA bill, finally, I understand, has just passed. That is a bill that Congress has passed three times, and I understand it has just passed the Senate. I just have a question. I understand you have started, the Corps of Engineers has started on a section of that bill that I have in Werter but, frankly, did not even need congressional authorization, and that is a comprehensive plan for cleanup of the Anacostia River. This is a river literally three blocks from the Capitol, runs, a dirty, nasty river with storm water overflow and all that goes with it. Can you give me information on where you are on the comprehensive for cleanup of the Anacostia?

Mr. STOCKTON. Yes, ma'am. The Water Resources Development Act just passed the Senate last week. The version that passed the

House was, I think, about two years ago. I believe—and I would have to verify this fact—that the feasibility report, the authorization language to actually authorize the Anacostia River cleanup would actually be in the House and Senate bill. But I would have to confirm that.

Ms. NORTON. Is my information correct or not, that you have already started on a comprehensive plan, or have you been waiting for—which apparently was in your authority to do it and you have paid some considerable attention to the Anacostia. Have you started on it or have you been waiting for the Werter bill to pass?

Mr. STOCKTON. I believe we have—and I will have to confirm this for the record, but I believe we have completed the study process. The request for authorization is in the versions of Werter in the House and the Senate, but it has not been funded for construction or authorized for construction, excuse me.

Ms. NORTON. I wonder if you would transmit to my office a copy of the plan so that I can see what work you have been doing.

Mr. STOCKTON. Yes, ma'am.

Ms. NORTON. Thank you very much, Mr. Stockton.

Mr. SHUSTER. Thank you.

I now recognize Mr. Kuhl for questions.

Mr. KUHL. Thank you, Mr. Chairman. I just have a couple questions.

Statistically, it looks as though, at least for the last 10 years, since FEMA has been in control over the dam safety project, that the actual number of dams that have now become unsafe has increased. Is that correct? Is the information I am getting correct?

Mr. MAURSTAD. I think that would be correct, and it is because, as I indicated, as the dams get older, they become naturally more unsafe if the maintenance or the upkeep of those dams doesn't keep pace with the age. So it is mostly as a result of the aging process of the dam inventory in the Country.

Mr. KUHL. All right. Now, if more are becoming unsafe, shouldn't we be working to make them less unsafe? And if the answer is yes, then the question—actually, both of you—is why aren't we? Now, this bill actually puts a new mandate on the Corps, whereas, before, the position was that you may do inspections. Now, under this reauthorization, you are required to absolutely conduct an inspection. Is that kind of an impetus coming from a directive from the Congress to mandate inspections, which will then, for sure, point out unsafe dams, all of them across the Country? Is that going to necessitate an increased funding level?

I know it is a multi question, but I would appreciate your insight. We want to be helpful, obviously. We want to eliminate any potential hazards that are here. And I guess I am looking to both of you because, in my short time here, I have noticed the appropriations going to the Homeland Security Department is increasing significantly over the last years, but I don't see that same kind of increase in appropriations for the Dam Safety Program increasing. Just looking for your insight. Not begging a fight, just looking for an insight.

Mr. MAURSTAD. No, I think that certainly, again, as we work with the States—and their primary responsibility is the regulator of most of the dams across the Country—we want to do what we

can to provide them with the necessary training, the necessary funds for research, inspections. The Mitigation Division is, of course, particularly interested in the emergency assistance planning aspect of what the States are doing. The data collection is an important part to provide everybody the relevant information to be able to make good decisions both at the private level, local level, and Federal level.

So I think clearly we support the intent of what the Dam Safety Program is intended to accomplish. Certainly, as the civil engineers have pointed out and as testimony earlier, there is a great need out there, and the challenge will be to continue to come up with the resources to meet those needs.

Mr. STOCKTON. Yes, sir, I think the Federal role is more of facilitation, coordination, collaboration, sharing of information, technical information, and developing consistency and measuring the size and magnitude of the program, assessing the dams, classifying them by hazard category so we all know what the state of the infrastructure is. I don't believe there is any provision in this legislation that mandates Corps of Engineers inspection or direction to do anything specifically for any group or category of dams.

Mr. KUHL. A follow-up question to both of you. Based on your oversight of this Dam Safety Program, do you have any thought as to what the outstanding financial need is for total repair of all the dams that are insufficient across the Country?

Mr. MAURSTAD. The only number that I would have would be the number I think that has been provided by the Association of State Dam Safety Officials, and I am not sure—I know they are going to be on the next panel. I am not sure that I have that number right at my fingertips. I could certainly secure it for you for the record.

Mr. KUHL. Okay. Thank you. I have no further questions.

I yield back, Mr. Chairman.

Mr. SHUSTER. Thank you, Mr. Kuhl.

I now recognize Mr. Michaud for questions.

Mr. MICHAUD. Thank you very much, Mr. Chairman. I appreciate the line of questioning from my colleague from New York. That is the same concern that I have, and I heard it in your opening remarks, about a huge unmet need. And I was just wondering what that unmet need was, and I just heard your comments to my colleague from New York.

I guess my concern is when you look at the huge unmet need and the fact that States are primarily responsible for the majority of the dams within their States, however, with the budgetary constraints at the State level for various reasons, what do you think the role of the Federal Government should be? I will use Maine for an example. We have one dam inspector for the whole State of Maine.

There is a problem when you look at not only inspecting the dams, but also the enforcement. How do you address that enforcement? And then I would like you to comment on how do you address an issue where actually you have a Federal agency such as the U.S. Forest Service, who owns dams, who is in dispute with a State, in violation of State law for five years, and nothing has been done yet. How do you solve these problems and continue to move

forward to make sure dam safety is a top priority for both your agencies?

Mr. MAURSTAD. Well, I think clearly, as has been indicated, our role is to facilitate and coordinate amongst the dam safety community on how best to solve all of these problems. I think that with the resources that have been made available, I believe, for the most part—not in all parts—the States are trying to do as much as they can with not only their own resources, but with the resources that the Federal Government provides them. So the collaboration that occurs through the various interagency groups, data sharing, research, training opportunities, all of those lend itself to trying to address the problem.

Now, the overriding issue is where and who is going to provide the necessary funding, and, of course, we will work with Congress on trying to develop an answer for that.

Mr. MICHAUD. Do you think, when you look at engineers—and I am not sure what other States are doing. What is your opinion on, when you look at colleges and programs that universities might offer, some of the classes, do you think it is worthwhile looking at, whether that might be a program, actually the university systems might be able to do as far as having their engineers out there to help inspect or write emergency planning plans, or is that too premature at this time? And do you think that there should be some Federal oversight if that does occur, to help the States meet their needs?

Mr. MAURSTAD. Well, I am not an engineer. I am not knowledgeable relative to what is provided in the engineering colleges around the Country, but I would just say in a very general sense the training that we try to coordinate with our dam safety technical workshops we have done both at the regional level, at the local level, the Association of Dam Safety Officials develop training across the Country, I think that we are working with the Corps of Engineers on a new web-based training opportunity. So I think that the exploration on how to better train dam safety officials is certainly out there. We are willing to look at whatever opportunities can best facilitate the necessary objectives.

Specific to engineering training, I might defer to Mr. Stockton relative as to whether there is a deficiency there or not, or whether there is something more than the Dam Safety Review Board could be doing with the engineering educational community to facilitate improvement.

Mr. STOCKTON. Yes, sir. I think it is an excellent suggestion. I mean, it really gets down to resources. And if there is a lot of talent in the college and universities that can be used in an appropriate way, I think that is an appropriate application and would get people to focus and give it the visibility that the program really needs.

Mr. MICHAUD. If I might, Mr. Chairman, just one last question.

What role does the U.S. Army Corps of Engineers play with other Federal agencies? As I mentioned earlier, where we have a law in the State of Maine, the U.S. Forest Service has not met the obligations under that law. Do they contact the Corps of Engineers for assistance, or what role do you play when you are dealing with a State law versus another Federal agency as it relates to dams?

Mr. STOCKTON. Yes, sir. Each Federal agency is responsible for regulation, monitoring, and operations and maintenance of their projects. We are members of the Interagency Committee on Dam Safety and the National Dam Safety Review Board. The Department of Agriculture also has members on both of those boards. But as far as any regulatory authority, no. We can provide technical assistance on a reimbursable basis.

Mr. MICHAUD. Thank you, Mr. Chairman.

Mr. SHUSTER. Thank you.

I want to thank both of you gentlemen for being here today. We appreciate it. And I am certain we are going to be submitting some questions to you for more detailed answers. So, again, thank you for being here today, we appreciate it. And you are excused. Thank you.

Mr. STOCKTON. Thank you, Mr. Chairman.

Mr. SHUSTER. The Committee now calls our second panel today. If you folks want to make your way to the table.

First off, I would like to thank each and every one of you for traveling here, a great distance some of you, for being here, taking the times out of your schedule. It is important that we hear from folks that are out there in the field, as they say, in the real world. So we appreciate your being here today.

We are joined today by several panelists: Ms. Ruth Moore, who is the Deputy Commissioner of Natural Resources and Water Quality, a Division of New York's Environmental Conservation; Mr. Larry Roth, who is the Deputy Executive Director of the American Society of Civil Engineers; and Mr. Kenneth Smith, Assistant Director of Indiana's Department of Natural Resources, Division of Water, and President of the Association of State Dam Safety Officials; and, finally—Mrs. Kelly is not here—not to be confused as a relative of Mrs. Kelly's, Mr. David Kelly, who is a County Legislator from Duchess County, New York.

Thank you all, again, for being here today. I am certain you are going to give us further insight to the issue that we have before us here today.

So, with that, I recognize Mr. Kelly. You can start off your testimony.

TESTIMONY OF DAVID P. KELLY, COUNTY LEGISLATOR, DISTRICT 23, DUTCHESS COUNTY, NEW YORK; RUTH A. MOORE, DEPUTY COMMISSIONER, NATURAL RESOURCES AND WATER QUALITY, DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE; LARRY ROTH, DEPUTY EXECUTIVE DIRECTOR, AMERICAN SOCIETY OF CIVIL ENGINEERS; KENNETH SMITH, PRESIDENT, ASSOCIATION OF STATE DAM SAFETY OFFICIALS, ASSISTANT DIRECTOR, INDIANA DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATER

Mr. KELLY. Thank you, Mr. Chairman. Chairman Shuster, Ranking Member Norton, distinguished members of the Subcommittee, my name is David Kelly. I am here today to connect you with a small community that is reaching out to take on the responsibility of maintaining, rebuilding, and ultimately taking ownership of a local hidden public threat, an earthen dam.

Throughout these United States, we have hundreds of thousands of earthen structures holding back billions of cubic gallons of water. These dams were built for many reasons: community drinking water reservoirs, energy production, flood mitigation, recreation usage, amongst others. And while their benefits are well known, their dangers of their potential failures are overcoming local communities like mine in Duchess County and all across this Country.

For the past eight years, Pawling residents have been working towards sustaining their quality of life by accepting the demanding responsibilities of ownership of a dam that was built in 1847. The Whaley Lake Dam was built by the owners of a hat and dye factory some seven municipalities downstream on the historic Hudson River. The waters that it holds were used to control the high and low levels of the stream which provided a flow to the factory to turn its waterwheel, its machines, its mills, and, in the early 1900s, a generator. Because of its age and its deteriorating condition, the dam, and its 1.2 billions of gallons that it holds back, poses a risk to our community.

For eight years the homeowners and public officials have been working jointly on their efforts. Because the 159 year old dam has no owner of record, the property was taken back by the county for nonpayment of taxes. The New York State Department of Environmental Conservation, following a 1998 assessment of the dam's condition as unsound, has recently considered breaching the dam. State, county, and town officials, along with the homeowners, continue to work together to resolve this entire legal logistic nightmare.

Concerns have continued to surface through discussions on how to maintain the current quality of life, maintain the value of their homes, maintain the value of the assessment of the entire local community—both the town and the county—maintain the recreation and tourism vitality, and reduce the environmental effects if this lake were to be drained.

Thousands of privately-donated dollars and personal hours have been dedicated to this project to date. Design proposals have been drawn up, maps have been designed, public informational meetings have been held, and we asked for the assistance from our State agencies. The entire Pawling community is taking charge and trying to move forward.

But they have only taken it nearly as far as they can do. Pawling and Duchess County need assistance to relieve the financial burden that will cause millions of dollars to merely repair and rebuild only portions of the original dam structure.

That is where the Federal Government plays a crucial role. Local communities like the town of Pawling simply do not have the resources to pay the necessary improvements to rehabilitate the dams like this one at Whaley Lake. I hope that as Congress and this Subcommittee considers reauthorizing the Dam Safety Program, they will include a program to assist States and communities to repair and rehabilitate deficient dams.

H.R. 1105, introduced by my Congresswoman, who was present here earlier, Sue Kelly, would provide $350 million over the next four years for dam repair and rehabilitation program. Such funds

would go a long way in preventing disasters like the one we saw earlier in Hawaii.

Chairman Shuster, Ranking Member Norton, this is a mere glimpse of one small community's struggle on an unsafe dam. As Congress continues to examine the Dam Safety Program, we must consider that maintenance must be performed on all the structures which are built. Communities will need to know that a program exists to allow the relief from the burden of taking ownership of a hazardous dam.

Once again, I thank the Subcommittee for allowing me to testify today, and look forward to your questions.

Mr. SHUSTER. Thank you, Mr. Kelly.

Ms. Moore, you may proceed.

Ms. MOORE. Thank you and good afternoon. Chairman Shuster, Ranking Member Norton, and members of the Subcommittee, on behalf of Commissioner Denise Sheehan, I want to thank you for allowing the New York State Department of Environmental Conservation to testify today on timely and important congressional legislation to reauthorize the Federal Dam Safety Program. My name is Ruth Moore, and I serve as the Department's Deputy Commissioner for Natural Resources and Water Quality.

The Department welcomes the Subcommittee's interest in dam safety and applauds Congressman Kuhl in particular for introducing H.R. 4981.

Article 15 of New York State's environmental conservation law provides the statutory framework for many of the Department's water resource programs, including dam safety. The Department's dam safety program is designed to protect the public and safeguard property, and to ensure that natural resources are not adversely affected.

The New York State legislature first recognized the need for the State to regulate dams in 1911, making the Department's dam safety programs one of the oldest in the Nation. The statute requires permits to construct or repair a dam; requires dam owners to operate and maintain dams in a safe condition; and gives the Department, among other things, authority to remove or repair a dam in order to safeguard life, property, or the natural resources of the State. These statutory requirements facilitate the Department's ability to implement the National Dam Safety Program in New York State, and amendments to the NDSP as proposed in 4981 would enhance these ongoing State and Federal efforts and cooperation.

There are over 5500 dams in New York State, and while the safe operation of a dam is the responsibility of the dam owner, the Department's staff perform regular and periodic inspections of certain dams in addition to the dam owner's operational and inspection activities.

The Department inspects the State's 384 high-hazard dams every two years, and 757 intermediate-hazard dams have historically been inspected every four years. We also perform unscheduled inspections of dams as needed. Dams under construction may be inspected more frequently, for example. Dam safety staff perform an average of 400 inspections each year and, with the new staff which

Governor Pataki approved in the State's current fiscal year, our ability to inspect dams will be further enhanced.

H.R. 4981 provides much needed assistance to New York State's efforts to effectively protect the health and safety of its citizens and natural resources through the safe management of dams. By requiring the Army Corps of Engineers to maintain and update information on the inventory of dams in the United States, the bill will help provide New Yorkers with the assurance they need that dams are maintained in a safe condition. Since the Corps' assessment of dams would be based on inspections completed by either a Federal agency or a State dam safety agency, this program would effectively complement the dam safety activities already underway in New York State.

With Federal recognition of State responsibilities for dam safety and inspection comes the need for Federal funds as well to assist States like New York in carrying out those responsibilities. For that reason, the Department supports provisions which authorize adequate funds for the National Dam Safety Program, the National Dam Inventory, and for research, training, and staff; and we believe the Department is well positioned to qualify for assistance from the National Dam Safety Program under the enhanced requirements proposed in 4981.

In addition to the Department's support for congressional approval of H.R. 4981, I would like to emphasize the importance of enacting congressional legislation that assists programs already underway to repair and rehabilitate older dams whose failure could significantly harm the health and safety of our citizens. Such assistance can be found in H.R. 1105, introduced by Congresswoman Sue Kelly of New York.

H.R. 1105 would establish a grant program in FEMA to aid States undertaking rehabilitation projects on deficient publicly owned dams. Authorized appropriations would amount to $50 million for fiscal year 2007, with $100 million per year authorized for 2008 through 2010. The authorization of these funds would bolster the Department's efforts to encourage public dam owners in New York State to rehabilitate and repair many older dams, and would help supplement the State's $15 million dam safety grant program for municipalities authorized by Governor Pataki's 1996 Clean Water, Clean Air Bond Act.

Your attention to this important issue is greatly appreciated. By work together, we can ensure the quality of New York's dams and, through that, the safety of its residents, their property and water supply, and the many natural and scenic resources which New York has to offer.

Thank you, and I would be happy to answer questions.

Mr. SHUSTER. Thank you very much, Ms. Moore.

Mr. Roth, you are recognized.

Mr. ROTH. Mr. Chairman, members of the Subcommittee, good afternoon. My name is Larry Roth. I am the Deputy Executive Director of the American Society of Civil Engineers. I am a licensed professional engineer and a licensed geotechnical engineer in the State of California. Before joining ASCE's staff, I had 30 years experience in water resources engineering, including dams, levees, and canals.

Let me start by thanking you for holding this hearing. As someone who has worked in this field for many years, I can say there are few infrastructure issues of greater importance to more Americans today than dam safety. So I am very pleased to appear here today to testify for ASCE in strong support of H.R. 4981, the Dam Safety Act of 2006. We believe that Congress should pass this bill without delay in order to reauthorize the National Dam Safety Program.

In addition, ASCE urges the Subcommittee to approve companion legislation H.R. 1105, the Dam Rehabilitation and Repair Act of 2005 This bill amends the National Dam Safety Program to provide critically needed funding for repairs to publicly owned dams across the United States. Like all manmade structures, dams deteriorate with age.

Last year, ASCE issued the latest in a series of assessments of the Nation's infrastructure. Our 2005 Report Card for America's Infrastructure found that the number of unsafe dams in the United States rose by a stunning 33 percent between 1998 and 2005.

Moreover, the Nation's dam safety officials estimate that it will cost more than $10 billion over the next 12 years to upgrade the physical condition of all critical, non-Federal dams, dams that pose a direct risk to human life should they fail.

The problem of hazardous dams is potentially enormous. As the Congressional Research Service stated last September, unsafe dams represent a serious risk to public safety. The study said, while dam failures are infrequent, age, construction deficiencies, inadequate maintenance, and seismic or weather events contribute to the likelihood of failure. To reduce the risk, regular inspections are necessary to identify deficiencies, and then corrective action must be taken.

Although catastrophic failures are rare, the States reported 1,090 dam safety incidents, including 125 failures, between 1999 and 2004. The number of high-hazard dams, dams whose failure would cause loss of life, is increasing dramatically. By 2005, the number of high-hazard potential dams totaled more than 10,000 across the Nation.

Even more alarming, States currently report that more than 3500 unsafe dams have deficiencies that leave them more susceptible to failure. Many States have large numbers of unsafe dams, including Pennsylvania with 325; New Jersey with 193, and Ohio with 825. The actual number is potentially much higher since some State agencies do not report statistics on unsafe dams.

Congress has been committed to dam safety for more than 30 years. It enacted the National Dam Inspection Act of 1972, which created the National Inventory of Dams, or the NID. The NID, which was last updated in February 2005, now lists more than 79,000 U.S. dams of varying purposes, ownership, and condition. More than half are privately owned; fewer than 5 percent are owned by the Federal Government.

H.R. 4981, a bipartisan bill, ensures that corrective action will be taken in a timely manner. The bill is quite simple. Let me summarize its chief provisions briefly.

The bill would require the Secretary of the Army, acting through the Chief of Engineers, to maintain and update information on the

inventory of dams in the United States, including an assessment of each dam based on inspections completed by either a Federal agency or a State dam safety agency. It would require that the strategic plan for dam safety prepared by the Director of Federal Emergency Management establish performance measures, in addition to goals, priorities, and target dates, towards effectively administering the Act to improve dam safety.

It would further require that States, to be eligible for assistance under the Act: one, have to perform inspections at least every five years of those dams and reservoirs that pose a significant threat to human life and property; two, create a process for more detailed and frequent safety inspections; and, three, develop the authority to issue notices to require owners of dams to install and monitor instrumentation.

Finally, H.R. 4981 reauthorizes very modest appropriations of the National Dam Safety Program, the National Dam Inventory, and for research, training, and staff.

Thank you, Mr. Chairman. That concludes my statement. I would be very pleased to take any questions you may have.

Mr. SHUSTER. Thank you, Mr .Roth.

And now, Mr. Smith, please proceed with your testimony.

Mr. SMITH. Thank you. Good afternoon. My name is Kenneth Smith. I am a civil engineer and the Assistant Director of the Division of Water in the Indiana Department of Natural Resources. I am responsible for the State's dam safety program. I am also the President of a national professional society known as ASDSO, the Association of State Dam Safety Officials.

Chairman Shuster, thank you very much for having this hearing.

Congressman Kuhl, we really appreciate your efforts for introducing the reauthorization of the Dam Safety Program.

And Congresswoman Kelly, I really deeply appreciate your introduction of the Dam Rehabilitation Act.

We are pleased to be here today to offer this testimony regarding the condition of the Nation's dams, the critical role of the Federal Government in dam safety and security at dams.

The Association, I assume you know, is a nonprofit organization with about 2300 members. This includes State, Federal, local, and private sector individuals. We are dedicated to improving dam safety through research, education, and communication. Our goal simply is to reduce the loss of lives and damage to businesses and property by encouraging wise dam safety practices.

Individual States' dam safety programs regulate about 95 percent of the 79,000 dams in the United States. The States and their programs certainly look to Congress and the Federal Government for their continuing leadership by example, with federally-owned and regulated dams and support of the national dam safety cause.

There have been many dramatic incidents of dam failures that we all recognize. In 1976, the federally-owned Teton Dam failed, killing 14 people and causing over $1 billion in damages. Also in the late 1970s, in Georgia, a much smaller privately owned dam, Kelly Barnes, failed in Toccoa Falls. These, compared to or attached to the recent failures in Hawaii, killing seven people, failures in Missouri, New York, and a near-failure in Massachusetts last year, have certainly brought again to focus the vulnerability

and the potential consequences of our deteriorating, unsafe deficient dams.

Downstream development continues below many dams, and these dams continue to age. They demand greater attention and investment to assure their safety. Failures like these that we have seen are a reminder of the obligation to assure that all dams are properly constructed, operated, and maintained.

As has been mentioned, the Dam Safety Program today is administered through FEMA and has been for the last 10 years. This program has encouraged the inspection of dams and provided very valuable assistance to the State dam safety programs There has been critical training for State engineers; there has been research activities that have occurred. Additionally, the program directs the Army Corps of Engineers to maintain a national tracking system that catalogs dams in the United States. This national program is very vital to assuring safety of the dams and must continue.

Dam safety, however, requires more than what the national program currently provides. Inspections and education alone and tracking systems will not substantially improve dam safety when we have such an aging infrastructure. The reconstruction funding is needed both for public-and privately-owned dams. The H.R. 1105 that is currently proposed is a great beginning to address publicly-owned dams. Unsafe privately-owned dams, though, can still cause people to lose their lives. Finding a financial mechanism for private-owned dams remains an unsolved challenge. We must not forget that even privately-owned dams present great public safety concerns.

Thank you again for the time you have given this topic. The Association requests in the strongest terms possible you recognize the benefits of dams and the unacceptable consequences of dam failures, and the role Congress needs to play by passing H.R. 4981 and H.R. 1105, and that you demand aggressive management of the National Dam Safety Program to achieve the results the people who live below our dams expect.

Thank you again for this opportunity, and I would be pleased to answer any questions.

Mr. SHUSTER. Thank you very much, Mr. Smith.

I want to thank all of you for staying under the five minute time allocation. Everybody yielded back with some time, which, in Congress, doesn't happen too frequently.

I know Mrs. Kelly has been involved in a markup, so I am going to yield to her first for questions, if she has any.

Mrs. KELLY OF NEW YORK. I really appreciate that, Mr. Chairman. Yes, we are in a markup, which is necessitating my running back and forth.

I want to know if I can do a bit of business here and, with unanimous consent, insert into the record a letter from the American Rivers that concerns this hearing.

Mr. SHUSTER. Without objection, so ordered.

Mrs. KELLY OF NEW YORK. Thank you.

My first question is for Mr. Kelly. As you know, the legislation that I have would provide funding for repair and rehabilitation of publicly-owned dams. I wonder if you could describe for the Subcommittee the great lengths that you and the residents of the Town

of Pawling have gone to try to bring the Whaley Lake Dam into public control.

Mr. KELLY. Yes, thank you, Mrs. Kelly. The Whaley Lake Dam currently is held by Duchess County and the in rem proceedings mean that there is basically no owner of record. But the owner of record was a corporation out of New York City, based out of New York City.

What would happen under these proceedings is that the county would take title or ownership of the property for a mere second, as the county attorney indicated to us in earlier conversations. At that point, they would transfer ownership over to the Town of Pawling. The Town of Pawling would then, being a public entity, would transfer it over to a dam district, that is, potentially being voted on by the members of the district around the lake. So it would end up going from private ownership in the in rem proceedings into a public ownership to the State.

Mrs. KELLY OF NEW YORK. And you are working on this, Mr. Kelly?

Mr. KELLY. Yes, we are. We have been currently working on this and trying to work out the logistic nightmare of it for eight years of how it actually has to happen. We have been discussing it with the State attorney general's office, with the comptroller's office, with the governor's office. Every corner there seems to be a different avenue on how it has to happen and the formality of the public notification of the owners and of the last known owners and any of their heirs. It has been a—the nightmare is very—this is an understatement, but it has been a lengthy process and there is a rock that comes up at every corner.

Mrs. KELLY OF NEW YORK. It sounds to me as though the homeowners around the lake have incurred some considerable cost in trying to get this resolved. Is that true?

Mr. KELLY. Yes, it is. The homeowners currently have put up thousands of dollars towards a legal fund that they have formed, a dam committee themselves, which is sanctioned by the Town of Pawling. They have put up all the money to secure counsel for themselves, and they have also put in thousands of hours of deed research to find out the owners of the parcels surrounding the lake to see who has lake rights into the parcels and to see actually the title searches into the previous owners and how far they have gone back. We have been fortunate that we do have a title—a person that owns a title search company that has authorized his business. As I said, thousands of hours have gone into this to try to find the owners.

Mrs. KELLY OF NEW YORK. I hope this all works out.

I want to say that I am very impressed with the testimony of Ms. Moore, Mr. Roth, and Mr. Smith. You know your stuff, and it is good to have you here to be able to testify with such good testimony that you have brought to us today. So I thank all four of you for your insight into the need for this piece of legislation.

Mr. Chairman, I yield back the balance of my time and appreciate your sensitivity to my being in the markup.

Mr. SHUSTER. Thank you for joining us today. We appreciate your being here.

Now I recognize Mr. Kuhl for questions.

Mr. KUHL. Thank you, Mr. Chairman. I have just a couple.

I am interested because, obviously, I have got my colleague, Mrs. Kelly, here, and you all have heard the testimony of the prior panel and are familiar with the two bills that are being introduced. Is there something we are missing that should be added that we haven't picked up on? I mean, you people are the experts in the field who are dealing with this every day and it is part of your livelihood. We are the people who are trying to gather information and make the program even better.

Is there something we are missing that should be added? For any of you to offer up anything that you may have. We still have time to tinker with it a little bit before it actually gets put on the floor. Mr. Kelly?

Mr. KELLY. Yes, Mr. Congressman. The gentleman from FEMA discussed the—if I remember right, how the monies would flow back to the States and how that has been handled in the past. We have been fortunate that Congresswoman Kelly has gained some conversation back and forth from FEMA, but one issue that seemed to keep coming up in conversation that they were dealing with privately owned dams. I think the language definitely needs to have conversation both ways about publicly and privately owned dams. There shouldn't have to be a stigma of who owns a dam or what happens or any financial burden.

In our case, this dam was there before any of us really gained residency into the district or around the lake, and it served another purpose. As times changed and as the influx of people, actually, after 9/11, have moved up into Duchess County, or from New York City up to northern areas, we have seen a growth in area.

So I think in dealing with private or public ownership, I think we just need to have straight language that if there is imminent danger, as in our case, the New York State DEC raises a level of high-hazard in our case, that we need to just look at those dams and take care of them on a level of high-hazard, and not worry about who is private or publicly owned, because there is a hazard downstream to, in this case, seven municipalities, and the water would actually flow—the first flow from our water, if there was a breakage of the dam, it would take out actually a federally-owned, newly repaired dam, the United Nuclear Dam.

Mr. KUHL. Okay.

Any of the rest of you want to add? Yes, sir, Mr. Smith.

Mr. SMITH. Thank you. The bills are very good the way they are, and particularly when I think of the rehabilitation bill. It is so good to know that we are at this first step and this first start. There is one issue, though, that I will bring up that has not really been mentioned so far, and that is the concept of a thing called emergency action plans.

With any dam, no matter how good it is engineered, how good it has been maintained, sometimes situations occur where there are problems at the dam, and emergency action plans are those items that are then used by the owner and the local officials as they try to respond to an emergency, make sure they know who they need to notify, and who they need to be getting out of harm's way.

The reason I bring this up is that across the Nation about 50 percent—I think it is 60 percent of the States—have a requirement, a State requirement that emergency action plans be in place for all high-hazard dams. My State in particular, Indiana, does not have such a requirement, and many States don't. I wonder if we were going to add anything to the bill, the one thing I think of adding to the rehabilitation bill might be a requirement that if one of these grants is given to a particular dam, that regardless of whether or not there is a State requirement for an emergency action plan, as part of receiving that grant, the owner of that dam should probably be required to have created and practiced and continued to update an emergency action plan.

Thank you.

Mr. KUHL. Okay.

Mr. Roth or Ms. Moore?

Mr. ROTH. Thank you, Mr. Kuhl. The American Society of Civil Engineers does strongly support both H.R. 4981 and 1105. But I would point to our own report card, which you cited, sir, thank you, and to our colleagues from the Association of States Dam Safety Officials, that the total investment to bring our dams into compliance and to remove obsolete dams probably tops $30 billion. H.R. 1105 provides a modest $350 million over four years to address these dam safety issues. I guess if there is anything on my wish list, it is probably not very popular, but certainly more money would always be nice.

Mr. KUHL. Well, we are used to that request.

If I might just follow up on that, Mr. Chairman, in the transportation side of the Transportation Committee, we are always seeing these analyses that talk about how there are so many deficient bridges and roads and things like that, and how much money it takes to maintain that level of deficiency, knowingly fully that there is an aging process that goes on, but to maintain that certain level.

Do you have any idea, based on your overall figure of, say, $30 billion to totally repair, what it would be to maintain this level of efficiency on an annualized basis for expenditures?

Mr. ROTH. I am not certain I could give you a precise answer to that question. However, it is not just a matter of maintain, but actually reversing some of the problems that we see with our most unsafe dams. And I believe the cost estimate, which is sort of a minimum price tag, would be $10 billion over a 12 year period.

Unfortunately, our report card and that number talks about a very large chunk of money. I believe our report card calls for $1.6 trillion over five years. But only about half of that is new money. And if you divided it out over five years, it is a much more manageable size number, one that we could more easily get our arms around.

It seems that $10 billion over 12 years might be a very reasonable investment in our Nation to protect public health, safety, and welfare from unsafe dams. We only have to look at the levee situation in New Orleans to realize how large and how tremendous both a socialist society impact, as well as a property damage impact that a failure might occur. And let's not kid ourselves, we call those levees in New Orleans, but they are really dams. New Orleans, as a

city, is below sea level. I think the level in Lake Pontchartrain is about plus 6 or so. So those are dams, and they deserve to be treated in the same degree of seriousness with which we approach all of our Nation's dams.

Mr. KUHL. Thank you, Mr. Roth.

And thank you, Mr. Chairman, for allowing me to extend my time.

Mr. SHUSTER. Sure. Thank you.

My question is first concerning the H.R. 1105, which Mr. Roth said money and Mr. Kuhl said we are used to that request up here. But as Mrs. Kelly's bill authorizes, tries to authorize $350 million in funding to help repair dams, would the four of you, any of you, care to comment on this? As we try to develop the argument why should the Federal Government pay with assisted funding State and local dams, what argument should we use? Give us your best case. When we make the argument, what should we put forward, coming from you folks that are out there in States and localities?

Go ahead, Mr. Smith, you can start.

Mr. SMITH. I think the question really was why is there a Federal role, why does there need to be leadership.

Mr. SHUSTER. Right.

Mr. SMITH. Several thoughts kind of jumped to my mind on that one, the first one just being generally the fact that the Federal Government itself is an owner and regulator of dams, and in that position it has tried very much over the last few years to lead by example, and I think that is a very appropriate role that the Federal Government should do, do the right thing with their own dams, the ones they regulate, and then sort of set the course for communities around the Country and the States, as well as private owners. Someone has got to take that leadership role. If it is not the Federal Government with their own, I don't know who else it would be. And somehow I don't see there being able to be the movement in a particular focused direction if it weren't for the Government at least standing out there and pointing the way.

The second issue really is the dam failures and their potential flood innundation areas really do not respect State boundaries. I think it is very much an issue that, because of that, requires some Federal attention.

And, really, the third response to that—and I think the most important part why they should be involved—is really that when there is a disaster, the National Flood Insurance Program and the President's Disaster Relief Fund are typically the source that repair and recovery costs often come from for this downstream flooded areas that occur. When you have to get into the repair and cost of these, the cost of even a single dam failure far exceeds the kind of numbers that we are talking about for preventative rehabilitation to a dam to begin with, and I think they even typically exceed the kind of numbers we are talking about with the programs even now for the rehabilitation program.

Mr. SHUSTER. Would your organization have the names of areas in the Country where a dam is in one State and, if it failed or if it is a high-hazard dam, would—for instance, Pennsylvania, if it failed, it would flood people in Maryland? Because that is information that would be helpful. Can you get those? Because I, quite

frankly, don't know. In my own State, I think that the Youghiogheny Dam in Western Pennsylvania, if it flooded, breached, broke, it probably would do some damage to West Virginia or Maryland. So that to have those kinds of facts would be interesting.

Mr. SMITH. When I think about the database that is out there with the Corps of Engineers, the database currently that is there doesn't capture that kind of a question or response. Determining which dams those are would not be a task we could do real easily, but, sir, if it is what you would like, we would certainly try to get that answer. We can work with our States to try to get a list put together.

Mr. SHUSTER. Because trying to authorize that sum of money, it is going to have to be a compelling argument, and you make one there, when you cross State lines. And through the commerce clause would be where the Federal Government could step up and say, well, because it is going to cause damage across State lines, maybe the Federal Government should play a stronger role than it does.

Mr. Roth, do you care to comment?

Mr. ROTH. I think I agree completely with Mr. Smith's comments. Mr. Shuster, I spent most of my career as a practicing engineer in the State of California, and in 1917 the St. Francis Dam failed in Southern California, killing a number of people and causing a lot of property damage. The leadership of that State at that time said this will not happen again, and California has adopted a very aggressive dam safety program.

And perhaps along with increased Federal funding there needs to be increased police action, if you will, to bring owners of dams such as the one that Mr. Kelly has addressed, to the table and have them take care of their responsibilities.

Mr. SHUSTER. Ms. Moore, do you care to comment?

Ms. MOORE. I think many panelists have said today that not only do we need Federal assistance in terms of money, but we appreciate the Federal expertise, especially in times of crisis. And in New York we work very cooperatively with the Corps and with FEMA. In particular, we have had some devastating floods last month in New York, and both the Corps and FEMA are helping us get back on our feet. In terms of our dams, over 800 dams were in the flood-affected areas, and FEMA and the Corps are helping us to go back and inspect and look at those dams to make sure that they are still of good integrity.

Mr. SHUSTER. Thank you.

Mr. Kelly, do you care to comment?

Mr. KELLY. Yes, thank you, Mr. Chairman. As the previous panelists did say, the support of knowledge and technology is what the Federal Government should be here to help the citizens of the United States about. But there are also areas around ours that the Department of Interior, with the Appalachian Trail crosses right in back of our dam, so if that was to break, we would lose a large section of the Appalachian Trail, and there is a lot of commerce there.

Mr. SHUSTER. All right, thank you. One other question, and I don't know who may be familiar with this program, but the Department of Agriculture Small Watershed Dam Assistance Program,

how does that compare to H.R. 1105, the rehabilitation bill, Mrs. Kelly's bill? Are you familiar with it at all? I know the one thing it doesn't compare to is H.R. 1105 is a lot larger sum of money. But do you have any idea, have you worked with that program at all in the Department of Agriculture?

[No response.]

Mr. SHUSTER. None of you have.

Mr. Kelly, you first?

Mr. KELLY. Mr. Chairman, Congresswoman Kelly, when we originally contacted her back in 1998, was one of the first areas we looked at, because there was some coordination between them and also the Department of Interior. But the funding mechanism, there needed to be something in the Water Resources Act, if I remember right, back into there, and it was just a time factor of having it passed by both houses.

Mr. SHUSTER. I am sorry, I didn't quite get all that that you said.

Mr. KELLY. If I remember right, back from the time in 1998, there was an incident where we needed to have the bill pass in the Water Resources Act.

Mr. SHUSTER. Okay.

All right, Mr. Smith?

Mr. SMITH. I apologize, I don't think I am as well versed on that one as I should be. But the Public Law 566 program—which is I think what you are kind of referring back to—that had built through the NRCS had built many dams over the years in the past, they have kind of gotten out of the practice of dam building over the years, but I am familiar that there has recently been attempts through them to have legislation and funding to go back to some of those dams that are now in place to do upgrades that were out there and some repairs that are needed.

I know that it is out there. I know that a small amount of money has gone towards that, but I think we are still looking at a couple of pieces of the same puzzle, really, with these public dams out there and the private ones that are there. That effort kind of goes towards some of the same problem, but still it is towards a limited number of the dams, the ones that they built. If there is something more specific about that program, a question that you would have that we can get an answer for, I would be happy to try.

Mr. SHUSTER. No, I just wondered if you had any experience with it. Just a general question.

Thank you very much.

Finally, Ms. Norton. You are the last questioner, so proceed.

Ms. NORTON. I just have a couple of questions. Maybe this is a question I should ask Mr. Kuhl. This is called the Dam Safety Act, and I understand it was the Dam Safety and Security Act. This is only a title, but given the all-hazards approach and given the discussion here of security, I wondered if security was left out or taken out for a reason.

Mr. SHUSTER. I don't know. It is the same program. Just shortened the title, trying to economize on our words around here.

Ms. NORTON. You know, I hate to say that language is everything, but Congress gives greater attention to security these days than to safety, and it is not a major point, and I don't mean to say it is.

I do have a question. I am confused as between the private and the publicly-owned. Would somebody—when it is a privately-owned dam, what does somebody get out of owning a dam? Is there some revenue that the privately-owned dam can count on, which means that they then obviously would protect their investment by repair and what have you?

Yes, please, Mr. Smith.

Mr. SMITH. There are many privately-owned dams, and the owners—sometimes it is just an individual that has the property and has the dam on it. It may be there serving no purpose other than recreation for them at this point. Quite often that seems to be the purpose; they don't seem to have a revenue stream or anything to come to the aid of that dam, and those people we do have great difficulty with when they start looking at the rehabilitation costs of the structure. It can be very expensive to rehab a dam, and they are very much a concern.

Now, some private-owned dams are held by like a homeowners association or a lake association of some people that are living around it. Those folks even there don't really have a revenue stream of a way to pay for their dams. They may have an association dues—

Ms. NORTON. What was the incentive for a private entrepreneur to build a dam in the first place?

Mr. SMITH. Many times to take a piece of land and increase its value by having waterfront property to sell to people.

Ms. NORTON. In which case they would have a vested interest.

Mr. SMITH. Yes, because they have the homes around them.

Ms. NORTON. Yes. Because I would be very concerned about dams which now become important not only for public safety, but for security, being in the hands of private parties who don't have a revenue stream, don't get public funding of any kind, and, yet, could have a dam that causes a disaster. You know, once there is a disaster of any kind, I don't care of it is a natural disaster or a security disaster, it is our problem. It is FEMA that is going to end up having to deal with it. So at some point I would like to know more about those dams.

For publicly-owned dams, what percentage of these dams are publicly-owned, approximately?

Mr. SMITH. Approximately 60 percent of the dams in the Nation are privately owned. About 5 percent of the dams are regulated or owned by the Federal Government. The public-owned, off the top of my head, ball park, is probably about 25 to 35 percent of the dams.

Ms. NORTON. Those would be State-owned dams, for the most part?

Mr. SMITH. They could be State or community or a county, a locality. In my State it could include conservancy district-owned dams. I know in Ohio, next door, they have the same procedure. One of the things we try to encourage some private owners, like a homeowners association group, is to form a thing called a conservancy district. Conservancy districts are little local units of government that can then have some taxing authority, if they have much of a tax base, in order to try to raise some revenues for their structures.

Ms. NORTON. Well, I know it is a hard time. We will be asking the Federal Government for funds. The Federal Government does fund, to some extent, most infrastructure, to one extent or another. Of course, it does not fund—that is what the new act would face up to. All I can say is good luck.

This act, of course, does not authorize that. I very much support this new bill. I hate to say it, but to get funding, whole new set of bills funding what we have not funded before, I hate to say it, but I know what it will take. It will take something happening. When something happens to one of these dams and it was because it wasn't repaired and it was years old, and, yes, the State had been looking at it for a long time, and yet the State obviously has many, many priorities and has got to act on the priorities that the public is screaming about, at that point we will get some kind of bill that is for the repair at least of those dams which are in critical need.

I salute your work. Thank you very much for your testimony.

Mr. SHUSTER. Thank you, Ms. Norton.

Mr. Kuhl, you had another question?

Mr. KUHL. Yes. I just wanted to follow up.

Mr. Kelly raised an issue about the timeliness of the activity that you have gone through, how long of a process it has been and what you have had to do relative to claiming ownership. How many of the dams across the Country really do we have private owners who really don't want to take ownership of the dams? Any estimate?

Mr. SMITH. I guess that one is to me, since I work with the owners a lot. Boy, an estimate. That one is kind of hard, but as many of the owners that we deal with, just so many of them, they barely even realize it is their responsibility. They have seen somebody out there inspecting, whether it is a government official or the Corps somewhere along the way. Their favorite thing seems to be to assume that someone else is responsible for it and will take care of everything. It is a great challenge that we face all the time, trying to convince owners of their responsibilities with their dams. I would hate to put a percentage on it, but, sir, it is pretty high.

Mr. KUHL. Okay. And I don't know whether Ms. Moore can help me out here. I am just trying to think about, okay, if an owner really doesn't—kind of give you a problem like Mr. Kelly has—if an owner really doesn't want to follow through—say it is owned by a company that was producing energy for what purpose, and all of a sudden they have gone bankrupt, okay, and now there is no owner.

And so Mr. Kelly now starts the only process he knows how, and that is to get the county government to take title to the property. What happens if the dam fails in the middle of this process? Now you have some subsequent owners like the bankrupt, where there is no recourse, and you have this damage that is done as a result of the failed dam. If the county is taking title, they are, all of a sudden, now assume responsibility and the result to the people who are there under it. Has that been a problem anywhere, as far as dam transferrals, to get these kinds of things taken care of?

Mr. SMITH. As far as dam transferral, and even just general awareness—you know, people buy property and aren't even aware of what they are buying, or they buy property downstream of a

dam and are really unaware of it. There is a lack of awareness out there. As much as we have tried to educate the public and get information out, people are really unaware of what they are even getting themselves into.

As far as ownership, it is very much an issue. Somebody else started a dam, get in trouble, declare bankruptcy, and then you have got a dam sitting there. I can think of one not that far from our State capital in that county to the south where that is the problem I am dealing with right now. The owner has gone bankrupt and he has left a bad dam in place, and trying to work through that whole process of who is ultimately responsible. Unfortunately, I think that often will wind up falling back to the State to deal with it.

About two years ago I finally finished dealing with one such dam that had no owner that we could find on record at all. It was in very, very bad shape. It took us over 10 years of working through the courts and with the officials to finally get to the point—and also through our own people to try to find the money—to finally decommission this dam and take it out of service in order to reduce the hazard that was there. It was a very long process.

And as I have talked to most of the States around the Nation, it is that funding for dam removal, for those abandoned or unwanted dams, it is something that is also needed out there. We all struggle with trying to come up with the money. This dam cost the State of Indiana over a quarter of a million dollars to take out and, like I said, staff's efforts over a 10 year period to try to do it. So it is very much a problem out there. When the people see what it costs to actually rehabilitate a dam, these private owners do tend to try to run away from them.

Mr. KUHL. I am just wondering, Mr. Chairman, without going further on this, if this is not an issue that maybe the Subcommittee should be looking at relative to if there is an unawareness of filing of the inspection reports to alert to where there are dams and what the quality of them is on real estate things, and then a follow-up process for transfer that might prohibit actually a transfer to a willing buyer. So it is just an issue I think maybe potentially needs a solution.

Mr. SHUSTER. I think that is an excellent point. I was surprised when they said 60 percent of the dams in the Country are privately held, and it is probably something we ought to take a look into. So I appreciate your bringing that point forward.

You said 60 percent of the dams. I am trying to figure in my mind what does a private dam look like. It doesn't probably look like Hoover Dam. I know my father, who was a great champion of transportation and infrastructure in this Country, built a dam in a creek, but thanks goodness for all of us it is only a little more than a big mud puddle. So what do we call a private dam? Is it my father's mud puddle could be a private dam versus something much, much larger?

Mr. SMITH. The number that is out there of the number of dams in the Country of 79,000 is based on a certain set of criteria. I won't remember them all perfectly, but the Federal definition of what even constitutes a dam large enough to be regulated starts

with something like a size that is over 25 feet high and has I think the number is 50 acre feet of water that is behind it.

Mr. SHUSTER. Fifty what?

Mr. SMITH. Acre feet of water. So, you know—

Mr. SHUSTER. Surface of 50 acres?

Mr. SMITH. No, that would be volume of water. So 50 acre feet would be one foot deep over a 50 surface area, 50 acre surface area.

Mr. SHUSTER. Okay.

Mr. SMITH. Or 10 feet deep over the whole thing and 5 surface acres. So there is a size to theses number of dams. There is a lot more probably smaller structures that might be the kind of thing that you were saying your father built, that aren't really included in it.

What does a dam typically look like that I find is in private ownership? I will go out and I will find something that is anywhere from 20 to 40 feet tall, an earthen structure, 400 to 700 feet long across a valley, with a concrete spillway in it and a lake behind it that may have a surface area of 10 acres or more of water behind it in an individual's ownership. And, sadly, these people often want to maximize the size of that pool behind it, so they will stick the dam right on their downstream property limit.

Mr. SHUSTER. Right on their what?

Mr. SMITH. Right on their downstream property limit, you know, in order to have as big a lake as possible. And so they will wind up not owning and controlling the area immediately below the toe of their dam. The areas that they are going to impact the most they don't control, and that is why these things so often wind up high-hazard structures.

Mr. SHUSTER. Right. And that is a great concern. You say that a lot of them don't have any kind of revenue stream to do the maintenance, and I think that is your concern, Mr. Kuhl and Mrs. Kelly. That is really something that is a great concern.

Well, thank you all very much.

Mr. Kuhl, do you have anything else? Okay.

Thank you again, all of you, for being here. We appreciate your being here, helping to educate us as we move forward on Mr. Kuhl's bill and hopefully Mrs. Kelly's bill.

I would ask unanimous consent to have the statements of the Democratic Ranking Member of the full Committee, Mr. Oberstar's, and Congresswoman Julia Carson's statements included in the record.

I would also ask unanimous consent that the record of today's hearing remain open until such time as our witnesses have provided answers to any questions that may be submitted to them in writing, and unanimous consent that during such time as the record remains open, additional comments offered by individuals or groups may be included in the record of today's hearing. Without objection, so ordered.

Once again, thank you all very, very much for being here today.

And, with that, the Committee stands in adjournment.

[Whereupon, at 3:47 p.m., the subcommittee was adjourned.]

Statement by Congresswoman Julia Carson
Subcommittee on Economic Development, Public Buildings
and Emergency Management

Legislative Hearing on:
"Proposed Amendments to and Reauthorization of the National Dam Safety Program Act"
July 26, 2006

Thank you Mr. Chairman, Ranking Member Norton and thank you to our distinguished panelists.

Today's hearing reaffirms the need for dam safety, upkeep and maintenance of publicly-owned dams. However, the rehabilitation and upkeep of the 80,000 dams in our nation is an infrastructure funding challenge for localities and states.

The two bills we will receive testimony on, H.R. 4981 and H.R. 1105, should reaffirm and establish a greater level of appreciation of the need for safety and rehabilitation of the dams.

I am especially pleased to acknowledge Indiana's Assistant Director, Indiana Department of Natural Resources Division of Water, Mr. Kenneth Smith. Mr. Smith is also the current president of the national Association of State Dam Safety Officials.

Currently, in my congressional district, the City of Indianapolis is responsible for 4 high hazard dams (Eagle Creek Dam and Pogues Run Dam @I-70 owned and operated by Indianapolis DPW; and Geist Reservoir and

Morse Reservoir Dams, owned and operated by Indianapolis Dept. of Water).

There are approximately 25 other dams in the City of Indianapolis, some of which the City is responsible for.

These bills have the potential to provide City owned dams in my District with some much needed additional funding beyond our current capabilities.

This funding has the potential to help Indiana and other local/state governments perform upgrades and repairs within a shorter time frame.

Finally, Mr. Chairman and Ranking Member, our nation's infrastructure is in need of upkeep and 21st century improvements in so many areas.

I am pleased that the legislation before this hearing acknowledges the federal responsibility in dam safety which is the first line of defense for countless lives and property in devastating disasters.

I am equally pleased that this legislation encourages innovation and partnership between local, state and federal officials for the upkeep and safety of the nation's dams.

I thank the Chairman and ranking member for holding this hearing, and I thank the witnesses for being here.

I look forward to your testimony.

Testimony of David P. Kelly
County Legislator, District 23, Dutchess County, New York
Before the U.S. House Subcommittee on Economic Development, Public Buildings and Emergency Management
July 26, 2006

"Proposed Amendments to and Reauthorization of the National Dam Safety Program Act"

Chairman Shuster, Ranking Member Norton, distinguished Members of the Subcommittee, my name is David Kelly. I am present today to connect you with a small community that is reaching out to take on the responsibility of maintaining, rebuilding and ultimately taking ownership of a local "hidden" public threat, an Earthen Dam.

Throughout these United States, we have hundreds of thousands of earthen structures holding back billions of cubic gallons of water. These dams were built for many reasons: community drinking water reservoirs, energy production, flood mitigation, recreational usage, amongst others. And while their benefits are well known, the danger of their potential failure is overwhelming local communities like mine in Dutchess County all across this country.

For the past eight years, Pawling residents have been working towards sustaining their quality of life while accepting the demanding responsibility of ownership of a Dam that was built in 1847. The Whaley Lake Dam was built by the owners of a hat and dye factory some 7 municipalities downstream on the historic Hudson River. The waters it holds were used to control the high and low levels of the stream which provided flow to the factory to turn its water wheel, machines, mills and, in the early 1900s, a generator. Because of its age and its deteriorating condition, the dam, and the 1.2 billion gallons of water it holds back, poses a risk to our community.

For eight years, homeowners and public officials have been working jointly on this effort. Because the 159-year old Dam has no owner of record, the property has been taken by the local County for non-payment of taxes. The New York State Department of Environmental Conservation (NYSDEC), following a 1998 assessment of the dam's condition as "unsound," has recently considered breaching the dam. State, County and Town officials, along with the homeowners, continue to work together to resolve the entire legal logistic nightmare.

Concerns have continued to surface through discussions on how to: maintain the current quality of life, maintain the value of their home, maintain the value of assessment of the entire local municipality (both Town and County), maintain the recreation and tourism vitality, and reduce the environmental effects if this lake were to be drained.

Thousands of privately-donated dollars and personal hours have been devoted to this project to date. Design proposals have been drawn up, maps have been designed, public informational meetings have been held, and we've asked for the assistance of our state agencies. The entire

Pawling community is taking charge and trying to move forward.

But they have taken things nearly as far as they can go without help. Pawling and Dutchess County need assistance to relieve this financial burden that will cost millions of dollars to merely repair and rebuild only portions of the original dam structure.

That's where the federal government plays a critical role. Local communities like the Town of Pawling simply do not have the resources to pay for necessary improvements to rehabilitate dams like the one on Whaley Lake. I hope that as the Congress and this Subcommittee considers reauthorizing the Dam Safety Program, that it will include a program to assist states and communities to repair and rehabilitate deficient dams.

H.R. 1105, introduced by my Congresswoman who is present here today, Sue Kelly, would provide $350 million over four years for the dam repair and rehabilitation program. Such funds would go a long way in preventing disasters like the ones we saw in Hawaii earlier this year.

Chairman Shuster, Ranking Member Norton, this is a mere glimpse of one small community's struggle with an unsound dam. As Congress continues to examine the Dam Safety Program, we must consider that maintenance must be performed on all structures which are built. Communities will need to know that a Program exists to allow for relief from the burden of taking ownership of a hazardous dam.

I once again thank the Subcommittee for allowing me to testify today and I look forward to your questions.

Congressman Jim Matheson
Committee Statement
"Proposed Amendments to and Reauthorization of the National Dam Safety Program Act"
July 26, 2006

Thank you Chairman Shuster and Ranking Member Norton for allowing me to join you today during this dam safety hearing. As you know, I am pleased to have worked with Mr. Kuhl (COOL) of New York on H.R. 4981 –which reauthorizes reauthorization and improvement of the National Dam Safety Program Act. I look forward to discussing that legislation along with Ms. Kelly's bill, H.R. 1105

The National Dam Safety Program Act, reauthorized in 2002, expires at the end of this year. It is a modest program authorized at just $8.6 million a year. The Dam Safety program provides training, technical assistance, and research to states through incentive grant awards that encourage states to improve their own programs. Funds are not used for dam repair, but they do enable the states to improve on their own fledgling dam safety programs. Those small programs are a vital investment in our national infrastructure and they do a great deal to reduce risks to life and property stemming from dam failures.

My home state of Utah has 752 dams listed in the National Inventory of Dams and of those dams, 188 are considered high-hazard dams under state regulation. As you may know, dams are considered high hazard if their failure would result in a high probability of loss of life and/or extensive economic loss, which includes damage to public utilities. The number of dams considered high-hazard has also risen in Utah since 1998. At the same time, Utah's budget fell slightly from $458,000 to $450,000 a year in the period between 1998-2001.

As Mr. Maurstad of FEMA noted in his testimony, our nation has a sad history of dam failures but the federal government has made significant strides in improving dam safety. Utah was the recipient of $351,273 in state assistance awards over the past 8 years from FEMA's National

Dam Safety Program. These federal funds were used for a dam breach demonstration trailer and dam safety publications.

However, it has been estimated that the cost of rehabilitating all of our state's dams would be $19.5 million which is a huge amount of money for a small state. As state budgets continue to be stretched even more so than the federal budget, I strongly support efforts to assist the states with common sense federal programs that help state governments better use limited state and federal resources.

Thank you.

Statement of David I. Maurstad
Director, Mitigation Division

Federal Emergency Management Agency
Department of Homeland Security

Presented Before the

House Transportation and Infrastructure Committee
Subcommittee on Economic Development, Public Buildings,
and Emergency Management

HEARING ON THE NATIONAL DAM SAFETY PROGRAM

July 26, 2006

Good Morning Chairman Shuster, Ranking Member Norton and members of the Subcommittee. My name is David Maurstad. I am the Director of the Mitigation Division in the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA). I am honored to appear before you today to testify on the need for the reauthorization of FEMA's National Dam Safety Program (NDSP).

There is a clear need for continued Federal leadership to support dam safety in the United States, and it is imperative that we remember and learn from the past. A series of dam failures in the 1970s caused the nation to focus on inspecting and regulating dams. On February 26, 1972, a dam owned by the Buffalo Mining Company in Buffalo Creek, West Virginia failed, devastating a 16-mile valley with 6,000 inhabitants. In minutes, 125 people were killed, 1,100 people were injured, and over 3,000 were left homeless. On June 5, 1976, Teton Dam, a 123-meter high earthfill dam on the Teton River in Idaho, failed, causing $1 billion in damage and leaving 11 dead. In November 1977, Kelly Barnes Dam in Georgia failed, killing 39 people, most of them college students.

Despite the significant strengthening of dam safety programs since the 1970s, dams continue to fail, causing millions of dollars worth of damage and loss of life. For example, in March 2004, the Big Bay Lake Dam in Mississippi failed, destroying 48 homes, damaging 53 homes, 2 churches, 3 businesses, and a fire station, and washing out a bridge. In March 2006, the Kaloko Reservoir dam failed in Hawaii on the island of Kauai, releasing more than 300 million gallons of water, and killing 7 people. Recently, heavy rains caused seepage in the Lake Needwood Dam in Rockville, Maryland, forcing the evacuation of 2,200 residents. From the dike holding back the waters of Florida's Lake Okeechobee to 73 at-risk dams in Maine to the Folsom Dam in California, dams continue to present a significant risk to those living downstream and to their property.

The good news is that there has been a significant reduction in the loss of life from dam failures since the establishment of the National Dam Safety Program in 1979. According to the Association of State Dam Safety Officials (ASDSO), there were 28 dam failures in the United States from 1874 to 1979, resulting in 3,424 deaths. From 1979 to 2004, there were 55 dam failures that resulted in 28 fatalities. The aging of the national dam infrastructure would portend that dam failures will increase. However, two major components of the National Dam Safety Program, the inspection of dams and the development, implementation, and exercise of Emergency Action Plans (EAPs), are clearly helping to mitigate the risk from dam failure in the United States.

THE ROLE OF THE NATIONAL DAM SAFETY PROGRAM

The National Dam Safety Program, which was formally established by Section 215 of the Water Resources 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 and Security Act of 2002 (Public Law 107-310), which reauthorized the National Dam Safety Program through Fiscal Year (FY) 2006, continued all of the activities established by the 1996 Act.

The primary purpose of the National Dam Safety Program is to provide financial assistance to the States for strengthening their dam safety programs. Activities supported by the Program include: grant assistance to the States to support improvement of State-level dam safety programs, training for State dam safety staff and inspectors, and a technical and archival research program that includes development of devices to monitor the safety of dams. 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 most recent update in February 2005 to the National Inventory of Dams (NID), there are approximately 79,500 dams in the United States. Of these, the States regulate approximately 63,000.

From FY 2004 through 2006, FEMA distributed a total of approximately $9.75 million to 49 participating States and Puerto Rico for dam safety. Delaware joined the Program in 2005 after its passage of State dam safety regulatory legislation. Alabama, which is currently working on legislation, is now the only State not participating in the Program.

As a result of this funding, the nation's dam safety continues to improve. Using performance criteria developed by the National Dam Safety Review Board in 1998, the Program captures information on the number of State-regulated high- and significant-hazard potential dams with an Emergency Action Plan (EAP), the number of dam inspections conducted each year by each State, and the number of dams that have been identified by the States as in need of remediation.

Analysis of data from the States indicates that since 1998, the number of EAPs for State-regulated high- and significant-hazard potential dams has increased from 4,000 dams to approximately 8,000 dams. Today, approximately 42 percent of all State-regulated high- and significant-hazard potential dams have an EAP. The States of Alaska, Kansas, Nevada, New Jersey, Utah, Vermont, and Washington, and the U.S. territory of Puerto Rico, have reported particularly noteworthy increases in EAPs for high- and significant-hazard potential dams. As a result of the Federal and State partnerships fostered by the National Dam Safety Program, there is also an increased emphasis on basin-wide EAP exercises to more efficiently utilize the time and resources of dam safety officials and emergency response personnel.

The number of dam inspections conducted by the States has also increased since data was first collected for 1998-1999, from a total of approximately 12,000 inspections to approximately 14,000 inspections. This data is particularly impressive given the reported decreases in State dam safety budgets. According to the most recent information submitted by the States to ASDSO, State dam safety budgets have decreased by 12 percent over the past 2 years, from a total of approximately $33 million in 2003 to approximately $29 million in 2004.

Federal support for State dam safety programs, while relatively small, is critical, as there are a large number of dams that are considered "unsafe"-- i.e., the dam has an identified deficiency that makes it more susceptible to failure triggered by a large storm event, earthquake, or inadequate maintenance. There are now over 3,500 dams in the United States that have been identified as unsafe, a figure that has risen by 33 percent since 1998. There are also more than 11,000 dams in the United States that are classified as high-hazard potential, meaning that the consequences of the dam's failure will likely result in the loss of human life and downstream property damage.

Research

Research funding under the National Dam Safety Program has addressed a cross-section of issues and needs, all in support of making dams in the United States safer. To guide decisions on the funding of specific research projects, the National Dam Safety Review Board developed a 5-year Strategic Plan. It ensures that priority is given to research projects that demonstrate a high degree of collaboration and expertise, and are likely to yield products that will contribute to the safety of dams in the United States. DHS is currently working to integrate the Review Board's Strategic Plan with the dam security research plan developed for the Dam Sector Annex to the National Infrastructure Protection Plan (NIPP).

Training

Since the inception of the National Dam Safety Program, FEMA has supported a strong, collaborative training program for dam safety professionals and dam owners. With the training funds provided under Public Law 104-303 and Public Law 107-310, FEMA has been able to expand existing training programs, begin new initiatives to keep pace with evolving technology, and enhance the sharing of expertise.

The training activities conducted under the National Dam Safety Program include national training opportunities, most of which are conducted at FEMA's Emergency Management Institute (EMI), regional training conducted by ASDSO and other private vendors, local training through direct assistance to the States, and self-paced training. Examples of training activities include the 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 EMI, and the Training Aids for Dam Safety (TADS) Program. The Program is also working with the U.S. Army Corps of Engineers to make training materials available on the Corps' Learning Network website at http://usaceln.org/technical. This effort, which will give

these products broad distribution, is scheduled for completion by the end of FY 2006.

Information Technology
Technology can provide critical tools for the mission of the National Dam Safety Program. It is an objective of the NDSP leadership to identify, develop, and enhance technology-based tools that can help educate the public and assist decision-makers.

The National Inventory of Dams (NID), the Dam Safety Program Management Tools (DSPMT) Program, and the National Performance of Dams Program (NPDP) all receive funding under the National Dam Safety Program and are collecting invaluable data on the status of dams, dam incidents, and dam safety programs. In turn, these data assist National Dam Safety Program partners in better documentation of failure modes and identification of research and training needs.

Federal Programs
Although the Federal Government owns or regulates only about 5 percent of the dams in the United States, many of these dams are significant in terms of size, function, benefit to the public, and hazard potential. Since the implementation of the Federal Guidelines for Dam Safety, the Federal agencies have performed an exemplary job in ensuring the safety of dams within their jurisdiction. The Federal Guidelines for Dam Safety were developed by the Interagency Committee on Dam Safety in 1979 and was reprinted by FEMA in 2004. These guidelines represent the culmination of efforts, initiated by President Carter in 1977, to review procedures and criteria used by Federal Agencies involved in the design, construction, operation and regulation of dams and to prepare guidelines for management procedures to ensure dam safety. These guidelines apply to Federal practices for dams with a direct Federal interest and are not intended to supplant or otherwise conflict with State or local government responsibilities for safety of dams under their jurisdiction.

All of the Federal agencies responsible for dams have implemented the provisions of the Federal Guidelines. Many of the Federal agencies also continue to maintain very comprehensive research and development programs and training programs, and they have now incorporated security considerations and requirements into these programs to protect their dams against terrorist threats.

In addition, there has been increased cooperation and coordination between the Federal agencies and the States in many areas, such as emergency action planning, inspection, research and development, training, and information exchange. Clearly, the partnerships that have been fostered and enhanced by collaborative activities under the National Dam Safety Program are helping to meet the primary objectives of the Act.

Dam Security
Dam safety and dam security are complementary programs, and there will continue to be collaboration and coordination between dam sector stakeholders. For example, in FY 2007, FEMA will participate on groups chaired by DHS's Risk Management Division

(RMD) for the Dam Sector, such as the Dams Government Coordinating Council (DGCC), and the DGCC and Joint Sector Workgroups. There is significant cross-representation of the Federal and State professionals involved in dam safety and dam security who serve on the DHS-chaired groups and the groups chaired by FEMA under the National Dam Safety Program, including the National Dam Safety Review Board and ICODS. FEMA's continued participation on the DGCC and GCC/Joint Sector Workgroups will facilitate the ability of both groups to address issues of common concern.

Aging of America's Dams

Despite the achievements realized under the National Dam Safety Program, there continue to be challenges for everyone in the dam safety community. The aging of dams in the United States continues to be a critical issue for dam safety. The *2005 Report Card for America's Infrastructure* (American Society of Civil Engineers, March 2005) states that the number of unsafe or deficient dams in the United States has risen by more than 33 percent since 1998, to more than 3,500. These statistics focus on the crux of one of the most important issues: the aging of the nation's water control infrastructure and the strategy for coping with the problem 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 those dams that are 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 address the remediation of deficient dams, 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 and Security Act of 2002 states that funds provided to the States cannot be used for the construction or rehabilitation of dams, it is the intent of the National Dam Safety Program to track data on the identification and remediation of high-hazard potential deficient dams as an indication of overall progress.

Identification and Classification of Dams

A long-standing issue relates to the identification and hazard classification of dams. There are a number of unregulated dams, a number of dams that have not been classified correctly, and others whose classification has changed over time, particularly in light of increases in downstream populations. Moreover, hazard classification alone does not give a clear picture of the risk of failure, as the classification is independent of the condition of the dam and represents only the potential consequences in terms of loss of life and property damage downstream. A number of Federal agencies are increasing their focus on the development of risk analysis methods and the best ways in which to incorporate risk analysis into evaluation and decision-making processes.

The tracking of data on inspections should provide valuable information to identify those dams in the United States that are in need of remediation.

Emergency Action Planning
Emergency action planning also continues to be of critical importance to the safety and security of dams in the United States. EAPs are the principal tool used by first responders to warn and evacuate the vulnerable population below the dams. The exemplary emergency action planning program established by the Federal Energy Regulatory Commission incorporates all of the procedures and products needed for the implementation and exercise of EAPs among all associated entities.

Participation of all States in the National Dam Safety Program
Again, Alabama is now the only State not participating in the National Dam Safety Program. One of the goals of the Program is for the State of Alabama to enact legislation so that it can participate and bring the number of participating States to 50.

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 79,000 dams. Through grants, training support, research, data collection, and other activities, the Program provides a much needed impetus for the ongoing safeguarding and protection of people, property, and the dams themselves.

Mr. Chairman, thank you for the opportunity to testify before you today, I will be pleased to take any questions from you and the members of the Committee.

Questions for the Record
House Transportation and Infrastructure Committee
Subcommittee on Economic Development, Public Buildings and Emergency Management
Hearing on Reauthorization of the National Dam Safety Program
Questions for the Record
July 26, 2006
FEMA Mitigation Division Director David Maurstad

Questions from Chairman Bill Shuster

1. Do you support H.R. 4981, which reauthorizes and improves the National Dam Safety Program Act?
a. Do you have specific changes that would allow you to support it?

FEMA fully supports H.R. 4981. The National Dam Safety Review Board, which is chaired by FEMA, voted unanimously at its July 12, 2006, meeting to accept two key provisions in H.R. 4981. The sections of H.R. 4981 and the motions of the National Dam Safety Review Board are summarized below:

> ***Section 6. National Dam Inventory.*** *The Secretary of the Army, acting through the Chief of Engineers, shall maintain and update information on the inventory of dams in the United States. Such inventory of dams shall include an assessment of each dam based on inspections completed by either a Federal agency or a State dam safety agency.*
>
> **Motion #1:** "The National Inventory of Dams should include a field reflecting the assessment of the dam. The structure of the field(s) should be determined by the National Dam Safety Review Board."
>
> ***Section 2. Definitions (13) STATE-REGULATED DAM.****-The term State Regulated Dam means a State dam subject to the criteria described in section 8(e)(2)(A)(i), (iv), and (vi).*
>
> **Motion #2:** "The National Dam Safety Review Board reaffirms its position that a state-regulated dam includes all three criteria listed in Section 8(e)(2)(A)(i), (iv), and (vi)."

2. Do you support H.R. 1105, the Dam Rehabilitation and Repair Act of 2005?

a. Do you have specific changes that would allow you to support it?

The Administration has not taken a position on H.R. 1105 at this time.

3. Over the past few years, FEMA's role in mitigation has been somewhat unclear. Does the National Dam Safety Program, a mitigation program, still fit under FEMA's mission?

FEMA's role in mitigation remains clear. FEMA remains the sole federal agency with a mission to **prepare for, prevent**, respond to, and recover from disasters. The National Dam Safety Program clearly fits under FEMA's mission.

4. Does FEMA support a national program to assist with funding of dam repairs for publicly owned dams?

Please see the answer to Question #2 above.

5. We've heard that FEMA is having difficulty developing specific criteria to define what a state-regulated dam is for the purposes of allocating the state assistance awards. How is this being addressed?

FEMA is not having difficulty developing specific criteria to define a state-regulated dam. The National Dam Safety Review Board determined in April 2004 that the reauthorization of the National Dam Safety Program should include the definition of a state-regulated dam provided below. This position, as discussed above in response to Question #1, was reaffirmed by the National Dam Safety Review Board at its July 2006 meeting.

> A state-regulated dam should include all three criteria listed in Section 8(e)(2)(A)(i), (iv), and (vi) of H.R. 4981.

6. The National Weather Service has advised that the eastern part of the United States is in a tropical weather pattern where we should anticipate additional extreme storm events. Has FEMA developed any strategies under the National Dam Safety Program for mitigating against an increased likelihood of floods?

The inspection of dams and the implementation of Emergency Action Plans (EAP's) for high-hazard potential dams are the most critical elements in mitigating against the increased likelihood of flooding from storm events.

In 2005, FEMA established state-based performance measures for the National Dam Safety Program that are focused on the FEMA mission of reducing loss of life and property damage from dam failures. The state-based performance measures include targets for both the inspection and implementation of EAP's for high-hazard potential dams. The performance measures have been incorporated into the Strategic Plan for the National Dam Safety Program under the appropriate programmatic goals and objectives and are being tracked by the Dam Safety Program Management Tools (DSPMT). The DSPMT, which is updated and maintained by the U.S. Army Corps of Engineers (USACE), is funded in part by the National Dam Safety Program as the method for tracking the progress of states participating in the National Dam Safety Program.

In addition to institutionalizing inspection and emergency action planning through program strategic documents, FEMA continues to work with the states and federal agencies on programs, initiatives, and strategies in this area, including the development of guidelines, the funding of training provided to the states for the Association of State Dam Safety Officials (ASDSO)-sponsored EAP training sessions, and joint federal/state training sponsored with the Federal Energy Regulatory Commission (FERC).

7. Fifty percent of the nation's high-hazard potential dams have Emergency Action Plans. What strategies has FEMA undertaken to increase the number of Emergency Action Plans?

FEMA has undertaken a number of strategies to increase the number of EAP's, including those described above under the response to Question #6. In January of this year, the National Dam Safety Review Board convened a Task Group to address the significant failures in all aspects of the Nation's emergency mitigation, planning, and response resulting from Hurricane Katrina. The Task Group recently completed its draft findings, recommendations, and strategies for significantly increasing the number of EAP's for state-regulated high-hazard potential dams. As discussed above, FEMA also has established a state-based performance measure for emergency action planning for high-hazard dams that sets a target of 100 percent compliance.

8. What are the specific training and research needs of the program?

Some of the specific research needs identified for the National Dam Safety Program in its 5-Year Strategic Plan for Dam Safety Research are listed below:

- Develop better computer based-predictive models for embankment dam failure analysis
- Research methods to control and/or remove iron bacteria deposits from wells/screens
- Determine rainfall frequency analysis return periods >1,000 years
- Earthquake response: develop more realistic models
- Evaluate mechanisms of piping and failure in glacial, alluvial, and fluvial environs
- Improve loss of life estimates from dam failures
- Develop forensic guidelines and standards to report dam failures or incidents
- Develop design criteria for drainage pipe openings and surrounding material
- Develop guidelines/training for day-to-day inspection and operation of dams
- Develop state-of-the-practice for configurations, dimensions, and construction of filters
- Develop guidance for dam surveillance plans relative to seepage
- Develop an historical database of storms and floods
- Develop regional databases of storm amounts, durations, and patterns

With regard to training, FEMA has supported a strong, collaborative training program for state dam safety professionals and dam owners since 1979. With program training funds,

FEMA has expanded existing training programs, begun new initiatives to keep pace with evolving technology, and enhanced the sharing of expertise.

Training activities include national training opportunities, most of which are conducted at FEMA's Emergency Management Institute (EMI); regional training conducted by ASDSO and other private vendors; and local training through direct assistance to the states and self-paced training. Examples of training activities include the National Dam Safety Program Technical Workshops; the ASDSO Regional Technical Seminars; state training assistance funds; hydrologic modeling system and river analysis system workshops at FEMA's EMI; and the Training Aids for Dam Safety (TADS) Program. The Program is also working with the USACE to make training materials available on the Corps' Learning Network website. This effort, which will give these products broad distribution, is scheduled for completion by the end of FY 2006.

9. Proposed legislation increases the program authorization by almost 50%. What is the need for such an increase?

a. If appropriated at these increased amounts, how would FEMA use these funds?

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 79,000 dams. Through grants, training support, research, data collection, and other activities, the Program provides a much needed impetus for the ongoing protection of people, property, and the environment from dam failure.

The majority of funding under the National Dam Safety Program is designated for state grant assistance. In FY 2006, the average award to participating states was $65,000. This average state grant award is small; however, these funds are critical given recent decreases in state budgets for dam safety activities. With the projected 50 percent increase in National Dam Safety Program funding, the participating states will be able to increase their inspections of high- and significant-hazard potential dams and increase the number of high- and significant hazard potential dams with EAP's. Additional funds for research and training would be made available to address the backlog of research projects and training requirements discussed above in response to Question #8.

10. FEMA has the responsibility to prepare a strategic plan for dam safety with goals, priorities, and target dates-the reauthorization bill would require that FEMA establish performance measures. How will this enhance or benefit the program? And, is FEMA prepared to establish them?

FEMA has already established performance measures, both state-based and programmatic, for the National Dam Safety Program that are focused on the FEMA mission of reducing loss of life and property damage from dam failures. The state-based measures are as follows:

Performance Measure #1: Identify the number of high-hazard potential dams that require structural remediation.

Performance Measure #2: Percent of high-hazard potential dams that are inspected.

Performance Measure #3: Number of high-hazard potential dams with current EAPs.

The programmatic measures are as follows:

Performance Measure #1: Number of state dam safety officials trained in courses sponsored by the National Dam Safety Program.

Performance Measure #2: Number of research products disseminated to the dam safety community.

Performance Measure #3: Timely expenditure of grant funds by the states and timely distribution of grant funds by FEMA to states participating in the National Dam Safety Program.

11. In your testimony, you mention there is an increased emphasis on basin-wide exercises to more efficiently utilize the time and resources of dam safety officials and emergency response personnel. Can you tell us more about this?

The following are steps to improve the interagency coordination of EAP exercises:

1. Have all participating agencies come up with long-term schedule of EAP functional exercises (preferably 2-5 years).

2. Create a new database or modify an existing database, such as the National Inventory of Dams (NID), with information about the long-term schedule of exercises. Include the following data for each dam:

- Dam Name
- NATDAM number
- State
- River Name
- River Basin
- River mile
- Latitude/Longitude
- Agency with jurisdiction
- Date of last Functional Exercise
- Scheduled date for next Functional Exercise

3. If available, use GIS to plot maps showing dams with scheduled exercises. If inundation maps are digitized, this information could also be applied to the GIS system.

4. Determine if two or more dams that are under different jurisdictions have scheduled exercises and are in close proximity with each other.

5. Determine if dams with scheduled exercises are in close proximity with other high-hazard potential dams under different jurisdictions that have not had a recent exercise.

6. Check if the failure of the dams would affect similar populations and/or emergency management agencies. This can be verified by reviewing EAP notification flow charts and inundation maps or the GIS maps to see if two dams are upstream of the same city.

7. Agencies discuss and come to an agreement that two or more dams are good candidates for a combined exercise.

8. Agencies should contact the dam owners and discuss if they would be interested in combining exercises to form a joint exercise. If necessary, the exercises should be re-scheduled to align with a combined exercise.

12. You mention that the state of Alabama is not participating in the National Dam Safety Program. Can you explain why?

FEMA has worked for many years with Alabama officials to formally establish a state dam safety program. There are, however, state interests at work in Alabama that are preventing the establishment of such a program.

13. In your testimony, you mention that the FERC established an exemplary emergency action planning program that incorporates all of the procedures and products needed for the implementation and exercise of EAPs among all associated entities. Can you tell us more about his? Also, does FERC have any involvement with the National Dam Safety Program?

Below is information on FERC's EAP program that is extracted from the Report to the Congress on the National Dam Safety Program for Fiscal Year 2004-2005:

> FERC's EAP training program is nationally recognized and highly acclaimed. The National Dam Safety Program has identified FERC as the national expert and recognizes its role in guiding a national program on Emergency Action Planning and implementation.
>
> FERC developed the current state-of-the-art EAP technology, which is used as a model worldwide. The FERC EAP Program was the first to be fully developed for dam owners. Through this EAP Program, other federal and state agencies are strengthening their programs and ultimately improving EAP's nationwide.

Assistance to local emergency response agencies through improved EAP's and inter-office cooperation also is occurring.

FERC continues to aggressively pursue the higher level EAP exercise (tabletop and functional) to incorporate local and state disaster preparedness agencies. Under the FERC EAP exercise program, each licensee and exemptee conducts at least one tabletop and functional exercise of an EAP per river basin during a 5-year period. The 5-year cycle is repeated in each basin with a different dam and EAP selected for a functional exercise. This program will continue to maintain the state of readiness of the local and state officials through the cooperation and assistance of the dam owners. In this manner, changes in personnel or improvements to the EAP can be identified and will ensure that the EAP will be kept up-to-date.

FERC has recently made special efforts to increase the spirit of cooperation and coordination between dam owners and the local response agencies associated with their EAP's. As a result, representatives from state dam safety offices, local and state emergency response agencies, floodplain managers, the National Emergency Management Agency (NEMA), FEMA, and the National Weather Service (NWS) have been invited to its EAP training courses. The exchange of information among these agencies and licensees has resulted in an improved understanding of the needs of each participant and their roles and responsibilities during an emergency. This also allows the participants to meet face-to-face, and provides local agencies with a better understanding of the technical aspects of the EAP, such as the inundation maps. For example, local road names can be added to the maps and evacuation routes normally used, which would become inundated in an emergency, can be highlighted so that alternate routes can be chosen and the range of possible flooding can be addressed thoroughly. These efforts greatly improve the likelihood of saving lives in the event of an emergency.

FERC recently initiated an effort to encourage licensees to develop EAP exercises that also include active participation by upstream and downstream dam owners. Both FERC regulated dams and non-FERC regulated dams are included. This widened approach for coordination optimizes the time and effort required by the local response agencies. It also encourages many non-FERC regulated dam owners to participate in an EAP exercise for the first time and provides opportunities for state dam safety officials to participate and test dams under state regulation. This effort includes coordination with NEMA, the Association of State Floodplain Managers (ASFPM), state Emergency Management Agencies (EMA's), the NWS, and others. To further this cooperative spirit, FERC encourages dam owners to coordinate with and include the NWS in their EAP's. By working together, dam owners and the NWS can exchange valuable information during flood events. This information exchange provides valuable data to the NWS for use in their flood forecasting models. Dam owners also benefit from this partnership by utilizing the capabilities of the NWS to broadcast flood warnings downstream of their dams.

With regard to FERC's involvement in the National Dam Safety Program, FERC is one of the nine federal agencies in the United States that builds, owns, operates, maintains, and/or regulated dams. The FERC has been a member of the Interagency Committee on Dam Safety (ICODS) and the National Dam Safety Review Board since the establishment of both of these organizations and has participated as one of the federal agency members of the National Dam Safety Program since its inception.

14. Regarding the issue of identification and classification of dams, you mention that there are a number of unregulated dams. Why aren't they regulated?

The reasons for the unregulated dams in the United States are as varied as the state laws that apply to dams. For example, a state may not regulate certain "dams" because they do not fall within the state legislatively-mandated definition of a dam with regard to size, height, and other factors. ASDSO estimates that over 10,000 dams avoid regulation because of special state exemptions, such as agricultural uses, regardless of size or hazard potential. These dams are not inspected and their condition and hazard potential are unknown.

15. Federal agencies have been conducting vulnerability assessments and security improvements at federally owned dams. Some have asserted that the federal government has been slow at sharing this information with the states and private dam owners. Is this true? If so, why are there delays in sharing this critical information?

The sharing of information on vulnerability assessments and security improvements at federally owned dams is now under the purview of the Dam Sector Government Coordinating Council (GCC) and the Sector Coordinating Council (SCC), both of which are chaired by the DHS Risk Management Division (RMD). A joint GCC/SCC Information Sharing Work Group has been established to address the appropriate sharing of information.

Statement of Congressman Michael Michaud
Before the House Committee on Transportation and Infrastructure
Subcommittee on Economic Development, Public Buildings & Emergency Management
Proposed Amendments to and Reauthorization of the National Dam Safety Program Act
July 26, 2006

Mr. Chairman, thank you for the opportunity to appear before your committee.

Mr. Chairman, my state of Maine has 1,015 dams, some of them built as long ago as the 1800s. 102 of Maine's dams lie upstream of homes, businesses and major infrastructure. They are classified as presenting a "high hazard" or "significant hazard" to the near-by communities. This means that if breached, these dams will cause major damage to property and may result in the loss of life.

The owners of these 102 dams are required to prepare emergency action plans and to update them every two years. However, the majority of the owners — 73 out of 102 — either have not updated their emergency action plans as mandated, or do not comply with the law at all.

The dam owners range from federal and state agencies, to townships, businesses and individual owners. These owners diverge widely in their resources and levels of expertise in order to be able to produce timely and useful emergency plans for the dams that might be threatening the security of Maine communities.

Maine's Emergency Management Agency, or MEMA, is entrusted with supervising the safety of not only the 102 dams classified as significant or high hazard, but with the safety of all of 841 dams in the state that do not fall under the jurisdiction of the Federal Energy Regulatory Commission.

But the responsibility of inspecting all 841 dams in the state of Maine and ensuring the dam owners' compliance with the state regulations falls to MEMA's sole inspector. This one inspector cannot possibly ensure timely and thorough examination of all 841 dams in the state, let alone enforce the law against every non-compliant dam owner.

Clearly, MEMA is under-funded and can not perform its management functions properly. But in the case of dam safety, the lack of state resources represents potential harm to private and public property, infrastructure and the lives of the residents of Maine.

The Governor of Maine, John Baldacci, has expressed concern over the safety of dams in our state of Maine, and has stated that more resources need to be devoted to the inspection of the dams that could be breached by seasonally rising rivers in Maine.

Mr. Chairman, I whole-heartedly support Gov. Baldacci's concern over the lack of resources available to ensure the safety of the residents and property in our state, which are being threatened by derelict dams.

The effects of a flood, as we have seen in the areas ravaged by the post-Hurricane Katrina flooding, are not contained within the state lines. That is why it is extremely important to recognize the dam safety issue as a national issue and not as a state issue alone.

The residents in my state of Maine would have a greater peace of mind if additional resources were provided to ensure that old dams are properly inspected and that compliance with the state laws and regulations is enforced.

The dam owners who do not have available funds to ensure proper maintenance of these old structures should be provided assistance in the form of Federal grants or low –interest loans.

Finally, some of these old dams have outlived their economic usefulness and represent a safety and environmental hazards. Federal assistance should be provided to dismantle such structures.

Thank you, Mr. Chairman.

Testimony of Ruth A. Moore
Deputy Commissioner for Natural Resources and Water Quality
New York State Department of Environmental Conservation

before the

United States House of Representatives
Subcommittee on Economic Development, Public Buildings and Emergency Management

July 26, 2006

Chairman Shuster and members of the Subcommittee on Economic Development, Public Buildings and Emergency Management, on behalf of Commissioner Sheehan I want to thank you for allowing the New York State Department of Environmental Conservation (Department) to testify today on timely and important Congressional legislation to reauthorize the federal Dam Safety program, H.R. 4981. My name is Ruth Moore, and I serve as the Department's Deputy Commissioner for Natural Resources and Water Quality.

Over the past year, natural disasters such as Hurricanes Katrina and Rita have focused national attention on the need to evaluate the safety of water infrastructure, including dams. Within New York State, serious floods in 2005 and 2006 have illustrated the importance of protecting our dam infrastructure through federal, state and local investments. The Department welcomes the Subcommittee's interest in dam safety and applauds Congressman Kuhl for introducing H.R. 4981.

The Department's Role in Dam Safety

Article 15 of New York State's Environmental Conservation Law (ECL) provides the statutory framework for many of the Department's water resource programs, including dam safety. This Article recognizes that "New York State has been generously endowed with water resources which have contributed and continue to contribute greatly to the position of preeminence attained by New York in population, agriculture, commerce, trade, industry and outdoor recreation" (ECL §15-0103(2)). The State law notes as well the potentially detrimental impact which human actions, including the diversion and destruction of water courses, has had on aquatic habitats and water supplies. Accordingly, the Department's dam safety program is designed both to protect the public and safeguard property and to ensure that natural resources are not detrimentally affected.

The New York State Legislature first recognized the need for the State to regulate dams in 1911, making the Department's dam safety program one of the oldest in the Nation. This statute provides that no person or local public corporation can construct, reconstruct or repair a dam without a permit from the Department. Dam owners must operate and maintain dams in a safe condition, and the Department has the legal authority, after a hearing on due notice, to remove or repair a dam in order to safeguard life, property or the natural resources of the State. The Department also has the authority to require the removal of a dam or repairs on an emergency basis, if necessary to protect public health and safety. Additional provisions of State law provide the Department with authority over inspections, monitoring, maintenance and operation, emergency action planning, financial security, record keeping and reporting. These State statutory requirements facilitate the Department's ability to implement the National Dam Safety Program (NDSP) in New York State. Amendments to the NDSP, as proposed by H.R. 4981, would enhance these on-going state and federal efforts.

Dams in New York State

Including 160 hydroelectric dams which are licensed by the Federal Energy Regulatory Commission, there are 5,579 dams in New York State. The Department classifies these dams as High, Intermediate, and Low Hazard. "High hazard" is defined as a dam that may cause loss of life, serious property damage and/or cause extensive economic loss in the event of failure. As a result, these dams are a priority for the Department's oversight. An intermediate hazard dam is defined as a dam whose failure can damage property or the environment, or interrupt use or service of relatively important public transportation or utilities. A low hazard dam is one whose failure may cause minor economic damage, or interrupt the use of local roads or minor utilities. State Dam Safety permits are required for work on all but the smallest dams in the State.

While the safe operation of a dam is the responsibility of the dam owner, the Department's staff perform regular, periodic inspections of certain dams in addition to the dam owner's operational and inspection activities. The 384 high hazard dams are inspected every two years, and the 757 intermediate hazard dams have historically been inspected every four years. Staff also perform unscheduled inspections of dams as needed. Dams under construction may be inspected more frequently. Dam Safety staff perform an average of 350 to 400 dam inspections each year, and, with the new staff which Governor George E. Pataki approved for the State's current fiscal year, the Department's ability to inspect dams will increase. When dam safety staff identify significant deficiencies, they work to ensure that necessary remedial measures are undertaken by the owner. The nature and timing of these initiatives are in proportion to the magnitude and imminence of the threat.

Many dams in New York State are municipally owned and operated, and can be costly for local governments to maintain properly. Recognizing the importance of assisting local officials with the costs of dam maintenance, Governor Pataki and the New York State Legislature dedicated $15 million in the State's 1996 Clean Water/Clean Air Bond Act to municipal dam infrastructure activities. These funds have been used to eliminate hazardous conditions, provide exceptional and unique environmental, aesthetic or recreational public benefits, or enhance the safety of dam structures. To date, approximately $8.9 million of these Bond Act funds have been allocated to dam safety projects across the State. Remaining Bond Act funds will be used by the Department to assist municipalities in meeting their responsibility of ensuring the safe operation of municipally-owned dams.

The Need for H.R. 4981

H.R. 4981 provides much needed assistance to New York State's efforts to effectively protect the health and safety of its citizens and natural resources through the safe management of dams. By requiring the United States Army Corps of Engineers (Corps) to maintain and update information on the inventory of dams in the United States, this bill will provide New Yorkers with the assurance that they need that dams are maintained in a safe condition. Since the Corps' assessment of dams would be based on inspections completed by either a federal agency or a

state dam safety agency, this program would effectively compliment the dam safety activities which the Department already has underway, as described above.

Amendments to the federal NDSP statute in 2002 required the Federal Emergency Management Agency (FEMA) to develop a strategic plan for the implementation of federal dam safety guidelines. H.R. 4981 would strengthen FEMA's role in dam safety by requiring this strategic plan to establish performance measures, in addition to goals, priorities, and target dates. This bill would ensure that, in order to receive assistance under the National Dam Safety Program, a state would be able to require or perform inspections at least every five years of those dams and reservoirs which pose a significant threat to human life and property; perform detailed and frequent safety inspections; and issue notices to require owners of dams to install and monitor instrumentation. As outlined above, New York State law clearly gives the Department the authority to meet these requirements and we endorse the language of H.R. 4981 which embraces this requirement by the federal government as well.

With federal recognition of these responsibilities comes the need for federal funds to assist states like New York in carrying them out. For that reason, the Department supports the provisions of H.R. 4981 which authorize adequate funds for the National Dam Safety Program, the National Dam Inventory, and for research, training, and staff.

Congressional Dam Rehabilitation and Repair Legislation - H.R. 1105

In addition to the Department's support for Congressional approval of H.R. 4981, I would like to emphasize the importance of enacting Congressional legislation that will ensure that the federal government demonstrates its commitment to the programs already underway in New York State to repair and rehabilitate many older dams, whose failure could significantly harm the health and safety of our citizens. Such a commitment is exemplified by H.R. 1105, introduced by Congresswoman Kelly.

H.R. 1105 would establish a grant program within the Federal Emergency Management Agency (FEMA) to aid states undertaking rehabilitation projects on deficient publicly-owned dams. Funds appropriated for the grant program would be allocated between two distribution schemes: one-third of appropriated funds would be divided evenly among all states submitting applications, while the remaining two-thirds of appropriated funds would be allocated based on each state's level of need. For dams rehabilitated under this program, the federal share of rehabilitation costs for an individual dam may not exceed sixty-five percent of the total cost of rehabilitation. Authorized appropriations under this bill would amount to $50,000,000 for Federal Fiscal Year 2007 (FY07), with $100,000,000 per year authorized for FY08- FY10. The authorization of these funds would bolster the Department's efforts to encourage dam owners in New York State to rehabilitate and repair the many older dams in New York which I have already discussed.

Conclusion

Thank you for your attention to this important issue. By working together, we can ensure the quality of New York's dams and, through that, the safety of the State's residents, their property and water supply, and of the many natural and scenic resources which New York has to offer.

The Department's efforts to help ensure that the dams of New York State are maintained in a safe condition are critical to protecting the people of New York, our communities, and the State's plentiful natural resources. Through the continued efforts of our dedicated staff and exploration of new opportunities such as partnerships and innovative new technologies, we will continue to address the concerns of the State's citizens.

I will be happy to answer any questions on the Department's role in ensuring the safety of New York's dams.

GEORGE E. PATAKI
GOVERNOR

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK 12233-1010

DENISE M. SHEEHAN
COMMISSIONER

OCT - 3 2006

Honorable Bill Shuster
Chairman
Subcommittee on Economic Development, Public Buildings
and Emergency Management
United States House of Representatives
591 Ford House Office Building
Washington, D.C. 20515-6260

Dear Chairman Shuster:

As you requested, enclosed please find the responses of the New York State Department of Environmental Conservation (Department) to your questions on the reauthorization of the National Dam Safety Program. These responses are intended to complete the record of the hearing which the Subcommittee held on July 26, 2006.

Thank you again for allowing the Department to share our perspective on the reauthorization of the National Dam Safety Program. The reauthorization of this law is important to the health and safety of New York's citizens, and we greatly appreciate the opportunity to work with the Subcommittee on it.

Sincerely,

Denise M. Sheehan

10/04/2006 WED 08:54 FAX 518 457 9629 NYS DEC EXEC 002

1. Do you support H.R. 4981, which reauthorizes and improves the National Dam Safety Act?

The New York State Department of Environmental Conservation (Department) strongly supports H.R. 4981. This bill provides much needed assistance to New York State's efforts to effectively protect the health and safety of its citizens and natural resources through the safe management of dams. By requiring the United States Army Corps of Engineers (Corps) to maintain and update information on the inventory of dams in the United States, the bill will provide New Yorkers with the assurance that they need that dams are maintained in a safe condition. Since the Corps' assessment of dams would be based on inspections completed by either a federal agency or a state dam safety agency, this program would effectively complement the dam safety activities of the Department.

H.R. 4981 also would strengthen the role of the Federal Emergency Management Agency (FEMA) in dam safety by requiring its strategic plan to establish performance measures, in addition to goals, priorities, and target dates. This bill would ensure that, in order to receive assistance under the National Dam Safety Program, a state would have the authority to require or perform inspections at least every five years of those dams and reservoirs which pose a significant threat to human life and property; perform detailed and frequent safety inspections; and issue notices to require owners of dams to install and monitor instrumentation.

With federal recognition of these responsibilities comes the need for federal funds to assist states like New York in carrying them out. For that reason, the Department supports the provisions of H.R. 4981 which authorize adequate funds for the National Dam Safety Program, the National Dam Inventory, and for research, training, and staff.

a. Do you have specific changes that would allow you to support it?

Please see the response above.

2. Do you support H.R. 1105, the Dam Rehabilitation and Repair Act of 2005?

The Department strongly supports H.R. 1105. The bill would establish a grant program within FEMA to aid states undertaking rehabilitation projects on deficient publicly-owned dams. Funds appropriated for the grant program would be allocated between two distribution schemes: one-third of appropriated funds would be divided evenly among all states submitting applications, while the remaining two-thirds of appropriated funds would be allocated based on each state's level of need. For dams rehabilitated under this program, the federal share of rehabilitation costs for an individual dam may not exceed 65% of the total cost of rehabilitation. Authorized appropriations under this bill would amount to $50,000,000 for Federal Fiscal Year 2007 (FY07), with $100,000,000 per year authorized for FY08- FY10. The authorization of these funds would bolster the Department's efforts to encourage dam owners in New York State to rehabilitate and repair many older dams in New York.

10/04/2006 WED 08:54 FAX 518 457 9629 NYS DEC EXEC 003

a. Do you have specific changes that would allow you to support it?

Please see the response above.

3. H.R. 1105 does not fund private dams. What are the needs associated with privately owned dams?

The Department recommends that Congress consider the extent to which it might need to help private dam owners. The responsibility for repair and rehabilitation is one of the costs of owning a dam, and private dam owners are expected to be aware that they are responsible for these costs under New York State law - and potentially under Federal Energy Regulatory Commission (FERC) license as well. For example, many investor-owned utilities in New York State own dams.

It is possible, however, that a subset of private dam owners do not have the ability to pay for dam repair and rehabilitation. In that event, Congress may want to consider establishing a revolving loan program to assist these dam owners. More information is needed though, on the number of dam owners who would be affected and the funds that they would need for dam repairs.

4. What amendments, beyond those proposed by Mr. Kuhl and Ms. Kelly, are necessary to improve the program?

The Department supports both H.R. 4981 and H.R. 1105 as drafted, and does not believe that amendments are needed. If the Subcommittee recommends changes to these bills, however, the Department would appreciate the opportunity to review and comment on them.

5. Why should the federal government assist in funding state and local dams?

Over the past year, natural disasters such as Hurricanes Katrina and Rita have focused national attention on the need to evaluate the safety of water infrastructure, including dams. Within New York State, serious floods in 2005 and 2006 have illustrated the importance of protecting our dam infrastructure through federal, state and local investments. As the Subcommittee has noted, since its creation the National Dam Safety Program has helped to mitigate the risk of dam failure by providing technical and financial assistance to the states. A primary function of the National Dam Safety Program is to increase the level of knowledge and preparedness to prevent and mitigate the effects of dam failures.

Testimony by FEMA at the Subcommittee's July 26, 2006 hearing noted the severe financial costs of dam failures, along with the loss of life that has occurred in some instances. FEMA further noted that the assistance provided by the federal government has helped significantly in reducing the potential for the loss of life and property destruction resulting from a dam failure.

Dam failures and subsequent flooding result in the need for FEMA to financially assist the people who have been detrimentally affected. By investing in publicly-owned

10/04/2006 WED 08:55 FAX 518 457 9629 NYS DEC EXEC 004

dams, Congress can best ensure against the need to allocate federal disaster assistance funds to communities that suffer from a dam failure. For these reasons, the Department believes that it is essential for the federal government to continue and expand its role in assisting states and local governments with dam safety.

6. How will the new staff approved by the state benefit the existing state dam safety program?

With the new staff, the Department will implement Governor Pataki's initiative to inspect dams across New York State, including high hazard dams. The Department's highest priority is to evaluate dams for deficiencies and bring them into compliance. The new staff also will enable the Department to better conduct training on technical aspects of dams and the enforcement of federal/state dam safety laws.

As the Association of State Dam Safety Officials noted in its testimony before the Subcommittee, many states, including New York, have a backlog of dam permit applications. With the new staff, the Department will be able to address this backlog more effectively. The Department will be able to conduct more public outreach and update guidance documents. The new staff also will assist in the implementation of new New York State dam safety regulations. The new regulations are designed to strengthen the effectiveness of the Department's dam safety program by specifically defining the dam owner's responsibilities for submitting information to the Department concerning record-keeping, inspection and maintenance, and requiring emergency action plans for high hazard dams.

Finally, the additional staff will increase the Department's field presence at construction projects, particularly at high and intermediate hazard dams.

10/04/2006 WED 08:55 FAX 518 457 9629 NYS DEC EXEC 005

Democratic Ranking Member, Eleanor Holmes Norton
Subcommittee on Economic Development, Public Buildings and Emergency Management

Hearing on Proposed Amendments to and Reauthorization of the National Dam Safety Program Act

July 26, 2006

Mr. Chairman, thank you for calling this hearing on the proposed amendments to and the reauthorization of the National Dam Safety Program Act. The National Dam Safety Program's goal is to reduce the risks to life and property by establishing an effective national dam safety maintenance program that utilizes the resources and expertise of the federal and non-federal communities to achieve the reduction of dam safety hazards. In other words, the National Dam Safety Program Act provides financial assistance to the states for strengthening their dam safety programs and coordinating national mitigation strategies and information sharing on research and development and best practices.

Since the passage of the National Dam Safety Program Act in 1996, the program has improved the nation's dam safety. Dam inspections have increased significantly. There have been advances in the state-of-the-practice and user documentation; State training programs have been enhanced; research in the area of improving dam safety has increased; and an information technology plan will be developed that will establish an information resource system to centralize national dam safety information.

Presently, however, many states are under-resourced and are finding it difficult to carry out a truly effective program. For example, according to the Association of State Dam Safety Officials, state budgets from dam safety range from $0 to $6 million, with the average state budget around $375,000. The average number of regulated dams per state is approximately 1,500. The average number of dam inspectors per state is 6; this means that each dam inspector is responsible for overseeing the safety of about 250 existing dams, plus the additional responsibilities of overseeing new construction. Clearly, resources in some states are spread too thin.

Many people are not aware that private individuals, corporations, and state and local governments own more than 95 percent of the approximately 80,000 dams in America. Also, more than 10,000 dams are considered to have high-hazard potential, meaning their failure could result in loss of life or severe property damage.

Additionally, in the post 9/11 world and because of our nation's need to protect our infrastructure from possible terrorist attacks, the National Dam Safety Review Board has established the Dam Safety Security Task Force to facilitate dialogue and offer technical support on security-related policy and guidance.

FEMA has been working with critical infrastructure stakeholders on security and protection issues, including the National Infrastructure Protection Plan (NIPP) for Dams. Additionally, in a further effort to share information on best practices for security, planning, and promulgation of programs, the Department of Homeland Security (DHS) Information Analysis and Infrastructure Protection (IAIP) Directorate has established a

Government Coordinating Council (GCC) for Dams and a Sector Coordinating Council (SCC) for Dams. The Councils are the Federal government's point-of-entry into the sectors for developing infrastructure protection and identifying issues. This is an essential step to enhancing the safety and security of our nation's dams.

Dam safety can affect all of us. In my district – here in Washington, DC the Pierce Mill Dam which is located in Rock Creek Park, is owned by the United States Park Service. Although it is a small dam it is classified as a significant-hazard potential dam.

Finally, I would like to welcome the witnesses and I look forward to hearing about various proposals and recommendations to enhance the Dam Safety Program.

ROTH

ASCE®

American Society of Civil Engineers

Washington Office
101 Constitution Ave., N.W.
Suite 375 East
Washington, DC 20001
(202) 789-7850
Fax: (202) 789-7859
Web: http://www.asce.org

Testimony of

The American Society of Civil Engineers

Before the Subcommittee on Economic Development, Public Buildings,

and Emergency Management

of the

House Committee on Transportation and Infrastructure

on the

Reauthorization of the National Dam Safety Program Act

July 26, 2006

Testimony of
The American Society of Civil Engineers
Before the Subcommittee on Economic Development, Public Buildings, and Emergency Management
of the
House Committee on Transportation and Infrastructure
on the
Reauthorization of the National Dam Safety Program Act
July 26, 2006

Mr. Chairman and Members of the Subcommittee:

Good afternoon. I am Larry Roth, the Deputy Executive Director of the American Society of Civil Engineers (ASCE).* I am a licensed Professional Engineer and a licensed Geotechnical Engineer in the state of California. Before joining the ASCE staff, I had 30 years' experience in water resources engineering, including dams, levees, and canals.

Let me start by thanking you for holding this hearing. As someone who has worked in this field for many years, I can say that there are few infrastructure issues of greater importance to more Americans today than dam safety. So I am very pleased to appear today to testify for ASCE in strong support of **H.R. 4981, the Dam Safety Act of 2006.** We believe that Congress should pass this bill without delay in order to reauthorize the National Dam Safety Program Act.

In addition, ASCE urges the subcommittee to approve companion legislation, **H.R. 1105, the Dam Rehabilitation and Repair Act of 2005**, which would amend the National Dam Safety Program Act to provide critically needed funding for repairs to publicly owned dams across the United States.

Conditions

Like all man-made structures, dams deteriorate. Deferred maintenance accelerates deterioration and causes dams to be more susceptible to failure. As with other critical infrastructure, a significant investment is essential to maintain the benefits and assure the safety that society demands.

Last year, ASCE issued the latest in a series of assessments of the nation's infrastructure. Our *2005 Report Card for America's Infrastructure* found that that the number of unsafe

* ASCE, founded in 1852, is the country's oldest national civil engineering organization. It represents more than 139,000 civil engineers in private practice, government, industry, and academia who are dedicated to the advancement of the science and profession of civil engineering. ASCE is a 501(c) (3) non-profit educational and professional society.

dams in the United States rose by a stunning 33 percent between 1998 and 2005. There are now more than 3,500 unsafe dams nationwide.

Moreover, the nation's dam safety officials estimate that it would cost more than $10 billion over the next 12 years to upgrade the physical condition of all critical non-federal dams—dams that pose a direct risk to human life should they fail.

The problem of hazardous dams is potentially enormous. As the Congressional Research Service (CRS) stated last September, unsafe dams represent a serious risk to public safety. The CRS study said: "While dam failures are infrequent, age, construction deficiencies, inadequate maintenance, and seismic or weather events contribute to the likelihood [of failure]. To reduce the risk, regular inspections are necessary to identify deficiencies and then corrective action must be taken."

Although catastrophic failures are rare, the states reported 1,090 dam safety incidents— including 125 failures— between 1999 and 2004. A number of factors, including age, construction deficiencies, inadequate maintenance, and seismic or weather events, contribute to the likelihood of dam failure, according to the CRS.

The recent dam failures in Hawaii, Missouri, New York, Missouri, and the near failure in Massachusetts last year have brought into tragic focus the potential consequences of aging and unsafe dams. Recent extreme rainfalls in the Northeast this summer brought further attention to the vulnerability of dams in Maryland, New York, and Pennsylvania.

The number of high-hazard dams—dams whose failure would cause loss of human life—is increasing dramatically. By 2005, the number of high-hazard-potential dams totaled more than 10,000 nationally. As downstream land development increases, so will the number of high-hazard potential dams. As these dams often require major repair to accommodate more stringent inspection, maintenance and design standards, financial support for state dam safety programs must keep pace.

Even more alarming, states presently report more than 3,500 "unsafe" dams, which have deficiencies that leave them more susceptible to failure. Many states have large numbers of unsafe dams, including Pennsylvania (325), New Jersey (193), and Ohio (825). The actual number is potentially much higher; some state agencies do not report statistics on unsafe dams.

The combined effect of rapid downstream development, aging or non-compliant structures, and inadequate past design practices—coupled with a predicted increase in extreme events—demands fully funded and staffed state dam safety programs, as well as substantial and proactive funding for dam repairs.

The National Dam Safety Program

Congress has been committed to dam safety for more than 30 years. It enacted the National Dam Inspection Act of 1972, which created the National Inventory of Dams

(NID). The NID, last updated in February 2005, now lists more than 79,000 U.S. dams of varying purposes, ownership, and condition. More than half are privately owned; less than five percent are owned by the federal government.
H.R. 4981, a bipartisan bill, ensures that adequate corrective action will be taken in a timely manner.

The bill is quite simple. It amends and reauthorizes the National Dam Safety Program Act. Let me summarize its chief provisions briefly. The bill would require—

- The Secretary of the Army, acting through the Chief of Engineers, to maintain and update information on the inventory of dams in the United States, including an assessment of each dam based on inspections completed by either a federal agency or a state dam safety agency.
- The strategic plan for dam safety prepared by the Director of the Federal Emergency Management Agency (FEMA) to establish performance measures, in addition to goals, priorities, and target dates, toward effectively administering the Act to improve dam safety.
- A state dam safety program, to be eligible for assistance under the Act, to include: (1) the authority to require or perform inspection at least every five years of those dams and reservoirs that pose a significant threat to human life and property; (2) a procedure for more detailed and frequent safety inspections; and (3) the authority to issue notices to require owners of dams to install and monitor instrumentation.

Finally, H.R. 4981 reauthorizes very modest appropriations for the National Dam Safety Program, the National Dam Inventory, and for research, training, and staff.

This bill would continue the task of ensuring that the nation's dams remain safe and productive for many years to come. ASCE is pleased to encourage its enactment.

History of the National Dam Safety Program

In 1974, Congress approved the first comprehensive federal system for enhancing dam safety through the National Dam Safety Program Act.

The National Dam Safety Program, administered by the Director of the Federal Emergency Management Agency (FEMA), applies to federal and non-federal dams. Although the legislation targets dams at least 25 feet high and impounding at least 25 acre-feet of water, it can encompass any barrier that FEMA determines is likely to pose a significant threat to human life or property if the barrier fails.

FEMA has the authority to establish an advisory National Dam Safety Review Board (Board) to advise and assist the Director on implementation of the program. The legislation also established an Interagency Committee on Dam Safety (ICODS) to encourage the establishment and maintenance of effective federal and state programs, policies, and guidelines intended to enhance dam safety for the protection of human life and property. FEMA, in consultation with ICODS and state dam safety agencies, and the

Board are responsible for establishing and maintaining a coordinated national dam safety program.

The objectives of the program are to ensure that new and existing dams are safe through the development of technologically and economically feasible programs and procedures for national dam safety hazard reduction; encouragement of acceptable engineering policies and procedures to be used for dam site investigation, design, construction, operation and maintenance, and emergency preparedness; encouragement of the establishment and implementation of effective dam safety programs in each state based on state standards; development and encouragement of public awareness projects to increase public acceptance and support of state dam safety programs; development of technical assistance materials for federal and non-federal dam safety programs; and development of mechanisms with which to provide federal technical assistance for dam safety to the non-federal sector.

The U.S. Army Corps of Engineers continues to have the authority to carry out a national program of inspection of dams originally authorized in August 1972, and now incorporated in the National Dam Safety Program. But this Corps inspection program is currently unfunded and inactive because of the establishment of state programs for inspection of non-federal dams.

Under this authority, the Corps can inspect all dams in the United States (as defined by the legislation) except those under the jurisdiction or authority of certain other federal agencies, certain dams inspected by state agencies which the governor requests be excluded from the inspection, and those dams which the Secretary of the Army determines do not pose any threat to human life or property.

The Secretary of the Army would immediately notify the governor of the state in which a dam is located of any hazardous conditions found during an inspection and may, under these circumstances and at the request of the owner, perform detailed engineering studies to determine the structural integrity of the dam. The Corps updates the National Inventory of Dams every two years depending upon the availability of appropriated funds. As we stated previously, the last update occurred in early 2005.

State Dam Safety Programs

Four years ago, few state dam safety programs were adequately funded or staffed. Today, the situation has not improved significantly. On average nationwide, there are 415 dams per full-time equivalent (FTE) staff. In 15 states, this number exceeds 500, and four report more than 1,000 dams per FTE staff.

In 1998, a Texas House committee recommended adding 15 staff members to that state's six-member dam safety team; today, there are still only six staff members responsible for inspecting nearly 7,500 dams. One Texas official commented that, "because of inadequate staffing, some dams would not be examined for three centuries."

Dam Rehabilitation and Repair

The National Dam Safety and Security Act of 2002, which provided funding through grants, has improved state dam safety programs, but it did not provide funding for needed repairs. To be sure, some progress is being made through the repair of small watershed dams constructed with assistance from the Natural Resources Conservation Service in the Department of Agriculture. But this is only a small portion of the total number of non-federal dams. On the federal side, federally owned and federally regulated hydropower dams are in good condition; however, continuing budget restrictions and increased attention to security are placing pressure on and limiting many agency dam safety programs.

We need to establish programs by which the federal government can carry out its legitimate task in protecting the public safety and welfare from obsolescent dams. We know that the 79,000 dams in the U.S. National Inventory of Dams continue to age and deteriorate, yet there is no national funding program to fund the repair of unsafe dams.

According to results of a study by the Association of State Dam Safety Officials, the total investment to bring U.S. dams into safety compliance or to remove obsolete dams tops $30 billion.

That is why the bill sponsored by Representative Sue Kelly **H.R. 1105, the Dam Rehabilitation and Repair Act**, is so badly needed. The bill would provide a modest $350 million over four years for the repair, rehabilitation, or removal of non-federal, high-hazard, publicly owned dams. ASCE strongly recommends that federal and state legislation like H.R. 1105 be enacted to provide a funding source for repair and rehabilitation of dams in the United States.

In addition, ASCE supports—

- Enactment of state and federal regulations and legislation to protect the health and welfare of citizens from the catastrophic impact of dam failure. The federal government must accept the responsibility for the safety of all federal dams and federally regulated dams.
- Adequate funding for federal agencies, including the Departments of Defense and Interior, in order to operate and maintain federal dams and to provide them with sufficient security improvements.
- A fully funded National Dam Safety Program, administered by the DHS, which provides leadership through technical assistance from federal agencies and funding to assist states with assuring the safety and security of state-regulated dams.

Thank you, Mr. Chairman. That concludes my statement. I would be pleased to answer any questions that you may have.

American Society of Civil Engineers
Questions for the Record
July 26, 2006

Do you support HR 4981, which authorizes and improves the National Dam Safety Act?

ASCE strongly supports H.R. 4981, the Dam Safety Act of 2006. We believe that Congress should pass this bill without delay in order to reauthorize the National Dam Safety Program Act.

Do you have specific changes that would allow you to support it?

We support H.R. 4981 including the revisions to the National Inventory of Dams to include the "condition of the dam," and the definition of state regulated dam.

Do you support HR 1105, the Dam Rehabilitation and Repair Act?

ASCE views the funding of dam safety repairs as a critical need for the nation. In ASCE's 2005 Report Card for America's Infrastructure dams received a grade of D. Nearly 3,500 unsafe dams have been identified in this country and many of the owners do not have sufficient funding sources. ASCE strongly supports H.R. 1105, the Dam Rehabilitation and Repair Act of 2005, and urges Congress to provide critically needed funding for repairs to publicly owned dams across the United States. The recent dam failures in Hawaii and Missouri, and the near failure in Massachusetts last year have brought into tragic focus for the public the impact aging and under-funded dams can have on a community. The failure to act quickly will clearly result in continued deterioration and a greater number of unsafe dams until a dam failure disaster occurs.

Do you have specific changes that would allow you to support it?

ASCE would like to see a discussion about how to deal with privately owned dams which pose a significant threat to those who are downstream.

HR 1105 does not fund private dams. What are the needs associated with privately owned dams?

The Association of State Dam Safety Officials estimates that $36.2 billion is needed to rehabilitate dams across the nation, based on the current national inventory of non-federally owned dam. The estimate does not include costs for administration of a funding program, nor does it take into account the fact that the number of high hazard potential dams is increasing.

It is estimated that $10.1 billion is needed to address the most critical dams that pose a direct risk to human life should they fail. Needed repairs to privately owned dams are estimated at $4.2 billion. Critical dams are those determined to

be high-hazard, meaning failure will most likely cause loss of life or severe property damage.

What amendments, beyond those proposed by Mr. Kuhl and Ms. Kelly, are necessary to improve the program?

There should be at least a discussion about how the Federal government could assist private dam owners in keeping their dams safe. An examination of a low-cost loan program should be explored that would provide private dam owners th incentive to maintain their dam to the benefit of the downstream population.

Why should be federal government assist in funding state and local dams?

Dams provide a life-sustaining resource to people in all regions of the United States. They are an extremely important part of this nation's infrastructure—equal in importance to bridges, roads or airports, and other major elements of the infrastructure. They can serve several functions at once including navigation, recreation, water supply, energy, irrigation and waste impoundment. The federal government takes a proactive interest in funding rehabilitation of critical infrastructure, especially when the inadequacies of the structures threaten public health and safety such as highways, bridges, airports, water supply systems and wastewater treatment facilities, but not dams.

Without proper maintenance, repair and rehabilitation, a dam may become unable to serve its intended purpose and could be at great risk for failure. Effective dam inspection programs routinely identify deficiencies at dams, but inspections alone are not a remedy for these deficiencies. Responsibility for maintaining dams lies with dam owners, most of whom simply cannot afford to finance needed repairs. Consequently, delays in repairing unsafe dams increase the probability of tragic yet preventable disasters.

H.R. 4981 defines "state regulated dams." Could you please discuss the need for the his statutory definition and the effect it will have on the existing program.

The National Dam Safety Program (NDSP) is intended to assist and support state dam safety programs through many initiatives including financial assistance awards. These financial assistance program was created to have states continue making programmatic improvements, working toward fulfilling all of the criteria in Section 8 e(2)(A). Three criteria, including the authority to inspect dams, the authority to review design plans and the authority to take enforcement actions are judged by the dam safety community and the National Board of Review to be three essential functions required to truly "regulate" dams. Several states do not have these three critical statutory authorities, but should be acquiring them in accordance with the NDSP.

The funding levels for the financial assistance granted to each participating state are based on a formula that is dramatically influenced by the number of dams listed as "state-regulated" in the National Inventory of Dams (NID). The greater the number of "state-regulated" dams in the NID the greater the financial assistance is. State dam safety program self certify, to the NID, the number of "state-regulated" dams in their state. However, several states argue that having only one of the three essential functions constitutes "regulation" and submits inflated data to the NID according to their definition, despite the unmistakable determination of the NBR that all three are required.

The definition of "state regulated" in HR 4981 is necessary to clarify the definition of "state-regulated" in order to provide uniform rules for all of the states to determine what qualifies as "state-regulated" and uniform computation of the financial assistance awards. It is counter productive to the philosophy of the NDSP and a disincentive to continue to reward states that do not have the three requisite statutory authorities to truly regulate dams.

Do you believe the program is properly housed within FEMA?

FEMA has done an adequate job managing the program since it was authorized to manage it in 1996. There is, however, precedence for the U.S. Army Corps of Engineers to manage the program since it had the original authorized program in 1977(?). If Congress proceeds with its intention to create the National Levee Safety Program (H.R. 4560) which would be managed by the Corps then it may be appropriate for Congress to re-examine which federal agency should have responsibility.

How does H.R. 1105 compare to the Department of Agriculture's small watershed dam assistance program?

H.R. 1105 is modeled on the successes of the Small Watershed Rehabilitation Program which is managed by the Natural Resources Conservation Service (NRCS). Since the program began, there have been 136 watershed rehabilitation projects initiated in 21 states, which include 47 completed rehabilitation projects and 89 projects either in the planning, design or construction phase. It is clear from these 136 projects as well as the 76 projects, which requested assistance but were unable to be funded in FY 2006, just how much demand exists; and how successful this USDA program has become.

The NRCS in the Department of Agriculture has estimated the cost of rehabilitating the small watershed dams at $542 million. While the average rehabilitation cost per dam is approximately $242,000, the local sponsors typically do not have sufficient financial resources to complete these necessary repairs to assure the safety and critical functions of these dams. The Federal

government through its commitment to this program has begun to recognize the urgent need to provide assistance to maintain these dams.

In the area of dam safety and security, what are some of the most important areas for research and development?

In general FEMA has been progressing with its research program which focuses on technical and archival research to develop and support:

1. improved techniques, historical experience, and equipment for rapid and effective dam construction, rehabilitation, and inspection;
2. devices for continued monitoring of the safety of dams;
3. development and maintenance of information resources systems needed to support managing the safety of dams; and
4. initiatives to guide the formulation of effective policy and advance improvements in dam safety engineering, security, and management.

One key area of needed assistance is best practice guides and operation manuals for small to medium-sized dam owners. Many owners of small to medium-sized dams do not have established programs for the operation and care of their dams. Research in this area would reap benefits for all dam owners. The focus of this work would center on these owners in particular although most of the results would have broader application to owners of larger structures. Case histories and experiences of the Federal and State dam safety agencies and private dam owners could be utilized. Methods of O&M will be compared and contrasted, their cost-effectiveness analyzed, and recommendations made as to which methods might be most effective for small to moderate sized dams.

You mention that one of the objectives of the National Dam Safety Program is to ensure that new and existing dam are safe through the development of technology … Have there been any recent developments and/or are there any promising developments for the future?

In April 1999, the first full year of National Dam Safety Program funding, the Interagency Committee on Dam Safety (ICODS) Research Subcommittee, now the National Dam Safety Review Board (Review Board) Dam Safety Research Work Group, developed a list of research needs and priorities. Over the past 6 years, research funds have been allocated to workshops in nine of the priority areas. Based on the results from the workshops, research topics were proposed and pursued. Several topics have now progressed to products of use to the dam safety community, including technical manuals and guidelines. For future research, it is the goal of the Research Work Group to expand dam safety research to other institutions and professionals performing research in the field.

The following research needs workshop reports were posted to the FEMA National Dam Safety Program website www.fema.gov/fima/damsafe/reports.shtm in FY 2005:

- *Research Needs Workshop: Impacts of Plants and Animals on Earthen*

Dams, November 30-December 2, 1999, Knoxville, Tennessee, Organized and Conducted by the Association of State Dam Safety Officials (ASDSO), FEMA 540CD, September 2005

- *Research Needs Workshop: Spillway Gates,* January 5-6, 2000, Palo Alto, California, Organized and Conducted by ASDSO and EPRI, FEMA 537CD, September 2005
- *Research Needs Workshop: Risk Assessment for Dams*, March 7-9, 2000, Logan, Utah, Organized and Conducted by ASDSO and Utah State University, FEMA # to be assigned
- *Research Needs Workshop: Seepage through Embankment Dams*, October 17-19, 2000, Denver, Colorado, Organized and Conducted by ASDSO and URS Greiner Woodward Clyde, FEMA 535CD, September 2005
- *Research Needs Workshop: Embankment Dam Failure Analysis*, June 26-28, 2001, Oklahoma City, Oklahoma, Organized and Conducted by the Agricultural Research Service (ARS), FEMA 541CD, September 2005
- *Research Needs Workshop: Hydrologic Issues for Dams,* November 2001, Davis, California, Organized and Conducted by the U.S. Army Corps of Engineers (USACE), Hydrologic Engineering Center, FEMA 538CD, September 2005
- *Research Needs Workshop: Dam Spillways,* August 26-27, 2003, Denver, Colorado, Organized and Conducted by the Bureau of Reclamation (Reclamation), FEMA 536CD, September 2005

The following FEMA manuals and guides provide procedures and guidance for dam specialists and dam owners responsible for the design, construction, inspection, maintenance, and repair of dams.

- Technical Manual for Dam Owners: Impacts of Animals on Earthen Dams (FEMA 473)
- Technical Manual: Conduits through Embankment Dams (FEMA 484)
- Technical Manual for Dam Owners: Impacts of Plants on Earthen Dams (FEMA 534)
- Dam Owner's Guide to Plant Impact on Earthen Dams (FEMA L-263)
- Dam Owner's Guide to Animal Impacts on Earthen Dams (FEMA L-264)
- Conduits through Embankment Dams: Best Practices for Design, Construction, Identification and Evaluation, Inspection, Maintenance, Renovation, and Repair (FEMA L-266)

H.R. 1105, the Dam Rehabilitation and Repair Act of 2005, does not address the needs of the more than 52,000 privately owned dams of which almost halve may be in of rehabilitation. Some say there is a need at both federal and state level to help private dam owners. Does anyone have recommendations as to how to go about it?

ASCE recommends that a federal assistance program should be set up for private owners. This would be the most effective program for establishing a long-term, stable funding source for dam rehabilitation. It could take the form of a low interest loan to private dam owners who agree to rehabilitate their dams to meet safety requirements.

FEMA and the U.S. Army Corps of Engineers (the Corps) could be the lead federal agencies.

The federal-state relationships under the current National Dam Safety Program could be continued and expanded to include a funding mechanism.

A few states across the country have established innovative funding programs to assist dam owners, yet the majority have not. There is currently no broad based program at the federal level to assist dam owners with the funding of needed repairs. The establishment of funding assistance by the federal government and individual states is an important step in mitigating costly disasters caused by the failure of unsafe dams.

You mention in your testimony that ASCE supports the enactment of state and federal regulations and legislation to protect the health and welfare of citizens from the catastrophic impact of dam failure. Do you have any recommendations or suggestions?

One of the major reasons which necessitate costly rehabilitation of dams is the change in the "hazard classification" which often is caused by downstream development. Low hazard dams, owned by the most well intentioned dam owners, can be converted into high hazard dams by new development within the dambreak flood zone. This has the cascading effect of dramatically increasing the consequences of the dam failure, therefore raising the hazard class AND raising the safety criteria which the dam does not satisfy. Regulations or legislation that seeks to control downstream development to prevent this should be considered.

Legislation or regulations should also be seriously considered that requires owners of high hazard dams (dams which failure causes loss of life) to maintain a minimum amount of liability insurance. This will provide funds to pay for recovery costs and to settle death claims. Too often the dam owner has no assets or revenue from the dam and no means to pay for damages. This will also have the beneficial effect of greater maintenance efforts in order to maintain the liability coverage.

Finally, ASCE supports legislation that will require disclosure to property owners at real estate settlements if their property is located within the dambreak flood

inundation zone. Too often homeowners do not realize that they live below a dam in the area that would be flooded if the dam should fail.

It appears that all of the witnesses support H.R. 4981, the Dam Safety Act of 2006 and H.R. 1105, the Dam Rehabilitation and Repair Act of 2005. Do you have any recommendation or suggestions for enhancements to these bills?

Federal Agencies have been conducting vulnerability assessments and security improvements at federally owned dams. Some have asserted that the federal government has been slow at sharing this information with the states and private dam owners. Is this true? If so, why are there delays in sharing this critical information?

We support H.R. 4981 including the revisions to the National Inventory of Dams to include the "condition of the dam," and the definition of state regulated dam.

When addressing the needs for dam rehabilitation, ASCE believes that serious consideration be given to the creation of a federal assistance program for privately owned dams.

SMITH

Association of State Dam Safety Officials
450 Old Vine Street, 2nd Floor
Lexington, Kentucky 40507
Phone: (859) 257-5140
Fax: (859) 323-1958
www.damsafety.org

Testimony of the
ASSOCIATION OF STATE DAM SAFETY OFFICIALS
on the
Current Dam Safety Needs in the United States
Subcommittee on Economic Development, Public Buildings, & Emergency Management
Committee on Transportation and Infrastructure
U.S. House of Representatives
July 26, 2006

Dear Chairman Shuster and Members of the Subcommittee:

The Association of State Dam Safety Officials (ASDSO) is pleased to offer this testimony concerning the condition of the nation's dams and the critical role that the federal government has in assuring the safety and security of dams.

ASDSO is a national non-profit organization of more than 2,300 state, federal and local dam safety professionals and private sector individuals dedicated to improving dam safety through research, education and communications. We represent the dam safety programs of the states and our goal simply is to save lives, prevent damage to property and to maintain the benefits of dams by preventing dam failures. The state dam safety programs regulate 95% percent of the 79,000 dams in the United States. The states and these programs look to Congress and the Federal government for their continuing leadership and support.

The eyes of the nation were focused on dam safety in the 1970s when several dramatic dam failures occurred, resulting in catastrophic consequences. The federally owned Teton Dam failed in 1976, causing 14 deaths and over $1 billion in damages. Failures like Teton are a constant reminder of the potential consequences associated with dams and the obligations to assure that dams are properly constructed, operated and maintained.

The recent dam failures in Hawaii, Missouri, and New York, and the near failure in Massachusetts last year have brought into tragic focus the potential consequences of deteriorating and unsafe (deficient) dams. Recent extreme rainfalls in the Northeast this summer brought further attention to the vulnerability of dams in Maryland, New York and Pennsylvania.

After the Teton failure and other deadly failures, and prompted by the Kelly Barnes Dam (Toccoa Falls) failure in Georgia, also in the late 1970s, President Carter realized that federal programs were needed to address the dam safety issue. Based on his administration's groundwork, the federal government has been leading the way by example with the dams they own and regulate. Additionally, the **National Dam Safety Program** exists today administered by the DHS, Federal Emergency Management Agency. For 10 years, the program has been providing assistance to state dam safety programs, continuing education to dam engineers and technological advancements through research for the dam engineering profession. Additionally, the Program directs the US Army Corps of Engineers to maintain a national tracking system that catalogues dams in the US.

Dams are a critical part of the nation's infrastructure and provide vital benefits such as flood protection, water supply, hydropower, irrigation and recreation. Yet these dams have the potential for failure and tragic consequences. As downstream development of dams increases and dams continue to age and deteriorate, they demand greater attention and investment to assure their safety.

The Association of State Dam Safety Officials respectfully requests that this Subcommittee recognize the enormous value of our nation's dams and the increasing concerns for public safety because of dams. We request your support for passage of HR 4981 to continue the National Dam Safety Program and HR 1105 to create the National Dam Rehabilitation and Repair Program.

Mr. Chairman, the Association is grateful for your support and leadership in championing the reauthorization of the program through the Dam Safety and Security Act of 2002, which extended and made important additions to this successful program.

Congressman Kuhl, the Association also appreciates your commitment and support through the introduction of HR 4981 to continue this critical national public safety program.

The National Dam Safety Program

The National Dam Safety Program Act of 1996 (PL 104-303) created a national program that focused on improving the safety of the nation's dams. Congress reauthorized the program through the Dam Safety and Security Act of 2002 (PL 107-310) and made modest increases in the authorized funds. This small, yet critical program provides much needed assistance to the state dam safety programs in the form of grant assistance, and training and research; and through facilitating the exchange of technical information between federal dam safety partners and the states. As authorized, the program provides $6 million in grant assistance to states based on the relative number of dams in each state. The grants may be utilized to best suit the individual state's needs. In addition, the National Dam Safety Program provides $500,000 each year to be used for training of state dam safety engineers and $1.5 million annually for research. These research funds are used to identify more effective methods of evaluating the safety of dams and more efficient techniques to repair dams. And now, these research funds can be used to develop better methods to assess and improve the security of dams.

According to the National Inventory of Dams—a program authorized by the National Dam Safety Program and administered by the US Army Corps of Engineers—there are over 79,500 dams in the United States. For the vast majority of these dams, the responsibility of assuring their safety falls on the shoulders of the states through regulatory programs (the remaining dams are owned or regulated by federal agencies). Because of limited staff and limited funding, most states are overwhelmed by that challenge. Table 1 attached to this testimony provides state-by-state data on the number of dams, the number of staff, the state budget and the number of dams that are considered unsafe, referred to as "deficient" in the table.

Deficient or unsafe means that these dams have been identified as having hydrologic or structural deficiencies that make them susceptible to a failure triggered by a large storm event, an earthquake, progressive deterioration, or simply through inadequate maintenance. Currently states have identified approximately 3,400 dams as being deficient, or unsafe. The number of unsafe dams has risen by 33% since 1998. In New York the state lists 51 unsafe dams all of which are classified as high hazard potential. In Pennsylvania there are 325 unsafe dams and 225 of these are classified as high hazard potential. Indiana has 76 high-hazard potential dams determined to be deficient.

There are over 10,000 dams classified as high hazard potential, meaning that the consequences of the dam's failure will likely include loss of human life and significant downstream property damage. Every member of this Subcommittee has high hazard dams in their home state. There are 785 high hazard potential dams in Pennsylvania, 815 high hazard potential dams in Texas and 25 high hazard potential dams in Maine. According to the National Inventory of Dams about 40% to 50% of the high hazard

potential dams are not being inspected yearly. According to the *Model State Dam Safety Program* (FEMA No. 316), a high hazard potential dam should be inspected every year.

The task for state dam safety programs is staggering; in New York where there are over 5,030 dams there are only 8.2 full time employees assigned to the dam safety program. Indiana has about 1,100 dams with only 1 engineer and 2 inspectors and 2 engineering geologists in their dam safety program; and Maine, which has more than 639 dams, only has a staff of 1.5 full time employees.

HR 4981 provides for continuing the program and makes several important changes, which include defining a "state-regulated dam" which is critical to establishing the funding levels and incentives to states. Another change in HR 4891 is the addition of a condition assessment to be included in the updates to the National Inventory of Dams. In addition, HR 4981 provides modest increases in the authorized funds for state assistance, training, research and updates to the National Inventory.

Federal Leadership Role

There is a clear need for continued federal leadership in support of dam safety. This country suffered several large and tragic dam failures in the 1970s that focused attention on dams and prompted Congress to pass national dam safety legislation:

- 1972 - Buffalo Creek Dam in West Virginia failed and killed 125 individuals;
- 1976 - Teton Dam failure in Idaho caused $1 billion in damages and 14 deaths;
- 1977 - Kelly Barnes Dam, in Toccoa Falls, Georgia failed, killing 39 Bible college students;
- 1977 - Failure of the Laurel Run Dam in Pennsylvania killed 40 people;

More recent failures have demonstrated the enormous damages that dam failures can produce:

- 1995 – Timber Lake Dam, near Lynchburg, Virginia, failed, killing two people.
- 1996 - Meadow Pond Dam in Alton, New Hampshire failed, killing one woman and causing $8 million in damages.
- 2003 - Failure of the Silver Lake Dam in Michigan caused more than $100 million in damages including $10 million in damages to utilities, $4 million to the environment, $3 million to roads and bridges and flooded 20 homes and businesses. It also flooded a major power plant, causing the closure of two iron mines and temporarily putting 1,100 miners out of work.
- 2004 - Big Bay Lake Dam in Mississippi failed, destroying or damaging over 100 homes, two churches, three businesses, a fire station and a bridge. The failure caused lakeside property values to plunge, and prompted a $100 million lawsuit against the dam owner.
- 2005 - In July, the Hadlock Pond Dam in Washington County, New York failed, displacing residents and causing over $1 million in damages to residences and transportation arteries.
- 2005 – The cataclysmic flooding of New Orleans in September demonstrated the deadly potential posed by water retention structures.
- 2005 – In October, approximately 2,000 people were evacuated from Taunton, Massachusetts when the 173-year-old dam at Whittenton Pond threatened to break. Emergency construction of a second dam downstream of the failing structure averted a disastrous flooding of the downtown area.
- 2005 – Around the same time as the Taunton crisis, residents of Schoharie County, New York became aware of serious problems with Gilboa Dam, which impounds roughly 19 billion gallons of water. Engineers say that the dam could collapse under extreme weather conditions. If this happened, many residents would have only minutes to escape; the villages of Schoharie and Middleburgh would be submerged under 30 to 40 feet of water, and the floodwaters would carve a path of destruction up to 60 miles long. Action is being taken: Local officials have issued flood preparedness manuals and are working to identify residents who may have trouble evacuating if the dam fails, and crews are working on emergency repairs for the dam. The long-term plan calls for a $200 million rehabilitation project.

- 2005 - In December, the sudden failure of Taum Sauk Dam in Missouri released a wall of water through Johnson's Shut-Ins State Park. The flood demolished the home of the park superintendent and his family, who were swept at least a quarter-mile away into the early morning darkness. Miraculously, all five members of the family survived. Had the dam failed during the summer months, it is likely that many lives would have been lost, as the park is a popular destination for campers and swimmers.
- 2006 - In March, the failure of Kaloko Dam on the Hawaiian island of Kauai killed seven people and caused significant damage to property and the environment.
- 2006 –In late June, following a ten-hour storm that dumped a foot of rain in an area near Gaithersburg, Maryland, the Lake Needwood dam developed severe leakage as the lake rose 23 feet above normal pool. Roughly 2,200 people were evacuated from their homes for up to three days as workers labored feverishly to lower the lake.

Potential dam failures are not merely a local or state concern, as a dam failure in one state may cause loss of life and property damage in an adjacent state. Including recovery costs from the President's disaster relief fund and the Flood Insurance Program, the cost of one small dam failure can easily exceed the annual costs of the National Dam Safety Program. Continuation and full funding of the National Dam Safety Program is an investment in public safety that will be repaid many times over in fewer dam failures, reduced federal expenditures for dam failure recovery and, most importantly, fewer lives lost.

Benefits of the National Dam Safety Program

The National Dam Safety Program has been successful in assisting the state programs. The training program is one aspect of this success ($500,000/annually). This training provides access to technical courses and workshops that state engineers could not otherwise attend. Examples include Dambreak Analysis, Concrete Rehabilitation of Dams, Slope Stability of Dams, Earthquake Analysis, Emergency Action Planning and many others including recent training in Dam Site Security.

The Research Program ($1.5 million/annually) is an important program to all within the dam safety community. Its funds have been used to identify future research needs such as inspections using ground penetrating radar or risk analysis. In addition, these funds have been used to create a national library and database of dam failures and dam statistics at the National Performance of Dams Program at Stanford University as well as a national clearinghouse and library of dam safety bibliographic data at ASDSO.

Research funds are currently being used to provide security training, security assessment tools and best management practices for states to utilize in addressing potential terrorist actions against the 75,000 non-federal dams. The small increase ($500,000) in the funding levels authorized by the 2002 act was intended to address dam site security. Dam site security is now an urgent area of concern for state dam safety officials, both in training needs and in research to better understand and respond to potential threats to dams.

The most valuable benefit to the state programs comes from the State Assistance Program. The assistance is based on the number of dams in each of the participating states and is used as an incentive to encourage states to improve their program by meeting basic criteria such as:

- State statutory authority to conduct inspections of dams;
- State authority to require repairs to unsafe dams; and
- State policies that address dam site security at non-federal dams.

Use of these funds helps states meet their own unique challenges. States have utilized funds to perform dam failure and dam stability analyses, to hire additional staff to conduct inspections and to conduct owner education workshops. In addition, funds have enabled states to provide additional staff training, and to purchase equipment such as computers, field survey equipment and software, and remote operated cameras for internal inspections.

It is disappointing to see that appropriations and FEMA's budgeting priority for the Program over the past two years are well below the authorized levels, just as we begin to realize the benefits of the state assistance program—dam safety inspections have increased, the number of Emergency Action Plans, used to notify and evacuate downstream populations in the event of a failure, have increased. Despite the growing number of unsafe dams, the increase in dam failures, and the increase in funding approved by Congress in the Dam Safety and Security Act of 2002 to $8.6 million, appropriations have remained at the previous level of $5.9 million. States have not realized any increase in assistance. Budget reductions and stiff competition with other FEMA mitigation programs such as earthquake and hurricane planning have further reduced the state grant assistance funds by almost 22%.

Table 2, attached to this testimony, provides information on the amount of state assistance received for each state, the potential funding if fully appropriated at authorized levels and the amount each state will lose as a result of the reduced funding. The lost funds come at a difficult time when development below dams creates additional high hazard potential dams, dams continue to age and deteriorate and, now, security issues must be addressed by the states.

Need for a National Rehabilitation Program for Dams

While there have been modest gains in the number of dams being repaired, the number of state regulated dams identified as unsafe is increasing at a faster rate than those being repaired. The number of unsafe dams has risen by 33% since 1998 to more than 3,300. This condition will undoubtedly continue to worsen without federal leadership and an investment in the safety of our country's dams.

The Association of State Dam Safety Officials, in its October 2003 report entitled *The Cost of Rehabilitating Our Nation's Dams*, estimated that $10 billion would be needed to repair the most critical dams over the next 12 years. Out of this, needed repairs at publicly owned dams are estimated at $5.9 billion with the remaining $4.1 billion needed for privately owned dams.

ASDSO endorses passage of H.R. 1105 to create a federally administered dam rehabilitation funding program. This federally sponsored program would provide funds to be cost-shared at 65 percent federal to 35 percent state/local for non-federal publicly owned dams. The legislation would provide funds to states based on the number of high hazard dams in each of the participating states. Table 3 shows state-by-state potential funding amounts.

While HR 1105 is a good start, it does not address privately owned dams. There are more than 52,000 privately owned dams in the US. ASDSO estimates that approximately 45% of these may be in need of rehabilitation. There is a great need to begin an assistance program at both federal and state levels to help private dam owners with their rehabilitation needs. It is a public safety issue since privately owned dams are at risk of failure just as are publicly owned dams.

The America Society of Civil Engineer's 2005 Report Card for America's Infrastructure gave Dams in the United States a grade of "D." The dams across the United States are aging; 85% of the dams will be 50 years or older by the year 2020. Downstream development within the dam failure flood zone places more people at risk. When homes are built in the dam failure flood zone, a "low hazard potential" dam (low hazard: failure is not expected to cause loss of life or significant property damage) becomes a high hazard potential dam. Therefore, the dam no longer meets dam safety criteria as the potential consequences of a failure now include loss of life.

Does the country want the number of unsafe dams to continue increasing? Will the federal government find a way to assist dam owners or will future catastrophic dam failures with resulting loss of life continue to occur? It is a reasonable expectation of every American to be protected from preventable disasters such as dam failures.

ASDSO strongly urges the Subcommittee's support for H.R. 1105 to create a federally administered dam rehabilitation program in order to repair our nation's unsafe dams.

Dam Security of Non-Federal Dams

The events of September 11, 2001 have focused unprecedented attention on the security of our nation's critical infrastructure, including dams. Dams, in fact, have been identified by intelligence and law enforcement agencies in specific threat alerts. Federal agencies that own dams, such as the US Army Corps of Engineers and the Bureau of Reclamation, have been conducting vulnerability assessments and security improvements on these federally owned dams. Sharing of federal government expertise, and providing federal coordination and assistance to the states and to private dam owners is happening, but at a very slow pace.

There are clearly thousands of non-federal dams that are potential targets based on type of construction, size, purpose (water supply, hydro power, flood control); and on the population and infrastructure at risk below the dam. Federal leadership is urgently needed to provide technical and financial assistance to states for training, for conducting vulnerability assessments and for identifying and implementing security improvements on dams determined to have inadequate security programs.

ASDSO supports the continuing efforts of the Department of Homeland Security to focus expertise and funding on improving dam security programs at federal, state and local levels.

The Future of a National Dam Safety Program

Dams are a vital part of our aging national infrastructure that provide many vital benefits, but that also pose a threat to life and property if they fail. The National Dam Safety Program is a valuable program that offers assistance to states as an investment in public safety. The Program needs to continue and to be funded properly to meet public safety expectations and prevent more loss of life from dam failures.

Our country's dams are aging and deteriorating, the number of dams determined to be unsafe is increasing and there is a tremendous demand for funds to repair unsafe dams.

Mr. Chairman and members of the Subcommittee, the Association requests, in the strongest terms possible, that you provide the necessary priority to the safety of our nation's dams by passing HR 4981 and HR 1105, and that you demand aggressive management of the National Dam Safety Program to achieve the results that the people who live below our dams expect.

The Association stands ready to assist the Subcommittee and staff in any way to advance the cause of dam safety. Toward that goal, please contact me or our Executive Director, Lori Spragens at 859-257-5140 if we can support the Subcommittee's important work.

Table 1 Association of State Dam Safety Officials
2005 Statistics on Dams and State Safety Regulation

State	Total Dams in National Inventory	Dams Under State Regulation[2]		State-Determined Deficient Dams[3]			State Dam Safety Budget	State Staff Dedicated to Dam Safety Regulation	
		Total	HH	Total	HH	SH		Total FTEs	Dams Per FTE
Alabama	1,403	0	0	0	0	0	0	0	NA
Alaska	105	82	18	29	7	7	100,500	1	82
Arizona	334	252	93	34	28	6	715,801	9	28
Arkansas	1,207	1,172	102	21	19	1	338,700	3.5	335
California	1,483	1,255	334	53	32	18	8,145,000	60	21
Colorado	1,688	1,898	340	19	7	3	1,735,600	15	127
Connecticut*	723	706	238	22	9	10	472,000	4.3	164
Delaware	61	37	9	4	3	NR	317,230	0.5	74
Florida	780	804	72	45	8	30	NR	NR	10
Georgia	4,158	4,874	437	112	112	NR	704,013	9	542
Hawaii	123	131	96	48	30	6	164,000	1 75	75
Idaho	396	372	96	5	2	3	317,547	7.5	50
Illinois	1,318	1,434	184	NR	NR	NR	306,000	4.8	299
Indiana	1,073	938	241	445	76	154	425,000	5	188
Iowa	3,275	3,272	78	18	10	8	110,000	1.25	2,618
Kansas	5,650	5,993	183	41	15	15	616,540	7.16	837
Kentucky	1,055	1,100	177	90	30	41	1,550,420	14	79
Louisiana	367	534	29	24	14	5	480,316	8	67
Maine	639	841	25	13	3	10	36,914	1.5	561
Maryland	303	389	66	27	8	5	468,020	4.75	82
Massachusetts*	1,500	2,977	333	40	22	18	500,000	4.0	744
Michigan	955	1,158	79	23	5	7	282,550	2 8	414
Minnesota	1,059	1275	310	79	5	22	305,000	3.4	375
Mississippi	3,322	3,633	39	16	14	NR	267,767	4.3	845
Missouri	4,850	661	455	36	35	1	254,464	5	132
Montana	3,301	2,882	102	15	11	4	366,531	5.25	549
Nebraska	2,156	2,156	129	NR	NR	NR	434,652	5.7	378
Nevada	497	530	147	25	4	2	225,514	2	265
New Hamp.	659	3,614	89	8	NR	4	677,294	8	452
New Jersey	805	1698	202	193	48	116	1,254,000	20	85
New Mexico	521	393	170	104	77	27	484,100	6	66
New York	1,971	5,030	384	51	51	NR	977,072	8.21	613
North Carolina	2,720	4,482	1006	143	93	28	1,162,608	16	280
North Dakota	784	3,426	28	22	5	13	200,000	4.5	761
Ohio	1,640	1,664	411	825	170	285	1,415,024	12.5	133
Oklahoma*	4,672	4,527	185	31	8	3	122,000	2.5	1,811
Oregon	875	1,237	122	3	2	1	NR	2.2	562
Pennsylvania	1,482	3,134	785	325	225	46	2,039,600	24	131
Puerto Rico	34	36	34	NR	NR	NR	600,000	9	4
Rhode Island	185	657	17	5	NR	1	113,976	1.2	548
South Carolina	2,388	2,377	153	4	2	1	200,000	2.5	951
South Dakota	2,452	2,354	47	61	8	7	NR	1.5	1,569
Tennessee	1,043	623	148	7	3	2	339,278	8	78
Texas	7,069	7,510	815	108	103	3	552,886	7	1,073
Utah	752	5,821	188	NR	NR	NR	657,900	6	970
Vermont	363	563	57	1	1	NR	299,000	2.2	256
Virginia	1,591	1,400	136	120	49	38	678,569	6.25	224
Washington	856	957	145	28	16	12	1,967,028	8.2	117
West Virginia	555	571	267	36	33	3	479,773	6	95
Wisconsin	1,154	940	214	2	NR	NR	518,750	6 25	150
Wyoming	1,420	1,410	79	NR	NR	NR	2,039,600	4 98	283
TOTAL	79,772	95,780	10,094	3,361	1,403	966	36,418,537	363.45	415 (av)

*CT, MA, and OK did not submit budget, FTE, or deficient dams data for 2005. Figures shown are from 2004

Table 2 FEMA National Dam Safety Program State Grant Assistance Funds

Reduced Grant amounts in FY 2003 and FY 2004, Grants at full funding and
Estimated cumulative state grant losses over four year period FY 2003 through FY 2006

STATE	FY 2003 Reduced Grant Authorized at $ 6 M Appropriated at $4 M	FY 2004 Reduced Grant Authorized at $ 6 M Appropriated at $4 M	FY 2003-2006 Annual Grant if fully funded at $ 6 M	FY 2003 & 2004 Lost grant assistance over past two years	FY 2003 thru FY 2006 Projected grant loss over four years at current levels
Alabama*	$0	$0	$0	$0	$0
Alaska	$25,715	$22,990	$44,091	-$39,477	-$81,680
Arizona	$29,834	$26,672	$51,153	-$45,800	-$94,762
Arkansas	$35,898	$32,093	$61,550	-$55,109	-$114,022
California	$64,139	$57,340	$109,971	-$98,463	-$203,724
Colorado	$74,716	$66,797	$128,108	-$114,702	-$237,323
Connecticut	$46,113	$41,226	$79,065	-$70,791	-$146,470
Delaware*	$0	$0	$0	$0	$0
Florida	$41,730	$37,307	$71,550	-$64,063	-$132,548
Georgia	$144,571	$129,248	$247,880	-$221,940	-$459,204
Hawaii	$27,099	$24,227	$46,464	-$41,602	-$86,076
Idaho	$36,886	$32,977	$63,245	-$56,626	-$117,162
Illinois	$64,303	$57,487	$110,253	-$98,716	-$204,247
Indiana	$61,074	$54,601	$104,717	-$93,758	-$193,990
Iowa	$123,487	$110,398	$211,728	-$189,572	-$392,232
Kansas	$229,727	$205,378	$393,887	-$352,668	-$729,686
Kentucky	$56,460	$50,476	$96,806	-$86,675	-$179,335
Louisiana	$33,064	$29,559	$56,691	-$50,759	-$105,022
Maine	$43,774	$39,134	$75,054	-$67,200	-$139,040
Maryland	$35,371	$31,622	$60,647	-$54,300	-$112,349
Massachuettes	$74,485	$66,590	$127,712	-$114,347	-$236,589
Michigan	$44,993	$40,224	$77,144	-$69,071	-$142,910
Minnesota	$50,726	$45,350	$86,975	-$77,873	-$161,123
Mississippi	$135,482	$121,121	$232,295	-$207,986	-$430,332
Missouri	$43,280	$38,692	$74,207	-$66,441	-$137,470
Montana	$117,226	$104,801	$200,994	-$179,961	-$372,347
Nebraska	$90,205	$80,644	$154,664	-$138,479	-$286,518
Nevada	$36,063	$32,241	$61,833	-$55,362	-$114,547
New Hampshire	$49,639	$44,377	$85,110	-$76,204	-$157,669
New Jersey	$76,002	$67,946	$130,311	-$116,675	-$241,405
New Mexico	$37,842	$33,831	$64,884	-$58,094	-$120,199
New York	$87,074	$77,844	$149,295	-$133,672	-$276,573
North Carolina	$164,711	$147,253	$282,411	-$252,858	-$523,174
North Dakota	$41,368	$36,983	$70,929	-$63,507	-$131,398
Ohio	$79,857	$71,393	$136,922	-$122,593	-$253,651
Oklahoma	$170,676	$152,585	$292,638	-$262,015	-$542,120
Oregon	$61,634	$55,101	$105,677	-$94,618	-$195,769
Pennsylvania	$63,678	$56,928	$109,181	-$97,755	-$202,260
Puerto Rico	$24,031	$21,484	$41,204	-$36,892	-$76,331
Rhode Island	$31,097	$27,801	$53,319	-$47,739	-$98,775
South Carolina	$96,762	$86,506	$165,906	-$148,545	-$307,345
South Dakota	$97,619	$87,272	$167,376	-$149,861	-$310,069
Tennessee	$42,027	$37,572	$72,059	-$64,518	-$133,490
Texas	$245,643	$219,607	$421,176	-$377,102	-$780,240
Utah	$40,314	$36,041	$69,122	-$61,888	-$128,049
Vermont	$33,986	$30,384	$58,272	-$52,174	-$107,950
Virginia	$38,930	$34,804	$66,749	-$59,764	-$123,653
Washington	$40,215	$35,952	$68,952	-$61,736	-$127,735
West Virginia	$33,064	$29,559	$56,691	-$50,759	-$105,022
Wisconsin	$54,681	$48,885	$93,755	-$83,943	-$173,683
Wyoming	$67,632	$60,463	$115,961	-$103,826	-$214,820

* No state dam safety program

Table 3

Dam Repair & Rehabilitation Act of 2005

Funding Table by State

(Total Funding over 4 year program)

State	Number of Public Dams (high hazard)*	Est. Repair Costs for Public Dams	Potential Funding from Rehab Program
Alabama	16	$ 36,969,700.00	$3,161,671.19
Alaska	10	$ 11,560,420.00	$2,821,747.50
Arkansas	79	$ 67,919,960.00	$5,881,060.71
Arizona	54	$ 114,906,520.00	$4,375,684.37
California	308	$ 680,357,460.00	$20,012,174.14
Colorado	137	$ 266,708,760.00	$8,649,010.77
Connecticut	112	$ 98,129,550.00	$7,774,921.28
Delaware	0	$ 0.00	$2,336,142.23
Florida	7	$ 11,560,420.00	$2,336,142.23
Georgia	178	$ 233,293,720.00	$10,979,916.07
Hawaii	16	$ 17,386,010.00	$3,015,989.61
Idaho	14	$ 21,316,500.00	$2,967,429.08
Illinois	81	$ 73,818,340.00	$6,075,302.82
Indiana	58	$ 59,767,500.00	$5,298,334.39
Iowa	55	$ 82,082,480.00	$4,764,168.59
Kansas	112	$ 137,899,360.00	$7,677,800.22
Kentucky	88	$ 108,209,770.00	$6,366,665.99
Louisiana	10	$ 12,986,750.00	$2,724,626.44
Maine	32	$ 37,776,600.00	$3,647,276.46
Massachusetts	253	$ 62,876,580.00	$13,650,745.07
Maryland	49	$ 160,772,990.00	$4,278,563.32
Michigan	101	$ 89,409,830.00	$7,386,437.06
Minnesota	37	$ 35,398,170.00	$4,230,002.79
Mississippi	75	$ 47,358,250.00	$5,298,334.39
Missouri	14	$ 23,784,100.00	$5,881,060.71
Montana	70	$ 111,236,810.00	$5,395,455.44
Nebraska	63	$ 74,479,790.00	$5,152,652.81
Nevada	65	$ 77,427,070.00	$4,909,850.17
New Hampshire	53	$ 46,980,370.00	$3,938,639.63
New Jersey	119	$ 94,309,450.00	$7,629,239.69
New Mexico	1	$ 2,562,500.00	$5,249,773.86
New York	262	$ 314,455,910.00	$16,224,453.01
North Carolina	177	$ 185,596,360.00	$9,960,145.00
North Dakota	17	$ 29,124,820.00	$3,161,671.19
Ohio	77	$ 87,634,780.00	$13,942,108.23
Oklahoma	129	$ 167,029,090.00	$5,686,818.61
Oregon	49	$ 93,556,280.00	$4,230,002.79
Pennsylvania	301	$ 354,823,900.00	$19,575,129.39
Puerto Rico	28	$ 67,719,700.00	$3,695,836.99
Rhode Island	1	$ 2,562,500.00	$2,336,142.23
South Carolina	156	$ 155,408,770.00	$5,929,621.24
South Dakota	33	$ 29,515,560.00	$3,938,639.63
Tennessee	82	$ 76,155,580.00	$6,172,423.88
Texas	576	$ 655,973,320.00	$28,607,387.46
Utah	15	$ 19,517,070.00	$5,832,500.19
Virginia	109	$ 44,731,860.00	$6,755,150.20
Vermont	33	$ 199,605,940.00	$3,890,079.10
Washington	105	$ 106,452,520.00	$5,783,939.66
West Virginia	202	$ 313,903,950.00	$11,368,400.29
Wisconsin	174	$ 106,767,120.00	$5,929,621.24
Wyoming	15	$ 28,030,120.00	$3,113,110.66
TOTAL	4,808	$5,937,810,880	$350,000,000

** Bill defines public dams as non-federal publicly owned dams.*

Association of State Dam Safety Officials

Written Responses for the Record
to the Hearing Conducted
July 26, 2006
By the
Subcommittee on Economic Development, Public Buildings and Emergency Management

1. Do you support H.R. 4981, which reauthorizes and improves the National Dam Safety Act?

Yes, without question. H.R. 4981 authorizes an essential program necessary to improve the safety of our nation's dams. This Act and the National Dam Safety Program provide key elements supporting all state dam safety regulatory programs.

a. Do you have specific changes that would allow you to support it?

ASDSO supports H.R. 4981 as written. As with any proposal, however, refinements could improve the Act or the implementation and effectiveness of the national and state programs.

As an example, the Association believes that significant advances in the safety of the nation's dams are more likely to be achieved through the technical experience and leadership of a federal agency that is focused on engineering, structures, protection and problem-solving rather than on response and recovery. In light of proposed levee safety legislation, serious consideration should be given to the technical administration of both the dam safety and levee safety programs by the same federal agency—that is, the U.S. Army Corps of Engineers.

Other suggested changes include:

- Incentives to increase the number of Emergency Action Plans (EAPs) on dams
- Disclosure of dam-related issues to potential owners of dams, property bordering impoundments, and property within dam break inundation zones.

2. Do you support H.R. 1105, the Dam Rehabilitation and Repair Act of 2005?

Yes, without question. Inspections, education, and research alone will not improve the safety of dams. The proposed H.R. 1105 is a great step toward solving a long-standing dam safety problem.

There is an enormous demand for funding to repair unsafe dams, both publicly and privately owned. Most dam owners are not willfully negligent; however, many owners—both public and private—cannot afford expensive repairs. As thousands of dams constitute potentially serious hazards to downstream lives and property throughout our nation, the need for a rehabilitation funding program is clear.

a. Do you have specific changes that would allow you to support it?

ASDSO supports H.R. 1105 as written. We respectfully suggest consideration of expanding the Act to include privately owned dams. We suggest several approaches, all in cooperation with state dam safety agencies:

- Expansion of the proposed grant program to include privately owned dams
- Establishment of a low-interest loan program for dam repairs and upgrades
- Allowance of income tax credits or deductions for dam repairs and upgrades

3. H.R. 1105 does not fund private dams. What are the needs associated with privately owned dams?

Dam owners need a reliable source of funding for dam repairs and upgrades that will resolve safety and security issues. Of the approximately 79,000 dams in the National Inventory of Dams, most (64%) are owned by private businesses or citizens.

It is difficult for many private dam owners to find the funding to undertake rehabilitation work when necessary. Because of this difficulty, repairs are often postponed; dams deteriorate further; minor problems become major problems; remedies become more expensive.

To be safe, dams require maintenance. Occasionally, dams must undergo major repair, upgrades, or rehabilitation due to structure and component age, deterioration, outdated designs, improved techniques, and better understanding of events that can threaten dams, such as earthquakes and potential flooding conditions.

Likewise, a well-maintained dam may require an upgrade as a result of downstream development. (As potential risks posed by a dam increase, so do state-mandated technical standards.) Most dam owners have no power to control downstream land use; thus, a low-hazard-potential dam can become a high-hazard-potential dam within a single day. Suddenly, because of actions over which the dam owner has no control, the owner is in the difficult position of having to spend tens of thousands (and sometimes millions) of dollars for expensive upgrades, such as increasing a dam's spillway capacity or constructing an emergency spillway.

Funding assistance, through government or private sources, is inadequate at best. Only 15 states offer loan programs, and funding for at least two of these programs is in jeopardy. As a result, there are scores of U.S. dams long overdue for repairs, and many more scores of people whose lives and property are, accordingly, at risk

In some situations the needs associated with privately owned dams are more basic. Some owners do not realize their responsibility and liability in regard to the downstream public, property and environment. Adequate understanding of proper dam maintenance and upgrade techniques—as well as the need for a sound emergency action plan—are typical problems among many owners across the United States.

4. What, beyond those proposed by Mr. Kuhl and Ms. Kelly, are necessary to improve the program?

- A continued increase in authorized funding levels for HR 1105 with annual full appropriation to address our nation's $10 billion dam rehabilitation need
- An amendment to Ms Kelly's bill to include funding for privately owned dams, as their failure can have the same horrific consequences as failure of publicly owned dams
- A low-interest, revolving loan program to provide assistance to private dam owners.
- A requirement that dams rehabilitated under this program have an up-to-date and exercised emergency action plan
- Incorporation of a dam-break inundation clause on the state's uniform Sellers Disclosure of Property Condition statement. (California is the only state that currently requires sellers to disclose whether any portion of their property is located in a dam-break inundation zone [Cal. Gov't § 8589.4]).

- Encourage owners of high hazard dams to maintain minimal liability insurance.

5. Why should the federal government assist in funding state and local dams?

Dams provide a life-sustaining resource to people in all regions of the United States. They are an extremely important part of this nation's infrastructure—equal in importance to bridges, railroads, highways, and airports. They can serve several functions at once, including water supply, navigation, recreation, flood control, energy, irrigation, and waste impoundment.

A dam failure can have many effects aside from economic loss to the dam owner. Failures can have devastating long-range economic impacts on a region, cause loss of life and tremendous property damage, and increase federal expenditures for disaster relief. Numerous examples illustrate these points. (See *Dam Failures and Incidents* attachment.)

The National Flood Insurance Program and the President's Disaster Relief Fund are typically the sources for repair and recovery costs for flood-damaged areas. These repair and recovery costs—even for a single dam failure—often far exceed the cost of preventive rehabilitation and dam safety program costs.

Dam failures and their potential flood inundation areas do not respect state or national boundaries. This a significant concern as failures of several U.S. dams could cause loss of life and significant property damage in Canada, Mexico, or adjacent states. The recent near-failure of a dam in Juarez, Mexico and the subsequent evacuation of parts of El Paso presented a clear and timely demonstration of potential international implications of dam failures. The accompanying table shows a state-by-state look at dam inundation areas that cross state and international borders.

The Federal Government owns and regulates many dams, and, by example, clearly sets the course of what it means to be a responsible owner. If the Federal Government does not provide direction on this topic, no one will.

6. H.R. 4981 defines "state regulated dams." Could you please discuss the need for this statutory definition and the effect it will have on the existing program.

The National Dam Safety Board of Review has long recognized the need to have a more consistent definition of "state regulated dams" so all states can use a similar definition when reporting program numbers to FEMA. These numbers are ultimately used in federal state assistance funding level determination equations. A definition will assist in providing a fair distribution of limited financial resources.

The National Dam Safety Program (NDSP) is intended to assist and support state dam safety programs through many initiatives, including financial assistance awards. This financial assistance program was created to have states continue making programmatic improvements, working toward fulfilling all of the criteria in Section 8 e(2)(A).

Three criteria are judged by the dam safety community and the National Dam Safety Board of Review (NBR) to be the essential functions required to truly "regulate" dams:

a) the authority to inspect dams,

b) the authority to review design plans and

c) the authority to take enforcement actions.

Several states do not have these three critical statutory authorities, but, in accordance with the NDSP, should work toward acquiring them.

The funding levels for the financial assistance granted to each participating state are derived from a formula based on the number of dams listed as "state-regulated" in the National Inventory of Dams (NID). The greater this number, the greater financial assistance a state receives. State dam safety programs self-certify, to the NID, the number of "state-regulated" dams in their state. However, several states argue that having only one of the three essential functions constitutes "regulation" and are submitting inflated data to the NID according to their definition, despite the unmistakable determination of the NBR that all three are required.

The amendments in HR 4981 that address the definition of "state-regulated" are necessary in order to provide uniform rules for all states to determine what qualifies as "state-regulated" and to ensure uniform computation of the financial assistance awards. It is counter-productive to the philosophy of the NDSP and a disincentive to continue to reward inflated grants to states that lack the three requisite statutory authorities to truly regulate dams.

7. In your testimony you mention that H.R. 4981, the Dam Safety Act of 2006, defines "state regulated dam" which is critical to establishing funding levels and incentives to states. Please tell us more about why this is important.

The State Assistance Program provides funds to state agencies to help them improve their dam safety programs. The funding helps states carry out the essential functions of a dam safety program, including inspecting dams and permitting construction, rehabilitation, repair, alteration, and removal projects. The assistance is distributed among states based on numbers of dams that the state programs regulate. Defining this type of dam allows the federal agency to fairly determine how much each state should receive. (Please also see the answer to question number 6.)

omit; replace w/ 1 next pg.

8. According to the numbers in your testimony, clearly many states do not have enough employees to run even just an adequate state dam safety program. Can you give us an idea of what kind of numbers are appropriate?

According to the Model State Dam Safety Program (FEMA 316/March 1998) guidebook, an effective dam safety program would have approximately 10.3 full time equivalent (FTE) professionals on staff per 200 dams regulated. That would be about 20 dams per FTE. In reality, the number of dams per FTE is 387—nearly *20-times the recommended workload.*

As the attached *State Staffing and Workload* chart shows, staffing of most state dam safety programs falls alarmingly short of recommended guidelines. Currently, only the State of California maintains a dam safety staff that mirrors the 20 dams per FTE benchmark.

Based on the total number of state-regulated dams in the U.S., the number of people working full-time in state dam safety programs throughout the U.S. should be increased tenfold.

9. Clearly there are several competing priorities for State Dam Safety Officials. What is the most immediate concern?

The one over-arching priority of the Association and state dam safety programs is to reduce the risk of loss of life and property damage caused by dam failures.

The Association cannot single out just one issue when we are so alarmed at the number of un-inspected dams, or the fact that only 50% of the dams have an Emergency Action

8. According to the numbers in your testimony, clearly many states do not have enough employees to run even just an adequate state dam safety program. Can you give us an idea of what kind of numbers are appropriate?

According to the Model State Dam Safety Program (FEMA 316/March 1998) guidebook, an effective dam safety program would have approximately 10.3 full time equivalent (FTE) professionals on staff per 200 dams regulated. That would be about 20 dams per FTE. In reality, the number of dams per FTE is 387—nearly *20-times the recommended workload.*

As the attached *State Staffing and Workload* chart shows, staffing of most state dam safety programs falls alarmingly short of recommended guidelines. Currently, only the State of California maintains a dam safety staff that mirrors the 20 dams per FTE benchmark.

Based on the total number of state-regulated dams in the U.S., the number of people working full-time in state dam safety programs throughout the U.S. should be increased tenfold. To reach the Model State Dam Safety Program recommended staffing levels, about 3,200 more professionals would be needed in addition to the states' existing total program staff of 353 FTE's. What this means is that while each state on average has 7 dam safety program staff, they need an on average an additional 64 more professionals in order to have an effective program.

While the Federally recommended model staffing levels will likely never be obtained, the disparity is stunning. A need to strive for better staffed programs clearly exists.

Plan in place, or the huge unmet funding need of $10 billion for repairing the nation's critical dams.

The many issues that are immediate concerns must not be viewed as competing priorities, but as equally important challenges that must be addressed simultaneously.

10. Since most of our nation's 80,000 dams are owned by private companies and individuals. How engaged are the state dam safety programs?

While individual state dam safety program staff are typically very committed to the cause of their programs, many state dam safety programs are not as engaged as anticipated in the Model State Dam Safety Program (FEMA 316/March 1998) guidebook. It was noted in question number 8 that many states do not have enough employees to run comprehensive or even adequate dam safety programs. The benchmark-anticipated full time equivalent (FTE) professionals, are not on staff in most states. (See *State Staffing and Workload* chart.)

Within their unique safety regulation process, state dam safety program personnel routinely communicate with private owners. This job is daunting, as ownership of dams is sometimes unclear, owners cannot be located, and many owners are unresponsive.

Larger, for-profit owners are often more engaged in dam safety than the smaller owners, lake associations, or individual owners. The smaller non-profit or individual owners are often willing to take appropriate actions but lack adequate financial resources.

11. It is good to know the number of Emergency Action Plans (EAPs), used to notify and evacuate downstream populations in the event of a failure have increased. Are EAPs exercised regularly?

Failure to exercise an existing EAP for a high-hazard-potential dam is akin to an elementary school that does not practice fire drills—should an emergency occur, unnecessary confusion and loss of time are guaranteed. Requirements for the update and exercise of EAPs vary by state. While some states judiciously review and practice their plans, others do not.

Even worse, many states do not require EAPs. While there has been some progress, EAPs have been established for only about half of U.S. dams that pose a risk to human life..

All states should require the creation of EAPs—including identification of inundation zones and procedures for notification and evacuation—for high-hazard-potential dams. These EAPs should include requirements for conducting exercises; however, there must first be something to exercise.

Unfortunately, due to the lack of dam break inundation maps, many people who live in dam break inundation zones are completely unaware that their homes and their lives could be at risk.

12. H.R. 1150, the Rehabilitation and Repair Act of 2005, does not address the needs of 52,000 privately owned dams of which almost half may be in need of rehab. Some say there is a need at both federal and state levels to help private dam owners. Does anyone have any recommendations as to how to go about it?

A few states across the country have established innovative funding programs to assist dam owners. States with successful programs can serve as examples for other states to follow.

There is currently no broad-based program at the federal level to assist dam owners with the funding of needed repairs. The establishment of funding assistance by the federal government and individual states is an important step in mitigating costly disasters caused by the failure of unsafe dams.

ASDSO recommends establishment of a federal assistance program for private owners. This would be the most effective means of providing a long-term, stable funding source for dam rehabilitation. FEMA and/or the U.S. Army Corps of Engineers (the Corps) could be the lead federal agencies.

The federal-state relationships under the current National Dam Safety Program could be continued and expanded to include a funding mechanism.

Direct funding to states, municipalities and private owners would be the most effective mechanism. Funding could be accomplished in various ways: loans similar to a state revolving fund, or loan/bond guarantees which would be popular with privately owned dams.

ASDSO completed a research report entitled, *THE COST OF REHABILITATING OUR NATION'S DAMS: A METHODOLOGY, ESTIMATE & PROPOSED FUNDING MECHANISMS*, (December 2002) that describes recommendations on this issue.

Other concepts include the following:

- Requiring and guiding private owners to develop a maintenance/ rehabilitation trust or escrow fund for the life of the structure. New dams should be required to have such a fund.
- Encouraging private owners to look for ways (possibly through creation of conservancy districts, or just donations) to transfer ownership of their dams to public entities.
- Creating a low interest revolving loan fund program for private dams, in addition to the current grant program proposal for public dams.
- Allowing an individual income tax deduction or exemption for funds a private dam owner spends for dam safety improvements.

13. It appears that all of the witnesses support H.R. 4981, the Dam Safety Act of 2006 and H.R 1105, the Dam Rehabilitation and Repair Act of 2005. Do you all have any recommendations or suggestions for enhancements to these bills?

Many possible improvement recommendations have been mentioned in answers to previous questions. However, we cannot overstate the need for full appropriation of both bills. The national dam safety program in particular has not yet achieved even the limited vision of the enabling legislation, as appropriations have not matched authorized levels.

14. Federal agencies have been conducting vulnerability assessments and security improvements at federally owned dams. Some have asserted that the federal government has been slow at sharing this information with the states and private dam owners. Is this true? If so, why are there delays in sharing this critical information?

From a states' perspective, the federal government lacked a sense of urgency regarding the transfer of knowledge and techniques to improve dam security from federal agencies to state dam safety officials.

Following the terrorist attacks of 9/11, federal agencies took immediate, decisive steps toward exploring the vulnerability of dams to manmade attack and options to mitigate these vulnerabilities. Security experts completed vulnerability assessments on federal

dams and labs were charged with conducting blast studies and other tests of dam security.

Although DHS has standing "sector coordinating councils" to facilitate communication between federal, state, and local governments and the private sector, the process is slow and unwieldy. Consequently, results of the laboratory studies and more practical data for improving on-site dam security are still not available to the states.

Differing state Freedom of Information policies have been cited as a major barrier to freely transferring this information from the federal level to the state level.

Another possible barrier is the number of federal agencies involved with dam safety and their actions immediately following 9/11. Several unique approaches to security upgrades resulted, and this lack of uniform procedures played a role in making the technology transfer process more challenging.

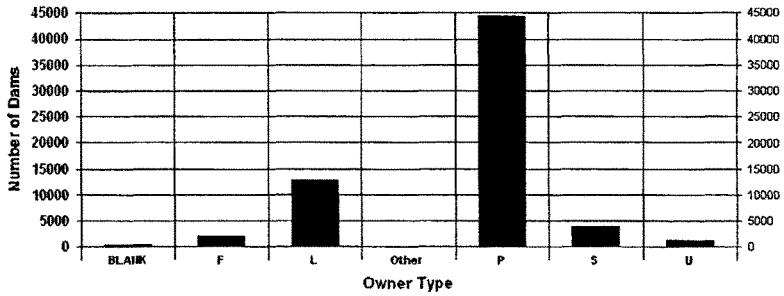
Whatever the cause, federal guidance on dam security issues, whether basic "best practices" policies or more detailed information, has been slow in coming to most state, local, and private dam owners.

State Dam Safety Program Staffing and Workload – 2005 Data *All data except for states marked with an asterisk is from the 2005 Dam Safety Program Management Tools (DSPMT) Report to the National Dam Safety Review Board. FTE=Full-Time-Equivalent Staff. Alabama has no dam safety program.*

State	Recommended FTEs per Model Program	Existing Total FTEs	Existing State-Reg Dams per FTE
Alaska	4	1	82
Arizona	13	9	28
Arkansas	20	4	115
California	63	60	21
Colorado	95	15	127
Connecticut*	2	4	177
Delaware	40	1	74
Georgia	7	9	429
Hawaii	22	2	77
Idaho*	73	8	57
Illinois*	50	5	305
Indiana*	173	5	199
Iowa*	296	1	2775
Kansas	52	7	827
Kentucky	27	14	75
Louisiana	42	8	67
Maine	19	2	554
Maryland	49	5	79
Michigan*	64	3	353
Minnesota	181	3	376
Mississippi	33	5	844
Missouri	144	5	131
Montana	111	5	549
Nebraska	32	6	391
Nevada	42	2	319
New Hamp.	85	8	106
New Jersey	20	20	85
New Mexico	93	6	66
New York	224	8	227
N Carolina	57	16	280
N. Dakota	84	5	253
Ohio	60	13	134
Oklahoma	157	3	1509
Oregon*	2	2	547
Pennsylvania	33	24	131
Rhode Island	116	1	548
S. Carolina	117	3	927
S. Dakota	32	2	1566
Tennessee	351	8	81
Texas	33	7	1003
Utah	28	6	111
Vermont*	71	2	258
Virginia	48	5	284
Washington	18	8	116
West Virginia	179	6	60
Wisconsin*	71	6	571
Wyoming	4	5	283
	Recommended: 3537	**Actual: 353**	**Actual Average: 387** ***Recommended: 20***

2006 National Inventory of Dams (NID) Update Data Collection Results
Reporting Year: 2005
Prepared for ASDSO -- 3 March, 2006

Owner Type



F – federal
L – local
P – private
S – state
U – utility
(Blank – unknown)

Owner breakdown, as reported by states*:

Private businesses, utilities, or individuals - 64%

State governments - 5%

Local governments - 21%

*Federal agencies 3% - (This will increase to about 5%.)

Unknown (blank, invalid, or ownership in question) - approximately 5%

**Processing of federal agency reports is in progress.*

State-Regulated Dams and Emergency Action Plans (EAPs)

Dam Safety Program Management Tools National Dam Safety Review Board Report, 2005

SR = State regulated *HH = High Hazard Potential* *SH = Significant Hazard Potential*

State	SR HH dams	SR SH dams	SR HH w/ EAPs	SR SH w/ EAPs	% HH w/ EAPs	% SH w/ EAPs
Alabama		*NA – Alabama has no state dam safety program.*				
Alaska	18	32	7	15	39%	47%
Arizona	93	39	68	22	73%	56%
Arkansas	102	92	91	0	89%	0%
California	334	708	334	709	100%	100%
Colorado	340	330	329	316	97%	96%
Delaware	9	27	3	0	33%	0%
Florida	72	321	72	321	100%	100%
Georgia	437	NR	14	0	3%	NR
Hawaii	96	22	49	10	51%	45%
Idaho	96	141	92	34	96%	24%
Illinois	184	297	165	117	90%	39%
Indiana	241	250	6	1	2%	0%
Iowa	78	191	0	0	0%	0%
Kansas	183	247	91	14	50%	6%
Kentucky	177	213	6	0	3%	0%
Louisiana	29	65	21	4	72%	6%
Maine	25	80	23	48	92%	60%
Maryland	66	80	58	38	88%	48%
Michigan	79	133	77	128	97%	96%
Minnesota	39	154	35	0	90%	0%
Mississippi	310	81	32	2	10%	2%
Missouri	455	132	25	15	5%	11%
Montana	102	131	96	0	94%	0%
Nebraska	129	212	116	7	90%	3%
Nevada	147	124	93	4	63%	3%
New Hamp.	89	193	87	133	98%	69%
New Jersey	202	366	191	222	95%	61%
New Mex.	170	92	13	0	8%	0%
New York	384	757	201	53	52%	7%
N. Carolina	1006	657	195	25	19%	4%
N. Dakota	28	92	12	1	43%	1%
Ohio	411	559	145	110	35%	20%
Oregon	122	181	72	15	59%	8%
Pennsylvania	785	257	692	118	88%	46%

Puerto Rico	34	1	34	0	100%	0%
Rhode Island	17	41	2	1	12%	2%
S. Carolina	153	481	153	481	100%	100%
S. Dakota	47	144	30	6	64%	4%
Tennessee	148	205	148	5	100%	2%
Texas	815	758	87	12	11%	2%
Utah	188	203	182	50	97%	25%
Vermont	57	133	14	29	25%	22%
Virginia	136	278	118	156	87%	56%
Washington	145	196	114	59	79%	30%
West Virginia	267	75	182	57	68%	76%
Wisconsin	214	190	92	17	43%	9%
Wyoming	79	116	33	5	42%	4%
Total	**9338**	**10,077**	**4700**	**3360**	**Av: 57%**	**Av. 18%**

Survey of ASDSO State Reps, August 2006

Cross-Border Effects of Dam Failures

1. Would failure of any state-regulated dams in your state adversely affect neighboring states?
2. Which states have dams that pose a potential dam break threat to your state?

State	1. Would failure of any state-regulated dams in your state adversely affect neighboring states?	2. Potential threat from:
AL	*(Alabama has no state dam safety program.)*	GA, TN
AK	Canada is planning to build a dam that would put Alaska at risk if it failed. A 902' high dam which would become the fifth tallest dam in the world is under permit review on a tributary of the Stikine River adjacent to Wrangell, Alaska. There is no threat to Canada from dams in Alaska.	Canada
AZ	Luna Dam is a significant hazard dam in Arizona, the failure of which would result in property damage in **New Mexico**.	NV, UT
AR	Little Flint Creek Dam located in Benton County, Arkansas, S18,T18N,R33W, if failed would impact Flint Ridge, **Oklahoma**. Normal volume of reservoir is 18300 acre-feet. Lake Erling Dam located in Lafayette County, Arkansas, S31,T19S,R23W, if failed would impact Springhill, **Louisiana**. Normal volume of reservoir is 2350 acre-feet.	MO, OK
CA	We have very few dams that are on the border. Four dams would impact **Nevada**.	NV
CO	Failure of dams in Colorado (12-18 dams that vary in hazard classification from high to significant) could affect **UT, NM, WY, NE, and KS**. The impacts would vary in magnitude from substantial flooding with damage and potential life lost to high channel flows. Colorado River: The only non federal dam on the main stem Colorado River is Dillon, Owned by Denver Water. It will affect Utah with a flow of about 5 times that of the historic peak flow in 1984 of 70,000 cfs. The only significant population center in Utah that would be significantly affected is Moab, in Colorado several cities would be impacted. Taylor Draw Dam (Kenny Reservoir) on the White River at Rangely is about 20 miles from the Utah border. Utah is pretty much uninhabited in this area. Some ranches along this stretch may be affected. Baxter Dam (McAndrews Lake) is now restricted, we are having some problems with the owner maintaining reduced reservoir levels (court action is pending). Failure could damage the Baxter Pass Road south of Bonanza, Utah. The dam is about 10 or 12 miles from the state line and about 30 or 35 miles up from the confluence with the White River in Utah.	NM, UT

	Lower Big Creek, Three Mile, and Ginger Quill Dams are just out of Wyoming in the North Platte River Basin with mainly ranch land downstream. Many more low hazard dams could affect adjoining states, but the impact would probably be minimal.	
CT	There are one or two small dams in the northwest part of the state that could minimally affect **New York**.	MA, NH, NY
DE	(no response)	
D.C.	*Response from MD: Looking at Wash DC using VirtualEarth.com, there are three large reservoirs. They are: Dalecalia Reservoir, northwest DC, on the border with MD Georgetown Reservoir, west side of DC adjacent to Potomac River McMillan Reservoir, near Howard University in the center of DC* *Except for Dalecarlia, which I knwo is operated by the Corps of Engineers as part of the National Aqueduct system, I don't know if they have dams associated with them or if anyone is looking at them.*	
FL	No rivers flow out of Florida.	
GA	Yes, the failure of Buford Dam, which impounds Lake Lanier, could cause a domino effect of dam breaks on the Chattahoochee River, which is the border between Georgia and **Alabama**. Up north, failure of a federal dam (TVA's Blue Ridge Dam) could cause flooding in both **Tennessee** and **North Carolina**.	TN
HI	NA	NA
ID	Failures of approximately 18 Idaho dams could impact **Wyoming, Utah, Oregon and Washington.** Loss of life and extensive property damage is likely to occur. Most of these dams are federally owned or regulated, but a few are privately owned. The dams are: ID00077 Twin Lakes Dams — ID00457 Smoky Canyon No. 2 — ID00056 Brownlee Dam ID00068 Oneida Dam — ID00375 Texas Basin Dam — ID00057 Oxbow Dam ID00175 Glendale Dam — ID00278 Deer Flat Dams — ID00055 Hells Canyon Dam ID00071 Lamont Dam — ID00280 Arrowrock Dam — ID00054 C J Strike Dam ID00074 Weston Dam — ID00279 Anderson Ranch Dam — ID00287 Dworshak Dam ID00079 Foster Dam — ID00288 Lucky Peak Dam — ID00319 Albeni Falls Dam	NV, UT, WY
IL	I do not think any Illinois dams would materially impact other states. Might be a couple in Wisconsin that would impact Illinois . With large rivers on 3 sides (well 2.75) our water just blends in when it reaches the border.	IN, WI
IN	Staff estimates that there are at least 5 non-federally owned dams in Indiana that might adversely affect an adjacent state if they failed. The states impacted would be **Illinois, Michigan and Ohio.** One additional dam in Indiana impounds a lake (500+acre) located mostly in an adjacent state. Although the breach wave from this dam would damage Indiana, the loss of the lake could have a significant economic loss in the adjacent state. There is one federally owned dam that would likely affect an adjacent state. Since Indiana does not require breach	MI, OH

	inundation studies, the potential damage and loss of life in the adjacent state would be difficult to estimate.	
IA	Failure of Lake Rathbun Dam would impact **Missouri.** The Rathbun Dam is owned and operated by the US Army Corps of Engineers. It is not regulated by the state of Iowa.	NE, WI
KS	Several small non-federal dams along the borders of **Nebraska, Missouri**, and **Oklahoma** could adversely affect the bordering states with minor flooding and potentially some economic loss. There are two larger dams located on streams that cross the Missouri line that could impact the state of Missouri more significantly due to the size of the structures. However, we have no reason to believe that failure of these two dams would be a threat to life in Missouri. One of these dams is located in Cherokee County. It is a low head dam owned by the Empire District Electric Company on Spring Creek three stream miles from the Missouri line. There other dam is located in Linn County and is owned by Kansas City Power and Light Company. It is located approximately 17 stream miles from the Missouri line on the North Sugar Branch of the Marais Cygnes River. It is 76 feet high and impounds 85,000 acre-feet of water at the top of dam. We have not attempted to evaluate federal dams which might impact border states.	NE, OK
KY	Should it fail, Wolf Creek Dam, a federal dam which impounds L. Cumberland, would have a devastating and widespread impact on **Tennessee**. KY has no dams on the state inventory that would affect a neighboring state. Surface Mining may have some. *(Coal waste dams not included in estimate – Martin County tailings impoundment failure of Oct. 2000 contaminated the Big Sandy River, affecting **WV**, possibly other states..)*	VA
LA	Two federally regulated dams would affect parts of **Texas**. One is Caddo Lake (USACE) and the other is Toledo Bend (FERC).	AR, TX
ME	Several of the Federal Dams including FERC-regulated structures most certainly would affect other states. There are 4 dams upstream of NH and 11 dams upstream of **Canada** . Twenty-one dams are on the NH/ME border (Salmon Falls River), and four are on the Canada/ME border (St Croix River). Altogether, 15 dams upstream of NH or Canada could cause cross-border damages. Some could be very bad. Aziscohos for instance could conceivably take out most **NH** Towns along the Androscoggin River.	NH
MD	Yes, 6 dams that could impact **WV, VA, and PA**. Failures could cause property damage and may result in loss of life. The dams are: Dam/Reservoir Names: Ft. Ritchie/Lower Lake Royer (Dam No. 70), Jennings Randolph (Dam No. 69) Savage (Dam No. 14), Frostburg Reservoir (Dam No. 9), Potomac River Dam Nos. 4 and 5 (Dam Nos. 78 & 138).	DC, PA
MA	*NH response: Lastly, I know that the two dams in Massachusetts that are part of the field trip for the Boston Conference would also impact other states if they were to fail. The failure of the Wachusett Dam would cause significant flooding along the Nashua River in **New Hampshire**, and the Quabbin Reservoir Dams would cause significant flooding in **Connecticut.***	NH, NY
MI	We estimate there to be about 13 Michigan dams that could impact our neighboring states with 12 potentially impacting **Wisconsin** and 1 impacting **Indiana**.	IN, WI
MN	We don't think failure of any high hazard dam regulated by Minnesota DNR would result in adverse impacts in other states or Canada. Failure of some of the low or significant hazard dams may cause some damages in adjacent states, but we don't have information available	WI

	to provide a good answer to that question.	
MS	No	
MO	Yes, 3 state regulated dams (2 HH, 1LH) would affect **Oklahoma** & 4 (1 SH, 3 LH) would impact **Arkansas:**	IA, NE

ID # \	Dam Name	County	Ht (Ft)	Surf Area of Lake (Acres)	Haz Class	State Impacted
MO20511	Lost Creek E-1	Newton	46	90	1	Oklahoma
MO20781	Lost Creek A-1	Newton	49	55	1	Oklahoma
MO20354	Fisher Lake	McDonald	40	20	3	Oklahoma
MO31953	Fourche Creek #8	Ripley	49	55	3	Arkansas
MO31778	Fourche Creek #9	Ripley	44	23	3	Arkansas
MO31860	Fourche Creek #11	Ripley	45	69	3	Arkansas
MO31408	Fourche Creek #7	Ripley	68	170	2	Arkansas

MT	For the most part, Montana state boundaries fall on a drainage divide to the south. Near the north, there are a few reservoirs that flow into **Canada** (Lake Sherburne comes to mind). The only dam I know that has an interstate inundation area is Noxon Rapids Dam which extends into **Idaho** (FERC regulated dam).	ID, Canada
NE	The failure of 3 dams in Nebraska could affect neighboring states: Gavins Point Dam (SD01094), Harlan County Dam (NE01066), and Kingsley Dam (NE01048). The failure of Gavins Point Dam, located across the Missouri River on the Nebraska-South Dakota border, could affect towns along the Missouri River in **Nebraska, South Dakota, Iowa, and Missouri.** The failure of Harlan County Dam, located on the Republican River in south-central Nebraska, could affect towns along the Republican River in Nebraska and Kansas and along the Kansas River in **Kansas**. A breach routing analysis of Kingsley Dam (when full) was carried downstream to the point where the Platte River empties into the Missouri River on the Nebraska-Iowa border. At that point, the Platte River would still be one foot above the 500-year flood level, so I imagine that could cause some additional downstream flooding along the Missouri River in Nebraska and Iowa. The extent of the flooding downstream of Gavins Point Dam would depend on if the flooding was only due to a failure at Gavins Point Dam, a failure in series of Fort Randall Dam and Gavins Point Dam, or a failure in series of Oahe Dam, Big Bend Dam, Fort Randall Dam, and Gavins Point Dam. Using the worst-case scenario, towns in South Dakota that could be flooded include: Yankton (part of the town), Vermillion (part), Akron (part), Westfield (part), North Sioux City (all of the town), and Riverside (all). Towns in Iowa that could be flooded include: Sioux City (part), Sergeant Bluff (all), Salix (all), Sloan (all), Hornick (all), Whiting (all), Onawa (all), Turin (all), Blencoe (all), Little Sioux (all), Mondamin (all), Modale (all), Missouri Valley (part), Carter Lake (all), Council Bluffs (most), Pacific Junction (all), Glenwood (part), Bartlett (all), Percival (all), Thurman (part), Riverton (part), and Hamburg (most). Towns in Missouri that could be flooded include: Watson (all), Phelps City (all), Corning (all), Craig (all), and Mound City (part).	WY

	Towns in Kansas that could be flooded due to a failure of Harlan County Dam include: Republic (part), Scandia (most), Concordia (part), Clyde (all), Clifton (part), Morganville (all), Clay Center (part), Wakefield (part), Milford (all), Camp Forsyth (all), Junction City (part), Fort Riley (all), Ogden (part), Manhattan (a small part), Belvue (all), Rossville (all), Perry (most), and Lawrence (part). I would guess that a failure of Kingsley Dam could cause some flooding in Iowa at Pacific Junction and Bartlett.	
NV	Dams on both forks of the Owyhee River (small argument with BIA over jurisdiction on some) flow into rural **Idaho**; Boulder and Davis Dams on the Colorado River (technically not state Regulated as they are under BuRec) affect **Arizona** and **California**, as well as **Mexico**; a few small dams that have unknown but likely minimal threats to **Oregon, Utah, California** and **Idaho**. There are federal dams in CA that would greatly impact northern NV.	CA, UT
NH	New Hampshire has 5 significant hazard dams on the Salmon Falls River, the border between **Maine** and New Hampshire in the southern parts of the States, whose failures would have impacts on roads and residences in Maine. There are 6 high hazard and 2 significant hazard dams on the Connecticut River, the boundary between New Hampshire and **Vermont**. Several different Vermont municipalities could be impacted upon dam failure. One of the high hazard dams on the Connecticut River (the Moore Reservoir) would also impact Massachusetts, in addition to Vermont, if it were to fail. There is one high hazard dam on the Spickett River whose failure could have impacts on roads and homes in **Massachusetts** if it were to fail. The Corps inundation maps for their flood control dams that are located in NH don't extend to Massachusetts, but based on the depth of flooding where they do terminate, I estimate that the failure of the Everett Dam and the Franklin Dam would impact Massachusetts and the failure of their Surry Mountain and Otter Brook Dams would impact Vermont and Massachusetts. Also, in addition to the dams that Bethann mentions on our border with Maine, there are several dams on the Androscoggin River in New Hampshire that would impact Maine if they were to fail, but I believe Tony Fletcher has already described them in his narrative.	ME, MA, VT
NJ	Yes, we have three dams that could impact **PA** and **NY**. Of the three, one dam would result in major flooding along the Delaware River. Merrill Creek Reservoir and Yards Creek Reservoir impact PA and Wawayanda Lake impacts NY. NJ is aware of 7 reservoirs in PA that would have an impact in NJ and 7 reservoirs in NY that also would result in significant flooding along the Delaware River.	NY, PA
NM	Costilla Dam, on the Rio Costilla, is a large high hazard potential earthen dam where failure would impact **Colorado**. Ute Lake Dam is a large significant hazard dam where failure would impact **Texas.**	AZ
NY	Yes - there are several dams which impound the upper Delaware River. Some of these are state-regulated. Others are FERC licensed, but may become state regulated if the owner applies for license surrender. There are also about 5 other High Hazard dams with inundation areas in other states to the east and south of New York, namely **NJ, CT, MA, VT, PA.**	NJ, VT

	Swinging Bridge Dam - has been in the news due to a depression that formed on the dam's crest in May 05 (currently FERC regulated). Repairs are in progress under FERC regulatory authority. Failure could affect communities on the Delaware River in NY, PA, and NJ. 2 NYC water supply dams on the upper Delaware River (Cannonsville Dam and Downsville Dam) - failure could affect communities along the Delaware in NY, PA, and NJ. *(NJ Response: NJ is aware of 7 reservoirs in PA that would have an impact in NJ and 7 reservoirs in NY that also would result in significant flooding along the Delaware River.)*	
NC	We are researching the data to find the North Carolina Dam Safety Program high hazard dams that could affect other states. At this time, I know of four major state regulated dams that could cause damage in **South Carolina**: • TRANS-024, Toxaway Lower Dam, Toxaway River, 21,000 acre-feet, damage would be • environmental upstream of and in Lake Jocassee. • POLK-009, Turner Shoals (Lake Adger) Dam, Green River, a tributary to the Broad • River, 16,000 acre-feet, loss of life and damage to property and • infrastructure possible in South Carolina. • RUTHE-003, Lake Lure Dam, Broad River, 45,000 acre-feet, loss of life, damage to • property and infrastructure possible in South Carolina • CLEVE-018, Moss (Kings Mountain) Lake Dam, Buffalo Creek, a tributary to the Broad • River, 51,000 acre-feet. Loss of life and damage to property and • infrastructure in South Carolina possible. • CLEVE-044, Hughs Lake Dam • CLEVE-003, Kings Mountain City Lake Dam #2 • CLEVE-013, Kings Mountain Lake Dam #1 • MECKL-023, Arrowood • ANSON-026, Bonsal Tailings Dike • HENDE-107, Headwaters Saddle Dam (I will need to add the saddle dike separate from the main dam. Saddle dike is what may affect SC) **Dams Regulated by the North Carolina Utilities Commission that would affect South Carolina:** HENDE-001, Summit Lake, Green River, a tributary to Broad River **Dams that may affect Virginia:** • ALLEG-010, Mountain Lake Dam • WATAU-027, Beech Mountain • NCUC Regulated Dams that could affect Virginia:	GA, VA

	• Lake Hyco, Hyco River • Lake Mayo, Mayo Creek • Belews Creek Dam, Dan River	
ND	Yes, two or three dams would impact **South Dakota**. Not sure how bad it might be, probably a few homes. Other states whose dams could potentially impact North Dakota include Montana, South Dakota, Minnesota, though I'm not aware of any. I'm quite sure there are a couple of dams in Canada could impact ND.	MT, MN, SD, Canada
OH	On the west side, we have Grand Lake St. Marys , and if that goes, it will affect **Indiana.** On the northeast side, the Mahoning River flows into PA. The inundation mapping for Lake Hamilton indicated shallow flooding along the Mahoning in **PA**. Also, Lake Evans, which is upstream of Hamilton and would cause Hamilton to fail, should be included. USACE structures contributing to the Mahoning include Mosquito Creek, MJ Kirwin (West Branch), and Berlin. Impact from Lake Milton and Meander Creek dams is unknown because of lack of inundation mapping. These five are 20-45 miles from the border.	IN, PA
OK	Yes, about 10 dams could affect **Arkansas, Texas, and Kansas**, with loss of up to 50 lives.	AR, MO, TX
OR	Several of the Federal Dams including FERC-regulated structures most certainly would.	ID, NV
PA	Yes. We have state regulated dams and federally regulated dams that would impact areas in other states if they failed. We estimate that we have 21 state regulated dams that would impact other states upon failure. The states are **New York, Ohio, West Virginia, Maryland and New Jersey**. Probably the two dams that would cause the largest impact in other states if they failed are Thomas W. Koon Dam and Lake Gordon Dam. These two dams are located back-to-back on Evitts Creek in Bedford County, Southern Pennsylvania. They are water supply dams owned by the City of Cumberland, Maryland. Failure would impact the Cumberland metro area with a population of up to 1000, one school and one assisted care living facility potentially impacted. *(NJ Response: NJ is aware of 7 reservoirs in PA that would have an impact in NJ and 7 reservoirs in NY that also would result in significant flooding along the Delaware River.)*	MD, NJ, NY, OH, WV
PR	NA	NA
RI	No	
SC	SC and Georgia are separated by the Savannah River and any State Regulated Dam failure in either state would probably not have any adverse impact.	NC
SD	No state-regulated dams that would adversely affect other states.	NE.

		ND, WY
TN	Windstone Dam in Hamilton County, TN is about 1/2 mile above the state line and would cross into Catoosa County, **GA**. It might cause flooding of a road and some private property, although no loss of life would be expected. I did not include any Corps or TVA dams. A number of them would probably have **multi-state effects**. Nickajack Dam in TN just above the **Alabama** line would. A number of TVA dams in NC and VA probably would affect TN.	GA, KY, NC, VA
TX	Yes, there are two dams that could affect **Louisiana and Oklahoma**. One of the dams is Toledo Bend Dam on the border of Texas and Louisiana. It has a FERC license but is still a state-regulated dam. It is the largest body of water in Texas. Failure could affect a considerable number of people in both states. The other dam is Palo Duro Dam in the panhandle. Consequences would be less. There are 2 dams on the Rio Grande, both owned by the International Boundary and Water Commission, so they are not state-regulated. both would have major impact on **Mexico** if they would fail.	LA, NM, OK, Mexico
UT	A dozen or so would affect **Wyoming, Idaho, Nevada, Arizona, Colorado**. Several could involve loss of life, but mostly it is property damage. Woodruff and Long Park dams would substantially affect Wyoming The **Quail Creek failure affected Arizona and Nevada in 1989** and Sand Hollow Dam would do the same today.	ID, NV, WY
VT	Yes Many, say a dozen—not counting some that drain into **Quebec**, and several on the Connecticut River between **NH** and VT. Harriman dam, VT00025 is above the mothballed Yankee Rowe nuclear powerplant in Mass. Pownal Tanning Dam VT00220, is expected to have some truly nasty sediments that would be **New York** bound	NH, NY
VA	It is believed that flooding could be caused in **North Carolina, West Virginia, Kentucky and Tennessee**. Of course we are talking primarily for short distances into those states and probably minimal flooding.	MD, NC
WA	None	ID
WV	Yes, at least one. Lake Lynn Dam near Morgantown WV. (ID#: WV06128) would affect Pt. Marion, **Pennsylvania** if it failed. (Map available) *(KY included in next column because of coal waste dams, which are not considered in this estimate.)*	*KY*, MD, PA, VA
WI	Yes, the most significant potential for adverse impact are from failure of dams on the Menominee or Montreal Rivers between Wisconsin and Upper **Michigan**, or on the Mississippi and St. Croix Rivers between Wisconsin and **Minnesota/Iowa**. All of these dams, except for the Saint Croix Falls Dam, are regulated by FERC or the Corps. Saint Croix Falls Dam is a high hazard state regulated dam that could affect developed areas along the St. Croix River in Minnesota. There are about a dozen dams on rivers that originate in Wisconsin and flow into northern **Illinois** that could case some property damage but would not likely cause loss of life.	MN, IL (state regulated) MI, IA (FER

		C or Corps regulated)
WY	6 federal and 2 private dams in WY could affect parts of **Nebraska, Idaho, South Dakota and Utah**. Other than the 2 biggest federal dams, no dollar amounts have been calculated.	ID, UT

Potential International Impact	
Canada	Dams in ME, MT & VT could affect Canada. Canadian dams could threaten AK.
Mexico	Dams in NV & TX could affect Mexico, and Mexican dams could affect TX. Warren Samuelson, head of dam safety in TX, was notified on Aug. 8, 2006 of an unsafe dam in Juarez, Mexico. The Army Corps of Engineers had inspected the dam and declared the dam unsafe and could breach at any time. If a dam breach occurs it will cause serious flooding in downtown El Paso. Precautionary evacuations of 1500-2000 people were ongoing. Two ports of entry had been closed. The Texas Department of Public Safety was assisting with evacuations and monitoring as the City of Juarez is pumping water out of the dam. Although TX does not have jurisdiction, this is an example of a dam that could have devastating effects on an area on the other side of a border.

Selected Dam & Levee Failures and Incidents in the U.S. from 2000-2006
Association of State Dam Safety Officials (www.damsafety.org)

Date	Dam	Location	Reported Effects to the Public	Property Damage Overview	Comments
7/28-29, 2006	Needwood Dam	Gaithersburg, MD	2,200 + evacuated for 3 days	NEAR FAILURE	65' high, 40-year-old earth dam sprang 7 leaks at toe; lake reached 23' above flood stage
6/7/2006	Geary levee	Upper Klamath Lake, Oregon		Flooded Highway 140 & 2,000 acres of farmland, $4.5 M to repair highway.	
3/14/2006	Kaloko Reservoir Dam	Island of Kauai, Hawaii	7 deaths	Extensive environmental damages, several homes destroyed, crops destroyed	Earth dam built in 1890
12/14/2005	Taum Sauk	Lesterville, MO	3 children critically injured	Toops family home demolished; family of 5 swept away. State highway washed out; at least 3 trucks swept from road.	Instrumentation failure caused to much water to be pumped into reservoir
10/18/2005	Whittenton Pond Dam	On Mill R., Taunton, MA	2,000 + evacuated, including a housing development for the elderly	NEAR FAILURE	173-year-old wooden dam , about 100' across, about 12' high,
9/2005	Levees	New Orleans, LA	About 1,500 deaths	Billions in property damage	
7/2/2005	Hadlock Pond dam	NY	At least 4 homes destroyed, about 12 with moderate to severe damage	Roads washed out, power outages. State Rte 149 closed, major link between upstate NY & VT. About $1Million in damages.	Embankment dam completed 5/05. 220-acre lake, 12-15' deep. Heavy rain during first filling caused piping failure. Suspected construction flaw.
11/24/2004	Keith Lake dam	St. Clair County, near Odenville, Alabama	Downstream homes evacuated	Decreased property values, environmental damages, ~20% damage to downstream dam	Lake ~1200 yards long, 450 yds wide, 40' deep. 60-70' earth dam. Earth dam. Failure not covered by media.
10/11/2004	Victor Lake (aka Upper Stinchomb)	Fayette County, Georgia	They had to rescue around 20 people.	Approximately 20 trailers received damage.	15 acre lake that failed suddenly and flooded part of a trailer park.
7/13/2004	21 dams failed. Another 26 dams damaged.	South New Jersey	350 homes flooded	Extensive, >$30 million estimate	Heavy rains, 13" in 12 hrs
7/3/2004	Small earth dam	Decatur, Arkansas		At least 5 businesses damaged	Heavy rains, 5-6"
6/3/2004	Levee – Upper Jones Tract	Near Stockton, CA	About 20 houses affected	Thousands of acres of crops destroyed. Declared federal disaster,	350-foot section washed out.

				with $90 million in damage.	
5/4/2004	Lake Susan dam	Montreat, North Carolina	Several homes evacuated	The Montreat Conference Center, owner of the 79-year-old dam, plans to repair the dam and has raised $900,000 for repairs.	Collapse of a 35' section of the dam's upstream wall.
4/24/2004	Small earth dam on 10-acre lake	Pearl County, Mississippi	2 homes flooded, 1 car swept off road		Heavy rains, 6-10", dam near Anchor Lake subdivision, between Picayune and Poplarville
3/12/2004	Big Bay Lake dam	Near Purvis, Southern Mississippi	98 homes damaged or destroyed	2 churches, fire station, and bridge damaged or destroyed; SBA estimate: >$2.2 million. $2.5 million dam, > $50K Red Cross	900 -1,100 acre lake; 3.5 billion gallons; quarter-mile-wide flood path extending at least 17 miles downstream
8/9/2003	Private dam	Penn Run, Indiana County, W. Pennsylvania	Up to 200 campers evacuated from Yellow Creek Camp Ground		A private dam about three miles upstream overtopped.
6/22/2003	Lake Manatee gate failure	Florida	2 homes destroyed; 600 homes evacuated		Dam did not fail; gate stuck in closed position, causing lake to swell beyond its banks.
6/14/2003	Polk Township dam	Polk Township, Pennsylvania	20 homes evacuated, nursing home put on alert while the dam was stabilized.		Officials also concerned about Twin Lakes Dam in Smithfield Township;.
5/27/2003	Lake Upchurch and McLaughlin Lake dams	North Carolina		Lake Upchurch dam reconstruction costs estimated at more than $350,000.	4 additional dams damaged; another 16 overtopped during rainfall event (4-6" in less than 24 hrs)
5/26/2003	Hope Mills	Hope Mills, North Carolina	1,600 evacuated	est. $2.1 M damages; estimated cost of rebuilding dam: $6M	Heavy rains, stuck dam gate
5/13/2003	Silver Lake & Tourist Park dams	Near Marquette, Michigan		$102 M, incl $127,000 in emergency/ public safety, $3 M in roads/ bridges, $10.4 M in utilities, $4 M fisheries, soils & trees & $84 M in economic loss	Silver Lake fuse plug failure, resulting overtopping & failure of Tourist Park dam
5/7/2003	privately owned dam	East Ellijay, Georgia	6 houses evacuated, 3 trailers damaged.		Heavy rains
5/5/2003	Rumph's Pond dam (private, low hazard)	Dorchester County, South Carolina		Minimal damage to Norfolk Southern Railway property; about $144,000 in damages to the dam	Sabotage suspected; criminal charges filed. 21-acre lake, 13' high dam, 70 acre-foot impoundment
9/2002	Windy Hills	Harrison	Man died		

	Lake dam	County, Mississippi	after driving around a barricade placed at a washout from the failure.		
8/12/2001	Hearns Pond Dam	Delaware		$500,000. Washout of U.S. 13A near Seaford, Delaware.	Heavy rain
10/11/2000	Massey Energy coal waste impoundment	Martin County, Kentucky		300 M gals of slurry released into the Big Sandy and Ohio rivers.	Dam did not fail but bottom of impoundment collapsed into mine shaft.

COMPLETE STATEMENT OF

MR. STEVEN L. STOCKTON, P.E.
DEPUTY DIRECTOR OF CIVIL WORKS
U.S. ARMY CORPS OF ENGINEERS

DEPARTMENT OF THE ARMY

BEFORE THE

Subcommittee on Economic Development, Public Buildings and Emergency Management
Committee on Transportation and Infrastructure
UNITED STATES HOUSE OF REPRESENTATIVES

July 26, 2006

Introduction

I am Mr. Steven L. Stockton, Deputy Director of Civil Works for the U.S. Army Corps of Engineers. I am a registered Professional Engineer in the state of Oregon. I am pleased to be here today and to have the opportunity to speak to you about the Proposed Amendments and Reauthorization of the National Dam Safety Program Act. My testimony today will provide a brief discussion of the benefits of the program, the need for reauthorization, and the proposed reforms to the National Dam Safety Program.

Benefits of the Program

The U.S. Army Corps of Engineers operates a large number of dams in the United States and we have been active in promoting dam safety for many years. The Corps was a member of the ad-hoc committee that wrote the "Federal Guidelines for Dam Safety" in 1979 after dam failures occurred earlier in the 1970's. Since that time the Corps has been active in the activities of the Interagency Committee on Dam Safety (ICODS) and also on the National Dam Safety Review Board (NDSRB), which was established in 1997. The NDSRB has been meeting regularly and is active in the development of joint Federal and state dam safety policies and training.

The National Dam Safety Program provides benefits to the nation by reducing risks to life and property from dam failure in the United States through an effective dam safety program that brings together the expertise and resources of the Federal and non-Federal communities in achieving dam safety hazard reduction. These benefits are being achieved through the publication of various technical guidelines for the dam owner; through training dam safety professionals in Federal and state government on inspection and evaluation of dams; through cooperative dam safety research; and through publication of the National Inventory of Dams. The National Dam Safety Program has allowed the Corps to leverage its resources through work with other Federal agencies and with the various states. The Program has improved state dam safety programs by providing a forum for the states to share information. The National Inventory of Dams lists over 80,000 dams in the United States. By having the Inventory on the Internet, some of the states have estimated that the Inventory has avoided the expenditure for one-half man-year over answering individual questions concerning dams within the state.

Since the current version of the National Dam Safety Act expires at the end of Fiscal Year 2006, in order for the Nation to continue to realize the benefits to the nation of the Program, reauthorization would be required. Work groups under the NDSRB are currently engaged in research to improve the safety of dams and in the development of additional technical guidelines for dam owners. Since most of the 80,000 dams in the United States are owned by private companies and individuals, the National Dam Safety Program provides a single point of access for dam safety information. The Corps of Engineers believes that the cost of providing dam safety for dams operated by the Corps is reduced as a result of Corps participation and cooperation in programs such as the National Dam Safety Program.

Proposed Reforms to the Program

Most of the proposed amendments to the National Dam Safety Program Act are administrative in nature. However, there are two amendments that are making substantial changes to the program. These amendments are (1) the addition of an assessment of each dam based on inspections completed by either a Federal agency or a state dam safety agency to the National Inventory of Dams and (2) the extension of the authorization for appropriations.

The addition of an assessment of each dam to the inventory will enhance the value of the inventory when used by various emergency agencies and local governments during times of natural disasters. The assessments will allow the first responders to focus their actions where dam failures are most likely to occur. This will save time and possibly lives in emergency situations. In addition, these assessments will provide information that can assist local governments, public utilities, and private individuals when making investment decisions concerning property protected by the dams.

If the proposed legislation is enacted in its current version, authorization of appropriations for the National Inventory of Dams would increase from $500,000 per

fiscal year to $1,000,000 per fiscal year to accomplish the addition of the assessments to the inventory. The additional authorization in the Act is to develop and deploy the new data fields in the inventory. This work will include design of the metrics and standards for how inspection/assessment information is gathered and portrayed, and then actually assisting states and Federal agencies in the collection and population of the database.

The current version of the proposed legislation also calls for the Program appropriations to be increased to allow the program to continue at the present level and to improve the ability of the NDSRB to evaluate the performance of the state dam safety programs.

We are committed to continuing to improve the safety of Federal dams; continuing to cooperate with the other Federal agencies and the states to reduce the risk to public safety in areas located below dams; continuing to help decision makers set priorities for future dam safety investments; and continuing to ensure that all Americans can make more informed decisions on building homes, locating businesses, and purchasing flood insurance based on the actual risk of flood and storm damages where they live.

This concludes my statement. Again, I appreciate the opportunity to testify today. I would be pleased to answer any questions you may have.

National Dam Safety Program Hearing
Questions for the Record
Chairman Bill Shuster
July 26, 2006

USACE:

1. What is the Army Corps' day to day involvement in the program?

Answer: The Corps represents the Department of Defense on the National Dam Safety Review Board (NDSRB) and the Interagency Committee on Dam Safety (ICODS) with its most senior ranking dam safety leaders, each of whom is a registered professional engineer. In addition to these senior dam safety leaders, the Corps integrates many of its regional and local dam safety professionals in the various Work Groups, Subcommittees, and Steering Committee that have been established by the NDSRB and ICODS. The Corps actively provides financial and human resources to support the board's missions in the areas of training, research and development, and policy. Additionally, the Corps leads and manages the National Inventory of Dams program, an integral element and tool of the National Dam Safety Program and the board.

The Corps has established a comprehensive Dam Safety Program for the dams it owns and operates in accordance with the Federal Guidelines for Dam Safety published originally by ICODS. Part of this dam safety program includes coordination with the various states and other Federal agencies on the status of the overall national program. This is a continuing program.

2. Has the Corp's increased focus on levee safety, due to Katrina, limited your ability to participate in the National Dam Safety Program?

Answer: No, the Corps participation in the National Dam Safety Program as not been limited by our increased focus on levee safety. Instead, the Corps views the proposed National Levee Safety Program has a complementary program to the National Dam Safety Program and is working to align activities and achieve synergy between the two key elements of the nation's infrastructure. In fact, the Corps has actively engaged the board on many of engineering and safety lessons from the post-Katrina environment, including arranging for technical briefings and site visits of the New Orleans response and recovery. The work on both programs requires similar technical and professional skills.

3. How has the Corps's expertise in water related infrastructure benefited the program?

Answer: The Corps expertise in water related infrastructure is the basis for the Corps participation and leadership in the National Dam Safety Program. In fact, the Corps was the original Chairman of the ICODS, only relinquishing this role for a variety of non-technical reasons. Following the catastrophic dam failures of the 1970s, the Corps

utilized its expertise in water resources to organize and perform most of the initial inventories and inspections that formed the foundation of the national program. The substantial planning, engineering, design, construction, and operations and maintenance expertise resident in our new and existing water related infrastructure missions is the same expertise that benefits the National Dam Safety Program. This expertise has been used to assist other dam owners with inspections and construction assistance as authorized in various public laws. In addition the Corps has used its expertise with water related infrastructure to conduct emergency inspections of dams during natural emergency events.

4. Should the Army Corps be more heavily involved in the program?

Answer: At the fundamental level, the National Dam Safety Program is an engineering program to reduce the risk to the public from dam failures within the United States. As such, the NDSRB members are required to be registered professional engineers with dam safety experience. Because dam safety and levee safety are closely related, the Corps recognizes the potential synergy of aligning these activities and would welcome the opportunity to be more heavily involved in the National Dam Safety Program.

Questions for the Record

U.S. Army Corps of Engineers:

1. The Corps is responsible for maintain and updating the National Inventory of Dams (NID) - the reauthorization bill would require that an assessment of each dam based on inspections completed by either a federal agency or state dam agency. Is the Corps prepared to do that?

Answer: Yes, the Corps has already started working with the Inventory of Dams Work Group of the NDSRB on the inclusion of an assessment of each dam in the inventory.

2. According to the American Society of Civil Engineers, the Corps inspection program is currently undefined and inactive because of the establishment of state programs for inspection of non-federal dams? Is this an accurate statement?

Answer: The statement is not accurate in regards to those dams the Corps owns. The Corps has a comprehensive and robust dam safety program for the portfolio of over 600 dams which it owns, operates, and maintains. This program includes a series of inspections and risk informed assessments in accordance with the Federal Guidelines for Dam Safety. Each Federal agency is responsible for inspecting the dams it owns or regulates. The various states are responsible for the inspection of the non-Federal dams within their states. Although we have relatively broad authorization to perform inspections for states and other federal agencies, the lack of appropriations and the requirements of the Thomas Amendment have rendered such support essentially inactive and infeasible.

3. Are there any security concerns with operating the National Inventory of Dams on the internet? Will security become a factor if the Corps is required to add the assessment of the condition of the dams to the inventory?

Answer: The National Inventory of Dams Work Group of the NDSRB and the Dams Sector Government Coordinating Council (GCC) and Sector Coordinating Council (SCC), Information Sharing Workgroup, are in the process of reviewing existing National Inventory of Dams (NID) practices regarding information sharing controls and access to the NID. While the information presented within the NID may be obtainable elsewhere and the information on its own may not be considered as sensitive, the compilation of information within one database aggregates the data which reveals associations and relationships useful to exploitation purposes. The addition of assessments of the dams to the inventory could potentially change the security concerns about certain elements of the NID; but, these concerns should and will be balanced with the benefits that such information provides.

4. Federal agencies have been conducting vulnerability assessments and security improvements at federally owned dams. Some have asserted that the federal government has been slow at sharing this information with the states and private dam owners. Is this true? If so, why are there delays in sharing this critical information?

Answer: The Federal Dams Sector agencies have been sharing non-FOUO (For Official Use Only) regarding vulnerability assessments and security improvements through many venues (e.g. workshops, seminars, conferences, etc.). Classified and FOUO information sharing restrictions were recently improved with the DHS led effort to obtain clearances for state and local dam owners and standing up of sector coordinating councils. The Dams Sector GCC/SCC is also in the process of developing an information classification guide that will improve the sharing on a more timely basis.

BRINGING RIVERS TO LIFE

American Rivers
FOUNDED 1973

July 25, 2006

The Honorable Bill Shuster
Economic Development, Public Buildings and Emergency Management Subcommittee
Transportation and Infrastructure Committee
House of Representatives
Washington, DC 20515

The Honorable Eleanor Holmes Norton
Economic Development, Public Buildings and Emergency Management Subcommittee
Transportation and Infrastructure Committee
House of Representatives
Washington, DC 20515

Dear Chairman Shuster and Ranking Democrat Norton:

Thank you for holding a hearing on H.R. 1105, the Dam Rehabilitation and Repair Act of 2005, introduced by Congresswoman Sue Kelly. American Rivers is pleased to support this legislation and urges the subcommittee and full committee to favorably report it this year.

According to the Association of State Dam Safety Officials (ASDSO), the states have currently identified some 3,400 dams as being deficient or unsafe. They also estimate an average 40 to 50 percent of the nation's high hazard potential dams are not being inspected yearly. H.R. 1105 gives states the tools they need to address these dam liabilities by establishing a program that provides funding for the repair or removal of deficient dams.

State dam safety offices across the country recognize that many of the dams under their jurisdiction have outlived their original purpose and, without proper maintenance, can threaten public safety. Heavy rains and flooding can wreak havoc on our nation's older dams. Last year more than 2,000 people were evacuated from Taunton, Massachusetts as the Whittenton Pond Dam threatened to burst. In March this year the failure of Kaloko Dam on the Hawaiian island of Kauai killed seven people and caused significant damage to property and the environment. New England and the Mid-Atlantic were also hit hard by flooding this year. More than 2,200 people were evacuated from Gaithersburg, Maryland when Lake Needwood rose more than 23 feet and the earth fill dam holding back the water developed a major leak. In Webster, New Hampshire the Pillsbury Lake Dam could not withstand the pressure of the swollen river and breached, forcing the evacuation of several families.

1101 14TH STREET NW • SUITE 1400 • WASHINGTON, DC 20005-5637
(202) 347-7550 • (202) 347-9240 FAX • www.AmericanRivers.org

Printed on 100% recycled paper PCF with soy ink

a member of EarthShare

Immediately after floods such as these, resources often go to repairing critical infrastructure such as roads and bridges, and to families whose homes have been destroyed. However, the most fiscally and socially responsible approach also avoids spending tax dollars fixing dams that serve no significant public purpose and that continue to pose a risk of flooding. H.R. 1105 allows the state to determine whether or not an unsafe dam is serving a significant public purpose and, if the risks outweigh any benefits currently being provided, makes funds available to remove the dam, eliminating the liability completely.

Healthy rivers are valuable community assets, and as such, perform better when we work with nature rather than against it. More than 200 obsolete dams have been removed over the past seven years, resulting in rebounding native fisheries, people returning to the waterfront, local economies being stimulated, and even a reduction in the risk of flooding. In New Jersey, the removal of the problematic Harry Pursel Mill Dam on Lopatcong Creek earlier this year noticeably reduced localized flooding during recent torrential rains. The removal also eliminated a hazard to downstream roads and properties.

H.R. 1105 gives the states the tools they need to better deal with deficient, unsafe dams and return the rivers to their communities. American Rivers strongly supports this legislation and encourages the subcommittee and full committee to report it favorably.

Sincerely,

Rebecca Wodder
President

cc: Members of the Economic Development, Public Buildings and Emergency Management Subcommittee
The Honorable Sue Kelly

○