

S. HRG. 107-901

# *Senate Hearings*

*Before the Committee on Appropriations*

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## Energy and Water Development Appropriations

*Fiscal Year* 2003

107<sup>th</sup> CONGRESS, SECOND SESSION

H.R. 5431/S. 2784

DEPARTMENT OF ENERGY  
DEPARTMENT OF THE INTERIOR  
NONDEPARTMENTAL WITNESSES



Energy and Water Development Appropriations, 2003 (H.R. 5431/S. 2784)





**ENERGY AND WATER DEVELOPMENT  
APPROPRIATIONS FOR FISCAL YEAR 2003**

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**HEARINGS**

BEFORE A

SUBCOMMITTEE OF THE  
COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

ON

**H.R. 5431/S. 2784**

AN ACT MAKING APPROPRIATIONS FOR ENERGY AND WATER DEVELOPMENT FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 2003, AND FOR OTHER PURPOSES

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**Department of Energy  
Department of the Interior  
Nondepartmental witnesses**

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Printed for the use of the Committee on Appropriations



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U.S. GOVERNMENT PRINTING OFFICE

78-471 PDF

WASHINGTON : 2003

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**ENERGY AND WATER DEVELOPMENT  
APPROPRIATIONS FOR FISCAL YEAR 2003**

**FRIDAY, MARCH 8, 2002**

U.S. SENATE,  
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,  
*Washington, DC.*

The subcommittee met at 10:12 a.m., in room SD-138, Dirksen Senate Office Building, Hon. Harry Reid (chairman) presiding.  
Present: Senators Reid, Domenici, Bennett, and Burns.

**DEPARTMENT OF THE INTERIOR**

**STATEMENT OF BENNETT W. RALEY, ASSISTANT SECRETARY FOR  
WATER AND SCIENCE**

**ACCOMPANIED BY:**

**JOHN W. KEYS, III, COMMISSIONER, BUREAU OF RECLAMATION  
J. RONALD JOHNSTON, PROGRAM DIRECTOR, CENTRAL UTAH  
PROJECT COMPLETION ACT  
ROBERT WOLF, DIRECTOR, PROGRAM AND BUDGET, BUREAU OF  
RECLAMATION  
PAM HAZE, DEPUTY DIRECTOR OF BUDGET, DEPARTMENT OF THE  
INTERIOR**

**OPENING STATEMENT OF SENATOR PETE V. DOMENICI**

Senator DOMENICI. The hearing will please come to order.

Senator Reid is tied up for a while. He will probably be by shortly, but he indicated to me just now that he would like to get started, so I think I am going to do that.

First, let me thank the witnesses for appearing today and, in advance, thank you for your testimony.

**PREPARED STATEMENT**

I want to also commend Chairman Reid for the outstanding job he has done in chairing the subcommittee since June of last year. I have a statement that goes into more detail, talks a little bit about the Bureau of Reclamation and their budget. Obviously, things are going fairly well for the Bureau of Reclamation and we want to hear their testimony here today. With that, I will put my statement in the record and we will go to work.  
[The statement follows:]

**PREPARED STATEMENT OF SENATOR PETE V. DOMENICI**

**INTRODUCTION**

First, let me join Senator Reid in welcoming this distinguished panel of witnesses.

I would also like to commend Chairman Reid on the outstanding job he has done in chairing this subcommittee since June of last year. He has continued the fair and non-partisan tradition in which this committee has always conducted its affairs, resulting in an outstanding appropriations bill in the last cycle.

I believe this is your first hearing as Chairman, and I once again look forward to working with you during the course of the year.

The purpose of today's hearing is to review the fiscal year 2003 budget request of the Bureau of Reclamation and the Civil Works program of the Army Corps of Engineers. I would like to make a few comments about their budget requests.

#### BUREAU OF RECLAMATION

The fiscal year 2003 budget for the Bureau is \$886 million, a reduction of \$57 million from the current year level.

—The largest reduction in the Bureau's budget is in the Water and Related resources account, where the bulk of the Bureau's activities are funded. This account funds the Bureau's efforts to sustain ecosystems while assisting States, tribes, and local entities in solving their water resource issues. The President's budget provides \$726 million for this account, a \$36 million reduction over the fiscal year 2002 enacted level.

—The funding level recommended is of concern to me because we in the West always have a great need for water and greater efficiencies of its use.

In addition, we are increasingly seeing endangered species competing with people for water.

—I have this problem in my home State of New Mexico, with the silvery minnow, a recognized endangered species along the Rio Grande.

—I have worked hard to get the parties to come to agreement on the minnow and I've fought to provide funding for silvery minnow conservation efforts.

—My hope is that if we can come to an agreement and we can find some kind of equitable solution, then perhaps what we're doing in New Mexico could be used as a model by other States.

The Bureau is also balancing the needs of many while exercising the rights of the few, particularly in its role in fulfilling the Federal obligation in water rights settlements to Native American tribes, something I also have experienced within my State.

Increasingly, tribes are seeking Federal water rights settlements which ultimately result in the construction of water systems by the Bureau.

I am anxious to hear from the witnesses as to how they intend to manage the many challenges before the Bureau with a budget that is substantially below current year.

#### ARMY CORPS OF ENGINEERS—CIVIL WORKS PROGRAM

In light of the recent changes in leadership at the Army Corps of Engineers, the Corps will only be submitting written testimony today. However, I would like to take a few minutes to talk about the Corps' budget.

—The fiscal year 2003 budget request for the Corps of Engineers' is \$4.026 billion, a \$599 million reduction over last year's level. In total a 13 percent reduction.

—The construction program is down \$276 million from last year, as well as the general investigations program, down \$108 million from last year.

Adequate funding for the Corps of Engineers is critical to our economy in many regions of the country. Let me repeat some well known facts—

—The ports and waterways the Corps maintains, is where over 90 percent of our foreign trade occurs.

—Each \$1 invested in flood protection project reduces flood damages and relief costs by \$1.50.

—Every \$1 invested in navigation improvements raises America's productivity by \$3.

—Flood control infrastructure, as of 1997, has prevented \$706 billion of damage.

#### CLOSING

Overall, I support the President's budget plan for fiscal year 2003, and I support the President's budget priorities to shore up homeland defense, national security and the health of our economy.

I do believe, however, that this budget is setting some challenges, particularly in the area of water infrastructure. Some of the administration's proposed budget cuts are difficult to accept. Budgets mean setting priorities, and that will be a big challenge this year.

In years past, as Chairman of the Energy and Water Development Subcommittee on Appropriations, I took on the task of ensuring sufficient funding for both the Corps of Engineers' and the Bureau of Reclamations' programs. As the Ranking Member of the Appropriations' subcommittee, I plan to continue this role.

Senator DOMENICI. Let us start with the first set of witnesses. I understand that we lead off with Bureau of Reclamation Assistant Secretary for Water and Science, Bennett, Raley. Are you prepared to lead off today?

ASSISTANT SECRETARY RALEY'S OPENING REMARKS

Mr. RALEY. Yes, sir. Thank you, Mr. Chairman

On behalf of the Secretary of the Interior, it is a pleasure to be here today with you to talk about the Department's 2003 budget proposal. I am accompanied today by John Keys, the Commissioner for the Bureau of Reclamation; by Robert Wolf, the Budget Director for the Bureau of Reclamation; by Pam Haze with the Interior's budget office; and by Robert Johnston, who is the Program Director for the Central Utah Project, and who also reports directly to me.

In light of the schedule that the Senate has today, I would first ask that my written remarks be included within the record.

Senator DOMENICI. So ordered. Written statements that any of you have will be made a part of the record as if you gave them, and proceed to do it as you would like, as briefly as you can.

Mr. RALEY. I will further truncate my opening remarks so that the scarce time that the senator and his colleagues may have is preserved for your questions rather than for our opening statements.

I just want to thank again the committee for its support, for the close working relationship that we have with all of the Members of the Committee, and with the staff. We at Interior feel well served by this subcommittee and welcome the opportunity to work together as we deal with the important issues that we jointly share.

As you know, the Department of the Interior has a major role in the Nation's energy and water. The lands that are administered by the Department make up one out of every five acres of land in the Nation. Those lands include some of the most beautiful and pristine places on earth, and they include some of the most valuable resources for use for a variety of purposes ranging from energy production to recreation.

In the most recently completed fiscal year, the Department collected \$11 billion in revenue from the lands and waters that we manage and shared \$1 billion of this with the States, our partners in the onshore leasing program. In 2001, we collected \$1 billion more than was appropriated to us.

As the budget process for 2003 began last June, the Department was guided by the President's commitment to improve the management of public lands and waters, advance the development of domestic energy, and improve both the classroom and the classroom performance of Indian students. We want to manage for excellence through citizen-centered Government, and we have worked very hard jointly with Congress to step up to meet the President's challenge to address the needs of the Nation after the tragic events of September 11. We, as a Department, are committing substantial

time and resources to ensure that the resources that we are charged with are protected against all threats. We can only do that by cooperating and working with you.

The Commissioner, if you would like, can go into some of the details of those security matters, or we can come back at a later time if any Members of the Committee would like to have a further briefing on that or other aspects of the Department's business.

#### COBELL V. NORTON LITIGATION

One other aspect of the Department's mission that I wish to mention briefly this morning is the *Cobell v. Norton* litigation. As most of you know, the court ordered the Department to disconnect most of the computer systems from the Internet on December 5, 2001. We are working with the court's special master to obtain approval to reconnect them. The Bureau of Reclamation came back online last week.

In the longer term, we have concluded that there is a need for a dedicated network to secure trust data. The Department will be providing to the Appropriations Committee a re-programming proposal to address this important need in the future. We will be working with you to come back with a revised budget and a cross-walk between the current and revised proposals as we further understand what is going to be required to fulfill the Department's trust responsibility.

#### FISCAL YEAR 2003 BUDGET REQUEST

From an overall budget perspective, the Department's 2003 budget request is \$881 million in current appropriations, plus an additional \$25 million for Government-wide accounting adjustments for retirement and employee health benefits. For the Bureau of Reclamation, the Bureau's request for 2003 is \$845 million. An additional \$25 million is requested for the Government-wide legislative proposal to shift pension system and health benefit costs to the bureaus. The Bureau's budget request also includes \$81 million for the Safety of Dams program, \$26.6 million for enhanced security, and \$33 million for the Animas-LaPlata Project, which the Chairman and Members of this Committee have worked on tirelessly for decades.

With respect to the Central Utah Project, which is under the direct responsibility of the Assistant Secretary for Water and Science, the budget is \$36.2 million, and an additional \$24,000 is requested to address the pension system and health benefit costs associated with that project. This request includes \$12 million for use by the district that we are cooperating with on that project to continue the modified construction of the Diamond Fork system.

I wish to bring to the subcommittee's attention the fact that we will be closing off a section of the original tunnel because we experienced an unforeseen cave-in, causing the tunnel to fill with water, debris, and dangerous gas. Mr. Johnston can discuss, either today or at the leisure of the subcommittee, the details of this.



## PREPARED STATEMENT

With that, Mr. Chairman, I will conclude, not to avoid any issues but so that I can turn this over to Mr. Keys and Mr. Johnston and maximize the time for the senators to address issues of direct concern.

Thank you.

[The statement follows:]

## PREPARED STATEMENT OF BENNETT W. RALEY

On behalf of the Secretary of the Interior, I am pleased to be here today before the Subcommittee on Energy and Water Development to present the fiscal year 2003 budget for the Department of the Interior. I appreciate the opportunity to highlight a number of important initiatives and discuss the requests before this Subcommittee.

Before I move to the details of the budget request, I'd like to make some observations about the role of the Department of the Interior in serving our Nation.

- We provide approximately one-third of the Nation's domestic energy supply. We supply the water that is so vital to the arid West, serving over 31 million people. We manage more than one of every five acres of land in this Nation, including some of the most beautiful and pristine places on earth.
- We serve people from across the Nation and around the world who come to see us and enjoy nearly half-a-billion visits to our lands each year.
- Over 200,000 volunteers assist us, a volunteer workforce that outnumbered our own employees by nearly three to one.
- In the most recently completed fiscal year, we collected \$11 billion in revenue from the lands and waters we manage. We shared \$1 billion of that with the States, our partners in the onshore petroleum-leasing program. In 2001, we collected \$1 billion more in receipts than was appropriated to us.

The Department's approach to citizen-centered government is organized around the Four C's: conservation through consultation, cooperation, and communication. This approach empowers citizens to play a larger role in the decision-making process and this is reflected in the budget we present to you today.

As we began the process last June to build this budget, we were guided by President Bush's vision of a shared approach to conservation, and his commitments to restore our national parks, improve both the classrooms and the classroom performance of Indian students; and meet our environmental responsibilities in a manner that best reflects the innovative nature of our Nation.

Our budget priorities were reshaped by the events of September 11. Interior's employees have responded to the call to increase our vigilance and our preparedness for the changed world we face.

Our 2003 budget request balances these responsibilities and commits to:

- Improve our management of public lands and waters;
- Advance the President's National energy policy;
- Improve the lives of Native Americans; and
- Manage for excellence through citizen-centered governance.

Our commitment to management excellence means managing well the resources entrusted to us. We are working diligently to improve the quality, effectiveness, and efficiency of the services we deliver and to enhance the accountability and transparency of the work we do with the resources of the American people.

## BUDGET OVERVIEW

The Department of the Interior's 2003 budget request is \$10.6 billion in current appropriations, including \$270.5 million for a government-wide legislative proposal to shift to agencies the full cost of the CSRS pension system and the Federal employee health benefits program for current employees. Permanent funding that becomes available as a result of existing legislation without further action by the Congress will provide an additional \$2.6 billion, for a total 2003 Department budget of \$13.2 billion.

Excluding the pension and health benefits legislative proposal, the 2003 current appropriations request is \$10.3 billion, a net decrease of \$12.7 million from the amounts provided in the 2002 Interior and Related Agencies and Energy and Water Development Appropriations Acts. The 2003 budget proposal maintains a robust funding level compared to historic levels for the Department. The proposal is over 21 percent higher than the 2000 appropriation level of \$8.6 billion.

The budget request proposes funding increases for priority programs and initiatives, while discontinuing or reducing funding for lower priority projects funded in 2002. In addition, the 2003 budget reflects the Department's commitment to operate programs more effectively and efficiently, by proposing to absorb \$57.4 million in uncontrollable fixed cost increases and a \$20.6 million reduction in travel and transportation costs.

For 2003, the budget request for the Bureau of Reclamation and Central Utah Project Completion Act programs funded in the Energy and Water Development Appropriations Act is \$881.1 million, a decrease of \$33.1 million below the 2002 Act. This comparison excludes \$30.3 million appropriated in 2002 for emergency response/counter-terrorism.

Before we discuss the details of the Bureau of Reclamation budget and the Central Utah Project, I would like to highlight a few areas of concern to all of us.

#### HOMELAND SECURITY

In the wake of the events of September 11, we responded with assistance to the rescue and recovery efforts. We also put in place security measures to protect our most important national assets, our visitors and our employees. We increased park police patrols in Washington, D.C., and New York; upgraded park policy security equipment; increased guard service and protection for important national icons such as the Liberty Bell and St. Louis Arch; and instituted around-the-clock security at key Reclamation facilities such as Hoover, Glen Canyon, Shasta, and Grand Coulee Dams. The 2003 budget request includes \$88.8 million to continue enhanced security measures at approximately the same level funded in 2002, including \$26.7 million for the Bureau of Reclamation.

#### TRUST PROGRAMS

Managing Indian trust funds and trust resources is a solemn obligation of the Federal Government, and one of the Department's greatest challenges. Since taking office in January 2001, the Secretary has moved on several fronts to help improve Indian trust management. In July 2001, she established the Office of Historical Trust Accounting to provide focused efforts to produce a historical accounting for individual Indian allottees. The Office has developed a blueprint for development of its comprehensive plan for a historical accounting and will convey its comprehensive plan to Congress in June 2002.

During the formulation of the 2003 budget, various issues were identified concerning the trust asset management roles of the Bureau of Indian Affairs, Office of the Special Trustee for American Indians, and other Departmental entities carrying out trust functions. At this same time Electronic Data Systems, Inc., was undertaking an independent, expert evaluation, indicating that one of the fundamental barriers to trust reform is the disorganized scattering of trust functions throughout the Department. In November 2001, the Secretary announced the outline of a proposal to reorganize and consolidate Indian trust management functions into a separate organization. The goal of the proposal is to improve management of trust assets by creating clear lines of authority for trust reform and trust operations. The Department is currently consulting with Tribes to involve them in the process of reorganizing the Department's trust asset management responsibilities. Discussions will continue with Congress concerning the results of the ongoing consultation and the proposed reorganization.

As part of the ongoing *Cobell v. Norton* proceedings, on December 5, 2001 the Court ordered the Department to disconnect all of the computer systems that house or provide access to Indian trust data from the Internet. We are working diligently with the Court's Special Master to obtain concurrence to complete reconnection. As of February 11, we are providing estimated payments to individual Indian money account holders until such time as automated payment systems are resumed. For the longer-term, we have concluded that there is a need for a dedicated network to secure trust data. The Department will be submitting a proposal to reprogram 2002 funding for this network in the near future.

The 2003 budget request for trust reform and operations is based upon the current organizational structure and does not reflect our conclusions about the need for a dedicated trust network. As we complete the consultation process and move forward with our plans for the network we will submit a revised budget that includes a crosswalk between the current and revised budget proposals.

Our budget request contains a major boost in spending for Indian trust reform and trust related programs, a nearly \$84 million increase, the largest increase in the history of trust reform. These additional funds are necessary to address the long

overdue changes that the Secretary is committed to making in the Indian trust program.

#### HARNESSING OUR NATURAL RESOURCES

The Department's programs are key to addressing important energy supply issues and fostering a dynamic economy, while preserving and enhancing environmental quality. Energy projects on federally managed lands and offshore areas supply approximately one-third of the Nation's energy production. In support of the President's National Energy Policy, the budget includes increases of \$28.6 million for energy related activities, which will allow us to increase our responsiveness to increasing demands for energy while increasing environmental oversight.

Secretary Norton is committed to increasing domestic energy supplies, including oil and gas on Federal lands from a variety of sources in an environmentally acceptable manner. The energy resources of the northeast corner and the rest of Alaska's North Slope are national assets that can contribute to the Nation's energy security. The 2003 budget includes an increase of \$3.0 million for activities on the North Slope. The increase will support planning for 2004 sales in the National Petroleum Reserve-Alaska and the Arctic National Wildlife Refuge. Congressional authorization will be required for a lease sale to be conducted in the Arctic Refuge. The budget assumes a lease sale in 2004 that will generate \$2.4 billion in anticipated bonus bids. Of this amount, the Federal Government's \$1.2 billion share will be dedicated to research and development projects on solar power, wind energy, biomass power and fuels, geothermal energy, and other alternative energy technologies.

#### BUREAU OF RECLAMATION

The Bureau of Reclamation's request for current appropriations is \$869.8 million, which includes \$24.9 million for the government-wide legislative proposal to shift to agencies the full cost of the CSRS pension system and the health benefits program for current employees. Without the legislative proposal, the 2003 request for the Bureau of Reclamation totals \$844.9 million, a decrease of \$33.1 million from the level funded in the 2002 Energy and Water Appropriations Act. An additional \$30.3 million was appropriated in 2002 for emergency response/counter-terrorism.

The 2003 request for current appropriations is offset by discretionary receipts in the Central Valley Project Restoration Fund, resulting in a net request for discretionary budget authority of \$830.3 million. The request for permanent appropriations totals \$82.3 million.

The request for the Water and Related Resources account is \$739.7 million, including \$13.6 million for the government-wide legislative proposal to shift to agencies the pension system and health benefits. Without the legislative proposal, the 2003 request is \$726.1 million. The account total includes an undistributed reduction of \$37.9 million in anticipation of delays in construction schedules and other activities.

The budget provides a total of \$345.0 million for facility operations, maintenance, and rehabilitation, an increase of \$8.9 million over 2002 enacted levels. Providing adequate funding for these activities continues to be one of Reclamation's highest priorities.

For 100 years Reclamation has contributed to sustained economic growth and an enhanced quality of life in the western States. Reclamation water projects have been developed to meet agricultural, tribal, urban, and industrial needs. In recent years, the public has requested environmental enhancements and more recreational opportunities while municipal and industrial users have demanded more high quality water. Population growth in the west is leading to greater competition for very limited water resources.

Reclamation's challenge today is to work with its customers, States, Tribes, and other stakeholders to find ways to balance and provide for this new mix of water resource needs. As a result, Reclamation is continuing to develop authorized facilities to store and convey new water supplies while placing greater emphasis on: managing its existing facilities efficiently and effectively; promoting the conservation, reclamation, and reuse of existing water supplies; protecting and restoring fish and wildlife resources; and implementing business practices that will provide effective and efficient service to customers, partners, and employees.

The 2003 dam safety request of \$81.0 million includes an additional \$8.3 million for the dam safety program to protect the downstream public by ensuring the safety and reliability of Reclamation dams. The request also includes an increase of \$26.6 million for site security in response to the events of September 11, 2001.

For the purposes of environmental compliance and protection, \$15.0 million is requested for the Columbia and Snake River Salmon Recovery program. Other funds

requested will assist the Bureau in meeting objectives for improved water management and environmental compliance. Examples include \$12.4 million for the Lower Colorado River Operations program and \$14.3 million for the Klamath project in Oregon and California. This project is operated to meet multiple obligations of the Department, including providing water for irrigation and wildlife, meeting tribal trust obligations, and protecting endangered and threatened species.

The budget includes \$15.0 million in the Reclamation account established exclusively for implementation of the CALFED Bay-Delta Program. Funds provided will be used for ongoing activities within existing authorities, including continued work on studies addressing water storage needs.

#### CENTRAL UTAH PROJECT COMPLETION ACT

The Central Utah Project Completion Act provided for completion of the Central Utah Project by the Central Utah Water Conservancy District; authorized funding for fish, wildlife, and recreation mitigation and conservation; established the Utah Reclamation Mitigation and Conservation Commission; and provided for the Ute Indian Rights Settlement. As the responsibilities of the Secretary under that Act may not be delegated to Reclamation, a Program Office was established in Provo, Utah, which provides oversight, review, and liaison with the District, the Mitigation Commission, and the Ute Indian Tribe.

The 2003 request provides \$36.3 million, including \$24,000 for a government-wide legislative proposal to shift to agencies the full cost of the CSRS pension system and the Federal employee health benefits program for current employees. Without the legislative proposal, total budget authority for the project in 2003 is \$36.2 million, the same as the 2002 level. The 2003 request includes: \$23.0 million for planning and construction activities administered by the district; \$11.3 million for mitigation and conservation activities funded through the Mitigation Commission; and \$1.9 million for activities administered by the program office, which includes \$579,000 for mitigation and conservation activities funded through the program office.

The request includes \$12.0 million for use by the District to continue the modified construction of the Diamond Fork System. This funding will be used to close off a section of the original tunnel that experienced an unforeseen cave-in resulting in dangerous levels of hydrogen sulfide gas. A plan is being developed for the construction of alternative facilities. We are preparing cost estimates for this work and will communicate this information to you as soon as a firm estimate is available.

#### CONCLUSION

In conclusion, the 2003 budget provides strong support for Interior's programs and for the approximately 70,000 employees that carry out our mission. I will be happy to answer any questions that you may have.

Senator DOMENICI. Thank you very much. Mr. Keys?

#### STATEMENT OF JOHN W. KEYS

Mr. KEYS. Mr. Chairman, it is a pleasure to appear before you today and present the President's fiscal year 2003 budget request for the Bureau of Reclamation.

We appreciate the continued support that your committee provides to reclamation and the excellent working relationship that we have developed between our offices and our staffs.

I would first ask that my full written statement be included in the record.

Mr. Chairman, we are proud of the Bureau of Reclamation and what we do for the Western United States. This year we celebrate the centennial for the Bureau of Reclamation and that water service to the Western United States.

#### RECLAMATION'S FISCAL YEAR 2003 REQUEST

As Assistant Secretary Raley has explained, Reclamation's request totals almost \$870 million in current authority. The request includes \$726 million for Reclamation's traditional Water and Related Resources Programs, \$54 million for policy and administra-

tion, and \$25 million for the Government-wide legislative proposal to shift to agencies the full cost of retirement benefits and health benefits.

From my perspective, this budget is good news for the West. Reclamation is focused on customer value and on the Administration's principle of results rather than procedures. The fiscal year 2003 request is fiscally responsible and will provide funding to keep our dams and facilities safe, deliver water, provide a stable source of power for our growing population, and support environmental efforts. It demonstrates Reclamation's commitment to meeting the West's needs for water and power in an efficient and responsive manner.

The request for the Water and Related Resources account is \$726 million. This request continues to emphasize the operation and maintenance of reclamation facilities in a safe, efficient, economic and reliable manner, sustaining the health and integrity of ecosystems while addressing the water and power needs of a growing population. It also includes assistance for States, tribes, and local entities in solving contemporary water resources problems.

Highlights of this budget include \$81 million for the Safety of Dams Program which funds dam safety corrective activities, including modifications that are underway at Horsetooth Dam in Colorado and Wickiup Dam in Oregon. It includes \$28.4 million for site security and counterterrorism activities, which funds guards, surveillance, and equipment to provide increased security for the public, reclamation employees and facilities, our project customers, and our information technology systems.

It includes \$33 million for construction of the Animas-LaPlata Project in Colorado and New Mexico. The fiscal year 2003 activities include the award of construction contracts for Ridges Basin Dam and the Durango Pumping Plant, completion of natural gas pipeline relocations, design of the Navajo Nation Municipal Pipeline, and continued activities in the cultural resource, wetlands, and fish and wildlife mitigation activities.

Our budget also includes \$14.3 million for work in the Klamath Project in Oregon and California. This will continue the operation of the project and provide for studies relating to improving water supply and water quality to meet the agricultural, tribal, wildlife and environmental needs in the basin. Just last week we released the biological assessment for the next 10 years of operation for the Klamath Project.

The budget also includes \$128.8 million for the Central Valley Project in California. That provides funding to 15 areas including operation and maintenance of systems in the Central Valley and the Trinity River Valley.

Our budget also includes \$9.5 million for the Colorado River Storage Project. Section 5 of the Colorado River Storage Project Act works in Arizona, New Mexico, Colorado, Utah, and Wyoming. It includes \$35 million for the Central Arizona Project, \$25 million for the Garrison Project in North Dakota, \$15 million for Columbia-Snake River Salmon Recovery in the Northwest, \$43.5 million for rural water projects in South Dakota, and about \$18 million for the Title XVI projects in Arizona and California.

Certainly, I would be happy to provide any details on any of these projects that you would like for the record.

Our budget also requests \$49 million for the Central Valley Project Restoration Fund. This is offset by discretionary receipts totaling almost \$40 million collected from project beneficiaries.

The request also includes about \$15 million for the California Bay-Delta activities that can be undertaken within existing statutory authorities.

Mr. Chairman, as I mentioned before, this year marks the centennial celebration for the Bureau of Reclamation. We plan to celebrate that all over the West. There are several large celebrations. I think we have one scheduled in Montana at Canyon Ferry.

Senator BURNS. We just want water.

Mr. KEYS. We look forward to letting you folks know about those and hopefully you and your staffs and the Members of your Committee can participate in some of those.

#### PREPARED STATEMENT

That completes my remarks and I would certainly be happy to answer any questions that you might have.

[The statement follows:]

#### PREPARED STATEMENT OF JOHN W. KEYS, III

Thank you, Mr. Chairman, and members of the subcommittee. I welcome the opportunity to appear before you today to support the President's fiscal year 2003 budget request for the Bureau of Reclamation, which totals \$869.8 million in current authority, or \$830.3 million after accounting for the Central Valley Project Restoration Fund offset. The request includes \$24.9 million for the government-wide legislative proposal to shift to agencies the full cost of the Civil Service Retirement System pension and the Federal Employees Health Benefits Program for current employees, and \$726.1 million for Reclamation's traditional programs.

This budget is good news for the West. Reclamation is focused on customer value as well as increased accountability and modernization. This request is citizen-centered and founded on the Administration's principle of results rather than procedures. It is also a fiscally responsible request, which will provide funding to keep our dams and facilities safe, deliver water, provide a stable source of power for our growing population, and support environmental efforts.

#### MISSION

As it celebrates its 100th anniversary, Reclamation delivers 10 trillion gallons of water to over 31 million people in the 17 western States for municipal, rural, and industrial uses. Reclamation facilities store over 245 million acre-feet of water, serving one of every five western farmers to irrigate about 10 million acres of land. These irrigated lands produce 60 percent of the nation's vegetables and 25 percent of its fruits and nuts.

As the largest water resources management agency in the West, Reclamation administers or operates 348 reservoirs, 58 hydroelectric facilities with an installed capacity of 14,741 megawatts, and 56,000 miles of water conveyance systems. Reclamation manages approximately 8.6 million acres of Federal land, plus another 600,000 acres of land under easements. In addition, our facilities provide substantial flood control, recreation, and fish and wildlife benefits.

The economic viability—and in some cases the very survivability—of the citizens, ranchers, and farmers in the 17 western States depends on the effectiveness of Reclamation's stewardship of these valuable public resources. Reclamation and its employees take very seriously the responsibility and the mission of managing, developing and protecting water and related resources in an environmentally and economically sound manner in the interest of the American public.

The impact of Reclamation on the lives and livelihoods of our western citizens is highlighted by the following facts: Reclamation is the second largest producer of hydroelectric power and the 10th largest power producer in the United States, with an average generation of more than 42 billion kilowatt hours of energy each year.

Reclamation produces enough electricity to serve 19 million people, generating over \$600 million in annual power revenues. In California, Reclamation's Central Valley Project generated more than 4.1 billion kilowatt hours of energy in 2001, enough power to serve approximately 1 million Californians.

#### FISCAL YEAR 2003 BUDGET REQUEST

The fiscal year 2003 budget request demonstrates Reclamation's commitment to meeting the West's needs for water and power in a fiscally responsible manner. This budget continues Reclamation's emphasis on delivering and managing these valuable public resources. In cooperation and consultation with State, tribal, and local governments, along with other stakeholders and the public at large, Reclamation offers workable solutions regarding water and power resource issues that are consistent with the demands for power and water, and with the need to pursue cost effective, environmentally sound approaches to meeting those demands.

Reclamation's budget request reflects the need to address an aging infrastructure, operation and maintenance of Indian rural water projects, and rising costs and management challenges associated with scarce water resources. As its infrastructure ages, Reclamation must direct increasing resources toward technological upgrades, new science and technologies, and preventative maintenance to ensure reliability, increase output, and improve safety. Reclamation's legal responsibility for managing the ongoing operations and maintenance of certain Indian rural water projects, as portions of them are completed, also places substantial pressure on our overall budget.

One of Reclamation's strategies for meeting these new challenges is using the Secretary's four "C's:" ". . . Consultation, Cooperation and Communication all in the service of conservation . . . ." These principles provide Reclamation an opportunity, in consultation with stakeholders, to use decision support tools, including risk analyses, and to develop the most efficient and cost-effective solutions to the complex challenges that we face.

The demand for skills in such areas as negotiating agreements with Tribal Governments, negotiating title transfer agreements, mediating disputes among stakeholders, and renewing existing contracts represent a formidable challenge in the human resource arena. Balancing the demand for service delivery is always a challenge. Complementing supply-oriented solutions, with innovative approaches to water and power conservation and programs for wastewater recycling, are being explored.

Every day we see water resource needs important to our State, local and tribal partners. Many States are developing state-wide water plans or drought contingency plans, for instance, to address resource utilization and stewardship against the backdrop of large population increases and the growing notion of sustainable development. Reclamation, in partnership with other Federal, State, local, tribal, and private entities, has consistently proven its ability to help assess the potential for optimum water use. This technical capability is one of our most valuable resources.

Some of Reclamation's budget priorities as we celebrate our 100th anniversary of service are to:

- Operate and maintain projects in a safe and reliable manner, protecting the health and safety of the public and Reclamation employees
- Ensure continued water deliveries and power benefits consistent with environmental and other requirements
- Honor States rights and interstate compacts to Reclamation users
- Continue our important role in meeting increasing demands for finite water resources
- Enhance effectiveness in addressing complex water management issues in the West.

#### WATER AND RELATED RESOURCES

The fiscal year 2003 request for the Water and Related Resources account is \$739.7 million, including \$13.6 million for the Civil Service Retirement System and Federal Employees Health Benefits Program Administrations Proposal. The request provides funding for five major program activities: Water and Energy Management and Development (\$289.5 million), Land Management and Development (\$40.2 million), Fish and Wildlife Management and Development (\$89.4 million), Facility Operations (\$182.7 million), and Facility Maintenance and Rehabilitation (\$162.3 million). The request is partially offset by an undistributed reduction of \$37.9 million, in anticipation of delays in construction schedules and other planned activities.

The request continues to emphasize the operation and maintenance of Reclamation facilities in a safe, efficient, economic, and reliable manner; sustaining the

health and integrity of ecosystems while addressing the water needs of a growing population; and assisting States, tribes, and local entities in solving contemporary water resources issues.

Highlights of the fiscal year 2003 request include:

*Safety of Dams (\$81.0 million).*—The safety and reliability of Reclamation dams is one of Reclamation's highest priorities. Approximately 50 percent of Reclamation's dams were built between 1900 and 1950, and 90 percent of the dams were built before current State-of-the-art foundation treatment and filter techniques were incorporated in embankment dams to control seepage. Continued safe performance becomes a greater concern with aging dams and requires a greater emphasis on the risk management activities provided by the program.

Dam safety corrective actions are among the activities funded by facility operation, maintenance, and rehabilitation. The fiscal year 2003 request of \$81.0 million for the Safety of Dams Evaluation and Modification Program, including Horsetooth Dam in Colorado and Wickiup Dam in Oregon, provides for risk management activities throughout Reclamation's inventory of 432 dams and dikes, plus preconstruction and construction activities for up to 17 dams identified for funding through the Safety of Dams Program. The fiscal year 2003 request includes \$1.3 million for the Department of the Interior Dam Safety Program.

*Site Security/Counter Terrorism (\$28.4 million).*—Funds are being requested for continued heightened public safety and security efforts at Reclamation facilities. This includes \$26.6 million specifically for counter terrorism measures including guards and surveillance, and equipment to provide increased security for the general public, Reclamation employees and facilities, and Information Technology security. During fiscal year 2002, \$30.2 million was provided to Reclamation through the Department of Defense Appropriations Bill.

*Animas-La Plata in Colorado and New Mexico (\$33.0 million).*—In December 2000, Congress enacted legislation to resolve the Colorado Ute Indian Tribes' water rights claims and allow construction of a smaller Animas-La Plata Project to proceed. Work planned for fiscal year 2003 includes the continuation of cultural resource mitigation activities; completion of natural gas pipeline relocations; wetlands and fish and wildlife mitigation land acquisition and development; design on the Navajo Nation Municipal Pipeline; and the award of construction contracts for Ridges Basin Dam and the Durango Pumping Plant.

*Central Arizona Project (\$34.7 million).*—The request continues construction of the Gila River Indian Community Distribution System and other Indian distribution systems; work on recreation development; and fulfillment of endangered species mitigation commitments for Roosevelt Dam and for the CAP Aqueduct on the Gila, Santa Cruz, and San Pedro Rivers. Funding is also requested to continue working with Tucson area municipal entities on CAP reliability features.

*Central Valley Project (CVP) (\$128.8 million).*—This provides funding for 15 units, for operation and maintenance of the Central Valley project. Among the activities proposed for funding is \$5.4 million for the Placer County Water Agency Permanent Pumping facility and closure of the diversion tunnel and river restoration, management of contracts for land, grounds and buildings for Auburn-Folsom South Unit. The President's budget provides for the Replacements, Additions, and Extraordinary Maintenance Program (\$16.0 million), funds work on 31 replacement, addition, and extraordinary maintenance (RAX) items including overhaul of unit 3 at the Shasta Powerplant.

*Colorado River Storage Project, Section 5 in Arizona, Colorado, New Mexico, Utah, and Wyoming (\$9.5 million).*—Funds will begin water right activities as well as fund protection from activities of others that may adversely impact project operations. The request also funds construction activities associated with the Upper Stillwater Dam construction deficiency. Coordination with local, State, and Federal agencies on water quality management activities will continue as will land resource management activities associated with administering project lands. The funding will also continue recreation management oversight for project facilities, administration and compliance of repayment contracts, and management of the integrated pest management program for the project facilities and monitoring of Jordanelle wetlands.

*Columbia-Snake River Salmon Recovery in Idaho, Oregon, Montana, Washington and Wyoming (\$15.0 million).*—This program addresses Reclamation's legal requirements contained in the biological opinions issued in December 2000 by the National Marine Fisheries Service and the Fish and Wildlife Service.

*Garrison Diversion Unit in North Dakota (\$25.2 million).*—Funds are requested for cooperative agreements with the State of North Dakota and Tribes for municipal, rural, and industrial water projects, for development of Indian irrigation facilities, for work at several wildlife refuges, and for operation and maintenance of completed project facilities.



*Klamath Project in California and Oregon (\$14.3 million).*—The request continues funding for studies and initiatives related to improving water supply and quality to meet agriculture, tribal, wildlife refuge, and environmental needs in the Klamath River Basin and for improvements in fish passage and habitat.

*Lower Colorado River Operations Program in California, Arizona, and Nevada (\$12.4 million).*—This program funds work necessary to carry out the Secretary's responsibilities as water master of the lower Colorado River. It also funds measures required by the interim biological opinion on Reclamation's lower Colorado River operations, and development of a multi-species conservation program to provide a basis for Endangered Species Act compliance on the lower Colorado River over the long term.

*South Dakota Rural Water Projects (\$43.5 million).*—The fiscal year 2003 request includes funding for three South Dakota Rural Water Projects: the Mid-Dakota Project (\$10.0 million), Mni Wiconi Project (\$31.5 million), and Lewis And Clark Rural Water System, which also includes facilities in Iowa and Minnesota (\$2.0 million). These programs provide assistance for construction of water supply transmission lines and storage reservoirs. The Mni Wiconi Project provides water supplies to the Oglala Sioux, Rosebud Sioux, and Lower Brule Sioux tribes, in addition to the West River/Lyman-Jones Rural Water Systems.

*Water Reclamation and Reuse Projects Title XVI (\$17.8 million).*—This request continues funding nine studies and projects to recycle and reuse water in the arid West. These projects will provide over 500,000 acre-feet of water annually to help the western States cope with drought and to meet the water needs of their rapidly growing population.

*Yakima River Basin Water Enhancement Project (\$11.9 million).*—This request continues the implementation of water conservation, fish and wildlife improvements, and other measures authorized by the Yakima River Basin Water Enhancement Act.

#### CENTRAL VALLEY PROJECT RESTORATION FUND

The fiscal year 2003 Reclamation budget includes a request for \$48.9 million for the Central Valley Project Restoration Fund established by the Central Valley Project Improvement Act of 1992. The proposal is expected to be offset by discretionary receipts totaling \$39.6 million, which is the amount that can be collected from project beneficiaries under Sec. 3407(d) of the Act. These funds will be used to protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California. In addition, the funds will be used to achieve a reasonable balance among competing demands for the use of Central Valley Project water, including the requirements of fish and wildlife, agricultural, municipal and industrial and power contractors. Reclamation is seeking appropriations for the full amount of funds of the estimated collections for fiscal year 2003.

#### CALIFORNIA BAY-DELTA RESTORATION

Consistent with the commitment to find long-term solutions to improving water quality, habitat and ecological functions, and water supply reliability, while reducing the risk of catastrophic breaching of Delta levees, the fiscal year 2003 budget contains funds for Bay-Delta activities that can be undertaken within existing statutory authorities. The \$15.0 million requested in this account will be used for the Environmental Water Account and for costs associated with administrative support of the CALFED Program, which includes planning and management activities provided by Reclamation and through CALFED Program staff. Funds provided will also be used to continue work on ongoing studies addressing water storage needs.

#### OTHER ACCOUNTS

The request for Policy and Administration (P&A) is \$66.2 million, including \$11.3 million for the Civil Service Retirement System and Federal Employees Health Benefits Program Administration's Proposal. P&A funds will be used to develop and implement Reclamation-wide policy, rules, and regulations (including actions under the Government Performance and Results Act), and to perform functions which cannot be charged to specific project or program activities covered by separate funding authority. These funds support general administrative and management functions.

No funding has been requested for fiscal year 2003 for the Loan Program. The three projects currently underway will be completed in 2002. In addition, no funding is requested for loan program administration.

## FISCAL YEAR 2001–2002 ACCOMPLISHMENTS HIGHLIGHTS

While we have set our priorities for the future, we are very proud of the part Reclamation has played in the past, and I would like to mention some recent accomplishments.

In fiscal year 2001, Reclamation implemented interim surplus guidelines to help California with its water use reduction efforts. The guidelines provide specific criteria for determining the availability of surplus Colorado River water for Nevada, Arizona, and California as part of the Annual Operating Plan for the river. From water year 2002 through 2016, the guidelines ensure California receives much-needed Colorado River supplies for urban populations in its southern coastal areas, while California concurrently implements programs to reduce its overuse of the river. The guidelines also provide additional water for other urban areas in Nevada and Arizona. Implementing these guidelines will improve overall management of the Colorado River for the benefit of all river users.

Working with the Arizona Water Banking Authority, Central Arizona Water Conservation District, Southern Nevada Water Authority, and Colorado River Commission of Nevada, Reclamation developed a “Storage and Interstate Release Agreement” that will improve water management in the Lower Colorado River Basin. The agreement was made possible by a 1999 rule that established procedures for interstate transfer and use of Colorado River water. The agreement will allow Nevada to store portions of its unused Colorado River water in Arizona groundwater aquifers and specifies the exchange process for storing this water in Arizona for later retrieval by Nevada.

Reclamation continued to participate in efforts to settle complex water issues in Arizona. Working with Congressional representative; and State, local, and Federal entities; Reclamation helped negotiate issues related to water contracts with non-Indians and water rights claims of area Indian tribes. The issues included settling the Central Arizona Project repayment contract and related operation and maintenance issues through an agreed-upon “Stipulation Regarding a Stay of Litigation” between the United States and the Central Arizona Water Conservation District, a water rights settlement for the Gila River Indian Community, a final amendment to the Southern Arizona Water Rights Settlement Act of 1982, and a final allocation of Central Arizona Project water to Arizona cities and Indian tribes. Agreements developed from these negotiations would require legislation to be fully implemented.

After a long and complex planning and development process, Reclamation completed an environmental report on the Northwest Area Water Supply Project and released it to interested parties, including the Canadian Government, during fiscal year 2001. The Northwest Area Water Supply Project is a municipal, rural, and industrial water supply system designed to serve a 10-county area in northwestern North Dakota. It was authorized by the Garrison Diversion Unit Reformulation Act of 1986 (Public Law 99–294). Under the project, raw water would be drawn from either Lake Sakakawea or Lake Audubon, disinfected, and pumped to the Minot water treatment plant through buried pipeline. The Minot water treatment plant would then treat the water to meet drinking water standards before distributing it in the project service area. Before the project could move forward, this compliance report was necessary to ensure water treatment meets the requirements of the Boundary Waters Treaty of 1909.

*Safety of Dams.*—In fiscal year 2001, Reclamation completed Safety of Dams modifications at two dams, Salmon Lake (Washington) and Casitas (California). Studies on Horsetooth were completed in fiscal year 2000. The first major contract at the Horsetooth Reservoir Dams, which provide municipal and industrial water to some of the fastest growing communities in the West, was awarded in fiscal year 2001. The Modification (MOD) Report for Horsetooth was approved in the first quarter of fiscal year 2001.

*Drought.*—Reclamation’s Drought Emergency Assistance Program assists States and local entities throughout the West in coping with emergency water shortages. Reclamation provided emergency assistance through the acquisition of water to mitigate impacts to fish and wildlife resulting from prolonged drought conditions in New Mexico on the Rio Grande. Reclamation provided emergency assistance to the tribes by procuring portable pumps and generators to pump water from existing wells when the water table dropped due to drought. Reclamation also provided emergency drought assistance to several states and tribes through actions such as well repair and drilling.

*Water Conservation and Recycling.*—Reclamation’s Water Conservation Field Services Program has provided assistance to hundreds of local water districts in four key areas: planning, education, demonstration, and implementation. In specific instances, Reclamation assisted 209 water districts with water conservation planning.

Reclamation formed a cooperative cost-sharing partnership with 11 southern California water and wastewater agencies under the Southern California Water Recycling Projects Initiative.

In response to Biological Opinions, Reclamation worked to improve habitat and flows for endangered fish at its facilities throughout the West. It also continued its program to control the salinity of the Colorado River. The salinity program, including those projects constructed before 1995, is estimated to prevent about 550,000 tons of salt per year from entering the Colorado River. Reclamation helped the Navajo Department of Water Resources develop and complete a resource management plan addressing the Navajo Nation's projected water requirements and water resource infrastructure deficiencies. It provided several Native American Pueblos with technical or financial water management-related assistance through various programs including water needs assessments, new pumps and other infrastructure, water measurement structures, and automation of flow structures.

#### CONCLUSION

This completes my statement. Please allow me to express my sincere appreciation for the continued support that this Committee has provided Reclamation. I would be happy to answer any questions you may have at this time.

Senator DOMENICI. Thank you very much, Mr. Keys. Are you enjoying the job?

Mr. KEYS. Sir, so far so good.

Senator DOMENICI. I am not sure you would tell me here publicly if you did not.

Mr. KEYS. That is right.

Senator DOMENICI. After I asked the question, I wondered if I should. But you do look kind of happy, so things are going all right?

Mr. KEYS. Yes, sir. I will tell you, we face a hard year in the West because a lot of our areas, including yours and Mr. Burns, are starting out the year short of water. So it could be a hard one coming, but the budget that we have presented is a good one. We think it gives us what we need to get the job done this year.

#### CENTRAL UTAH PROJECT

Senator DOMENICI. Thank you very much.

Mr. RALEY. Mr. Chairman, if I could ask Mr. Johnston to address the Central Utah Project, and before I do that I want to make sure that when I was listing some of the numbers, including monies for dam safety, I was focusing on increases. I did not want there to be an appearance of inconsistency between the numbers that Mr. Keys and I gave.

Senator DOMENICI. Fine.

#### STATEMENT OF RONALD JOHNSTON

Mr. JOHNSTON. Thank you, Mr. Chairman. I am pleased to be here today to testify in support of the President's 2003 budget for the implementation of the Central Utah Project. This budget provides \$36.2 million for the implementation and continued construction of this project.

I would like to ask that my statement be entered for the record.

Senator DOMENICI. It will be admitted in the record.

Mr. JOHNSTON. Thank you. I have just one item that I would like to point out. This request includes \$12 million for use by the Central Utah Water Conservancy District to continue the modified construction of the Diamond Fork system. The funding will be used to

close off a portion of the tunnel where we have had an unforeseen cave-in and have experienced some hydrogen sulfide gas.

PREPARED STATEMENT

We are developing a plan for the construction of alternative facilities and are preparing cost estimates for this work. We will communicate this information to you when we have a firm estimate.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF RONALD JOHNSTON

My name is Ronald Johnston. I serve as the Program Director for implementation of the Central Utah Project Completion Act under the direction of the Assistant Secretary—Water and Science in the Department of the Interior. I am pleased to provide the following information about the President's fiscal year 2003 budget for implementation of the Central Utah Project Completion Act.

The Central Utah Project Completion Act, Titles II–VI of Public Law 102–575, provides for completion of the Central Utah Project (CUP) by the Central Utah Water Conservancy District. The Act also authorizes funding for fish, wildlife, and recreation mitigation and conservation; establishes an account in the Treasury for deposit of these funds and other contributions; establishes the Utah Reclamation Mitigation and Conservation Commission to coordinate mitigation and conservation activities; and provides for the Ute Indian Water Rights Settlement.

The Act provides that the Secretary may not delegate his responsibilities under the Act to the Bureau of Reclamation. As a result, the Department has established an office in Provo, Utah, with a Program Director to provide oversight, review, and liaison with the District, the Commission, and the Ute Indian Tribe, and to assist in administering the responsibilities of the Secretary under the Act.

The fiscal year 2003 request for the Central Utah Project Completion Account provides \$36.2 million for use by the District, the Commission, and the Department to implement Titles II–IV of the Act, which is the same as the fiscal year 2002 enacted level. The request includes \$11.0 million for the District to implement approved water conservation and water management improvement projects, and develop planning and NEPA documents on facilities to deliver water in the Utah Lake drainage basin.

The request includes \$12.0 million for use by the District to continue the modified construction of the Diamond Fork System. This funding will be used to close off a section of the original tunnel that experienced an unforeseen cave-in resulting in dangerous levels of hydrogen sulfide gas. A plan is being developed for the construction alternative facilities. We are preparing cost estimates for this work and will communicate this information to you as soon as a firm estimate is available.

The funds requested for the Mitigation Commission (\$11.3 million) will be used in implementing the fish, wildlife, and recreation mitigation and conservation projects authorized in Title III (\$9.7 million); and in completing mitigation measures committed to in pre-1992 Bureau of Reclamation planning documents (\$1.6 million). Title III activities funded in fiscal year 2003 include the Provo River Restoration Project; acquisition of habitat, access, and water rights; and fish hatchery improvements. Finally, the request includes \$1.9 million for the Program Office for mitigation and conservation projects outside the State of Utah (\$0.3 million); operation and maintenance costs associated with instream flows and fish hatchery facilities (\$0.3 million); and for program administration (\$1.3 million).

In addition to the request described above, the Bureau of Indian Affairs' budget includes \$24.7 million for the Ute Indian Water Rights Settlement.

Senator DOMENICI. Thank you very much, your statement is in the record.

Mr. RALEY. Thank you, Mr. Chairman. We are available to answer any questions that you or Members of the Committee may have.

Senator DOMENICI. Thank you very much. Senator Burns, would you like to lead off and ask your questions? I have to stay here for a little while and see if Senator Reid comes, so why don't you go ahead and proceed.

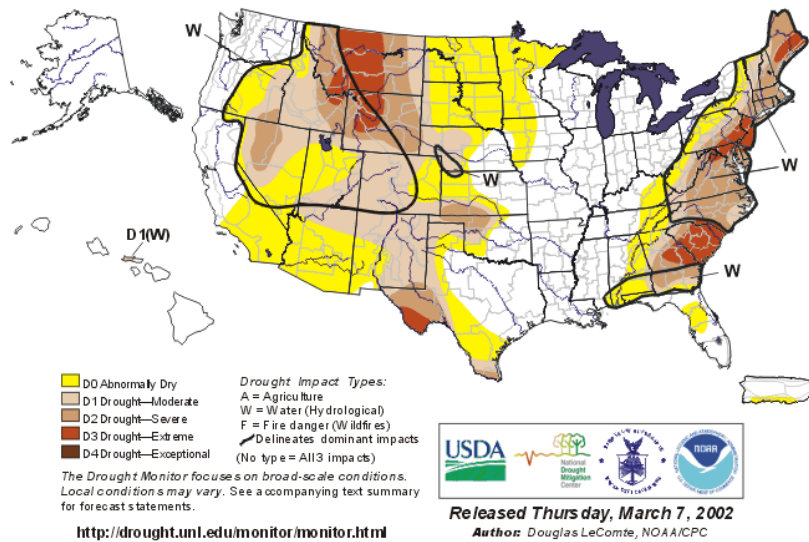
## STATEMENT OF SENATOR CONRAD BURNS

Senator BURNS. Thank you, Mr. Chairman. I appreciate that. When I said a while ago, we can handle our whiskey, it is the water. We are not getting water.

I want to put in the record, Mr. Chairman, a U.S. Drought Monitor as of March the 5th of this year.

[The information follows:]

## U.S. Drought Monitor March 5, 2002 Valid 8 a.m. EST



## NATIONAL DROUGHT SUMMARY

*The East.*—A storm brought 1 to 2 inches of rain to drought areas along the Eastern Seaboard on March 2–3, offering some respite from the persistent dry weather that has dominated the region since autumn. Although the rain was beneficial, it was not sufficient to significantly alter the overall drought picture, allowing extreme (D3) drought to continue over Maine, the mid-Atlantic from New Jersey to northern Virginia, and the Southeast from South Carolina to eastern Georgia. The biggest improvement took place in southern Georgia and northern Florida, where amounts of 4 inches or more eliminated dryness in most of northern Florida and caused D1 and D2 drought to recede in southern Georgia. The heavy rains in southern Georgia and southern Alabama resulted in these areas being placed in the W category, indicating that the dominant impact at this time is to water supplies, the recent moisture having eased agriculture and fire concerns for the time being. The drought in the mid-Atlantic and Northeast remains mostly a hydrological drought, with impacts on ponds, lakes, rivers, wells, and reservoirs. However, there are a variety of other effects from the drought, including long-term impacts on vegetation and trees. According to preliminary data, the Northeast experienced the second driest September-February in 107 years of record. The 12 months ending in February were the driest on record in Maine. New Jersey, Delaware, and Maryland reported the driest February on record.

*The Plains and Midwest.*—The early-March storm had little impact on dryness in this region, as the heaviest snow and rain mostly fell in areas not experiencing abnormal dryness. D0 dryness continued in the northern Plains, with severe to extreme drought persisting in southwest Texas. D1 drought intensified to D2 drought in extreme southern Texas. Drought also intensified to D2 levels in western Oklahoma and southwest Kansas.

*The West.*—Little rain or snow fell this week across most of the region, resulting in little change to the drought depiction. Heavy snow in parts of Colorado failed to alter the D0 to D1 conditions there. Updated snowpack measurements prompted an improvement to D1 drought in southwestern Idaho. Severe to extreme drought continued from Montana into Wyoming.

*Hawaii and Puerto Rico.*—D1 drought continued in western Molokai and D0 dryness remained in southern Puerto Rico.

*Looking Ahead.*—Weather features to watch in the next 2 weeks that may affect areas experiencing dryness include: (1) another powerful storm crossing the nation on Friday-Sunday March 8–10 bringing 0.5 to over 1 inch of additional rain to the Eastern Seaboard and up to around 0.5 inches of equivalent liquid precipitation to the northern Plains, with variable snowfall amounts in Colorado; (2) above-normal rain and snow over the Northwest; and (3) generally below-normal precipitation over the southern Plains and Southwest.

#### OFFSTREAM STORAGE

Senator BURNS. This is really giving us a lot of pause, especially where now it looks like we may have a somewhat larger runoff in the western mountains now, John. I think what we have been through in the last 3 years, we had better refocus now on offstream storage and start building some ways to hold some of that spring runoff for use later on.

I would tell you that the offstream storage off the Muskshell River is dry. The Muskshell River is dry. You can walk across it. You can walk across the Yellowstone River anywhere above the mouth of the Big Horn River and never get your knees wet. So we are going into our fourth year of severe drought in that part of the country.

Last year this committee directed \$350,000 for a study to help the North Central Water Project in Montana to complete its work needed to prepare for the authorization and construction of that project. Right now BOR has said they will not release that money until they have authorization.

I would hold up as an example of Dry Prairie where we had to re-engineer, reengineer, reengineer to get the specs within the BOR and the authority goal that is going to be overseeing that project. And we spent a lot of dollars needlessly.

I just want some kind of a commitment from the BOR that we can release that \$350,000 for a study up there on the North Central Project so that we do not make the same mistakes and waste a lot of dollars and time before that project is ready to go. I would like some assurance from your office that you would work with us on that.

Mr. KEYS. Mr. Chairman, Mr. Burns, certainly we will do that. We are working closely with those folks. It appears that we can have that work done and release that money this year.

Senator BURNS. That is good news because we need to get that done so that we do not make mistakes later on. Now, when I first come to this body and we were also in a drought year up there, on the books was several studies that had not been done and I do not think they would apply today. But nonetheless, I think we ought to start looking at offstream storage along the Yellowstone River.

There were a couple of sites that was studied. It was very positive at that time. We are going to come to you and ask for some technical help and also to refocus on what we can do with offstream storage. Because not only are we in a position out there

of protecting instream flows and for irrigation and a host of other things and municipal use along the Yellowstone River.

We know how to conserve now a little bit better, as far as agriculture is concerned. We have been working on that a lot. But I still think that we are going to have to figure out some way to hold some of that water in my State in order to ensure that we have instream flows, because I know the stress last year on the Yellowstone was terrific. I mean, it was just beyond acceptable to either the sports fishermen or to the riparian and the damage that was done by low stream flow on the Yellowstone.

So I am sure that we have areas up there where we can store water, and even maybe under gravity conditions. I hear all of that money going to California and I remember that California water fight from the early 1990s. We did it wrong then, so let us not do it wrong again if we can possibly help it.

So I would just like some assurances from your office that we would take a look at the Yellowstone. Let us take a look and revive some of these plans that we know that would be beneficial, not only to the water users, but also to what we can do to improve the environment along the Yellowstone River.

Mr. RALEY. Mr. Chairman, Mr. Burns, we will come to your office and sit down and see where we get started. And then I can direct my folks in the field to work with those local folks there, looking at getting the authority we need on the North Central Montana Water Supply. We will do that this year.

#### STATE OF MONTANA

Senator BURNS. We also have a situation up on Fort Pack, with cabin owners up there. I would like to bring that to a close, if I could. And even on Canyon Ferry, because we know that we have to find out how to manage the Canyon Ferry thing, being as the Bureau of Land Management has now walked away from that contract. I think it is in your lap now. We need to talk about those things, too.

But these are projects and ideas of BOR that I think is going to take us a little sit down, I will either come to your office or you can come to mine, it does not make any difference. That is a two-way street. And we can take care of some of these key situations that have been pushed back and pushed back for too long. We need to move forward on some of these projects.

And we want to do it in a way that is in concert with what your planning is and your plans, but also we just have—I love your statements that you are going to get results rather than process. But I will tell you, there have been times the BOR has not been as responsive as they could have been to some of the things that is going on in the State of Montana.

Mr. Chairman, that is all I have. Other than that, I am going to support them.

Senator DOMENICI. Thank you very much. Are you going to be here this weekend? Are you going home?

Senator BURNS. I was supposed to take one of my great trips this weekend, and guess what?

Senator DOMENICI. Cancelled.

Senator BURNS. Yes, my wife. We know what endangered species is, we know what a threatened species is. In the Ag bill now we have got a sensitive species. I found out what that was.

Senator DOMENICI. Sensitive species?

Senator BURNS. Yes, my wife.

Senator DOMENICI. Well, we hope you do not have a negative on her in the Ag bill. She is a mighty fine lady.

We are going to proceed now, assuming that Senator Reid will be along shortly. Some of these are very parochial, some are not.

#### WATER RIGHTS SETTLEMENTS FOR NATIVE AMERICANS

Mr. Keys, there seems to be an increasing trend for the Bureau of Reclamation being the Federal agency charged with carrying out the Federal obligation to water rights settlements of Native Americans. Can you tell me how this changes the mission of the Bureau, or does it?

Mr. RALEY. Mr. Chairman, we work very closely with the Secretary in those water right settlements and, in a number of cases, they have called upon us to work with them on water projects to help with those settlements. And we stand ready to do that.

Senator DOMENICI. So what has been the impact of the Bureau's recent water rights settlements?

Mr. KEYS. Mr. Chairman, at times they have called upon us for large projects. Of course, they take money. So far we have been able to work them into our budget and meet the requirements and it has not had a damaging effect on our budget.

Senator DOMENICI. Obviously, the question is raised for a number of reasons, but clearly these come about in a manner that frequently do not permit you to put them into a budget. I think it is very important that you start looking ahead with people who are planning these events. They do not come out of a rock either. They have been around a long time. It is just that you cannot say in your budget it will settle September 15 and we need the money 4 months later. It does not happen that way.

But my recommendation is that you do everything you can to be informed so that you are asking us for something for settlements if, in fact, it seems imperative that you are going to need it, so you do not have to bleed other programs when that occurs. There will be a lot more coming along. You probably are aware of that. There are some in the pipeline. They are going to happen soon.

Mr. RALEY. Senator, from the Secretary's perspective, we very much want to work with you and the rest of the Executive Branch to do that sort of planning. From the very beginning, Secretary Norton has asked us all to be sensitive to that issue and to look down the road so that we can address the fiscal impacts which are typically associated with Indian water rights settlements at the earliest time that a settlement appears to be ripe.

As we all know, many of them take decades to get to a place where they are ready to be done. We have identified several that are potential and are watching them closely and are going to provide whatever support is appropriate, including the financial planning so that we can fulfill this important aspect of the Department's responsibility.



## TITLE XVI

Senator DOMENICI. Let me move along. Title XVI programs, your budget request for Title XVI projects is \$17.75 million. That is down from last year where it was about \$36 million, almost half. Commissioner Keys, will you tell the committee briefly what impact this level of funding is going to have on the Title XVI programs? And let me just close by asking you if you will provide us with the current status of the program? We would like that to supplement your answer.

Mr. KEYS. Mr. Chairman, we will certainly provide that. The request that we have put in this year is actually very close to the request that we put in last year. Certainly, the amount funded was more, but it accomplishes what we are trying to do.

There are a number of those programs that were funded in year's past that are not part of our fiscal year 2003, and there are good reasons for a lot of those. A lot of them are finishing up, and some of them have carryover monies to cover. In the summary that we will provide to you, we will cover why some of those were not funded.

[The information follows:]

## AMOUNT NEEDED TO COMPLETE FUNDING FOR TITLE XVI PROGRAM

According to the latest information and estimates, and taking into account the funds available this year, approximately \$329.9 million would be required to complete the Federal funding for the following projects that will be still ongoing after fiscal year 2002.

Project	Total project cost	Total Federal cost	Funds available thru fiscal year 2002	Balance needed to complete project
Los Angeles Area, CA .....	\$316,412	\$69,970	\$69,970	\$0
San Gabriel Basin, CA .....	152,360	38,090	28,122	9,968
San Diego Area, CA .....	690,360	172,590	64,246	108,344
Port Hueneme Demo, CA .....	15,310	4,000	4,000	0
North San Diego Area, CA .....	84,857	20,000	8,482	11,518
Calleguas MWD, CA .....	100,205	20,000	3,578	16,422
Orange County, CA .....	355,910	20,000	6,038	13,962
Mission Basin, CA .....	9,070	2,268	2,268	0
Long Beach Area, CA .....	61,656	15,414	5,083	10,331
Long Beach Demo, CA <sup>1</sup> .....	40,000	20,000	937	19,063
Albuquerque Metro, NM .....	44,700	11,175	11,175	0
El Paso, TX .....	33,311	8,328	7,133	1,195
Watsonville, CA .....	80,000	20,000	200	19,800
San Jose, CA .....	480,000	109,900	20,000	89,900
Southern Nevada .....	130,800	20,000	6,737	13,263
Las Vegas Desal, NV .....	1,200	300	300	0
Phoenix Metro, AZ .....	80,000	20,000	525	19,475
Tooele, UT .....	15,486	3,828	3,828	0
Salem, OR .....	30,000	7,500	200	7,300
Totals .....	2,721,637	583,363	242,822	340,541

<sup>1</sup> Assumes 50 percent Federal share.

Note: Federal participation in LA, Port Hueneme, Tooele, and Mission Basin is essentially complete. Although there is no balance to complete for the Las Vegas Desalination and the Albuquerque Metro, they can still be counted as on-going.

## MIDDLE RIO GRANDE PROJECT

Senator DOMENICI. Let me jump over to the Middle Rio Grande Project. \$15.4 million is requested for this project this fiscal year. I commend the Bureau for its efforts to help with reference to the

recovery of the silvery minnow and the willow flag patch in cooperation with the environmental study group that is working out there.

Can you provide us, for the record, an update of the Bureau's effort with regard to the minnows?

Mr. KEYS. Mr. Chairman, we can certainly do that.  
[The information follows:]

#### SILVERY MINNOW

Ongoing population monitoring showed an increase in relative abundance and distribution of minnows in 2001 compared to similar data from 2000. Fall 2001 sampling indicates stable minnow populations despite occasional river drying.

The State of New Mexico and the United States signed a Conservation Water Agreement on June 29, 2001, to provide up to 30,000 acre-feet of water for each of the 2001-2003 water years for the benefit of the silvery minnow. Conservation water has been released to augment river flow since March. The supplemental flows consider drying as early as June, but will try to maintain continuous flow through May.

A hearing on the merits of the Minnow v. Keys case was held in November 2001. Parties are currently awaiting the final ruling of the Federal Court.

The ESA Work Group is developing a Cooperative Agreement, a long-term strategy document, and draft authorizing legislation that will fully describe the Collaborative Program and address the authorities and appropriations necessary to accomplish the Program. The Work Group is currently preparing an Interim MOU as part of the implementation of an Interim Strategy to meet Work Group and congressional needs to formalize the Collaborative Program, secure Program funding, comply with environmental regulations, and fulfill Federal trust responsibilities.

Mr. KEYS. I would add that the collaborative program is being developed. It worked very well in 2001. The early forecasts for that basin are still very poor on runoff, and we are working early to try to be sure that that collaborative process gives us the result in 2002 that we had in 2001.

The report on the collaborative program that the committee requested last year is in the process and should be available within this month.

Mr. RALEY. Senator, I can also assure you that the Middle Rio Grande has been identified at the departmental level as an area that requires and deserves special attention. We have many priorities, but that is among the top.

Senator DOMENICI. There is no question that this drought monitor does not permit you all to leave here with any less concern about the Middle Rio Grande Basin and the Pecos, with New Mexico having the most drought area, severe drought, that is on this map. It shows us having it worse than anyone. So we are back in. This last year was not so bad, but before that, you were not in your positions, but it was pretty bad.

#### RIO GRANDE

Is the Bureau of Reclamation's ability to comply with the requirements of a biological opinion regarding the Rio Grande and the commitments that were made in the litigation? Can that be done with the money that you put in the Rio Grande?

Mr. KEYS. Mr. Chairman, we feel it can be done. We feel the fiscal year 2002 and 2003 budgets give us that money.

Senator DOMENICI. In a State like ours, when we look out there, our two major river basins, the Rio Grande and the Pecos, there are very big problems on each one. Obviously, there is going to be

far more claimants to the water than there is water for the claimants. That is what makes the endangered species such a difficult issue. In a sense, the species comes along and with a river that is almost all allocated, you put it down in the river and say here is something as big as maybe a city like Albuquerque needs. It is brand new but it is going to take first priority.

That is where we run into some very difficult situations. I appreciate working together on the issues and you staying on top of it and know a lot about the court suits that are involved.

#### DESALINIZATION

But we also think that maybe we should proceed with desalinization since there is such an abundance of saline water in New Mexico, a huge basin. So I have introduced a bill, Senate Bill 1309, which authorizes water desalinization and the construction of a research facility in the Tularosa Basin of New Mexico. In the 2002 energy and water appropriations bill, \$1 million was given to the Bureau to complete a study to determine the most effective and efficient manner to develop a technology progress plan to be used in the development of a desalinization research facility. What is the status of the project which I have just indicated was funded? And will you continue to do what you can to support this effort?

Mr. KEYS. Mr. Chairman, the project that was funded last year is well underway, and we are on schedule with all of the activities on the Desalinization Act. The Administration is currently working with you and your folks for that reauthorization that is due this year.

The report is due to Congress in October, but we actually have a draft scheduled to be here in June. So we are even a little ahead of schedule on that report on desalinization.

Senator DOMENICI. Are you looking everywhere in the technology, applied technology, on desalinization wherever it is occurring in the world? Are we taking advantage of that so that in that report we are using the best and highest technology that might be available if we were to proceed?

Mr. KEYS. Mr. Chairman, absolutely. We are working closely with the Sandia Lab on new technology. Just this past late fall, early winter, we had people in Israel working with them on their stuff. We are currently working with a new technology in California where they may actually use it in Long Beach.

So yes, we are doing that. And we hope that the report, when it comes to you in October, will give us a wide range of desal technologies that we can use.

Senator DOMENICI. Thank you very much. We look forward to that with great optimism.

#### ANIMAS-LAPLATA

The Animas-LaPlata, we have already heard testimony from the Administration on that. Can you provide us with an update on the Animas-LaPlata Project? And I want to ask again now, is the \$33 million enough to keep the project on schedule and in compliance with the Ute Water Rights Settlement Act?

Mr. KEYS. Mr. Chairman, yes, we will provide you an update. Our current analysis shows that the \$33 million is what is nec-

essary to keep us going and meet those obligations to the tribe there.

Senator DOMENICI. The cultural resource activities, can you tell me what cultural resource activities the Bureau will be carrying out and how much you are providing for this effort? And are these funds requested for tribal development? Are there funds for tribal development? If you could tell me how much is being requested by the Bureau with reference to that purpose, also.

Mr. KEYS. Mr. Chairman, in the year 2002 we have \$16 million total and in 2003, we have \$33 million. We are working closely with the tribe there, for them to actually do the cultural resource work. There is about \$8 million in the BIA's 2003 budget for a trust fund that is requested by that authority, or by the Act.

Senator DOMENICI. Is this your budget man?

Mr. KEYS. Yes, sir, it is.

Senator DOMENICI. On Animas-LaPlata, could you tell us—and let the record show that Robert Wolf is answering this question. Could you tell us, on Animas-LaPlata, how do you have this scheduled in terms of the out years? Or maybe you want to do that yourself, Mr. Keys?

Mr. KEYS. Mr. Chairman, I think we can both do it. The original act asks that all of the appropriations be made in 5 years, with a 7 year construction period. 2002 was the first of the funding years with \$16 million, and with \$33 million in 2003. That leaves about \$200 million to be funded in the out years.

If you would like more detail, I could certainly have Mr. Wolf address that.

Senator DOMENICI. Maybe you can supply us with a supplement to that answer which shows the actual flow over 5 years, and the construction as it will proceed.

Mr. KEYS. We will be glad to do that.

[The information follows:]

ANIMAS LA-PLATA UPPER COLORADO REGION—7 YEAR SPENDING AND 5 YEAR APPROPRIATIONS  
SCHEDULE  
[In Millions of Dollars]

Fiscal year	Year	FSEIS Estimate Inflation Indexed 7 Year Spending	5 Year Appropriation Inflation Indexed
Sunk .....		79.4	79.4
2002 .....	1	16	16
2003 .....	2	33	33
2004 .....	3	63.3	82.1
2005 .....	4	65.9	68.4
2006 .....	5	67.2	63.4
2007 .....	6	16.4	0
2008 .....	7	1.1	0
Total .....	7	342.3	342.3

The table shows the inflation-indexed estimated spending for the 7 year schedule presented in the Final Supplement to the Environmental Impact Statement (FSEIS). It also shows the funds required according to the 5 year appropriations schedule set in the authorizing legislation.

The construction contracts for the major features of the project are scheduled as follows:

Ridges Basin Dam and Reservoir would begin in fiscal year 2003 and end in fiscal year 2007

Durango Pumping Plant would begin in fiscal year 2004 and end in fiscal year 2007

Ridges Basin Inlet Conduit would begin in fiscal year 2005 and end in fiscal year 2006

Navajo Nation Municipal Pipeline would begin in fiscal year 2005 and end in fiscal year 2007.

#### PECOS RIVER BASIN

Senator DOMENICI. Pecos River Basin, this is another one in the State of New Mexico. We have a water salvage project. This is the other river in New Mexico that is in a very, very precarious position. The thing that makes it most difficult is that you follow literally the Supreme Court's decision with reference to that river and what we owe to Texas, the problem that is going to come along is Texas is beefing up its legal counsel and lawyer activities with reference to this. They may be in a position to force us to release some more water and do some real damage in the basin.

So last year's budget request had money in for this. The fiscal year 2002 appropriation provided additional funding to maintain what I think is a good project, the eradication of water-using salt cedar. In 2003 the budget request again reduces the amount. Can you give us the rationale which led to reducing the project level on this collaborative project? Whoever wants to do that.

Mr. KEYS. Mr. Chairman, the work there, of course, is to try to get a handle on salt cedar and some ways to control it, because it is using a lot of water there.

In the fiscal year 2002 budget we had \$175,000, and that was matched by the State. This year our funding is down some, because of the emphasis that we have with our folks there. That is as much as we could do, but we are certainly working very closely with them.

Senator DOMENICI. So this is not one where you would be saying in the record that you have the money that you can use. You can use more than that, you just did not have it. Is that a fair assessment?

Mr. KEYS. Mr. Chairman, we would be willing to work with the folks there in the Pecos River to work on the salt cedar program.

Senator DOMENICI. Do you agree that, considering the precarious nature, that that is a pretty good program?

Mr. KEYS. Mr. Chairman, we absolutely agree with that.

#### CARLSBAD PROJECT

Senator DOMENICI. Is the Bureau working with us in New Mexico and the beneficiaries of the Carlsbad Project to prevent under-delivery of water to the State of Texas? Are you all involved in that professionally and as experts?

Mr. KEYS. Mr. Chairman, we are working very closely with the State engineers of both of those States. To be very candid, we are trying to stay away from being in between them right now.

Senator DOMENICI. I am going to ask one more and then yield to the Chairman. I have about seven or eight more, Mr. Chairman, but I will surely go after you.

Senator REID. Please, go ahead.

## MIDDLE RIO GRANDE CONSERVATION DISTRICT

Senator DOMENICI. Middle Rio Grande Conservancy District, again in the basin in Albuquerque, the Rio Grande. Last year we put language in the emergency supplemental allowing the Bureau to accept payment from the Middle Rio Grande Conservancy District on their repayment contract. With what is the status of this transaction? And has the Bureau taken advantage of this?

Mr. KEYS. Mr. Chairman, I am not sure where it stands right now, and we would certainly provide that for the record.

Senator DOMENICI. Will you? We really believe that the Federal Government, operating through you, it looks kind of silly when they will not accept money to prepay a loan. To me that is rather suspicious. It is sort of like the Bureau does not want to put itself in a position where they have to comply with whatever the rights or obligations are if the loan is fully paid. I do not want to be part of that, and I hope you do not. But in any event, Congress has told you not to by saying to accept the money.

So would you tell us how that is being carried out in an answer to the record?

Mr. KEYS. Mr. Chairman, we will do that. We have every intention of completing it. I just do not know where it stands right now.

Senator DOMENICI. Mr. Chairman, perhaps you should proceed. I may have some additional questions, I may not.

[The information follows:]

## MIDDLE RIO GRANDE PAYMENT

Public Law 107-20, dated July 24, 2001, authorized acceptance of final payment by the Middle Rio Grande Conservancy District for the San Juan Chama Project. On August 9, 2001 final payment of \$2,417,500 was received by Reclamation.

## STATEMENT OF SENATOR HARRY REID

Senator REID. Senator Domenici, let me first of all say how much I appreciate your handing this situation today, taking over the committee. We always hear so much from Washington about all the partisanship, and there is a lot of it and too much of it, I am sure. But the things we do not hear much about are the friendships that develop.

It is not often that you would think that someone who is a member of Republican party would notify his counterpart on the committee the night before and say, "I am going to be tied up on the Senate floor, will you go ahead and start the hearing?" And of course, this is the relationship that Senator Domenici and I have developed over all these many years.

In addition to our trying to do the very best we can with \$22 billion a year for some of the most important programs this country has, we do our best there. But we also try to be civil in the process to each other. The staffs get along well. And so I say to you, I appreciate very much you stepping in here this morning, Senator Domenici.

Senator DOMENICI. Thank you very much.

Senator REID. I think it indicates the absolute trust that we have for one another.

I also appreciate your being here. One of the things that we try to avoid as much as we can is having you folks, who have so many

important things to do working for our Government, waste your time sitting around here for us to come. So that is why Senator Domenici filling in here took away a little of the guilt that I had having had this meeting set at 10 o'clock, right in the midst of things we were trying to do on the Senate floor. So thank you for your patience.

#### PREPARED STATEMENTS

The OMB approved testimony for the Office of Assistant Secretary of the Army for Civil Works, in testimony for the Chief of Engineers, will be placed in the record as if given.

[The statements follow:]

#### PREPARED STATEMENT OF THE DEPARTMENT OF THE ARMY

##### ARMY CIVIL WORKS PROGRAM FOR FISCAL YEAR 2003

The President's fiscal year 2003 budget confronts a two-front war against terrorism while taking steps to restore economic growth. In order to finance the war against terrorism it moderates spending in the rest of government. This year's budget also takes the significant step of assessing performance in government, and begins to tie what works and doesn't work to spending decisions. This will help ensure that government programs that fail to achieve their purpose can be held accountable and, perhaps, be reformed or ended as a consequence.

The fiscal year 2003 budget for Army Civil Works provides funding to continue the development and restoration of the Nation's water and related resources, the operation and maintenance of existing navigation, flood damage reduction, and multiple-purpose projects, the protection of the Nation's regulated waters and wetlands, and the cleanup of sites contaminated as a result of the Nation's early efforts to develop atomic weapons. The budget includes new appropriations of \$4.29 billion. The new appropriations are expected to result in fiscal year 2003 outlays of approximately \$4.47 billion.

Three legislative initiatives support the fiscal year 2003 Army Civil Works budget. First, the Administration is proposing government-wide legislation under which the full costs for Federal retirees will be allocated to agency programs instead of the Office of Personnel Management. Under this proposal, \$115 million of the \$4.29 billion represents retiree costs not previously borne by the Army Civil Works program.

Second, the Administration is proposing legislation under which three Federal power marketing administrations will finance hydropower operation and maintenance costs directly, in a manner similar to the mechanism currently used by the Bonneville Power Administration in the Pacific Northwest. This proposal is described below in greater detail.

Third, the Administration is proposing legislation to increase fees at Corps of Engineers lakes and recreation areas and to extend the existing recreation fee demonstration program. This proposal also is described below in greater detail.

The new appropriations, including new funding for retiree costs, will derive an estimated \$3.258 billion from the general fund, \$764 million from the Harbor Maintenance Trust Fund, \$85 million from the Inland Waterways Trust Fund, \$34 million from Special Recreation User Fees, and \$149 million from three Federal power marketing administrations for hydropower operation and maintenance costs.

Other program funding is estimated at \$464 million. This total includes \$118 million transferred from the Bonneville Power Administration for operation and maintenance of hydropower facilities in the Pacific Northwest and \$272 million contributed by non-Federal interests.

The budget represents an increase from the fiscal year 2002 budget of 7 percent and a decrease from fiscal year 2002 appropriations of 7 percent, including adjustments for the new retiree costs and excluding emergency supplemental appropriations and inflation adjustments.

#### PROGRAM HIGHLIGHTS

##### *Priority Missions*

The budget gives priority to ongoing studies, projects and programs that provide substantial benefits under the principal missions of the Civil Works program, which are commercial navigation, flood damage reduction (including coastal storm and

hurricane damage reduction), and environmental restoration. No funds are provided for studies and projects that carry out non-traditional missions that in the view of the Administration should remain the responsibility of non-Federal interests or other Federal agencies, such as wastewater treatment, and municipal and industrial water supply treatment and distribution. In addition, the budget does not fund individual studies and projects that are inconsistent with established policies governing the applicable missions.

*Emphasis on Ongoing, Budgeted Construction Projects*

The Corps estimates that the balance of funding needed to complete all active construction projects and authorized and unauthorized projects in preconstruction engineering and design is about \$44 billion. Of this, about \$21 billion is necessary to complete the flood control, navigation and environmental restoration projects funded in the budget in the Corps' Construction, General program. This represents 12 years of funding at the level enacted in fiscal year 2002 just to finish funding ongoing Construction, General projects supported in the budget.

More projects have been started than can be prosecuted efficiently, given the limitations on available funding. The budget directs funding to ongoing projects that have been determined to be consistent with policy, in order to quickly realize the benefits that those projects are designed to provide.

*Shore Protection*

The budget treats projects to protect coastal structures from hurricane and storm damage on a par with other types of flood damage reduction projects. The Administration continues to be concerned about the appropriate level of non-Federal cost sharing for shore protection projects, and is considering proposing legislation to adjust Federal and non-Federal cost shares.

*Direct Financing of Hydropower Operation and Maintenance Costs*

Historically, each year the Army Civil Works program has financed the operation and maintenance costs of Corps of Engineers hydroelectric facilities, and in the next year Federal power marketing agencies have repaid the Treasury for these costs from the revenues provided by ratepayers. The exception has been in the Pacific Northwest, where under section 2406 of the National Energy Policy Act of 1992, Public Law 102-486, the Bonneville Power Administration has directly financed the costs of operating and maintaining the Corps hydroelectric facilities from which it receives power.

In 1999, the General Accounting Office found that the Corps' hydropower facilities are twice as likely to experience "unplanned outages" as private sector facilities, because the Corps does not always have funds for maintenance and repairs when needed. Corps facilities experience unplanned outages approximately 3.7 percent of the time, compared to the industry average of 2.3 percent.

To address this problem, the budget proposes that the Southeastern Power Administration, the Southwestern Power Administration, and the Western Area Power Administration finance hydropower directly, in a manner similar to the mechanism used by Bonneville. The budget contemplates that these power marketing administrations will make those hydropower operation and maintenance investments that they believe are justified in order to provide economical, reliable hydropower to their customers and that, as a consequence, unplanned outages will decline over time to levels comparable to the industry average.

*Protection of Critical Facilities*

The Administration sought \$139 million in emergency supplemental appropriations to the Operation and Maintenance, General account for the protection of critical Civil Works facilities from terrorist attack. Congress provided these funds in Division B of the fiscal year 2002 Department of Defense appropriations act. The funds will be used to pay recurring facility protection costs and one-time costs to assess the vulnerability of each facility and to initiate "hard" protection of critical facilities. The Corps expects to complete its facility assessments by the end of April 2002.

The Administration is continuing its commitment to facility protection in fiscal year 2003. The budget includes \$65 million for recurring security costs (\$64 million in Operation and Maintenance, General and \$1 million in Flood Control, Mississippi River and Tributaries), not including new retiree costs). The Administration will evaluate the need for additional security measures based on the conclusions of the facility assessments.



*Fee Increases at Recreation Areas and Lakes*

The Army is undertaking efforts to increase day use fees, camping fees, annual pass fees, and special use permit fees under existing authority. These efforts are expected to help increase annual recreation user fee receipts to \$38 million in fiscal year 2002 from less than \$34 million in fiscal year 2001. In addition, under proposed legislation, recreation user fees and shoreline permit fees increases would be phased in through fiscal year 2006. The legislation also will extend the existing demonstration program under which recreation user fee receipts over \$34 million per year are automatically available to the Corps to spend on operation, maintenance, and improvement of its recreation facilities. We project that annual recreation and shoreline permit fee receipts will grow by \$6 million in fiscal year 2003 to \$44 million, and an additional \$5 million per year in fiscal year 2004 through fiscal year 2006, to a total of \$59 million in 2006.

## DISCUSSION OF APPROPRIATION ACCOUNTS

*General Investigations*

The budget for the Civil Works study program is \$108 million, including \$5 million for new retiree costs. This is a significant reduction from funding levels in the budgets and appropriations for previous years. The reduced funding level for General Investigations is intended to slow the rate at which studies and preconstruction engineering and design efforts are carried out and completed and the rate at which projects with completed studies are added to the existing construction backlog. Cost-sharing sponsors, who are being asked to invest in studies and design, expect timely construction once studies and design are completed and the projects are authorized. This reduced funding level reflects the Administration's priority of completing policy-consistent projects that are under construction before initiating new work.

No new study starts are included in the budget. However, to the extent allowed within available funding, policy-consistent studies that are under way will continue to move seamlessly from the reconnaissance phase to the feasibility phase and from the feasibility phase to preconstruction engineering and design as they receive the necessary levels of review and approval within the Corps and the Army. Coordination, technical assistance, and research activities also will be continued, including continued Army participation in the National Estuaries Council.

## CONSTRUCTION, GENERAL

The fiscal year 2003 budget for the Civil Works Construction, General program is \$1.44 billion, including \$22 million for new retiree costs. Of that total, \$85 million will be derived from the Inland Waterways Trust Fund to fund the construction and major rehabilitation of inland waterway projects and \$15 million will be derived from the Harbor Maintenance Trust Fund to fund the Federal share of construction costs for dredged material disposal facilities at operating harbor projects.

Funding is included in this account for continuing projects for which the Administration has completed its review and made a determination that the project supports priority missions and is consistent with established policies. No funds are included to initiate construction of discretionary new projects. Furthermore, no funds are included to continue planning, engineering, design, or construction of projects added by Congress in fiscal year 2002 for which the Administration has not completed its review and established a favorable position.

The budget for the Construction, General account gives priority to projects that can be completed in fiscal year 2003. Thirty projects, or 15 percent of the 194 budgeted projects, will be completed. The budget also includes substantial CG funding, net of new retiree costs, for three priority projects: \$120 million for the New York and New Jersey Harbor deepening project; \$77 million for the Olmsted Locks and Dam project in Illinois and Kentucky; and \$148.5 million for restoration of the Florida Everglades, including \$37 million for the Comprehensive Everglades Restoration Plan.

The budget also ensures that environmental requirements for the Columbia River Basin and for the acquisition and development of shallow water habitat on the Missouri River will be met. For the Missouri River, \$17.5 million is allocated to the Missouri River Fish and Wildlife Mitigation Project to expedite restoration of aquatic habitat. For the Columbia River Basin, the budget includes \$98 million for the Columbia River Fish Mitigation project and \$2 million for a new construction start, the estuary habitat restoration program for the lower Columbia River, which must be started to meet legal requirements. (These figures do not include new retiree costs.) Both the ongoing project and the new project on the Columbia River are required in fiscal year 2003 to comply with Biological Opinions issued under the En-

dangered Species Act by the National Marine Fisheries Service and the U.S. Fish and Wildlife Service for the recovery of threatened and endangered fish species.

The budget provides, net of new retiree costs, \$78 million for continuing planning, design, and construction of projects under the Continuing Authorities Program. These are small projects for flood damage reduction, navigation, shoreline protection, streambank protection, navigation project impact mitigation, clearing and snagging, aquatic ecosystem restoration, beneficial uses of dredged material, and project modifications for improvement of the environment. The budget includes no funding to initiate new construction under the Continuing Authorities Program.

The Administration is proposing legislation to require agencies to pay the full cost of the Federal Employees' Compensation Act (FECA). The Department of Labor will add a small surcharge to the amount charged to each agency for FECA benefits to ensure full coverage. The CG account includes an additional \$1 million in the Workmen's Compensation line item to cover the surcharge.

#### *Flood Control, Mississippi River and Tributaries*

The budget includes \$288 million for the Mississippi River and Tributaries program, including \$7 million for new retiree costs. The budget directs funding to the priority flood damage reduction projects on the mainstem of the Mississippi River and in the Atchafalaya River Basin, Louisiana, including the completion of the Louisiana State Penitentiary Levee, Louisiana, project. No funding is provided for studies or projects that represent non-traditional missions or are inconsistent with established policies. No funding is provided for new studies or projects. \$1 million is included for the recurring costs of protecting critical Mississippi River and Tributaries facilities from attack.

#### *Operation and Maintenance, General*

The budget provides funding for the Army Corps of Engineers to carry out its operation and maintenance responsibilities at Corps-operated projects for the purposes of commercial navigation, flood damage reduction, recreation, natural resources management, and multiple purposes including hydroelectric power generation.

The overall budget for the Operation and Maintenance, General, account is \$1.979 billion, including \$65 million for new retiree costs. Of this amount, \$749 million will be derived from the Harbor Maintenance Trust Fund, \$34 million will be derived from Special Recreation User Fees, and, under proposed legislation described above, \$149 million will be derived from the direct funding of hydropower operation and maintenance costs by three Federal power marketing administrations.

In addition to these funds, operation and maintenance of hydropower facilities in the Pacific Northwest will be directly financed by a transfer of approximately \$118 million from Bonneville Power Administration revenues.

The budget directs funding for navigation projects to those that support commercial or subsistence usage. The budget provides: \$536 million for deep draft harbors (harbors with authorized depths of greater than 14 feet); \$47 million for shallow draft harbors, with priority given to those harbors that serve commercial activities or provide a means of subsistence; \$384 million for inland waterways with commercial traffic of more than one billion ton-miles per year; and \$57 million for waterways with less commercial traffic, with priority given to those operation and maintenance activities that provide the highest return, generally on the waterways and waterway segments with the lowest average cost per ton-mile (these figures do not include new retiree costs).

The budget includes \$64 million, not including new retiree costs, for the recurring costs of protecting critical Civil Works facilities from attack.

#### REGULATORY PROGRAM

The budget for the Regulatory Program is \$151 million, including \$7 million for new retiree costs. These funds will be used for permit evaluation, enforcement, oversight of mitigation efforts, administrative appeals, watershed studies, special area management plans, and environmental impact statements, in order to provide effective regulation of the Nation's waters and wetlands and expedite permit decisions.

The \$151 million represents a much-needed increase for the Regulatory Program and supports responsive service to the public. This funding will enable a reduction in average permit processing times from an estimated 160 days in fiscal year 2002 to an estimated 120 days by the end of fiscal year 2004. The budget also provides additional resources for monitoring of compliance with issued permits and for partnerships with states and local communities through watershed planning efforts.

*Formerly Utilized Sites Remedial Action Program (FUSRAP)*

The Formerly Utilized Sites Remedial Action Program (FUSRAP) is an environmental cleanup program for sites contaminated as a result of the Nation's early efforts to develop atomic weapons. Congress transferred the program from the Department of Energy in fiscal year 1998. We are continuing to implement needed clean-ups at contaminated sites. This year's budget is for \$141 million, including \$1 million for new retiree costs.

*Flood Control and Coastal Emergencies*

This program finances preparedness, response, and recovery activities for flood, storm, and hurricane events, and preparedness activities in support of the Federal Emergency Management Agency through the Federal Response Plan. The budget proposes \$22 million for this program, including \$2 million for new retiree costs. This amount will be used, together with any funding that may remain available from prior year appropriations, to finance programmed and emergency activities during fiscal year 2003.

*General Expenses*

Funding budgeted for the General Expenses program is \$161 million, including \$6 million for new retiree costs. These funds will be used for executive direction and management activities of the Corps of Engineers headquarters, the Corps division offices, and related support organizations.

GOVERNMENT PERFORMANCE AND RESULTS ACT

A performance plan is in preparation for the Army Civil Works program, based on the fiscal year 2003 budget. After completion of Administration review, the plan will be submitted to the Congress.

ARMY CIVIL WORKS PLANNING AND REVIEW PROCESS

Both the Army Corps of Engineers Headquarters and the Office of the Assistant Secretary of the Army for Civil Works are taking steps to strengthen the project planning and review process. We have undertaken these efforts to ensure that the Corps provides this Nation with technically sound, environmentally acceptable, and justified projects.

*Improved Planning Capabilities.*—The Corps is improving the competency of its planning cadre through the development of a long-term training and development plan. The Corps is developing a web-based information system to enable planners to find the information they need to do their jobs more efficiently and effectively.

*Process Improvements.*—To ensure more accountability, the planning organization within each district will manage the planning process from problem identification to the development of a proposed project. The Corps has clarified technical and policy review responsibilities. The Corps Headquarters has consolidated the policy and planning functions and initiated a new business process under which one individual at Corps Headquarters is responsible for solving study and project issues.

*Environmental Advisory Board.*—The Chief of Engineers has reactivated the Environmental Advisory Board (EAB) and redefined its role to include advising him on policy and specific projects. This participation by the EAB can contribute to improved project formulation and thereby reduce the need for mitigation and the potential for conflict or litigation.

*Independent Peer Review.*—The Chief of Engineers has endorsed, in concept, the establishment of an independent panel of experts to review Corps projects. The proposal is to establish a panel of six members, to include three members from outside the Corps, who would review large, complex, or controversial projects. Additionally, in response to Section 216 of the Water Resources Development Act of 2000, the Corps contracted with the National Academy of Sciences (NAS) to study and make recommendations on the independent peer review of Corps projects. The Administration will formulate its position on this issue in the coming months.

*Plan Formulation and Evaluation.*—The NAS also will evaluate the various techniques, models, and processes used to formulate Corps projects and will consider modernizing the Federal Principles and Guidelines. Consideration will also be given to how the Corps conducts multi-purpose formulation and evaluation and trade-off analysis, and how it integrates environmental, economic and social considerations. Finally, the NAS will review various approaches to ecosystem restoration and application of adaptive management to the planning and operation of projects. These reports will be completed in the summer of 2003.

*Army Civil Works Planning and Project Review.*—Recently, I formed a new, four-person group within my office to perform oversight of the Corps planning program

and to advise the Corps and me on the application of laws, regulations, and Army policies to project proposals. In particular, this new group will conduct reviews of Corps projects and will help me develop my recommendations to the Administration and Congress on the authorization or modification of projects. To facilitate coordination with the Corps, this group will be co-located with the Corps of Engineers Headquarters. My planning group will engage with the Corps on planning issues as they arise, rather than after reports are completed. My new Deputy for Project Planning and Review and administrative staff already are on board, two positions have been advertised, and the last position will be advertised shortly.

#### CONCLUSION

We believe that the President's fiscal year 2003 budget for the Army Civil Works program is a solid one. The budget continues support to ongoing work, emphasizes primary missions, and applies resources to areas likely to have the greatest national economic benefit. Providing the requested funds for the Army Civil Works program is a wise investment in the Nation's future.

Thank you.

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#### PREPARED STATEMENT OF LIEUTENANT GENERAL ROBERT B. FLOWERS

I am honored to be testifying to your subcommittee today, along with the Assistant Secretary of the Army (Civil Works), the Honorable Mike Parker, on the President's fiscal year 2003 (fiscal year 2003) Budget for the United States Army Corps of Engineers' Civil Works Program.

I am especially honored to have the opportunity to lead the Corps through its current challenges to serve this great nation in meeting its many water and related land resources management needs.

Thanks to this subcommittee's support, the Civil Works Program remains strong, balanced, responsive, and highly productive. I look forward to working with you in furtherance of our partnership in prosecuting this fine program, so broadly beneficial to our nation.

In this statement, I will focus on significant challenges for the nation in light of the September 11th terrorist attacks, and will say just a few words about the Corps role in assessment of national water and related land resources management needs. Accordingly, my statement covers just these three topics:

- Summary of Corps of Engineers actions after the terrorist attacks, especially support to the Federal Emergency Management Agency;
- Highlights of the Civil Works program budget;
- Summary of how the Civil Works Program provides support to the Nation's economic security.

#### SUMMARY OF CORPS POST-ATTACK ACTIONS

Mr. Chairman, and Members of the Subcommittee, last September 11, the nation and the world watched in horror and disbelief as the World Trade Center and the Pentagon were attacked by terrorists and the passengers and crews of four air liners lost their lives.

I am proud to say that the Corps of Engineers provided critical support to the Federal Emergency Management Agency in the aftermath of those terrorist attacks. Corps members provided technical assistance for debris removal, electrical power assessment and structural assessments during operations in New York City. Corps members also provided technical assistance for debris removal at the Pentagon. Today, the Corps continues to support FEMA, the Department of Defense, and the nation in the disaster recovery mission in New York City and at the Pentagon through its execution of the Public Works and Engineering mission. These emergency response and recovery actions take place under Emergency Support Function Number 3 in the National Emergency Response Plan, for which FEMA has assigned the lead to the Corps of Engineers.

I would like to highlight some of the accomplishments the Corps achieved in our support:

In the aftermath of the collapse of the World Trade Center towers, it was virtually impossible to exit Manhattan by car or other ground transportation. A virtual armada of boats came together, in an impromptu fashion, crossing the water to reach Manhattan to ferry trapped people out of the area of devastation.

Among those boats were seven vessels owned by the United States Army Corps of Engineers. These craft carried approximately 2,000 stranded citizens from south Manhattan to Brooklyn, Jersey City, and Staten Island. On the return trip, the

crews ferried firefighters and relief workers into Manhattan, provided fuel, anti-freeze, and oil for the New York City fire trucks, and transported 1,000 gallons of potable water to the firefighters. Personnel on board the vessels also included structural analysts deployed to New York City to assist in the urban search and rescue mission. The collapse of the World Trade Center's twin towers caused so much destruction and devastation to the buildings surrounding them that those buildings were unsafe to enter to conduct a safe search and rescue effort. The Corps deployed surveyors to assist the city's engineers in evaluating some of the more complicated building situations.

An assessment team from the 249th Engineer Battalion (Prime Power) was deployed to the financial district of New York City shortly after the attack. The soldiers provided technical assistance to Con Edison, the power company that provides electric service to New York City and most of Westchester County, in the installation of 56 city-supplied 1,500-kilowatt generators to support emergency electrical power requirements. As a result of their efforts, the New York Stock Exchange was up, running, and fully operational on Monday September 17th, only four business days after the attack.

On September 13, New York City requested a permit to dredge 120,000 cubic yards of material from around Pier 25 to allow large boats to support rescue and recovery operations. Brigadier General Stephen Rhoades, North Atlantic Division commander, gave permission in record time to dredge and place material in the Newark Bay Confined Disposal Facility. The Corps also dredged Pier 6 in Manhattan, which permitted greater access for barge transportation of debris from the pier to the facility. Prior to this dredging, it was necessary to truck the debris uptown through Manhattan, to a pier that could accommodate the large barges, and then transport the debris to the facility.

At one point, more than 160 Corps of Engineers personnel had deployed from across the nation to New York City to join the 750 North Atlantic Division employees who work in the city. Those deployed included structural engineers skilled in urban search and rescue, debris management specialists, logistics and contracting personnel, and the soldiers of the 249th Engineer Battalion (Prime Power).

Since the attack, the Corps of Engineers has continued to support and work closely with the Federal Emergency Management Agency in the recovery operations, and we will continue to do so until the operation is complete.

We also are working closely with the Office of Homeland Security in protecting the Civil Works infrastructure from terrorist attacks. We have developed a Civil Works Infrastructure Assessment Program, which to date has consisted of training 250 Corps Engineers and Security personnel; conducting infrastructure assessments of critical projects in each Division; and offering a specialized security training course to Corps personnel through our training facility in Huntsville, Alabama. The Civil Works program received \$139 million in emergency supplemental appropriations to fund recurring protection costs at critical facilities and some physical security measures identified in the critical facility assessments.

The immediate response of the United States Army Corps of Engineers is yet another reason I am so proud to be the 50th Chief of Engineers. Corps employees from every division and district called to volunteer to do whatever is needed to support the Emergency response and recovery.

I would like to conclude my comments on the Corps' support after these tragic events by quoting the Honorable Thomas White, Secretary of the Army, in a speech he gave shortly after visiting ground zero in New York City. He said, "To the Corps of Engineers I would say . . . while your history is impressive, given the current situation, your finest hour is a chapter yet to be written. The nation will look to your extraordinary capability to protect and sustain our infrastructure against a wide variety of threats." Mr. Chairman, and Members of the Committee, the U.S. Army Corps of Engineers is ready, able, and proud to serve the nation in its time of need.

#### HIGHLIGHTS OF THE CIVIL WORKS PROGRAM BUDGET

The fiscal year 2003 U.S. Army Corps of Engineers budget provides the following:

General Investigations .....	\$108,000,000
Construction, General .....	1,440,000,000
Operation and Maintenance, General .....	1,979,000,000
Regulatory Program .....	151,000,000
Flood Control, Mississippi River & Tributaries .....	288,000,000
General Expenses .....	161,000,000
Flood Control and Coastal Emergencies .....	22,000,000

FUSRAP .....	141,000,000
Total .....	4,290,000,000

CONSTRUCTION, GENERAL BACKLOG

The Corps estimates that there is a construction backlog of about \$44 billion, including about \$21 billion to complete ongoing flood damage reduction, navigation, and environmental restoration projects consistent with Administration policy, about \$8 billion to complete other ongoing construction projects, about \$6 billion to complete already started Mississippi River and Tributaries construction projects, and about \$8 billion for authorized and unauthorized projects in Preconstruction Engineering and Design. Available funding is directed toward construction of the ongoing projects that are consistent with Administration policy. One new project construction start is proposed for funding to meet the legal requirements of a Biological Opinion under the Endangered Species Act. No discretionary new project construction starts are budgeted and no new study starts are budgeted.

OPERATION AND MAINTENANCE, GENERAL BACKLOG

The fiscal year 2003 budget of \$1.979 billion is \$40 million more than the amount enacted in fiscal year 2002, excluding emergency supplemental appropriations and including imputed employee pension and annuitant health benefit costs. We can sustain customer services in fiscal year 2003 with this level of funding. While we join the other Federal agencies in coping with severe demands on the nation's fiscal resources, sustaining all of our current customer services becomes increasingly difficult in the long term, given the vast and aging infrastructure needing care and attention. As stewards of a diverse and widespread complex of water resources projects, the Corps of Engineers is challenged to ensure the continued flow of benefits that are so critical to our nation's security and economic well being.

As I reported to this Committee in the fiscal year 2002 appropriation hearings, we still face a growing maintenance backlog. Routine maintenance, major repairs, replacement of outdated or worn facilities, management improvement studies, and correction of environmental deficiencies could use much more than the budget amount. However, to be realistic in our assessment, we normally focus on critical maintenance. Critical maintenance is maintenance that should be performed in the budget year in order to continue operation at a justified level of service and to attain project performance goals.

The funds provided for fiscal year 2002 left us with a critical maintenance backlog estimated at \$702 million, and we estimate that our critical maintenance backlog in fiscal year 2003 will be about \$884 million. The critical maintenance backlog for navigation is \$587 million and consists largely of dredging and repairs to structures such as locks, dams, breakwaters, and jetties. The critical maintenance backlogs for other business functions are \$127 million for flood damage reduction, \$110 million for recreation, and \$60 million for environmental management, and consist of work such as spillway repairs, seepage control, embankment toe protection, access road and recreation facility repairs, and environmental compliance actions. The critical maintenance backlog for hydropower will be eliminated in fiscal year 2003 in conjunction with the Administration's proposal that Federal power marketing administrations directly finance hydropower operation and maintenance.

The critical maintenance backlog includes \$93 million for maintenance of shallow draft harbor projects and \$108 million for maintenance of low commercial-tonnage inland waterway projects. Most of this work is for purely recreational harbors and higher-cost inland waterway segments and therefore is low priority work.

To improve our program execution, my Division Commanders are continuing a concerted effort to identify and concentrate available resources on the most critical of this work and to do this work at least cost. We are analyzing the work in this backlog to ensure that it qualifies as critical maintenance. In addition, we will continue to assess the justification for the level of service that we are providing. These analyses may result in a slight reduction in our estimate of the critical maintenance backlog for fiscal year 2003.

HOW THE CIVIL WORKS PROGRAM PROVIDES SUPPORT TO THE NATION'S ECONOMIC SECURITY

The Civil Works program employs nearly 25,000 full time equivalent Federal employees and many thousands more private sector contract employees. These individuals are employed in a wide array of fields including all aspects of engineering; ar-

chitecture; project management; construction management; planning; program management; operation and maintenance; economics; and environmental sciences.

The Civil Works program provides the infrastructure to support important economic activity. The components of the program include navigation features, which facilitate domestic and foreign commerce, flood control features, which reduce flood hazards and damages, water supply to millions of citizens as well as industrial firms, businesses, and farms, hydroelectric power generation features at 75 Corps operated facilities, and recreational features at Corps-constructed lakes and shore protection projects.

I would like to discuss in greater detail the economic impacts associated with two of these areas of activity: navigation features; and recreational opportunities at Corps-constructed lakes.

#### THE SIGNIFICANCE OF NAVIGATION TO THE NATION'S ECONOMIC ACTIVITY

Commercial navigation is one of the Civil Works program's high priority missions and a focal point for a substantial amount of the Civil Works budget. In the year 2000, over 2.4 billion tons of foreign and domestic cargo were transported via our Nation's ports and waterways. This figure is composed of 1.4 billion tons of foreign trade cargo and 1 billion tons of domestic cargo.

Of the 1.4 billion tons of foreign cargo, almost 1 billion tons were foreign imports to the United States, including over 500 million tons of crude petroleum and 130 million tons of chemicals and related products. Over 400 million tons of cargo were U.S. exports to other nations, including over 150 million tons of food and farm products, 60 million tons of coal, 58 million tons of chemicals, and 56 million tons of petroleum products.

Of the 1 billion tons of domestic cargo, almost 630 million tons, or 15 percent of the Nation's freight tonnage, moved on the Nation's inland and intracoastal waterway system. Of the nearly 630 million tons, coal comprised about one quarter of the total with 160 million tons moved, petroleum products totaled 121 million tons, food and farm products totaled 90 million tons, and sand, gravel and stone made up about 80 million tons.

Over 225 million tons of domestic cargo moves via coastwise shipments, including 115 million tons of petroleum products and 48 million tons of crude petroleum such as Alaskan crude petroleum moving to refineries on the West coast of the United States.

Over 114 million tons of domestic cargo moved via shipments on the Great Lakes, including 57 million tons of iron ore and scrap metal, key components in the manufacturing of steel, 30 million tons of sand, gravel and stone, and 20 million tons of coal.

In its 1999 report to Congress, "An Assessment of The U.S. Maritime Transportation System", the U.S. Department of Transportation reported that waterborne cargo movements created employment opportunities for more than 13 million individuals. While many jobs created are directly in water transportation and ports, most of the 13 million jobs created as a result of waterborne transportation are in other sectors of the economy.

Although there are a number of actors, public and private, that contribute to waterborne transportation, the Corps of Engineers plays a key role. We create and maintain economically justified navigable capacity. We enable the ports and waterways to handle the vessels. Without this capacity, the Nation cannot compete for trade, cannot move goods efficiently, and cannot sustain those 13 million jobs.

#### RECREATIONAL OPPORTUNITIES AT CORPS CONSTRUCTED LAKES

I will now turn my remarks to the subject of the economic impacts associated with the provision of recreational opportunities at Corps constructed lakes. The Operation and Maintenance, General budget includes \$277 million for recreational activities, slightly above the fiscal year 2002 enacted level.

I quote from our recently completed report, "A National Dialogue About America's Water Resources Challenges For the 21st Century: National Report on Identified Water Resources Challenges and Water Challenge Areas."

When it is time for outdoor recreation Americans head for the water. The Nation's many lakes, rivers, and beaches offer everyone fun, fitness, rest and relaxation. Water is the number one recreation attraction in America today, making Federal lakes an irreplaceable public resource.

America's first choice for water-based recreation is the Corps of Engineers. One out of every ten Americans will visit a Corps lake this year.

I would now like to provide you with some figures describing the Corps' recreational features at our lakes. The Corps operates 456 lakes in 43 states with a

total land area of 12 million acres. At these facilities there are 56,000 miles of shoreline, 4,000 recreational areas with 101,000 campsites, 3,800 boat launch ramps, and 5,000 miles of trails.

Not only is recreation important to the individuals who visit our lakes and other recreational facilities, but also it is important for the economic impacts and employment opportunities created within those communities located near to these recreational facilities.

For example, a 1996 study prepared by the Corps' Engineering and Research Development Center, entitled "Estimating the Local Economic Impacts of Recreation at Corps of Engineers Projects—1996" concluded that visitors to Corps facilities spent approximately \$6 billion on trip related expenses, which in turn generated over 160,000 jobs in the surrounding communities. Significant economic and employment impacts associated with our recreational facilities were identified in a number of geographic locations, including our Little Rock, Nashville, Mobile, Tulsa, Huntington, Louisville, and Fort Worth District offices.

#### CONCLUSION

We must continue to find ways to reduce our costs and shift some costs to direct beneficiaries of our services. Meanwhile, we will do our very best to execute the Civil Works Program for maximum benefit to the nation. I have testified today on the positive effects of the Corps' mission on the nation's economy. In closing, I would like to restate that the Corps of Engineers' Civil Works program supports economic activity, prosperity, and well being in its high priority mission areas by facilitating waterborne transportation and reducing the threat of flooding and the extent of flood damages incurred, as well as other Civil Works activities.

Thank you Mr. Chairman and Members of the Committee. This concludes my statement.

Senator REID. Also, staffs to notify all other subcommittee members that anyone who would like to ask questions of the Army Corps for the record, I would encourage them to submit these questions to us by the 15th of this month. We will ask the Corps to get answers back to us in 2 weeks.

#### WATER IN THE WEST

Secretary Raley, I think I know the answer to this question, but maybe I do not. With what kind of a year are we having in the West, with water?

Mr. RALEY. Mr. Chairman, unfortunately, I believe the drought index was entered in the record shortly before you arrived. There are portions to the West, notably the southern portions, that are likely to be in a dry to very dry or severe drought condition, which obviously requires that we work as closely as possible with our State and local partners and with those of you on the committee to manage through the difficult issues that arise when we are in a drought.

So we are watching individual basins and trying to make sure that we have the resources within the Department, both the people as well as the use of whatever budgetary flexibility we have to address the specific basins where droughts were a problem.

Senator REID. As we know, there are increasing demands on the limited sources of water that we have in the West. I am always amazed at places that I see where there is lots of water. I will never forget, we went on a Senate retreat. The Democratic senators went to a retreat in Southern Virginia here, down past Williamsburg a little bit. One of the beer people have an amusement park there.

Anyway, I walked out my door and I saw this huge body of water. I thought it had to be the ocean. It was a river. It was a



river. Coming from the west, we do not have rivers like that. The river was at least a mile-and-a-half across.

Even the mighty Colorado is not much of a river in the true sense of the word. My father, as a boy, used to swim across the Colorado River. The Truckee River in Northern Nevada, you can walk across it in most places. Yet it is the lifeline for that part of the country.

That river, my staff just reminded me, is the James River, which I guess by most standards is not much of a river, but what I saw is very—so we in the West are very jealous of all the water other places. We are depending on the bureau to help us with the many problems that we have dealing with water. We want to make sure that you have enough resources. You have to be candid with us and tell us where you are lacking in that regard.

It is my understanding that Senator Domenici asked some of those questions. I will review some of your answers.

#### CALIFORNIA BAY-DELTA RESTORATION

Secretary Raley, the Administration has again proposed \$15 million in funding for the California Bay-Delta restoration. Again this year, there is no specific authorization for this project. How does Reclamation intend to expend these funds absent a specific authorization?

Mr. RALEY. Mr. Chairman—

Senator REID. Carefully, I guess would be the answer?

Mr. RALEY. Yes, in accordance with existing authorities. We are also very focused on the CALFED authorization issue and working with both houses of Congress to find a way to proceed with the CALFED effort. I wish to assure the Chairman that we believe that the principles of CALFED are good ones. We wish to stay the course and have a CALFED that is authorized so that Congress, exercises its constitutional prerogatives in terms of the interface with that program. We need to find a way that we can have a CALFED that we can afford, that can be implemented, and that has balance. In fact, on Monday I will be co-chairing the CALFED Policy Committee with the Secretary of Resources for California as we look to find a way to get us through what is a relatively difficult period so that we can stay true to the concepts under existing authorities as we wait for the authorization issue to be addressed here and in the House.

Senator REID. How do you think CALFED is moving forward?

Mr. RALEY. If I may be candid, sir, having been involved in other large, basin-wide water and environmental issues, they have a rhythm. There are times when it is lurching and times when it is moving forward smoothly, and times when people are sitting there watching. I would say that right now there is a lot of sitting and watching.

There remains a broad commitment to the concepts of CALFED and I think there is a great desire out in California for Congress to work its will in terms of the long-term authorization. And we support that.

Senator REID. With what you are saying is there is a lot of people waiting around to see what someone else is going to be doing?

Mr. RALEY. There are a lot of people wanting to make sure that what is done is consistent with the will of Congress.

#### DESALINIZATION

Senator REID. We had a wonderful senator here who I served—we were lieutenant governors of our respective states. He served in the House when I was there. We served in the Senate together. His name was Paul Simon from Illinois.

He had a number of passions but one of them is water. Even though he came from a state with relatively lots of water in it, Illinois, he has written a book called Tapped Out, that talks about lack of water around the world and has certainly illustrated why wars will be fought over water and not oil in years to come.

His passion is and was doing something about getting the water from our oceans and our seas. He believes, and there are others who agree with him, that that is our only hope. We are not doing anything to speak of as a country to develop our resources for desalination. Don't you think the Bureau has the prime responsibility to do that?

Mr. RALEY. Senator, there is work within the Government in a number of agencies. As you well know, the Bureau of Reclamation has ongoing work on desalination projects. As the Commissioner testified a moment ago, and I can turn it back over to him for more detailed questions, the Bureau of Reclamation continues to work on literally cutting-edge technology being developed throughout the world so that we can implement this alternative as we search for a means to address the growing needs of the west.

Senator REID. I guess that is my whole point, and I would be happy to hear from Mr. Keys. That is, I do not think we are doing any high level research, or research period—I should not say high level—dealing with desalination. From what I know, and maybe I can be told differently here today, the process by which we take the salt out of water is the same as it was 20 years ago, 30 years ago.

Mr. Keys, do you have anything to respond to that?

Mr. KEYS. Mr. Chairman, we are still working under directions of the 1996 Act, and there is a report that is scheduled to come to you in October that lays out that technical work that you are talking about.

We are working closely with Sandia Lab and looking at new technologies. We are participating with other agencies. We are working right now with Long Beach, California which has a new technology that we are going to get into our process and fund with them. There are a number of activities going on in Reclamation.

I would say that we are not the leader of the desalination research and so forth in the United States, but we are a strong participant.

Senator REID. Do you think Sandia is the leading research organization for desalination in America today?

Mr. KEYS. Mr. Chairman, I do not know the answer to that. We are working very closely with them. We know that they are very good. We have just worked very closely with them.

Senator REID. Do you know of anyone else? And when I say else, I mean any other institutions or organizations doing research on desalinization?

Mr. KEYS. Mr. Chairman, we are working with several different labs around the United States that are doing that.

Senator REID. With what I am saying here is I think the reason we are not doing more is we are not spending money. I really, honestly believe that there has to be a way that we can do better than the old bladders and stuff that we have used to take the salt out of water. That was something that was used many, many, many decades ago.

I am concerned because Sandia has been the only entity mentioned here. I think maybe we should give them some money this year that will allow them to do that. I usually let Senator Domenici do his work in New Mexico, but I think I will weigh in on this and make sure they get adequate resources this year to do something significant dealing with desalinization.

Senator Bennett, I know you have some questions about, at least I am told and I hope you do, about what we do to have the Federal Government help the cost reimbursement for security problems we have at dams. For example, Hoover Dam is a real burden for us. I hope you will pursue that a little bit.

Senator BENNETT. Thank you very much, Mr. Chairman. I appreciate the hearing and appreciate the opportunity to participate.

I want to welcome Assistant Secretary Bennett Raley and especially Commissioner John Keys, who began his career with the Bureau in Utah, and recently a resident of Moab. And I want to welcome Ron Johnston from the CUP Project Completion Act office in Provo. We appreciate the work that you do, Mr. Johnston.

Water is obviously vital to the West. It is vital to Utah. And without the Central Utah Project, we probably would not be able to survive in the middle of the desert.

#### CRITICAL INFRASTRUCTURE

As the Chairman indicated, I have a very strong interest in critical infrastructure protection. I want to ask you some questions which I assure you are not gotcha questions, but they may have a little of that appearance. But I am probing to try to find out exactly where we are.

Senator Kyl and I have introduced a bill dealing with critical infrastructure and we are very interested in the subject growing out of our experience with Y2K, when we saw what would happen to the economy and the country if the computers failed by accident. We then kind of asked ourselves what would happen if they failed on purpose?

Senator Kyl had a witness at a hearing who talked about an incident where a hacker broke into a dam and got to the point where he could have opened the floodgates. Before that sounds too sinister, I should point out he was hired to do that, to see how far he could get in and demonstrated how vulnerable dams are to this kind of activity.

Has the Bureau given any thought to cyber security, as well as physical security?

Mr. RALEY. Senator, let me address that from a departmental standpoint. Post the events of September 11, a very significant part of the Commissioner is and my personal time has been spent on security issues, both physical and cyber. In fact, I believe it was two days ago that the Commissioner and I had a briefing on the current status of the Bureau of Reclamation's efforts with regard to security.

We have worked together cooperatively. My deputy, who is known to the committee, former Chief of Staff for the department, Mr. Thomas Weimer, meets weekly with the Commissioner's team. I think that gives you a sense of how high a priority we have placed on the security issues.

In terms of what we are actually doing, given the sensitive nature of that, Senator, we would be happy to come and brief you to the extent that we can, given that some of the information is classified. But we would prefer, if you need specific details, to do it with you and the Chairman or any other members after the hearing, because of obvious concerns.

Senator BENNETT. I would look forward to that briefing. I have gone through similar briefings in a wide range of governmental activities, and I would appreciate the opportunity to have that experience with you now.

Mr. RALEY. May I add, Senator, that on the issue of cyber security, I can tell you that the detailed briefing that we received this week broke down the various computer cyber systems of the Department and the Bureau. We had specific discussions about the protections that are currently in place with regard to what is known as SCADA, the operational control, to refer back to the incident that you mentioned, where someone was trying to get at the control of the facilities.

We paid particular attention to that and asked specifically if there were substantial modifications that should be made immediately and are not in place now. We are satisfied with the response that we received from our experts.

Senator BENNETT. I appreciate that and I will look forward to the briefing, as I say.

Now PDD-63, the Presidential Decision Directive on this issue that was put forward by President Clinton in 1998 was for the express purpose of focusing the Government's efforts to protect critical infrastructure. And in PDD-63, each agency was instructed to identify their minimum essential infrastructure needed to keep critical systems running. And agencies were also to do vulnerability assessments and remediation plans.

Do you know if the Department of Interior participated in that exercise? And if there are vulnerability assessments and remediation plans that the Chairman and I could look at in executive session?

Mr. RALEY. Setting aside the details of the availability of particular documents, which I think I would have to look at the actual documents, and we would have to discuss that with you. Yes, there are obviously a robust series of updates that have been commenced since the events of September 11.

I can tell you that, in looking back, there were, particularly for the Bureau of Reclamation, in existence very detailed plans to ad-

dress a wide range of threats. But like the rest of the Government, the rest of the Nation, we have gone back to relook at those and see if the assumptions they were based on remain valid and to take that effort to the next level.

So I am comfortable that the Department is doing what it can, what it should, and what is prudent to protect its resources.

Senator BENNETT. Mr. Keys, you wanted to respond?

Mr. KEYS. Mr. Chairman, Mr. Bennett, let me just add a little bit to that. When the orders came out before that you mentioned, we went through every structure, the dams and the power plants, in Reclamation, and even some of the other structures like the main Interior building and so forth. Those all were evaluated for security. In other words, what we needed to do to make them safe.

We implemented, if not all, most all of the recommendations that came out of those security reviews.

The actions that are underway now that Mr. Raley was talking about, after September 11 we have gone back and are re-evaluating every one of those structures. We have a time frame set out to do that. The briefing that he is talking about that we would come and do for you would lay out some of the details of which structures are being done when and the levels of those reviews.

#### OPERATION ELIGIBLE RECEIVER

Senator BENNETT. In the Defense Department, they conducted an exercise called Operation Eligible Receiver. It was classified for a good period of time but now has appeared in the press, and so I can talk about it. As indicated in this example that Senator Kyl used, they hired—they did not hire, they embarked on a conscious effort to break into the Defense Department computers. Again, without divulging any classified information, they basically succeeded.

There were very few parts of the Defense Department that were sufficiently robust in their firewalls to keep hackers out. I have stood in the control room in the Pentagon where the continuing computer attacks are monitored, and I have seen them come in in real time. This country is under attack virtually every hour of every day, in terms of people trying to break into the computers, trying to get information, trying to disrupt the normal flow of activity in the Defense Department. I will not go any further.

My question: in your review of all of this, have you done something similar to Eligible Receiver? Have you had a series of attacks, computer attacks, into the structure of dams, other facilities, to see just how difficult it would be for somebody to get in?

As I say, Senator Kyl has the example of someone who got in to the point where he could have opened the floodgates. Senator Reid has mentioned Hoover Dam. Can you imagine the devastation that would occur if somebody could get into the computers that control Hoover Dam and virtually empty it downstream? With what that would do economically, ecologically, a whole series of disasters that could occur?

I do not think, frankly, these attacks on our dams would come from the likes of al Qaeda. I think they would come from activist groups who do not like dam and who want to see them breached.

And if they cannot breach them with dynamite, they will breach them with digital code.

I do not want any details, because that is not something we want to get out publicly, but just in generally terms, do you know of an effort similar to Eligible Receiver that may have been run on these facilities?

Mr. RALEY. Senator, what I can say is that we are very aware of not only that exercise, but of ongoing attempts in today's cyber world to penetrate Federal facilities, computer networks in general, Interior and Reclamation's in specific. We have taken steps to address that.

The details I would prefer to leave to a follow-up meeting with the senators. But I want to reassure you, the issue of cyber vulnerability has been repeatedly addressed. And also I would point out that, for better or for worse, the Department's experience in another aspect of departmental operations regarding security in the Indian Trust litigation has provided an opportunity to relook at the security for the entire Department and the Bureau of Reclamation in particular.

So we will be happy to get back to you on that.

#### CYBER AND PHYSICAL SECURITY CHALLENGE

Senator BENNETT. Thank you, I will look forward to that. And then the issue that the Chairman raises, of course, is how much does this cost? The question would be, have you included in your budget request sufficient sums to deal not only with the cyber security challenge, but the heightened physical security challenge that we have following 9/11?

Mr. RALEY. Mr. Chairman, Senator, we have. We believe that the amounts that are in the budget request are appropriate to address both the actual protection as well as the analysis of additional needs for both physical and cyber. We are going to be working through that, and we will obviously have to take the results of our ongoing analysis efforts and determine whether or not additional resources will need to be built into future budgets.

Senator REID. Senator Bennett, if I could comment, we have here, and I think you have in your file, and if not I will give you this one, on what different agencies are spending on homeland defense. And Interior is flat. They are spending no more money this year than they did last year.

But I do understand that you need to go along with what Mitch Daniels says you should go along with, because if you do not, you get in big trouble around here.

Senator BENNETT. I have been where they are, defending budgets. Actually, it was before Senator Bible. He sat on the Appropriations Committee. So I know the truth of what you are saying, that you have to do what OMB tells you.

#### CUP AND DIAMOND FORK

Mr. Chairman, I have expended all of my time and a little more, and I am grateful to you for your indulgence. I do have some questions relating to the CUP and Mr. Johnston, if I might, I would like to give them to you and receive your responses. I am particularly interested in Diamond Fork with the additional problems that oc-

curred there, unexpected and unforeseen, but nonetheless, expensive and disruptive.

So if you would have a quick comment about Diamond Fork and what additional funding that you think might be necessary for that, then I will submit the other questions to you.

Mr. JOHNSTON. I would be happy to respond to your questions in writing. The situation at Diamond Fork is progressing, and we have determined alternate ways to complete that system. The district is planning to put out for bid that work in about a month from now. When they do that, we will have better cost estimate figures that we will provide to the Committee.

Senator BENNETT. Thank you very much. Thank you for your courtesy, Mr. Chairman.

Senator REID. Senator Bennett, I was looking through the biographies here. Keys, BYU; and Johnston, BYU. You could have thrown them some real softballs, you know.

Senator BENNETT. I went to the University of Utah.

Senator REID. I know, but Utah, you had some connection there.

Senator BENNETT. My children all went to BYU.

#### PREPARED STATEMENT

Senator REID. I would ask unanimous consent that my statement be made part of the record. Hearing no objection, that is the order. [The statement follows:]

#### PREPARED STATEMENT OF SENATOR HARRY REID

Good Morning. This is the first of our budget oversight hearings this year and, as always, I look forward to working with my good friend, Senator Domenici and his staff in preparing our spending package.

This hearing was originally intended to discuss the Administration's proposals for the fiscal year 2003 budgets for the Army Corps of Engineers as well as the Bureau of Reclamation.

However, due to the Administration's actions pertaining to Mike Parker, former Assistant Secretary of the Army for Civil Works, we have deleted the Army Corps' witnesses from this hearing.

These hearings are intended to help us prepare our annual spending package. We depend on the open exchange of information that we receive in these hearings.

If nothing else, I suspect that the circumstances surrounding Congressman Parker's dismissal will have a chilling effect on our ability to get frank and honest answers and opinions from Corps witnesses.

Therefore, we will prepare our spending package based on the budget request and the OMB-approved written testimony, a document that is very nearly worthless. Most importantly, we will develop our appropriations bill by taking into account the needs of our Members and the American people. Further input from OMB will not be required.

The "budget" that OMB submitted for the Army Corps is so totally inadequate that it defies logic. If enacted, the proposal does not provide sufficient resources to continue all of the on-going work that the Administration itself proposed. Accordingly, some \$200 million would be required to terminate on-going contracts, further reducing the amount available for construction projects. This fact alone makes it appear that there was little thought given to the consequences of such draconian budget cuts for the Army Corps.

Defending the Administration budget is one thing—standing idly by while the Administration proposes a budget that, in effect, costs more to do less for next year and for the foreseeable future is another matter entirely. For telling the truth about this farce, Mike Parker was fired.

A big theme of the Administration in preparation of their budget has been economic security for our nation. Based on the proposal submitted for the Army Corps and the Bureau of Reclamation, it appears that they have overlooked valuable components of our economic security. Let me elaborate:

Forty-one states are served by Army Corps ports and waterways. These ports and waterways provide an integrated, efficient and safe system for moving bulk cargos. 2.3 billion tons of cargo are moved through these ports and waterways. The value of this cargo to the national economy exceeds \$670 billion. Navigable waterways generate over 13 million jobs to the national economy and nearly \$150 billion in Federal taxes.

Average annual damages prevented by Army Corps flood control projects exceed \$20 billion. In calendar year 2000, \$2.8 billion in flood damages were prevented. From 1928–2000, cumulative flood damages prevented when adjusted for inflation were \$709 billion for an investment of \$122 billion, adjusted for inflation. That is nearly a 6 to 1 return on this infrastructure investment.

The Bureau and the Army Corps water storage projects have a total capacity of nearly 575 million acre feet of storage and provide municipal and industrial water supply to millions of our citizens. The water supply infrastructure provided by the Bureau and the Army Corps in the west are the life blood of the communities they serve. Without these infrastructure investments the tremendous growth.

The Bureau of Reclamation and the Army Corps of Engineers provide about 35 percent of the Nation's hydroelectric power which amounts to nearly 5 percent of the U.S. total electric capacity. In the west the percent of hydropower to total power supplied is much greater.

Additionally, both the Army Corps and the Bureau contribute to our nation's environmental protection. Over \$1 billion or about 25 percent of the Army Corps' fiscal year 2001 appropriations was targeted for environmental activities. Reclamation expended similar efforts on these important activities.

The Army Corps also plays other National roles in disaster assistance and emergency preparedness. As an example, I would like to take a moment to note some of the Army Corps' actions after the devastating terrorist attacks of September 11. Army Corps motor vessels were on the scene almost immediately and were used to evacuate people from Lower Manhattan where other exits were blocked. These vessels also ferried fuel for the emergency vehicles. The Army Corps provided a command headquarters for the search and rescue operations and logistical assistance with debris removal. Due to the devastation of the power grid, the Army Corps' Prime Power Battalion responded and was able to get the electrical service restored that allowed the financial markets and Wall Street to reopen on the following Monday. The capabilities that the Army Corps provides to our nation in these areas are often overlooked and I wanted to make sure that they were noted.

These are only some of the ways that these two agencies contribute to our economy and yet the Administration's budget proposal has given them short shrift. Their proposals are woefully inadequate to fund ongoing projects.

The Administration has proposed a fiscal year 2003 request for the Army Corps of \$4.026 billion when you exclude proposed funding from two legislative proposals included in the budget. This is about a \$600 million less or 13 percent cut from the amount enacted in fiscal year 2002. For the Bureau of Reclamation, the proposal is about \$58 million less or a 7 percent cut over the Fiscal year 2002 enacted amount.

This reduced level of funding in Reclamation's Water and Related Resources Account is going to hamper progress on several large projects and programs providing water and power for the West.

The Army Corps' General Investigations account is taking a huge hit. The fiscal year 2003 request is \$108 million versus \$154 million enacted in fiscal year 2002, a 30 percent cut. There are no new study starts proposed.

The Army Corps' Construction, General account is proposed at \$1,440 billion, \$276 million below fiscal year 2002 enacted, a 16 percent cut. There are no funds provided for discretionary new construction starts.

The Army Corps' Operation and Maintenance, General account is proposed at \$1,830 billion, \$184 million below the fiscal year 2002 enacted, a 9 percent cut.

The Army Corps' Mississippi River and Tributaries account is proposed at \$288 million, \$58 million below fiscal year 2002 enacted or about a 17 percent cut.

The only major account to see a budget increase for the Army Corps is for General Regulatory, a boost of \$24 million over fiscal year 2002 enacted, or an increase of 19 percent. While I am glad to see this increase for the Army Corps' permitting activities, I am appalled at the cuts to the other major accounts.

In spite of all of the Administration rhetoric about economic security and maintaining our abilities to compete in world trade, the Administration has again produced a remarkably short sighted budget.

If the Administration will not lead in the area of critical infrastructure, Congress will. I plan to work aggressively with Chairman Byrd, Senator Stevens and Senator



Domenici to ensure that this Subcommittee gets the resources needed to fund these two vital organizations properly.

On a personal note, I would like to take this opportunity to thank you and your employees for the outstanding service that your organizations provide not only to Nevada, but to our nation as a whole. More often than not, your employees don't get the credit they deserve. There is not a single Member in either Chamber whose state is not impacted positively by the work your agencies do.

We will place the OMB approved testimony for the Office of the Assistant Secretary of the Army for Civil Works and the testimony for the Chief of Engineers in the record as if given. Also, if any of the Subcommittee Members would like to ask questions of the Army Corps for the record, I would encourage them to submit them to us by March 15, 2002. We will ask the Army Corps to get answers back to us in 2 weeks.

I would like to thank Bennett W. Raley, Assistant Secretary for Water and Science, Department of the Interior (testifying); John W. Keys, III Commissioner, Bureau of Reclamation (testifying); J. Ronald Johnston, Program Director, Central Utah Project Completion Act Office; Robert Wolf, Director, Program and Budget, Bureau of Reclamation; John D. Trezise, Office of Budget, Department of Interior for appearing before our Subcommittee today.

At this time I will turn it over to Mr. Domenici for his opening statement.

#### ADDITIONAL COMMITTEE QUESTIONS

Senator REID. And there are a number of questions that will be submitted to you by the members that appeared here today and others, and we would ask you to get them back to us as quickly as possible.

Mr. RALEY. Yes, sir.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

#### QUESTIONS SUBMITTED BY SENATOR HARRY REID

*Question.* What would be the impact to the cost and schedule of on-going Bureau projects, if the President's budget were enacted as proposed?

*Answer.* The costs and schedules of on-going Bureau of Reclamation projects would proceed as currently envisioned if the fiscal year 2003 President's Request is enacted.

*Question.* For those projects budgeted in the President's proposal, are they funded at their optimal level?

*Answer.* Reclamation believes that the projects budgeted in the President's Request are funded at the optimal level, given the resources available and the varied needs of Reclamation's programs and projects.

*Question.* It is clear that for the last several years, funds budgeted to address the growing water resources needs of this country fall substantially short of the known critical needs. What suggestions would the Bureau offer that can be done in the future to close this gap?

*Answer.* The fiscal year 2003 President's Request is \$66.7 million above the fiscal year 2002 President's proposal and \$58.0 million below the enacted level. Given the availability of resources, the funding contained in the fiscal year 2003 President's Request adequately addresses the Bureau's water resources management needs.

*Question.* What level of funding would be necessary to continue the Bureau's progress on programs and projects initiated in the fiscal year 2002 for meeting the Nation's water infrastructure needs?

*Answer.* The fiscal year 2003 President's Request provides adequate funding for those projects initiated in the fiscal year 2002 President's Request.

*Question.* Please provide us with an update on how funds provided in fiscal year 2002 for a regional weather modification program are being expended.

*Answer.* A proposed strategic plan was outlined for a one-year weather modification research program. Representatives of Reclamation met with the North American Interstate Weather Modification Council to review that plan and determine whether the Council could receive and manage funds for dispersal to specific research projects. The Council informed Reclamation that they did not have the capability to manage these funds. The Bureau then developed a draft solicitation for co-

operative agreements with the States to allow transfer of funds to conduct weather modification research.

*Question.* Your Budget mentions that the Bureau's infrastructure, in general, is aging and many demands are placed on the budget to maintain and protect the Federal investment. Does this budget address the deteriorating infrastructure?

*Answer.* The fiscal year 2003 President's Request has been formulated and developed to address Reclamation's aging infrastructure by providing emphasis on the need for adequate maintenance to ensure the structural integrity of its facilities and the reliability of its water and power operations.

*Question.* Are the critical needs fully covered by this budget proposal?

*Answer.* As part of this emphasis, any critical maintenance needs have been identified and are fully addressed in the fiscal year 2003 President's Request.

*Question.* In each of the last two fiscal years the Congress has provided funding for the Las Vegas Wastewater Reclamation Project. I was hoping that the Administration would help out by requesting funding under Title XVI for this project as they have for other projects around the west. Unfortunately, again this year your budget request contains nothing for the Las Vegas Project while asking for \$6 million for example for the San Diego Project. The Southern Nevada Water Authority has already expended over \$80 million for its 75 percent share. When is the Administration going to step up to the plate and ask for some funding for the Las Vegas project?

*Answer.* In fiscal year 2003, Title XVI funding was limited to those ongoing projects and studies that were supported in the President's budget requests in prior years. Southern Nevada Water Recycling Project is not one of those projects or studies. The project will receive appropriate consideration in future budget requests.

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QUESTIONS SUBMITTED BY SENATOR BYRON L. DORGAN

GARRISON DIVERSION UNIT

*Question.* The Red River Valley studies are critical to the future of the State and its economic vision. I understand the studies are on hold and have been virtually dead since April of 2001. Can you explain why they are on hold?

*Answer.* Regarding the Red River Valley Study, as required by Public Law 106-554, Appendix D, Title VI—Dakotas Water Resources Act of 2000 (DWRA), which amends Public Law 89-108 by creating a new Section 8 for the Red River Water Supply, per Sec 8(b), we have made progress on the identification of study tasks and processes. Reclamation has prepared draft plans of study for the Report on Red River Water Needs and Options. Specific plans of study for needs assessment, hydrology, engineering, environment, and biota transfer have been drafted. We have been developing a new Memorandum of Understanding (MOU) with the State, which is specific to requirements in the DWRA of 2000 and makes the State a joint lead in preparing the EIS. We hope to revise and finalize that agreement by the end of May 2002.

Preliminary work on the Red River Valley studies began in June 2000, per an MOU signed by Reclamation, the North Dakota State Water Commission, and the Garrison Diversion Conservancy District pursuant to authority under the 1986 Garrison Diversion Unit Reformulation Act (Public Law 89-108). While study tasks were not undertaken, two teams of stakeholders (Technical Team and Study Review Team) were organized and study planning was initiated. Following passage of DWRA, significant concerns about the process and MOU were brought to our attention. As a result of internal reviews related to these concerns, the MOU was terminated. As mentioned, we now propose to execute a new MOU with the State. The MOU will establish North Dakota as a co-lead on the EIS pursuant to Section 8(c). Per Section 8 (b)(1), which directs the Secretary of the Interior to "conduct a comprehensive study," Reclamation has the sole lead on the studies. We anticipate the Technical and Study Review teams would resume activity; thus, providing the open and public process directed in the DWRA. Review of our processes and organization, including discussions with the State and other interested parties, has taken some time. However, we view this as a critical step in the study process to ensure both objective scientific methods and an open and public process. We expect these processes and organizational changes will facilitate future activities.

*Question.* What is your projected date for completion of the studies?

*Answer.* We are projecting that the studies and draft EIS will be completed in 2005.

*Question.* What is the cost?

*Answer.* Study costs are currently estimated to be \$5 million.

*Question.* Have you worked out a cost share on the studies?

Answer. The State has proposed to cost share up to \$300,000 of the study costs.

*Question.* I understand the District and the State Water Commission have proposed a cost share agreement. Why is it not moving forward?

Answer. The Bureau of Reclamation, the District and the State Water Commission are currently reviewing the agreement proposal.

*Question.* Is additional funding needed in order to move this project off center and toward completion in a reasonable time frame?

Answer. Funding has not been an issue in implementing the study.

*Question.* I am told that if a decision is not made almost immediately by the Bureau, then work on this project that needs to start by April 1 won't be able to get underway and a whole year will be lost on the Red River Valley study. Is this information accurate? If so, moving these studies forward right now is critical.

Answer. We have identified specific study tasks, primarily data collection, that needed to be initiated in order to prevent delays. The work on these tasks is underway.

*Question.* What capability do the Tribes have for construction of the MR&I systems on the reservations?

Answer. In 1994, as the Tribes were nearing completion of construction activities funded under the 1986 Act appropriation ceiling, Reclamation advised them to proceed with Final Engineering Reports (FER) to address each of their respective reservation-wide systems. These FERs are to serve as the master plan for constructing these systems within the amended appropriation ceiling established by DWRA. These FERs establish the sequencing and timeline for construction and serve as the basis for estimating the construction capability of each Tribe. Reclamation's advice to proceed with the FERs at that time was intended to prepare them to immediately continue construction once additional appropriations were made possible through an increased ceiling.

Between 1994 and 2000, the Tribes chose not to proceed with FERs. After passage of the DWRA, the Tribes began preparing their FERs. They are expected to be completed in 2002. The FERs are critical to ensure that the overall systems will operate reliably and efficiently, and to lay out a reasonable construction schedule and associated funding needs. Until the FERs are complete, it is difficult to estimate the construction capability of the Tribes. The Tribes will have some initial construction capability in fiscal year 2003 as plans and specifications are completed, and most Tribes will have full construction capability beginning in fiscal year 2004.

*Question.* Have you talked to the Tribes and do they agree with your assessment?

Answer. Reclamation has been talking and working closely with the Tribes and they have not been in full agreement with how Reclamation has characterized their capability. Generally, the Tribes believe they have greater immediate capability than what Reclamation has been estimating. This will not be resolved until additional information becomes available with the completion of the FERs.

*Question.* What additional capability do you have for moving the DWRA programs forward?

Answer. Reclamation is moving forward to implement the provisions of the DWRA. We have initiated activities to address project cost and repayment provisions. We are working with the State to update a master plan for the recreation program. Investigations are underway to determine the economic and financial feasibility of the Elk Charbon and Nesson Valley irrigation areas that would be incorporated into the Garrison Diversion Unit (GDU) as part of the 28,000 undesignated acres of irrigation. Construction activities on the Standing Rock Irrigation Project are expected to begin this summer. Diplomatic consultation with Canada on the NAWS project has been completed, and the first construction contract has been awarded. Groundbreaking for the NAWS project occurred on April 5, 2002, in Minot, North Dakota. Work is continuing on other MR&I projects throughout the State. The Tribes will complete the FERs for their respective reservation-wide systems this year. Reclamation and the State will soon execute an MOU and a Cooperative Agreement that will guide the work on the Red River Valley Studies and EIS. Annual Federal contributions to the Natural Resources Trust have been resumed.

*Question.* I understand that the NAWS project is ready to go and I think we need to proceed as soon as possible. What can we do to speed that project up?

Answer. On March 28, 2002, Reclamation sent a letter to the North Dakota State Water Commission concurring the award of Contract 2-1A for the NAWS Project. As is the case with all Reclamation projects under construction, the capability of project sponsors to construct the project far exceeds Reclamation's ability to provide funds. We will continue to work within budget processes and coordinate with the State to prioritize expenditure of annual GDU appropriations, so that construction of the NAWS Project continues as expeditiously as possible.

## QUESTIONS SUBMITTED BY SENATOR ROBERT F. BENNETT

*Question.* As indicated in the Department's prepared statement for the Central Utah Project, construction of the Diamond Fork System has experienced some unforeseen problems associated with groundwater and dangerous levels of hydrogen sulfide gas. Is the \$12 million requested in fiscal year 2003 adequate to keep the work on schedule and is it adequate to complete the Diamond Fork System?

*Answer.* The \$12 million included in the President's fiscal year 2003 request is adequate to keep the work on schedule, but additional funding will be needed to complete the Diamond Fork System on the original schedule.

*Question.* What level of additional funding does the Department estimate would be necessary in fiscal year 2004 to complete the Diamond Fork System?

*Answer.* The Department and the Central Utah Water Conservancy/District have developed a plan to complete the Diamond Fork System by constructing alternative facilities. The most cost-effective solution is being planned and would move the tunnel shaft to approximately where the existing tunnel crosses Diamond Fork Creek. The remainder of the project would then be completed as described in the 1999 Final Supplement to the Final Environmental Impact Statement and Record of Decision. A detailed cost estimate for this work is not yet available. This information will be communicated to the Subcommittee when it is available.

*Question.* Will the additional funding be in addition to the roughly \$36 million that has been historically appropriated on an annual basis?

*Answer.* For the past several years, approximately \$36 million has been appropriated annually for the completion of the Central Utah Project. If all the projects that are presently underway were to continue on schedule, additional funding above the \$36 million level in fiscal year 2004 would be needed to complete the Diamond Fork System.

*Question.* If your request for \$36.2 million for fiscal year 2003 were increased, could the Department, the District, and the Mitigation Commission accelerate some of its other work in fiscal year 2003 such that the additional funding required for the Diamond Fork System in fiscal year 2004 could be reduced? And if so, how much additional funding could be utilized in fiscal year 2003?

*Answer.* As noted above, a detail cost estimate for this work is not yet available. Any additional funding necessary for the completion of the Diamond Fork system will be evaluated in the context of the overall fiscal year 2004 budget request.

## SUBCOMMITTEE RECESS

Senator REID. The subcommittee stands in recess.

[Whereupon, at 11:20 a.m., Friday, March 9, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

**ENERGY AND WATER DEVELOPMENT  
APPROPRIATIONS FOR FISCAL YEAR 2003**

**FRIDAY, MARCH 15, 2002**

U.S. SENATE,  
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,  
*Washington, DC.*

The subcommittee met at 1:38 p.m., in room SD-138, Dirksen Senate Office Building, Hon. Harry Reid (chairman) presiding.  
Present: Senators Reid and Domenici.

**DEPARTMENT OF ENERGY**

**STATEMENT OF DR. RAYMOND L. ORBACH, Ph.D., ACTING DIRECTOR,  
OFFICE OF SCIENCE**

**ACCOMPANIED BY:**

**WILLIAM D. MAYWOOD, IV, DIRECTOR, OFFICE OF NUCLEAR EN-  
ERGY, SCIENCE AND TECHNOLOGY**

**LAKE BARRETT, ACTING DIRECTOR, OFFICE OF CIVILIAN RADIO-  
ACTIVE WASTE MANAGEMENT**

**OPENING STATEMENT OF SENATOR HARRY REID**

Senator REID. The subcommittee will come to order.

Today is the second in a series of four budget oversight hearings for the Energy and Water Development Subcommittee. Last Friday the subcommittee heard testimony from the Bureau of Reclamation and accepted written testimony from the Corps of Engineers. The subcommittee will hold two more hearings this year that will be scheduled. One will examine the budget of the National Nuclear Security Administration, which will be this coming Monday at 9:30. We will wrap up our budget hearings on Tuesday, April 18, at 10 a.m. On that day we will hear from the Office of Environmental Management and the Office of Energy Efficiency and Renewable Energy.

Today we are going to hear from three witnesses: Raymond Orbach, the Director of the DOE's Office of Science; Mr. Bill Magwood, the Director of the Office of Nuclear Energy; and Lake Barrett, the Acting Director of the Office of Civilian Radioactive Nuclear Waste.

We were hoping to be able to hear, Mr. Barrett, from your replacement, but she is not able to be here today. I would just in passing say that I know that you are going to be leaving this position and, even though we have had some differences of opinion, I think you have been a good public employee. You have done your best to do what you think has been right and no one can ever criti-

cize you for that. You have always as far as I have been concerned been willing to talk with us and allow us to berate you on occasion, for which I am grateful that you did not do any berating back.

But I just want to wish you well in whatever you might do and hope that you are as successful in doing whatever you decide to do in the future as you have been at this.

Mr. BARRETT. Thank you very much.

Senator REID. We are going to talk about Yucca Mountain today and we are going to talk about the proposed increase that is supposedly for the license application, and we will look forward to that testimony.

Mr. Orbach, congratulations on your being sworn in this week. You are taking over one of the finest scientific organizations I believe exists in the world and I am confident that you will do well. I think you have a great job. I bet there are a lot of people envious of the job that you have.

I have reviewed the budget for the Office of Science and by and large I am pleased with it and hopeful that you are also. Based upon the former Corps of Engineers leader, you better be happy with it.

While the administration's budget only provides you with a \$47 million increase over last year, the actual increase seems to be somewhat larger than that when you take into account the increased construction costs of some of your engineering facilities, such as the Spallation Neutron Source in Tennessee. Overall, you look to be ahead of last year by as much as \$150 million.

I hope that we will be able to improve on that before Congress completes its work this year. I think the funding for research and the hard sciences is one of the best and most appropriate investments of taxpayers' dollars. Very few things that we do can make a more secure Nation than maintaining a scientific and technological edge.

I have some questions that I want to ask you about your vision for the Office of Science. But before I turn to the Office of Nuclear Energy, I want to give you one small piece of unsolicited advice. I would hope that you would understand that we here in Congress also have an opinion, advice, and some information that you need to share with us. One of the things we need to make sure people understand is how important it is that we maintain our constitutional prerogatives. We have three separate but equal branches of government and as long as we understand that, it is important that you do the best you can for the executive branch of government, but recognize that there are two other branches of government in our constitutional system that their demands must be met.

Mr. Magwood, we have been very supportive of your programs during the years that I have been on this subcommittee. I am supportive even though it has sometimes put me in an awkward spot due to that visible work that "Nuclear" has in your title. I support strong budgets for you because long-term stable investment in scientific research and development is what makes our Nation strong. I have already indicated that.

With nuclear power, my biggest problem with nuclear power comes at the end of the fuel cycle. I think that is basically everyone's biggest problem. We need to make sure we understand that.

I think I can speak for Senator Domenici when I say that the budget is concerning us in that it eliminates all funding for transmutation. I am a little perplexed about why the Department only seems to be careful—I am sorry—to care about funding the path forward. We have to do something to look back at what happens after the generation takes place.

I am confident Senator Domenici and I are going to help you on this. We are going to fund transmutation again this year. Not only do I know that Senator Domenici supports a research program in this regard, but my colleague from Nevada Senator Ensign is also enthused about this.

Senator Domenici, knowing of your interest and support for nuclear power, I hope that you have more to say about Mr. Magwood's program, and I turn it over for a statement that you might have at this time.

STATEMENT OF SENATOR PETE V. DOMENICI

Senator DOMENICI. Thank you very much, Mr. Chairman.

Welcome to all three of you and particularly you, Dr. Orbach. You just came on board and it is good that you, even though it is very, very quick, that you did see fit to come on up and talk with us today. We understand that you just arrived and will treat you accordingly.

I note that you gave up a rather important job to take this one, so I hope personally that you have a successful time and that it is as good for you as you might have thought in terms of accomplishments and achievements.

Mr. Magwood and Mr. Lake Barrett, I understand, first about you, Mr. Barrett, that your 20 years in service are about to end and you are about to leave us. I do say to you that all my congratulations go with you. You have done a good job in a very controversial area. You have not conducted yourself controversially, but rather the subject matter has been very tough.

This is the first hearing that the subcommittee has held to review the Department of Energy's budget request. The portion of the budget within the jurisdiction of this subcommittee is about \$20.1 billion, an increase of \$700 million or 3.6 percent over the current year. Overall, the administration has put forth a pretty good budget for the Department of Energy. Those areas that are not as good as we would like we hope we are able to do better in and find resources through the allocation process up here to take care of them.

The most glaring exception is the request, overall request for nuclear energy within the Department. The budget for nuclear energy research and development programs was reduced from \$134 million to \$90 million this year, a 33 percent cut. In last year's National Energy Policy Report, the President provided bold leadership. That is when he sent us his energy policy. In fact, it contained specifically significant bold initiative in the area of nuclear and nuclear power and related research and development. It would have been good had the OMB and those who put this budget together read his energy policy. If they would have, they would have probably added to a number of the nuclear activities within the Department: \$54 million for general nuclear power research and development and \$80 million for research on spent fuel. Those are items that we are

going to have to look for and see if we cannot put them in so that we can continue the good work that is started within the nuclear department there that you head.

I have some additional remarks in that regard, but I believe what I am going to do, since we have Friday, this is Friday and we would like to let everybody get out of here rather early, I think I am going to put the rest of them in the record.

Thank you very much, Mr. Chairman, and let us proceed.

[The statement follows:]

PREPARED STATEMENT OF SENATOR PETE V. DOMENICI

I am pleased to join Chairman Reid in welcoming our distinguished panel of witnesses.

I especially want to welcome Dr. Raymond Orbach, who was very recently confirmed by the Senate as the Director of the Office of Science. I am pleased the President was able to coax you away from your distinguished post as Chancellor of the University of California—Riverside. Welcome to the Senate Appropriations Committee. I look forward to working with you in the years to come.

Welcome also to Mr. Bill Magwood and Mr. Lake Barrett. Mr. Barrett, I understand you will be retiring in May. I want to thank you for over 20 years of Federal service and wish you well in your future endeavors.

This is the first hearing the subcommittee has held to review the Department of Energy budget request. The portion of its budget within the jurisdiction of this subcommittee is \$20.1 billion, an increase of \$700 million, or 3.6 percent over the current year level. Overall, the Administration has put forth a pretty good budget for the Department of Energy.

The most glaring exception, however, is in the request for nuclear energy, where the budget for nuclear energy R&D programs was reduced from \$134 million this year to \$90 million for next year—a 33 percent cut.

In last year's National Energy Policy Report, the President provided bold leadership with a broad endorsement of the importance of nuclear power. The report included a number of policy recommendations to expand the use of nuclear power, including the development of advanced nuclear fuel cycles and next-generation nuclear power plants. Unfortunately, this year's budget request does not match-up with the policy.

For the current year, this subcommittee was responsible for ultimately increasing the nuclear power R&D appropriation from \$57 million to \$134 million in the final appropriation. That included:

- \$54 million for general nuclear power R&D

- \$80 million for research on spent fuel and transmutation (the "AAA" program)

However, the Department has inexplicably proposed to eliminate almost all of the transmutation research for next year. I have long believed that the country must rapidly move ahead with a next-generation fuel cycle that generates far less waste and extracts the full energy benefit from each gram of fuel. This is a long-term effort that requires a much larger investment by the Department.

The transmutation of waste program, as well as several other nuclear R&D programs, will require substantial increases over the request in fiscal year 2003.

On the positive side, I commend the Department for the \$30 million increase to the "Nuclear Power 2010" initiative to have advanced nuclear power systems on-line by 2010.

Regarding the budget request for the Office of Science, the budget is only a little better than flat for the coming year.

The Department of Energy is the Federal Government's largest supporter of physical sciences. As such, I remain concerned about the tremendous imbalance in the government's investments in the physical sciences verses the life sciences. For example, NIH's budget has doubled in 5 years while DOE Science cannot even keep up with inflation.

Past successes in biomedicine have been built upon the strong foundation of the physical and computational sciences. However, we will not be equipped to take advantage of remarkable new opportunities in genomics, nanotechnology, advanced materials, and other areas unless we increase funding in DOE Science.

Finally, the budget request for the Nuclear Waste Disposal program is \$525 million, an increase of \$148 million (or 39 percent).

Some time later this summer, the Senate will be called upon to vote on the President's recommendation on Yucca Mountain. The decision is very important to the



country, and obviously of tremendous importance to my good friend the Chairman of this subcommittee.

If the country decides to proceed with the construction of the nuclear waste repository, it will cost us at least \$10 billion in the next 7 years.

No matter what happens later this summer, we must all work together to ensure a strong future for nuclear power in the United States and the world. Economics and environmental protection will demand a major role for nuclear power and an acceptable spent fuel management policy.

Each of the program areas before us today will present unique challenges for this subcommittee. I will look forward to engaging each of our witnesses today and working with the Chairman to put together the best possible bill.

Senator REID. Gentlemen, we each have questions for you. We would ask that you keep your statements as limited as you can and the full statement will be made part of the record. That will be the order at this time. We would ask you to proceed in this order: Dr. Orbach, Mr. Magwood, and Mr. Barrett. We will—I think what we will do, Pete, is let them all finish.

Senator DOMENICI. Good.

Senator REID. And then we will ask questions when all the statements are completed.

Dr. Orbach.

#### STATEMENT OF RAYMOND ORBACH

Dr. ORBACH. Mr. Chairman, Senator Domenici: First I would like to thank you for your very kind remarks. I have been honored to have been nominated and confirmed by the Senate and yesterday sworn in to this office. Senator Domenici correctly said that I hope I do well because this is a very important office and I understand the responsibilities that I bear.

I look forward to working with the committee, with yourselves, in order to do the best job I can for the country. The Office of Science is a special organization. It is part of the complex supporting research in the United States, but it has its very special characteristics. It has scope, complexity, and breadth of discipline which distinguishes it from other organizations supporting scientific research. These are spelled out in the President's budget which we are here to defend and to say in my case and across the board that I think we can get the job done with the funds that have been recommended.

Our own Office of Science has, as the chairman noted, in effect about a 5 percent increase in terms of operational funding because of the shifts from construction. For that, we believe we can carry out the mission of the Office of Science both across the board and in specific areas.

With that, let me conclude and again thank you both for your kind remarks and again to tell you how eager I am to work with you in this job.

[The statement follows:]

#### PREPARED STATEMENT OF DR. RAYMOND L. ORBACH

Mr. Chairman and Members of the Subcommittee: Thank you for the opportunity to testify today about the Office of Science's fiscal year 2003 budget request. I am deeply appreciative of your support for basic research, Mr. Chairman, and the support we have received from the other Members of this Subcommittee. I am confident that our fiscal year 2003 request represents a sound investment in our Nation's future. Through this budget we will strengthen our core research programs, increase

the operating time at our major scientific user facilities, and expand our capabilities at those facilities.

This budget, Mr. Chairman, will enable thousands of researchers located across our Nation to work on some of the most pressing scientific challenges of our age. These researchers will work on the frontiers of nanoscience; pursue an understanding of how the universe began; develop the knowledge that may enable us to harness microbes and microbial communities to improve energy production and environmental remediation; restore U.S. leadership in neutron science; contribute to the Administration's National Energy Policy through advances in fusion science; and, develop advanced computation and modeling tools to resolve complex scientific problems.

The Administration's keen interest in science and technology is emphasized in our fiscal year 2003 budget request, which increases funding (by five percent over the fiscal year 2002 estimate when Spallation Neutron Source funding and one-time fiscal year 2002 projects are set aside) for basic research, and construction and operation of our unique scientific user facilities. The fiscal year 2003 budget request for the Science appropriation is \$3,285,088,000. The Technical Information Management program request in the Energy Supply appropriation is \$8,353,000 (see table 1).

This budget request supports the following programs: High Energy Physics, Nuclear Physics, Biological and Environmental Research, Basic Energy Sciences, Advanced Scientific Computing Research, Fusion Energy Sciences, Energy Research Analyses, Science Program Direction, Safeguards and Security, and Science Laboratories Infrastructure (formerly Multiprogram Energy Laboratories—Facilities Support). The Technical Information Management budget request is located in the Energy Supply appropriation.

TABLE 1.—OFFICE OF SCIENCE FISCAL YEAR 2003 PRESIDENT'S REQUEST

[B/A in tenths of millions]

	Fiscal year		
	2001 Comparable Approp.	2002 Comparable Approp.	2003 Comparable Approp.
Basic Energy Sciences .....	\$973.8	\$999.6	\$1,019.6
Advanced Scientific Computing Research .....	161.3	157.4	169.6
Biological and Environmental Research .....	514.1	570.3	504.2
High Energy Physics .....	695.9	713.2	725.0
Nuclear Physics .....	351.8	359.0	382.4
Fusion Energy Sciences .....	241.9	247.5	257.3
Energy Research Analysis .....	0.9	1.0	1.0
Science Laboratories Infrastructure .....	26.9	37.1	42.7
Science Program Direction .....	139.9	152.5	139.5
SBIR/STTR .....	93.1		
Subtotal .....	3,199.6	3,237.6	3,241.3
Safeguards and Security .....	39.1	47.6	48.1
S&S Reimbursable Work .....	(4.7)	(4.5)	(4.4)
Total Safeguards and Security .....	34.4	43.1	43.7
Total Science .....	3,234.0	3,280.7	3,285.0
Technical Information Management .....	9.2	8.1	8.4
Total Office of Science .....	3,243.2	3,288.8	3,293.4

The Office of Science's basic research portfolio emphasizes sustained investment in new knowledge and support for long-term national priorities. It is a cornerstone of the Administration's efforts to maintain our Nation's overall security. We provide over 40 percent of Federal support to the physical sciences, including more than 90 percent of high energy and nuclear physics support. We also are the sole support of key subfields, such as nuclear medicine, heavy element chemistry, magnetic fusion and the development of unique algorithms that are the foundation of advanced software systems for scientific applications.

The Office of Science supports scientists and graduate students at over 240 major universities and at DOE's national laboratories. About 18,000 researchers will be

able to conduct leading edge research in materials science, biology and other areas at our major scientific user facilities in fiscal year 2003.

#### FISCAL YEAR 2003 SCIENCE PRIORITIES

The fiscal year 2003 request supports major research programs that respond to DOE priorities and will contribute to the strength and vitality of the national research enterprise. Many of these research programs are conducted jointly with other Federal research agencies and are illustrative of the deep reservoir of scientific talent and resources that DOE brings to bear on critical national challenges:

*Nanoscale science.*—The Office of Science is part of a Federal Government effort to establish U.S. preeminence in nanoscale science, the next major frontier in materials sciences, chemistry, biology, engineering, and a host of other scientific disciplines. The goal: enabling the atom-by-atom design of materials and integrated systems that will lead to important contributions to U.S. national security, energy production and environmental quality. Advancing basic knowledge in nanoscale science, and drawing on the Office of Science's unique core competencies and recognized interdisciplinary capabilities will enable the Office of Science and its Federal partners (NSF, DOD, etc.) to secure international leadership in this emerging area of science.

In fiscal year 2003, fundamental research to understand the properties of materials at the nanoscale will focus in three areas: synthesis and processing of materials at the nanoscale, condensed matter physics, and catalysis. The challenge with respect to synthesis and processing is to develop a fundamental understanding of the nanoscale processes involved in deformation and fracture, the synthesis of ordered arrays of nanoparticles using patterning techniques, and the synthesis of nanoparticles of uniform size and shape. Work in condensed matter physics will focus on understanding how properties change or can be improved at the nanoscale and how macromolecules reach their equilibrium configuration and self assemble into larger structures. In catalysis, new work will focus on fundamental research to understand the role that nanoscale properties of materials play in altering and controlling catalytic transformations.

The goal of the nanoscale science initiative is to establish a fundamental understanding of structures and interactions at the nanoscale. Through this understanding DOE anticipates significant improvements in many areas: solar energy conversion; more energy-efficient lighting; stronger, lighter materials for more efficient transportation; better improved chemical and biological sensors; new methods to break down toxic substances for environmental remediation and restoration; and better sensors and controls to increase efficiency in manufacturing.

The fiscal year 2003, budget also increases support for Project Engineering and Design of Nanoscale Science Research Centers (NSRCs), and initiates construction of the NSRC at Oak Ridge National Laboratory. NSRCs are user facilities for the synthesis, processing, fabrication, and analysis of materials at the nanoscale. NSRCs were conceived in fiscal year 1999 within the context of an interagency working group on Nanoscale Science, Engineering, and Technology as part of the DOE contribution to the National Nanotechnology Initiative. NSRCs will serve the Nation's researchers broadly and, as with the existing Office of Science facilities, access to NSRCs will be through submission of proposals that will be reviewed by mechanisms established by the facilities themselves. Planning for the NSRCs includes substantial participation by the research community through a series of open, widely advertised workshops.

The NSRCs will be sited adjacent to or near an existing synchrotron or neutron scattering facility and contain chemistry, physics, and biology laboratories for nanofabrication, clean rooms, one-of-a-kind signature instruments and other instruments (e.g., nanowriters and various research-grade probe microscopies, not generally available outside of major user facilities).

This research effort will also benefit from a new partnership, proposed in fiscal year 2003, between the Advanced Scientific Computing Research (ASCR) program and the Basic Energy Sciences (BES) program. The partnership will focus on computational nanoscale science, engineering and technology as part of the Nanoscale Science, Engineering and Technology Initiative. ASCR's contributions to this partnership will consist of developing the specialized computational tools for nanoscale science focusing on using high performance computers to answer fundamental questions.

*Genomes to Life.*—Microbes and plants are responsible for the initial production of essentially all carbon-based energy that we use, whether from oil, coal or biomass, and for the subsequent removal of the energy-related carbon from the atmosphere. Microbes and microbial communities also make up about 60 percent of the biomass

on Earth. A deeper, genetically based understanding of these organisms, culminating in computational models of their function that can be used to predict and even modify functions or efficiencies, promises a revolution in energy and its environmental impact. For example, harnessing metabolic pathways in hydrogen-producing microbes or understanding how oxygen poisons a key group of enzymes, hydrogenases (capable of producing hydrogen only in the absence of air), could help to develop a more efficient, hydrogen-based energy economy.

Deeper understanding of gene function and protein structure offer the potential for novel new biology-based solutions to address DOE's needs including biotechnology solutions for clean energy, carbon sequestration, environmental cleanup, and bioterrorism detection and defeat. Key to these is an understanding of the genetic and environmental basis of cell function, and the development of tools to understand gene function and protein structure.

Initiated in fiscal year 2002, Genomes to Life research continues to more fully characterize the inventory of multiprotein molecular machines found in selected DOE-relevant microbes and higher organisms and to determine the functional diversity found in populations of microbes isolated from DOE-relevant sites. In fiscal year 2003, new research will be initiated that focuses on further developing the research tools needed to study microbial communities that may have applications to clean energy, environmental cleanup, and carbon sequestration.

The overriding goal of the long-term Genomes to Life research program is to understand biology well enough to be able to predict the behavior and responses of biological systems—from cells to organisms—so that they can best be used to address DOE mission needs in energy, the national security, and environment. This effort is part of an interagency program to understand life's basic processes to meet National goals in many areas including health, agriculture, and energy. More specifically, Genomes to Life research will:

Identify life's molecular machines, the multiprotein complexes that carry out the functions of living systems. Emphasis will focus on molecular machines from organisms of potential importance to DOE missions (e.g., energy production, environmental remediation, and carbon sequestration, and bioterrorism reduction).

Characterize the gene regulatory networks and processes that control the molecular machines of interest.

Characterize the functional repertoire of complex microbial communities in their natural environments and use the integrated genomics, biochemical, structural, and physiological information to address DOE missions in energy, waste cleanup, and bioterrorism reduction.

Develop computational capabilities needed to model the complexity of biological systems.

Computation and modeling of biological processes and systems is key to the success of this effort given the complexity of biological systems. Greatly improved computational strategies, tools and resources are needed and will be developed through partnership between the Biological and Environmental Research (BER) program and the ASCR program. In fiscal year 2003, this partnership will be expanded to further develop the computational research infrastructure and especially underlying mathematical understanding and computational tools that are needed for the analysis and simulation of key biological processes.

*The Administration's Climate Change Research Initiative.*—In fiscal year 2003, the Administration will begin a new Climate Change Research Initiative (CCRI). The CCRI is intended to focus research on areas where substantial progress in understanding and prediction are likely over the next five years.

DOE, working with other U.S. Global Change Research Program (USGCRP) agencies, will tackle a specific piece of this problem: understanding the North American Carbon Cycle, which was identified as a priority need in the interagency Carbon Cycle Science Plan.

Office of Science research on the carbon cycle will explore the movement of carbon on a global scale, starting from natural and manmade emissions to carbon sinks in the terrestrial biosphere and the oceans. Carbon sequestration research seeks to exploit the biosphere's natural processes to enhance the sequestration of atmospheric carbon dioxide in terrestrial and marine ecosystems. It also seeks the understanding needed to assess the potential environmental implications of purposeful enhancement and/or disposal of carbon in the terrestrial biosphere and at the surface or deep in the ocean. Experimental and modeling efforts primarily address the net exchange of carbon between major types of terrestrial ecosystems and the atmosphere.

*Fundamental research into the nature of matter and energy.*—The Office of Science is exploring two significant elements of the Standard Model, the current accepted theory of the fundamental forces in the universe, including the complex interactions of energy, matter, time and space. The Office of Science's High Energy Physics

(HEP) program has a unique opportunity during the next few years to make key discoveries that will help scientists worldwide understand the origin of mass and the preponderance of matter over antimatter in the universe, two of the great unsolved questions in physics.

Until the Large Hadron Collider (LHC) at CERN, the European particle physics laboratory, becomes fully operational sometime after 2006, the HEP program is the only one in the world with facilities capable of detecting the elusive Higgs boson (thought key to understanding mass). Additionally, one of the persistent mysteries of modern physics is the general absence of observed anti-matter in the universe—a puzzle that HEP could resolve within the next five years by explaining the role of Charge-Parity (CP) violation.

The Large Electron-Positron Collider (LEP) at CERN left a tantalizing hint of a Higgs boson before it ceased operations in late 2000. The data suggest a Higgs mass of about 115 GeV, well within reach of the Tevatron at the Fermi National Accelerator Laboratory (Fermilab).

However, if research at the Tevatron is to find the Higgs boson before the LHC gets underway, the Tevatron will need to run extensively, increase its luminosity (data rate) substantially, and replace some components of its particle detectors. A program of luminosity and detector improvements is now underway, interleaved with data runs. If the Higgs mass is less than 165 GeV (billion electron volts), and all of the improvements are successful, the data to find the Higgs boson is expected to be in hand before the LHC is operational.

Tevatron data will also give more information about the surprisingly heavy top quark discovered there in 1995, and could reveal an entire new class of particles (supersymmetric particles) that have been predicted by new theories that seek to complete the unification of our explanations of fundamental interactions.

At the Stanford Linear Accelerator Center (SLAC), the highly successful B-factory and its BaBar detector will have the opportunity to shed light on the mystery of why there is so much more matter than antimatter in the observed universe, rather than equal amounts of each as current theories predict. Electrons colliding at several billion electron volts (GeV) will allow the study of a phenomenon known as CP violation in B mesons. CP violation causes a subtle asymmetry in the amounts of matter and antimatter produced in nuclear processes, such as those that occurred in the very early universe, and could therefore help to explain the predominance of matter today.

CP violation was originally discovered in 1964 in an experiment at Brookhaven National Laboratory, and its accommodation within the current theory of the Standard Model has only recently been established through extremely difficult and exquisitely precise measurements at Fermilab and CERN. The big question for SLAC is whether CP violation in the B mesons will follow theoretical predictions or will instead indicate some additional, hitherto unknown source of the phenomenon. Such a discovery would have profound implications for our understanding of the matter-dominated universe in which we live.

The fiscal year 2002 budget focused on utilization and upgrades of the Tevatron at Fermilab and the B-factory at the SLAC to fully exploit the discovery potential of these facilities. In fiscal year 2003, this focus will continue as will support for the groups of scientists (primarily university-based) performing the research.

*Attempts to synthesize an extreme form of matter that only existed for a fraction of a second at the Big Bang—the quark-gluon plasma.*—The Nuclear Physics program is working to synthesize, for the first time in a laboratory, an extreme state of matter that existed microseconds after the Big Bang: a hot dense plasma of unconfined quarks and gluons. This scientific achievement will reveal the nature and behavior of the most fundamental building blocks of matter.

The Relativistic Heavy Ion Collider (RHIC) is a unique facility where colliding relativistic heavy ion beams will permit exploration of the quark-gluon plasma, and recreate the transition, from unbound quarks and gluons to their tightly bound combinations as nucleons, that characterized the early evolution of the universe. Studies with colliding heavy ion beams provide researchers with an opportunity to explore new forms of nuclear matter and nuclear interactions that up to now have only been characterized theoretically.

Now that the Office of Science's RHIC facility is fully operational, intensive study is underway. First RHIC measurements indicate that they have been able to achieve an energy density—a measure of the energy deposited in the collision region by the colliding nuclei—higher than ever before achieved in a laboratory, and at least 70 percent higher than in similar experiments at CERN. This should be sufficient to create the quark-gluon plasma. Several papers reporting results have already been published and many others are expected to follow shortly. Discussion of these results—dominated the premier international conference for this field—Quark Matter

2001—and have generated much attention in the general press. Following preparations at RHIC during the fiscal year 2001-fiscal year 2002 running periods for its spin-physics program, it is anticipated that this program will begin in fiscal year 2003 to study the quark structure of nucleons.

*A new era of scientific discovery through advances in computation.*—The Office of Science initiated the Scientific Discovery through Advanced Computing (SciDAC) program in fiscal year 2001 to exploit advances in computing and information technologies as tools for scientific discovery across basic research programs. SciDAC encourages and enables a new model of multi-disciplinary collaboration among researchers in the physical sciences, computer scientists and mathematicians to develop a new generation of scientific simulation codes that can fully exploit terascale computing and networking resources. SciDAC's goal is to bring simulation to a level of parity with experiment and theory in the scientific research enterprise, and lead to breakthroughs in a wide range of areas including climate prediction, plasma physics, particle physics, astrophysics and computational chemistry.

SciDAC activities build on the historic strength of the Office of Science in computational science, computer science, applied mathematics, and high-performance computing and in the design, development, and management of large scientific and engineering projects and scientific user facilities.

For example, a partnership between the ASCR program, the HEP program, and the NP program, identified the most compelling opportunities for advancements in physics through the application of terascale computing resources. As a result, the Office of Science identified challenge areas within theoretical nuclear physics, and several major multi-institutional grants in high-priority topical areas were awarded for the first time in fiscal year 2001. A similar partnership has been formed between ASCR and the BES program to advance computational nanoscience.

Advanced Computing Research Testbeds provide advanced computational hardware for testing and evaluating new computing hardware and software. These testbeds are providing specialized computational resources to support SciDAC applications teams in fiscal year 2002. In fiscal year 2003, this effort will be increased to provide specialized computing resources to SciDAC application teams that demonstrate significant opportunities for new scientific discovery.

*Innovation in fusion, plasma science and related technologies as part of the Administration's National Energy Policy.*—The Office of Science program leads the national research effort to advance plasma science, fusion science, and fusion technology—the knowledge base needed to create an economically and environmentally attractive fusion energy source. The National Energy Policy, published in July of 2001, recommended that the President direct the Secretary of Energy to develop next-generation technology—including hydrogen and fusion. This builds on a recommendation of the National Research Council, which states:

“The committee believes that a dynamic, outward-looking, science-driven program in which discoveries are regularly communicated beyond the walls of fusion science is essential to alter the outside community's perception of the field. A strong case can also be made that a program organized around critical science goals will also maximize progress toward a practical fusion power source. Scientific discoveries that a decade ago would have been unthinkable are the fundamental drivers of program direction at all levels . . .”—An Assessment of the Department of Energy's Office of Fusion Energy Sciences Program—National Research Council—2001

The fiscal year 2003 budget supports the program balance and priorities recommended by the Fusion Energy Sciences Advisory Committee and supported by the Secretary of Energy Advisory Board and the National Research Council.

The science and the technology of fusion have progressed to the point that the next major research step is the exploration of the physics of a self-sustained plasma reaction in a burning plasma physics experiment. In fiscal year 2003, the Office of Science will fund research that supports such an experiment. In addition, the Office of Science will fund the exploration of innovative approaches to confining, heating, and fueling plasmas.

The characteristics of the materials used in the construction of fusion power plants will determine the impact that those power plants will have on the environment. In fiscal year 2003, the Office of Science will support scientific research aimed at developing materials for fusion applications in coordination with its basic materials science program that will ensure that fusion-generated power will have a minimal environmental impact.

*Advanced scientific user facilities to accomplish vital DOE and national missions.*—The Office of Science designs, builds, and operates scientific user facilities for university, laboratory, and industry researchers, providing U.S. scientists with the tools needed to pursue research for national defense, promote energy security, make advances in health, and increase U.S. technological competitiveness. During

the next five years, the Office of Science will design and/or complete new research tools such as the Spallation Neutron Source (SNS) at Oak Ridge National Laboratory and Neutrinos at the Main Injector (NuMI) at Fermilab. The Office of Science's operation of major scientific facilities has ensured that a growing number of U.S. scientists have reliable access to those important facilities. The number of users at major Office of Science user facilities is projected to grow to over 17,000 in fiscal year 2002 and over 18,000 in fiscal year 2003. Of particular note has been the growth in users at the Office of Science's light sources. Biologists and other life scientists have been working cooperatively with physicists and other physical scientists in multi-disciplinary teams to achieve breakthroughs in medicine, biotechnology and other fields.

#### SCIENCE ACCOMPLISHMENTS

The Nation's investment in Office of Science basic research programs continues to pay dividends to the American taxpayer. These scientific accomplishments respond to DOE's missions in national security, energy and environment, and contribute to U.S. technological competitiveness. In addition, the Office of Science continues to pursue answers to many of the most challenging scientific questions of the 21st century and sponsors researchers who receive many of the most prestigious scientific awards given annually. Some of the past year's highlights include:

#### ENVIRONMENT

*First Draft of Human DNA Sequence Published.*—Capping what may be one of the greatest scientific achievements of all time, the draft human DNA sequence was published in the February 15/16, 2001 issues of the journals Nature and Science. The Office of Science initiated this monumental research project, sequenced human chromosomes 5, 16, and 19, and contributed many of the fundamental technologies and resources. Both the human DNA sequence and high throughput DNA sequencing capabilities, especially as applied to microbes, contribute to the identification of genetic factors that increase individual human susceptibility to radiation and other energy-related materials, and to the use of microbes and microbial communities to solve challenges in carbon sequestration, clean energy, environmental cleanup, and national security.

*Radiation Resistant Microbe Could Reduce Common Contaminants at DOE Sites.*—The radiation resistant "superbug" *Deinococcus radiodurans*, was shown by researchers at DOE's Pacific Northwest National Laboratory to change chemical species of contaminants common to DOE sites (e.g., Uranium, Technetium, and Chromium). *Deinococcus radiodurans* may provide a means for limiting the migration of radionuclides and heavy metals from soil to water supplies. Moreover, *Deinococcus* has now been reported to be common in the populations of soil microorganisms beneath radioactive waste storage tanks at the Hanford reservation, making this microbe especially promising for in situ bioremediation approaches.

*Weather Forecast Accuracy Improved through Measurements and Modeling of Atmospheric Radiation.*—The Atmospheric Radiation Measurement (ARM) program has improved the agreement between measured and modeled instantaneous clear sky infrared fluxes from 20 Watts per square meter to 5 Watts per square meter. The inclusion of the advanced radiation code into climate models has resulted in a 7 percent improvement in the usefulness of weather forecasts by extending the forecast period and reducing the computation time required to produce the forecasts.

*Carbon Sequestration Possible Through "Artificial Leaves" Made of Semiconductor Nanocrystals.*—Recent experiments demonstrated that carbon dioxide could be removed from the atmosphere using semiconductor nanocrystals. These "artificial leaves" could potentially convert carbon dioxide into useful organic molecules with major environmental benefits. However, to be practical, efficiency must be substantially improved. New theoretical studies have unraveled the detailed mechanisms involved and identified the key factors limiting efficiency. Based on this new understanding, alternative means for improving efficiency were suggested that could lead to effective implementation of artificial leaves.

#### ENERGY SECURITY

*Energy Savings Possible from Micro-size Light Emitters.*—Energy savings of tens of billions of dollars per year could be achieved by replacement of household 100-watt light bulbs by white light emitting diodes (LED) made by mixing LEDs emitting primary colors. However, improved LED efficiency is necessary before such replacement becomes feasible. New research has shown that interconnecting hundreds of micro-size LEDs to replace larger conventional LEDs can boost the overall emission efficiency by as much as 60 percent.

*Novel Materials for Advanced Fuel Cells.*—A major impediment to the commercialization of fuel cells is the inability to use hydrogen fuel containing traces of carbon monoxide and the need to utilize large amounts of expensive platinum catalysts. A novel ruthenium/platinum catalyst has been produced through the spontaneous deposition of platinum on metallic ruthenium nanoparticles. The resulting catalyst has a higher carbon monoxide tolerance than commercial catalysts and uses smaller amounts of platinum. In addition, research on new catalytic electrodes for fuel cells has shown that synthetic diamond thin films are excellent supports for catalysts because of their corrosion resistance.

*Advancing Fusion Energy Science.*—Research funded by the Fusion Energy Sciences (FES) program in fiscal year 2001 produced results over a wide range of activities. Examples include: dramatic improvements in the feedback modification of plasma instabilities on the DIII-D experiment that doubled previous limits on plasma pressure; and the development, by researchers at the Alcator C-Mod, of a technique known as “off-axis ion cyclotron radio frequency heating” that can reduce energy transport. Greatly reduced energy transport has also been achieved in the Reversed Field Pinch (RFP), an innovative confinement concept experiment at the University of Wisconsin. New models for microstructural evolution enable nanosystem methods for designing fusion materials with significantly improved performance and lifetimes and with elemental tailoring that minimizes radioactivity generation by neutron-induced transmutation.

#### U.S. TECHNOLOGICAL COMPETITIVENESS

*Twelve Companies Adopt Argonne Lab/University of Southern California (USC) Globus Toolkit™ as Standard Grid Technology Platform.*—The open source Globus Toolkit™ developed by USC’s Information Sciences Institute and Argonne National Laboratory has become the international standard in the burgeoning field of grid computing. Twelve leading computer vendors and software providers in the U.S. and Japan announced in November 2001, that they will support the product. Grid computing is a technology that uses the Internet as basic wiring to let people share computing, storage, data, programs, and other resources, just like the electric power grid allows people and energy companies to share generators of all kinds. The goal is to allow anyone with a computer to effectively integrate instruments, displays, and computational and information resources over a variety of computer platforms.

*Nuclear Physics Research Results in New Biomedical Technology for Imaging Lung Functions.*—A new technique has been developed by university researchers that enhances MRI imaging of lungs through the use of “hyperpolarized gas.” The technique, initially developed to provide polarized targets for nuclear physics experiments, uses lasers to polarize large volumes of noble gases that can then be inhaled. The MRI equipment detects the resonance of the polarized gas to provide an image of the air volume of the lungs. The process is presently undergoing clinical trials.

#### ADVANCES IN FUNDAMENTAL KNOWLEDGE

*Basic Constituencies of Matter Identified.*—The tau neutrino was discovered by the DONUT collaboration, a team of university and laboratory scientists working at Fermilab. This completed the last generation of leptons, and capped a major American achievement: the discovery of 11 of the 12 basic constituents of matter, the quarks and leptons of the Standard Model of elementary particles. (The first of the 12, the electron, was discovered in England in 1897.) The discovery of the tau neutrino is considered by the American Institute of Physics to be one of the top three physics news stories of the year 2000, and has been published in peer reviewed scientific journals.

*New Nuclear Physics Research Tool has Potential for Important Applications.*—A new precision technique for Atom Trap Trace Analysis (ATTA) to identify and count extremely rare isotopes has been developed at Argonne National Laboratory. The technique allows one to make precision measurements of the charge radius of several helium isotopes for fundamental tests of nuclear models and to measure the solar neutrino flux integrated over several million years as a test of the solar model prediction for neutrino production in the sun. The latter is an important test for understanding the low solar neutrino flux problem. This technique also potentially has broad new practical applications, such as dating ground water and polar ice for environmental and geologic studies, dating bones for archeological purposes, and, in medicine, monitoring bone loss in humans.

*Mystery of Missing Solar Neutrinos is Solved.*—A highlight of fiscal year 2001 for the NP program was the reported measurements from the Sudbury Neutrino Observatory (SNO), providing an answer to a 30-year-old mystery—the puzzle of why there are fewer solar neutrinos detected than are expected. NP researchers, working



with scientists from Canada and other nations, found that the answer lies not with the Sun, but with the neutrinos that change their type (oscillate) as they travel from the core of the Sun to the Earth. In fiscal year 2002–2005, SNO will make unique and more sensitive measurements of the flux and spectra of solar neutrinos. Neutrino oscillations are evidence that neutrinos have mass, an observation that forces a re-evaluation of the existing Standard Model of particle physics.

#### MAJOR SCIENTIFIC AWARDS

*Office of Science Researchers Win Awards and Recognition.*—Hundreds of principal investigators, funded by the Office of Science, annually win dozens of major prizes and awards sponsored by the President, the Department, the National Academy of Sciences, private organizations, and the major scientific professional societies. In 2001, SC-supported researchers won: one of the 2001 Discover Magazine Innovation Awards; the 2001 Christopher Columbus Foundation Award, the 2001 Thomas Young Medal; the Humboldt Research Award; three 2001 R&D 100 awards; an 2001 Energy 100 award; and a 2001 Federal Laboratory Consortium Award for excellence in Technology Transfer. Of special note was the fact that the supercomputing conference series initiated a Network Bandwidth Challenge in 2000, in which researchers were invited to demonstrate their ability to maximize network performance for their application. In both 2000 and 2001, the first prize for optimal use of the network went to a DOE laboratory-led application. In 2001, the prize-winning application was based on an interactive, scientific simulation running at two separate supercomputers. The results of the simulation were sent to the conference floor over the network and visualized at a sustained network performance level of 3.3 gigabits per second, or approximately 1,000 times faster than commercially available Digital Subscriber Lines.

#### SCIENCE PROGRAMS

##### HIGH ENERGY PHYSICS

Fiscal year 2002 Appropriation—\$713.2M; fiscal year 2003 Request—\$725.0M

The High Energy Physics (HEP) program provides over 90 percent of the Federal support for the Nation's high energy physics research. This research seeks to understand the nature of matter and energy at the most fundamental level, as well as the basic forces that govern all processes in nature. High energy physics research requires accelerators and detectors utilizing state-of-the-art technologies in many areas, including: fast electronics, high speed computing, superconducting magnets, and high power radio-frequency devices. In these areas, HEP research has led to many developments with practical applications in the civilian marketplace as well as to widespread applications in other scientific disciplines. In addition, this program provides the basis for an excellent education for some of the brightest young minds in the Nation—a number of whom contribute to other scientific fields and to private industry.

Until 2006, when Europe's Large Hadron Collider is scheduled to begin operations, the U.S. is the primary center for HEP research. Increased operating time and enhanced capabilities at HEP facilities are essential to ensure that the U.S. remains a leader in this fundamental area of physics research. Beginning in fiscal year 2002, the Department's HEP program focused its resources to take full advantage of this window of opportunity, particularly at Fermilab and the Stanford Linear Accelerator Center (SLAC). This focus continues in fiscal year 2003. At Fermilab, following completion and successful commissioning of the Main Injector and major upgrades to the CDF and D-Zero detectors, the Tevatron Collider Run II began in March 2001. The Tevatron will be running fully in fiscal year 2003 toward a goal of discovering the long-sought Higgs particle (thought key to understanding mass) and other important new physics. Upgrades are planned for fiscal year 2003 to increase collider luminosity, maintain detector performance, and provide the computing capability to analyze the data collected.

Similarly at SLAC, there is a window of opportunity to take advantage of the outstanding performance of the B-factory to break new ground in exploring the source and nature of Charge-Parity (CP) violation in the B meson system. For this reason, maximum running is planned for the B-factory in fiscal year 2003. Upgrades are planned in fiscal year 2003 for the accelerator to achieve optimal physics output and for the detector and computing capabilities to cope with high data volumes. In 2001, the BaBar detector collaboration achieved one of its physics milestones, announcing the first definitive measurement of CP violation in the B meson system.

The High Energy Physics request includes \$480,453,000 to maintain support of the Department's scientific user facilities. This investment will provide significant

research time for several thousand scientists based at universities and other Federal laboratories. The proposed funding will support operations at the Department's two high priority HEP facilities: the Tevatron at Fermilab, and the B-factory at SLAC. Although the Alternating Gradient Synchrotron (AGS) at Brookhaven is a Nuclear Physics facility, high priority HEP experimentation continued there through fiscal year 2002. Due to a restructuring of priorities within the program, use of the AGS for HEP is terminated in fiscal year 2003.

Support for university and laboratory based theoretical and experimental research related to the high priority experiments at Fermilab and SLAC will continue to be emphasized in fiscal year 2003. The experimental programs are performed by university (primarily) and laboratory based scientists. These scientists construct, operate, and maintain the detectors, analyze the resulting data, and train the next generation of scientists. High Energy Physics Research and Technology funding will increase in fiscal year 2003 by \$14,320,000 to a total of \$258,545,000 with emphasis on the high priority experiments at Fermilab and SLAC.

Successful completion of construction and major capital equipment projects continues to be an important part of the program. Continued participation in the Large Hadron Collider (LHC) project at CERN is a high priority. The U.S. contributions to the LHC accelerator and the ATLAS and CMS detectors are making good progress and are on schedule and within budget for the current LHC scheduled start-up date of 2006. The U.S. LHC work is being performed at various locations including four DOE laboratories and 60 U.S. universities. In fiscal year 2003, \$60,000,000 of LHC funding will be used for the fabrication of accelerator magnets and equipment and the R&D, prototype development, and fabrication of detector subsystems such as tracking chambers, calorimeters, and data acquisition electronics.

The Neutrinos at the Main Injector (NuMI) project has encountered serious problems in several areas. These include difficulties with the construction of the beam tunnel at Fermilab and design changes in the beam line components and shielding needed to accommodate the high radiation levels resulting from the very high intensity of the proton beam used to produce the neutrinos. Principal corrective actions for the NuMI project were strengthening Fermilab's project management organization and improving DOE oversight through additional staff in the site office and closer interaction with the NuMI program office. The MINOS detector for NuMI is proceeding well, and its completion is expected within the projected cost and schedule. Because of these developments, the project costs for NuMI have risen. The total project cost is increased to \$171,442,000 from the previously approved \$139,390,000, and the total estimated cost is increased to \$109,242,000 from the previously approved \$76,149,000. The completion will be delayed by about two years to the end of fiscal year 2005. In fiscal year 2003, the HEP program requests \$20,093,000 for continued construction of the NuMI project.

Progress continues on two particle astrophysics experiments in partnership with NASA. The Alpha Magnetic Spectrometer (AMS) is expected to fly on Space Station Alpha in 2004, and the Large Area Telescope (LAT) mission, that is part of the Gamma-Ray Large Area Space Telescope (GLAST), is planned for 2006. Both of these experiments are expected to lead to a better understanding of dark matter, high energy gamma ray sources, and the origin of the universe.

#### NUCLEAR PHYSICS

Fiscal year 2002 Appropriation—\$359.0M; fiscal year 2003 Request—\$382.4M

The Nuclear Physics (NP) program is the major sponsor of fundamental nuclear physics research in the Nation, providing about 90 percent of Federal support. The mission of this program is to advance our knowledge of the properties and interactions of atomic nuclei and nuclear matter in terms of the fundamental forces and particles of nature; and, to develop the scientific knowledge, technologies and trained manpower that is needed to underpin DOE's missions for nuclear-related national security, energy, and environmental quality.

In fiscal year 2003, highest priority is given to enhancing the operations of the program's user facilities, especially major new facilities that have started operations: the Relativistic Heavy Ion Collider (RHIC) and the Continuous Electron Beam Accelerator Facility (CEBAF). These facilities are poised to make major advances in our understanding of matter and energy. The Nuclear Physics request includes \$260,140,000 to maintain support of the Department's scientific user facilities. Funding will double operations for research at RHIC and increase overall research hours at the six NP user facilities by 21 percent in fiscal year 2003. This investment will provide research time for several thousand scientists in universities and other Federal laboratories. It will also leverage both Federally and privately

sponsored research, consistent with the Administration's strategy for enhancing the U.S. national science investment. High priority is also given to university researchers who use these facilities and to nuclear theory activities that continue to characterize atomic nuclei, nuclear matter, and related forces.

The new RHIC facility at BNL will attempt to create and characterize the quark-gluon plasma, a phase of matter thought to have existed in the very early stage of the universe. Experimental data taken between fiscal year 2000–2002 have already revealed unexpected behaviors and show aspects of possible plasma formation. RHIC achieved its planned full collision rate in fiscal year 2002 and in fiscal year 2003 the running schedule will be doubled, providing the opportunity to explore this exciting new physics in depth.

At the Thomas Jefferson National Accelerator Facility (TJNAF) the intense, polarized electron beams from CEBAF are being used to gain knowledge and insights on how quarks and gluons bind together to make protons and neutrons. In fiscal year 2003, funding will support an aggressive experimental program with the newly completed G0 detector, to map out the strange quark contribution to the structure of the nucleon.

The unique research program studying the structure of the nucleon at the MIT/Bates facility with the BLAST detector, now being commissioned, will be initiated in fiscal year 2003. Nuclear structure and astrophysics studies will be pursued at the three low-energy user facilities (ATLAS/Argonne, 88-Inch Cyclotron/Lawrence Berkeley and HRIBF/Oak Ridge) with increased running schedules compared to fiscal year 2002.

#### BIOLOGICAL AND ENVIRONMENTAL RESEARCH

Fiscal year 2002 Appropriation—\$570.3M; fiscal year 2003 Request—\$504.2M

The Biological and Environmental Research (BER) program, in coordination with other Federal agencies and with guidance from the BER Advisory Committee, supports basic, peer-reviewed research at national laboratories and universities across a remarkable breadth of scientific fields ranging from global climate change to genomics. The 21st Century has been called the “biological century” because advances in biology are expected to have an enormous impact on health, environment, and our ability to predict changes in climate. In fiscal year 2003, the BER program will contribute to these advances through basic research in support of DOE missions.

The fiscal year 2003 request for BER includes \$52,088,000 to maintain support of the Department's major scientific user facilities. BER facilities include structural biology research beam lines at the synchrotron light sources and neutron sources including a new station for small angle neutron scattering that has been completed at Oak Ridge National Laboratory and provides U.S. scientists with a much needed world-class facility. The Laboratory for Comparative and Functional Genomics at Oak Ridge National Laboratory will begin operations in fiscal year 2003. BER also provides for the operation of the William R. Wiley Environmental Molecular Sciences Laboratory, where research activities underpin long-term environmental remediation and other DOE missions in energy and national security, and creation of tools for the detection and defeat of bioterrorism. With the fiscal year 2003 funding, BER will provide for the operation of these facilities, assuring access for scientists in universities, Federal laboratories, and industry. BER will also leverage both federally and privately sponsored research.

Genomes to Life activities will develop novel research and computational tools that, together with capabilities in genomics, structural biology, and imaging will lead to an understanding of and predictive capabilities for complex biological systems. In fiscal year 2003, the BER program will further develop the research infrastructure needed for Genomes to Life research. In fiscal year 2002, the program funded several large teams of scientists at multiple national laboratories and universities to work together across institutional boundaries as members of virtual, distributed research centers addressing core questions for Genomes to Life. These virtual research centers will be expanded in fiscal year 2003 to include research capabilities needed for analyses of the functions of microbial populations comprised of multiple microbial species, enabling the development of strategies for using complex microbial communities to address DOE needs in clean energy production, carbon sequestration, and environmental cleanup. The fiscal year 2003 BER request for this program is \$36,675,000—an increase of \$15,161,000.

Human Genome research continues to develop advanced sequencing technologies needed by research and clinical scientists. It provides high throughput DNA sequencing resources to address sequencing needs across the Federal Government, including for biothreat reduction. With the completion of the high quality DNA se-

quence of human chromosomes 5, 16, and 19, DNA sequencing capabilities at the Joint Genome Institute will increasingly emphasize the needs of research on microbes for energy, the environment, and national security and, through interagency partnerships, selected sequencing needs of other agencies including the National Science Foundation and the U.S. Department of Agriculture. BER requests \$90,185,000 for this research in fiscal year 2003—an increase of \$2,327,000 over the fiscal year 2002 appropriation.

The goal of the Low Dose Radiation Research program is to support research that will help determine health risks from exposures to low levels of ionizing radiation, information that is critical to adequately and appropriately protect people, and to make the most effective use of our national resources. In fiscal year 2003, BER will continue to emphasize the use of new tools such as microbeam irradiators, the characterization of individual susceptibility to radiation, and the forging of closer, more productive linkages between experimentalists and risk modelers—a relationship that lies at the critical interface between experimental science, risk analysis, and the development of better risk management policies.

BER sponsored environmental research will improve regional and global scale climate models, simulations and predictions. Fiscal year 2003 will see the development of an improved climate model with twice the spatial resolution of the previous version. Atmospheric Radiation Measurement research will advance our understanding of the role of clouds and solar radiation to reduce uncertainty in climate models and increases our understanding of the water cycle to better predict precipitation patterns. In fiscal year 2003, these U.S. Global Climate Research Program (USGCRP) efforts will be increased \$6,001,000 over the fiscal year 2002 appropriation for a total of \$126,169,000. BER climate research in carbon and ecosystems also underpins the Administration's Climate Change Research Initiative (CCRI). The objective of the BER research is to quantify the North American carbon cycle and to understand the effects of elevated carbon dioxide on terrestrial ecosystems.

BER bioremediation research will continue its focus on the biotransformation of radionuclides and metals at contaminated DOE sites, the community of microbes that affect the transformations in subsurface environments at the sites, and the development of strategies for using bioremediation to clean up or stabilize these contaminants at DOE sites. In fiscal year 2003 the Environmental Management Science Program (EMSP) and the Savannah River Ecology Laboratory will be transferred from the Office of Environmental Management (EM) to the Office of Science. BER will manage these research activities according to Office of Science principles, but with extensive input from EM.

In fiscal year 2003, funding for the followup of all patients treated in the human clinical trials of boron neutron capture therapy (BNCT) at Brookhaven National Laboratory and the Massachusetts Institute of Technology will be completed, and the clinical studies will be transferred to the National Cancer Institute of the National Institutes of Health.

#### BASIC ENERGY SCIENCES

Fiscal year 2002 Appropriation—\$999.6M; fiscal year 2003 Request—\$1,019.6M

The Basic Energy Sciences (BES) program is a principal sponsor of fundamental research for the Nation in the areas of materials sciences and engineering, chemistry, geosciences, and bioscience as it relates to energy. This research underpins DOE missions in energy, environment, and national security; advances energy related basic science on a broad front; and provides unique user facilities for the U.S. scientific community.

In fiscal year 2003, the engineering activity of the formerly separate Engineering and Geosciences subprogram becomes part of the new Materials Sciences and Engineering subprogram. The Geosciences activity and the Energy Biosciences subprogram become part of the new Chemical Sciences, Geosciences, and Energy Biosciences subprogram. This directly aligns Basic Energy Sciences program management and organizational structures.

The BES program request includes \$313,887,000 in fiscal year 2003 to maintain support of the scientific user facilities. Research communities that have benefited from these facilities include materials sciences, condensed matter physics, chemical sciences, earth and geosciences, environmental sciences, structural biology, superconductor technology, medical research, and industrial technology development. The level of operations will be equal to that in fiscal year 2002.

A high priority in fiscal year 2003 is continued construction of the Spallation Neutron Source (SNS) to provide the next-generation, short-pulse spallation neutron source for neutron scattering. BES requests \$210,571,000 in fiscal year 2003 to fund construction of the SNS. When completed in 2006, the SNS will be significantly

more powerful (by about a factor of 10) than the best spallation neutron source now in existence and will be used by 1,000–2,000 researchers from academia, national and Federal labs, and industry for basic and applied research and for technology development in fields ranging from condensed matter physics to biology. The project, which is to be completed in June 2006, is on schedule and within budget with more than one-third of the work completed as of the end of October 2001. At the end of fiscal year 2003, construction of the SNS will be 61 percent complete.

BES requests \$6,000,000 in Project Engineering Design (PED) funding for the Linac Coherent Light Source (LCLS) at the Stanford Linear Accelerator Center. The LCLS project will provide the world's first demonstration of an x-ray free-electron-laser (FEL) in the 1.5–15 angstrom range (about the scale of individual atoms). The purpose of the LCLS project is to provide laser-like radiation in the x-ray region vastly exceeding the capabilities of current x-ray sources in three key areas: peak brightness, coherence, and ultrashort pulses. For example, the advance in brightness is similar to that of a modern synchrotron over a 1960's laboratory x-ray tube. These characteristics open new realms of scientific applications in the chemical, material, and biological sciences including fundamental studies of the interaction of intense x-ray pulses with simple atomic systems, structural studies on single nanoscale particles and biomolecules, ultrafast dynamics in chemistry and solid-state physics, studies of nanoscale structure and dynamics in condensed matter, and use of the LCLS to create plasmas. Synchrotrons have revolutionized science across disciplines ranging from atomic physics to structural biology. Advances from the LCLS are expected to be equally dramatic. The preliminary Total Estimated Cost (TEC) is in the range of \$165,000,000 to \$225,000,000.

In fiscal year 2003, BES will expand research in selected areas of nanoscale science, engineering, and technology (NSET) research and will continue design of three and begin construction for one Nanoscale Science Research Center (NSRC). NSRCs are user facilities for the synthesis, processing, fabrication, and analysis of materials at the nanoscale, and they will serve the Nation's researchers broadly. Funds are requested in fiscal year 2003 to start construction of the NSRC located at Oak Ridge National Laboratory (ORNL); and for continued Project Engineering Design of the three NSRCs located at ORNL, Lawrence Berkeley National Laboratory, Sandia National Laboratories (Albuquerque)/Los Alamos National Laboratory. These NSRCs were chosen by peer review from among those proposed, and the Basic Energy Sciences Advisory Committee has played a strong role in monitoring the development of the facilities and shaping their progress.

Fundamental research to understand the properties of materials at the nanoscale will be increased in three areas: synthesis and processing of materials at the nanoscale, condensed matter physics, and catalysis. In the area of synthesis and processing, new activities will develop a fundamental understanding of nanoscale processes involved in deformation and fracture, synthesis of ordered arrays of nanoparticles using patterning techniques, and synthesis of nanoparticles of uniform size and shape. In condensed matter physics, new activities will focus on understanding how properties change or can be improved at the nanoscale and how macromolecules reach their equilibrium configuration and self assemble into larger structures. In catalysis, new work will focus on fundamental research to understand the role nanoscale properties of materials play in altering and controlling catalytic transformations. These research efforts will benefit significantly from the NSRCs. They will also benefit from the specialized computational tools for nanoscale science under development by the Advanced Scientific Computing Research (ASCR) program.

#### ADVANCED SCIENTIFIC COMPUTING RESEARCH

Fiscal year 2002 Appropriation—\$157.4M; fiscal year 2003 Request—\$169.6M

The mission of the Advanced Scientific Computing Research (ASCR) program is to foster and support fundamental research in advanced scientific computing (applied mathematics, computer science, and networking) and to provide the high performance computational and networking tools that enable DOE to succeed in its science, energy, environmental quality, and national security missions. A Federally-chartered advisory committee established in fiscal year 2000 guides ASCR by providing advice on: promising future directions for advanced scientific computing research; strategies to couple advanced scientific computing research to other disciplines; and the relationship of the DOE program to other Federal investments in information technology research.

In fiscal year 2003, the ASCR program will continue to build on its leadership in high performance computing and networks by supporting the "Scientific Discovery through Advanced Computing" (SciDAC) program, and initiating new partnerships

with the scientific disciplines in the Office of Science. SciDAC is a collaborative program across the Office of Science to produce the scientific computing, networking and collaboration tools that DOE researchers will require to address the scientific challenges of the next decade. This program was described in the March 2000 report to Congress entitled, "Scientific Discovery through Advanced Computing."

The SciDAC research portfolio will achieve several milestones in fiscal year 2003. The Integrated Software Infrastructure Centers (ISICs) will complete design work and will deliver initial implementation of the software infrastructure on which the applications will rely for optimal performance and scalability on terascale platforms. The Applied Mathematics ISICs will deploy a suite of robust and scalable software solvers. The Computer Science ISICs will deploy software for high-throughput access to terascale datasets, and will deploy a collection of software tools for managing and monitoring large collections of distributed computing resources.

The ASCR program request includes \$28,244,000 in fiscal year 2003 to support the National Energy Research Scientific Computing (NERSC) Center. This investment will provide computer resources for about 2,400 scientists in universities, Federal agencies, and U.S. companies. It will also leverage both federally and privately sponsored research, consistent with the Administration's strategy for enhancing the U.S. national science investment. The proposed funding will enable NERSC to maintain its role as one of the Nation's premier unclassified computing centers, serving research communities in structural biology; superconductor technology; medical research and technology development; materials, chemical, and plasma sciences; high energy and nuclear physics; and environmental and atmospheric research.

The Mathematical, Information, and Computational Sciences (MICS) effort is responsible for carrying out the primary mission of the ASCR program. In addition, MICS research underpins the success of SciDAC. The computing and networking requirements of the Office of Science far exceed the current state-of-the-art and the tools that the commercial marketplace will deliver. MICS supports both basic research and the development of the results from this basic research into software usable by scientists in other disciplines. MICS also supports partnerships with scientific discipline users to test the usefulness of the research—facilitating the transfer of research and helping to define promising areas for future research. This integrated approach is critical for MICS to succeed in providing the extraordinary computational and communications tools that DOE's civilian programs need to carry out their missions. It is important to note that these tools have applications beyond the Office of Science, including to NNSA and the private sector after these tools have been initially discovered and developed by the MICS subprogram. In fiscal year 2003, the MICS subprogram requests \$166,625,000, an increase of \$12,225,000, to invest in applied mathematics, computer and computational science, and high performance networking, middleware and collaborative research.

The Laboratory Technology Research (LTR) effort supports high-risk research that advances science and technology to enable applications that could significantly impact the Nation's energy economy. The research portfolio consists of 12 projects and emphasizes the following topics: advanced materials processing and utilization, nanotechnology, intelligent processes and controls, and energy-related applications of biotechnology. LTR fosters the production of research results motivated by a practical energy payoff through cost-shared collaborations between the Office of Science laboratories and industry. The fiscal year 2003 request for the Laboratory Technology Research subprogram is \$3,000,000.

#### FUSION ENERGY SCIENCES

Fiscal year 2002 Appropriation—\$247.5M; fiscal year 2003 Request—\$257.3M

The Fusion Energy Sciences (FES) program leads the national research effort to advance plasma science, fusion science, and fusion technology—the knowledge base needed for an economically and environmentally attractive fusion energy source. The science and technology of fusion have progressed to the point that the next major research step is the exploration of the physics of a self-sustained fusion reaction in a burning plasma physics experiment. FES will fund research that supports such an experiment. In addition, FES will fund the exploration of innovative approaches to confining, heating, and fueling plasmas.

FES has two major foci in fiscal year 2003. One is to begin the engineering design and fabrication of the National Compact Stellarator Experiment (NCSX) to provide scientists with a facility for studying the physics and comparing alternative configurations to the tokamak. Acting on the recommendations of the Fusion Energy Sciences Advisory Committee, based on years of study, the FES program will begin fabrication of the NCSX at the Princeton Plasma Physics Laboratory in fiscal year 2003. A national team is working on the design of a medium-size NCSX that would

be used to study plasma turbulence, energy and particle transport, and stability in this novel geometry. This experiment is expected to begin operations in 2007 with a preliminary Total Estimated Cost of \$69,000,000. In fiscal year 2003, \$11,026,000 is requested for NCSX fabrication, engineering and design.

The second supports significantly expanded operating time at three national fusion scientific user facilities to resolve issues in energy transport and plasma stability. The FES fiscal year 2003 request includes \$111,037,000, which will help reverse a recent trend of declines in operating time at the FES user facilities. The Department's three major fusion energy physics facilities are: the DIII-D tokamak at General Atomics in San Diego, California; the Alcator C-Mod Tokamak at the Massachusetts Institute of Technology; and the National Spherical Torus Experiment at the Princeton Plasma Physics Laboratory. These three facilities are each unique in the world, and offer opportunities to address specific fusion science issues that will contribute to the expanding knowledge base of fusion. Taken together, these facilities represent a nearly \$1,000,000,000 capital investment by the U.S. Government, in current year dollars. The funding requested will provide research time for about 560 scientists in universities, federally sponsored laboratories, and industry, and will leverage both federally and internationally sponsored research, consistent with a strategy for enhancing the U.S. National science investment.

FES will also support innovation in fusion energy, plasma science and related technologies as one element of the Administration's National Energy Policy. Exploratory research will also continue on more than a dozen small-scale, alternative concept devices and basic science experiments, focusing on the scientific topics for which each experiment is optimized. The theory and modeling program provides the conceptual underpinning for the fusion sciences program and the general plasma science program supports basic plasma science and engineering research. The fiscal year 2003 request supports increases in research funding in these areas and at the three FES facilities with increased operating time. The fiscal year 2003 request also includes a modest increase in the science of materials for fusion energy systems.

#### ENERGY RESEARCH ANALYSES

Fiscal year 2002 Appropriation—\$1.0M; fiscal year 2003 Request—\$1.0M

The mission of the Energy Research Analyses (ERA) program is to provide the capabilities needed to evaluate the scientific excellence, relevance, and international leadership of the Office of Science basic science research programs; to advance the understanding of how the Office of Science contributes to DOE and national mission goals; and to contribute to the effective management of the department's science enterprise.

The fiscal year 2003 program is continuing at the same level as fiscal year 2002, but shifting its emphasis to new methods of evaluation of the science managed by the Office of Science. This shift in emphasis results from research conducted in fiscal year 2001 and continuing in fiscal year 2002 that was designed to create new evaluation tools (e.g., case studies, quantitative measures, and data mining) that will help to validate the excellence, relevance and leadership of the Office of Science programs.

#### SCIENCE PROGRAM DIRECTION

Fiscal year 2002 Appropriation—\$152.5M; fiscal year 2003 Request—\$139.5M

Science Program Direction (SCPD) enables a skilled, highly motivated Federal workforce to manage the Office of Science's basic and applied research portfolio, programs, projects, and facilities in support of new and improved energy, environmental, and health technologies, and educational opportunities. SCPD consists of three subprograms: Program Direction, Science Education, and Field Operations.

The Program Direction subprogram supports Federal staff responsible for directing, administering, and supporting the broad spectrum of scientific disciplines. The Science Education subprogram supports four educational human resource development programs that train students to enter careers in science, mathematics, engineering, and technology. The Field Operations subprogram is the funding source for the Federal workforce in the Field responsible for management and administrative functions performed within the Chicago and Oak Ridge Operations Offices, and site offices supporting Office of Science laboratories and facilities.

#### SAFEGUARDS AND SECURITY

Fiscal year 2002 Appropriation—\$43.1M; fiscal year 2003 Request—\$43.7M

The Safeguards and Security (S&S) program ensures appropriate levels of protection against unauthorized access, theft, diversion, loss of custody, or destruction of DOE assets and hostile acts that may cause adverse impacts on fundamental

science, national security or the health and safety of DOE and contractor employees, the public or the environment. The Office of Science's Integrated Safeguards and Security Management strategy encompasses a tailored approach to safeguards and security. As such, each site has a tailored protection program that is analyzed and defined in their individual Security Plan. This approach allows each site to design varying degrees of protection commensurate with the risks and consequences described in their site-specific threat scenarios.

In fiscal year 2002 increased program emphasis was provided to cyber security commensurate with increased threats and technology advances. These improvements are in place and continue to be updated commensurate with technology advances and program risks. Physical security upgrades will be completed to ensure the protection of special nuclear materials as well as technical enhancements to electronic access controls.

The fiscal year 2003 request meets minimum, essential security requirements. Protection of employees and visitors is of primary concern, as well as protection of special nuclear material and research facilities, equipment and data. As such, priority attention is given to protective forces, physical security systems, and cyber security.

#### SCIENCE LABORATORIES INFRASTRUCTURE

Fiscal year 2002 Appropriation—\$37.1M; fiscal year 2003 Request—\$42.7M

The mission of the Science Laboratories Infrastructure (SLI) program is to enable the conduct of Departmental research missions at Office of Science laboratories by funding line item construction projects to maintain the general purpose infrastructure and the clean up for reuse or removal of excess facilities. The program also supports the Office of Science landlord responsibilities for the 24,000-acre Oak Ridge Reservation and provides Payments in Lieu of Taxes (PILT) to local communities around Argonne-East, Brookhaven, and Oak Ridge National Laboratories.

In fiscal year 2003, the SLI program has been broadened to include all of the Office of Science laboratories and the Oak Ridge Institute for Science and Education. A new subprogram, Excess Facilities Disposition, has been added to address the disposal of excess facilities at the Office of Science laboratories. Funding for fiscal year 2003 is \$5,055,000 and will eliminate or clean up 176,000 square feet of excess space. The Facilities and Infrastructure (F&I) program funded by Congress at \$10,000,000 in fiscal year 2002, is being used to eliminate or clean up about 400,000 square feet of excess space. This F&I program was merged with the Multiprogram Energy Laboratories—Facilities Support (MEL-FS) program to form the SLI program in the fiscal year 2003 request.

Construction funding for fiscal year 2003 will increase by \$9,785,000 over fiscal year 2002—reflecting the need to modernize the Office of Science laboratories. Three new construction starts are planned for fiscal year 2003 including two buildings that will replace 71,000 square feet of space that cannot be economically renovated to support modern research.

Three projects were completed in fiscal year 2001: the Argonne-East Central Supply Facility; the Brookhaven Electrical Systems Modifications, Phase I; and the Argonne-East Electrical Systems Upgrade, Phase III. Two projects are scheduled for completion in fiscal year 2002: Lawrence Berkeley Building 77—Rehabilitation of Building Structure and Systems, Phase I and the Brookhaven Sanitary Systems Modifications, Phase III. In fiscal year 2003, two projects are scheduled for completion: Oak Ridge Electrical Systems Upgrades and the Argonne-East Fire Safety Improvements, Phase IV.

#### ENERGY SUPPLY R&D PROGRAMS TECHNICAL INFORMATION MANAGEMENT

Fiscal year 2002 Appropriation—\$8.1M; fiscal year 2003 Request—\$8.4M

The Technical Information Management (TIM) program, managed by the Office of Scientific and Technical Information (OSTI), in the Office of Science, provides electronic access to worldwide energy scientific and technical information to DOE researchers, U.S. industry, academia, and U.S. citizens. This is accomplished through a set of Internet-based information products for technical reports, scientific journals, and preprints—the three main sources in which scientific and technical information is recorded. In addition, the TIM program produces an inventory of R&D projects in progress across the Department.

In fiscal year 2003, the TIM program will continue to lead DOE e-government initiatives for disseminating information, which include building the world's most comprehensive collection of physical sciences information and providing improved electronic access to full-text gray literature (literature not commercially available), jour-



nal literature, and preprints through partnerships with academia and the commercial sector.

The TIM program accomplishments for fiscal year 2001 include expanded and increased access to published and pre-printed scientific and technical information via cost-effective information retrieval systems, resulting in a 25 percent increase in users served; completion of the DOE goal to transition to electronic scientific and technical reporting; taking a leadership role in the development of science.gov, the Interagency FirstGov for Science web resource; and launching the Energy Citations Database, a new web-based information product containing over 2,000,000 bibliographic records for energy and energy-related scientific and technical information from DOE and its predecessor agencies.

#### CONCLUSION

The Office of Science occupies a unique and critical role within the U.S. scientific enterprise. We fund research projects in key areas of science that our Nation depends upon. We construct and operate major scientific user facilities that scientists from virtually every discipline are using on a daily basis, and we manage civilian national laboratories that are home to some of the best scientific minds in the world.

Our researchers are working on many of the most daunting scientific challenges of the 21st Century, including pushing the frontiers of the physical sciences through nanotechnology, and exploring the basic mechanisms of life through our Genomes to Life program.

I want to thank you, Mr. Chairman, for providing this opportunity to discuss the Office of Science's research programs and our contributions to the Nation's scientific enterprise. On behalf of DOE, I am pleased to present this fiscal year 2003 budget request for the Office of Science.

This concludes my testimony. I would be pleased to answer any questions you might have for me.

Senator REID. Mr. Magwood.

#### STATEMENT OF WILLIAM MAGWOOD

Mr. MAGWOOD. Thank you, Mr. Chairman, and Senator Domenici. I am Bill Magwood, Director of the Office of Nuclear Energy Science and Technology. We do have a few short slides to show you today. I am very pleased to be here to discuss the President's fiscal year 2003 budget request. I will submit my written statement for the record and I have a few summary points I would like to make.

First, I would like to thank the subcommittee for the leadership and vision it has demonstrated over the last 3 years. Without your efforts, it is fair to say that there would be no substantial nuclear energy research program in the United States and for that we owe you a great deal of thanks.

Your leadership has begun to bear fruit. In terms of both near-term deployment of nuclear power plants and in exploration of the long-term nuclear technologies, we have significant progress to report. In the case of the near-term, I believe the national discussion regarding the future of nuclear energy has changed significantly. The President, the Vice President, and the Secretary of Energy have all urged serious consideration of the nuclear power option.

#### NUCLEAR POWER 2010

Just last month, Secretary Abraham announced the Nuclear Power 2010 Initiative aimed at building new plants in the United States by the end of the decade. Under this initiative, we will collaborate with industry to explore sites that could host new nuclear power plants, to demonstrate untested regulatory processes, and to conduct research needed to bring the most advanced technologies to market.

How practical is this goal? We asked the independent experts at the Nuclear Energy Research Advisory Committee to work directly with the utility industry to find out. As you can see in this first chart, NERAC has concluded there are several nuclear plant concepts that can be brought to the market by the end of the decade—if DOE and industry work together to accomplish the tasks described by Secretary Abraham last month.

Congress has a very important role in encouraging these activities. We applaud the efforts to pass energy legislation that articulates the benefits of nuclear energy and seeks to remove the barriers to its expanded use. Just last week, the Senate passed Price-Anderson reauthorization as part of its bill, which is so critical to proceeding with new nuclear power plants. We thank Senators Craig and Domenici for sponsoring an amendment on Nuclear Power 2010 which also passed earlier this week.

#### NUCLEAR ENERGY RESEARCH INITIATIVE

We are also seeing great success in the exploration of long-term technologies. At the core of our long-range R&D agenda is the Nuclear Energy Research Initiative, or NERI. As you can see from this slide, this investigator-initiated, peer-reviewed research program has re-energized advanced nuclear energy research in this country. Over its 3-year existence, NERI projects have been conducted at 53 U.S. research organizations in 22 States, including 24 universities, 9 national laboratories, and other institutions.

Importantly, U.S. universities have participated in 66 NERI projects. One hundred thirty students have worked on NERI research and 51 doctoral students and 57 graduate students have prepared their thesis based on NERI research. We are very proud of this contribution.

NERI has also made important contributions to science and technology. For example, the University of Florida has developed a radiation-resistant silicon-carbide material with excellent thermodynamic properties that can improve the economics of nuclear fuel. Another example: An international team led by Westinghouse is developing the IRIS concept, an innovative passively-safe and proliferation-resistant water-cooled reactor that can be made available as early as the turn of the century. Leveraging a 1999 NERI award, a significant international research effort has been established that involves nearly 250 scientists and engineers worldwide.

#### GENERATION IV INITIATIVE

IRIS is but one of more than a hundred concepts that have been evaluated in the Generation IV initiative. As you can see in this slide, the Generation IV initiative is designed to identify and develop next generation advanced reactor fuel cycle technologies that can become available before 2030. These technologies will offer significant advantages towards meeting the challenging goals for sustainability, safety, reliability, and economics established by NERAC and now accepted by the international community.

Working with NERAC in the ten-nation Generation IV international forum which DOE helped establish, we are developing a Generation IV technology roadmap which will identify the most promising concepts. The roadmap, which is being written by over

100 technical experts from all over the world, will identify the research and development needed to bring these concepts to reality. We will provide you with the results of this work next spring.

#### SPENT FUEL PYROPROCESSING AND TRANSMUTATION

As shown in this last chart, our fiscal year 2003 budget request fully integrates all the Department's advanced nuclear fuel cycle research programs into a single program—Spent Fuel Pyroprocessing and Transmutation. We are combining the related technology activities being conducted at Los Alamos, Argonne, and Oak Ridge National Laboratories and also the work ongoing at the University of Nevada-Las Vegas into a single integrated program to explore both reactor and accelerator technologies designed to deal with spent fuel.

Clearly, our budget request does not represent a major commitment to the program at this time. Before such commitment can be made, we must agree upon a clear technology plan to conduct the work over the long term. We are working closely with the subcommittee and NERAC, chaired by Dr. Burton Richter, to create such a plan. We expect to submit this plan to Congress by the 1st of May.

Finally, in addition to providing research grants and scholarships to support the Nation's nuclear technology education programs, we are proceeding with the new Innovations in Nuclear Infrastructure and Education Initiative. We have issued a solicitation to U.S. universities which will result in awards totaling \$5 million in new focused support to schools to find creative ways of allowing industry, labs, and other universities to enhance their programs.

We hope these efforts are not derailed as universities struggle to meet new requirements in the wake of September 11. As we have discussed before, university research reactor programs are already strapped for funding and the new NRC requirements regarding security could serve as a final blow to many facilities across the country. I hope we will have an opportunity to discuss this in the coming months.

With that, I will end my oral remarks and I will be very pleased to answer any of your questions.

[The statement follows:]

#### PREPARED STATEMENT OF WILLIAM D. MAGWOOD, IV

Mr. Chairman, Senator Domenici, and Members of the Subcommittee, it is a pleasure to be here to discuss the fiscal year 2003 budget submission for DOE's Office of Nuclear Energy, Science and Technology.

The Office of Nuclear Energy, Science and Technology (NE) is responsible for leading the Federal Government's investment in nuclear science and technology. In fiscal year 2003, we are proposing a \$250 million investment in nuclear R&D and in the Nation's nuclear science, technology, and education infrastructure. This funding provides the stimulus needed to build on the important work begun over the last year in response to the National Energy Policy and represents a major shift in focus and priority for the government's nuclear energy program as we increase our efforts to deploy new nuclear plants in the United States as a key element of long-term energy security.

#### NUCLEAR ENERGY KEY TO ENERGY SECURITY, CLIMATE STRATEGY

The National Energy Policy underscores the important role of nuclear energy in today's electricity market. Nuclear energy provides 20 percent of electricity supplied in the United States without producing harmful air emissions. Over the last decade,

nuclear power has been a success story for the country, providing the most reliable and efficient sources of electricity available on the grid today. The Nation's 103 operating nuclear power plants had another record generating year in 2001, averaging 88.12 percent gross capacity, one percentage point higher than the year before, and operating at an average cost of less than two cents per kilowatt-hour. The improvement in gross capacity is equivalent of adding another twenty-three 1,000 megawatt power plants to the grid over the last decade. Operation of the Nation's existing nuclear power plants avoids carbon emissions on the order of 175 million metric tons annually.

Nuclear energy is important to the President's major new initiative on clean air and climate change. With a target of cutting power plant emissions, including greenhouse gas emissions, by 18 percent over the next ten years, expanded use of nuclear energy and the Nuclear Power 2010 program will be a key element of our strategy to achieve the President's objectives.

Over the last 5 years there has been a strong market for purchase of nuclear power plants by nuclear generation companies. This has resulted in a core group of utilities with experience and resources to operate nuclear power plants in the most safe, efficient and effective manner. Industry has successfully moved forward with plant relicensing, with eight units approved, another 15 that have filed application for license renewal, and three that have announced plans to file in 2002. Today, there is broad agreement that most, if not all, of the currently operating nuclear plants will extend their licenses another 20 years.

Despite these successes, there are still no new plants being built in the United States and there remain barriers that make it difficult for a utility to invest in a new plant. These barriers are what define the role of government and are the focus of our nuclear energy R&D efforts. Removing institutional and technical barriers to both near-term and longer-term expansion of nuclear energy for U.S. energy security is the foundation of this Administration's nuclear R&D program.

Important progress is being made. President Bush recently notified the Congress that he considers Yucca Mountain suitable as a geologic repository for commercial spent fuel and high level waste and qualified for a construction permit application. This is a significant step forward in addressing waste disposal, an important consideration to nuclear energy's future.

There is also strong and visible leadership within the Federal Government in nuclear energy technology and policy. This is essential to the expansion of nuclear energy in the U.S. and abroad and has assured U.S. participation in key international policy discussions on future technologies and nuclear non-proliferation.

#### EMPHASIS ON NEAR-TERM PROGRESS

In fiscal year 2003, we are proposing \$71.5 million for research and development. Included in the request, are \$46.5 million for the Nuclear Energy Technologies program and \$25 million for the Nuclear Energy Research Initiative. The Nuclear Energy Technologies program contains two components—Nuclear Power 2010 and Generation IV—focused on deploying new nuclear plants by the end of the decade and on developing the next generation of advanced reactor and fuel cycle technologies.

DOE proposes to invest \$38.5 million in fiscal year 2003 on the Nuclear Power 2010 initiative to collaborate with industry to explore sites that could host new nuclear plants, to demonstrate the essential but untested Nuclear Regulatory Commission (NRC) regulatory processes for site permits and combined construction/operating licenses, and to conduct research to bring the most advanced technologies, such as gas cooled reactors, to the electricity market. We have set an ambitious goal but one we believe is achievable.

In fiscal year 2002, with \$8 million allocated to near term deployment efforts, we are working with industry to explore a range of potential sites. In response to a solicitation by the Department, two major nuclear utilities were awarded funds for cost-shared scoping studies of the efforts required to complete and submit an Early Site Permit (ESP) application to the NRC. These studies will consider privately-owned sites as well as several DOE sites. We recently issued a solicitation for proposals to share in the cost of selecting sites in this country for new nuclear plants and for submitting formal applications to the NRC for early site permit approval—this is an important first step in demonstrating the NRC's licensing and evaluation process. Successful demonstration of the NRC's licensing and evaluation process will remove a major risk for utilities' future investments in new nuclear power plants.

At the requested level in fiscal year 2003, we would co-fund with industry completion of three ESP applications and initiate cost-shared reactor technology development activities for one advanced light water reactor and one gas cooled reactor technologies with industry teams led by power generation companies. The objective of

the reactor technology development activities is the preparation and submission of Combined Operating License applications to NRC and a decision by industry to initiate construction of new nuclear power plants in the U.S. by 2005.

#### COMMITTED TO LONG-TERM SAFETY AND SECURITY

In fiscal year 2001, the Department launched the Generation IV initiative aimed at development of the next generation of advanced reactor and fuel cycle technologies that can be made available to the market after the end of the decade but before 2030. These are technologies that offer significant advances toward challenging sustainability, safety and reliability and economics goals such that technologies will be competitive in all markets. Generation IV systems include water cooled, gas cooled and liquid metal cooled concepts and non-classical concepts such as reactors with liquid and gaseous cores or concepts featuring novel energy conversion systems. The goals of the Generation IV program were developed by the Department's Nuclear Energy Research Advisory Committee (NERAC) and endorsed by the international community.

In fiscal year 2001, we led the formation of the Generation IV International Forum (GIF), an international collective of ten leading nuclear nations to work in joint cooperation on developing Generation IV technologies on a multilateral basis and to address the expansion of nuclear energy globally. A formal GIF charter was signed in July by the representatives of the nations of Argentina, Brazil, Canada, France, Japan, Republic of Korea, Republic of South Africa, the United Kingdom and the United States. Since then, Switzerland has also joined the GIF.

The Department is leading the development of the Generation IV Technology Roadmap with the GIF, which when complete in early fiscal year 2003 will identify the six to eight most promising nuclear reactor and fuel cycle concepts. The Technology Roadmap will identify the R&D necessary to advance these concepts to the point of maturity for potential commercialization by the private sector. The long-term R&D will be conducted in cost-shared cooperation with other GIF member countries providing a high degree of financial leveraging of R&D funding. The Department proposes to double the funding to \$8 million in fiscal year 2003 to continue the Generation IV initiative.

#### INTERNATIONAL PARTNERSHIPS IN NUCLEAR DEVELOPMENT

The Department will also continue to fund investigator-initiated, peer reviewed R&D under the Nuclear Energy Research Initiative (NERI). Started in 1999, this program is the cornerstone on which the Federal Government's nuclear R&D initiatives have been built. It has helped return the United States to a key leadership role in international exploration of nuclear energy. While still early in the life of this program, NERI has achieved considerable success. It was the birthing place for what is now Generation IV, and it has helped re-energize nuclear R&D at U.S. universities, laboratories and industry. The Department is requesting \$25 million in fiscal year 2003 for the NERI program.

Forty-three NERI projects started in previous years will be completed this year. Ten projects will continue and twenty-three new awards will be made. Hopefully, as part of the fiscal year 2002 awards, there will be more research initiated in the application of nuclear energy as a clean air alternative for producing hydrogen for the transportation sector and other applications. In fiscal year 2003, we will continue to fund the ongoing projects.

Last year, we launched the International-NERI program to promote international collaborative research focused on the development of advanced technologies and we signed bilateral agreements with France and the Republic of Korea. Three collaborative research projects with France were initiated and this year, six have been initiated with the Republic of Korea. Discussions with Japan, the Republic of South Africa and the Nuclear Energy Agency are expected to lead to bilateral agreements being established this fiscal year that will result in an additional three to five co-funded research projects. In fiscal year 2003, we will continue the research projects that started over the last 2 years.

In fiscal year 2003, the Department has included no funds for the Nuclear Energy Plant Optimization (NEPO) program or for the Advanced Nuclear Medicine Initiative (ANMI). The NEPO program was established in fiscal year 2000 as a cost-shared effort with industry to address plant aging and development of technologies that improve the reliability and availability of the fleet of existing nuclear power plants in order to aid plant recertification. The ANMI program was started with \$2.5 million and funds nine research grants and five educational grants to post secondary institutions. The ANMI grants, awarded on a peer review basis for a term of 3 years, will be completed in fiscal year 2003 with funds remaining from fiscal

year 2002. While the Department believes some of the objectives of both of these programs may have merit, many of their objectives—such as nuclear plant recertification—are being achieved, and the request reflects the need to fund higher priorities within the Department.

The fiscal year 2003 request would allocate \$17.5 million in funding to train and prepare the next generation of nuclear scientists and engineers. Among the activities of the University Reactor Fuel Assistance and Support program, we provide fresh fuel to university research reactors; receive spent fuel; provide industry matching grants to 25 participating universities; provide scholarships and fellowships to outstanding undergraduates and graduate students; fund peer-reviewed nuclear engineering research; and fund radiochemistry student fellowships. With the support of Congress, the funding for this program has increased significantly over the last several years, and we propose to fund it at the same increased level of funding appropriated last year.

With additional funding appropriated by Congress in fiscal year 2002, we are launching the Innovations in Nuclear Infrastructure and Education initiative to establish regional research centers for U.S. university nuclear engineering programs. This initiative, structured to promote partnerships among universities, national laboratories, and the private sector, follows through on a specific recommendation of the NERAC and on direction of Congress. Under this initiative, we will provide assistance to universities on a merit and peer reviewed basis that could be used to improve the reactors, to maintain qualified reactor staff, and to better integrate the use of these facilities with university nuclear engineering programs.

The fiscal year 2003 budget request fully integrates all of the Department's advanced research related to processing of spent fuel and transmutation into a single program—Spent Fuel Processing and Transmutation. The program has evolved significantly over the last several years and consistent with the direction provided by Congress as part of the fiscal year 2002 Appropriations Conference Report, we are now in the process of combining the technology activities based at the Argonne National Laboratory in Chicago, Illinois, the Los Alamos National Laboratory in New Mexico, the Oak Ridge National Laboratory in Tennessee, and the University of Nevada-Las Vegas into a single, integrated program to explore both reactor and accelerator technologies associated with spent fuel processing. We are working very closely with a subcommittee of the NERAC under the leadership of Dr. Burton Richter to create a plan that will describe how we will meet the policy and technology goals envisioned by the National Energy Policy. Once the program integration activities are complete and the plan provided to Congress, we will be in a position to recommend future funding for this program that will meet the aggressive technology goals envisioned by the National Energy Policy.

In the fiscal year 2003 budget request, we will initiate laboratory scale demonstration of Argonne-developed pyroprocessing technologies. Non-fertile fuel is being fabricated this year for future irradiation testing in the Advanced Test Reactor. Also, in fiscal year 2003, 20 graduate students will complete or pursue their graduate degree educations in engineering and scientific disciplines relevant to accelerator technology and transmutation. This fiscal year, following completion of the primary sodium drain, we are achieving a major milestone by completing deactivation of the Experimental Breeder Reactor II. In fiscal year 2002, and proposed in fiscal year 2003, we will treat 0.5 metric tons of sodium-bonded spent nuclear fuel at Argonne National Laboratory-West (ANL-West) in Idaho. The Department is requesting \$18.2 million in fiscal year 2003.

#### NUCLEAR SCIENCE AND TECHNOLOGY INFRASTRUCTURE

In fiscal year 2003, the Department proposes to consolidate NE's infrastructure spending under a single program, Radiological Facilities Management, to maintain critical facilities in a safe, secure and environmentally compliant and cost effective manner to support national priorities funded by industry and other Federal agencies. The \$83 million in funds being requested in fiscal year 2003 will assure the readiness and the operability of these facilities to respond to the range of missions that are funded by DOE, industry, research groups, and other Federal agency users. The Office funds missions at Argonne, the Idaho National Engineering and Environmental Laboratory (INEEL), Oak Ridge, Los Alamos, the Sandia National Laboratory in New Mexico, Brookhaven National Laboratory on Long Island, New York, Pacific Northwest National Laboratory in Washington, and the Mound Plant in Ohio.

We are requesting \$31.6 million to maintain key facilities, to safely and securely manage special nuclear material, and to deactivate unneeded facilities at ANL-West. We are requesting \$11.2 million for Test Reactor Area at INEEL. The requested in-

crease in funding for Test Reactor Area will enable the Department to address the backlog of preventative and corrective maintenance and to proceed more aggressively to replace aging electrical equipment under an electrical utility upgrade project. This enables us to begin to reverse the decline in the infrastructure at the Test Reactor Area that has occurred over the last several years.

The fiscal year 2003 request includes funding to maintain and operate facilities at Mound that enable the Department to conduct operations associated with DOE's radioisotope power systems. In fiscal year 2002 we will conduct new analyses that examine actions that may be needed to further protect the community and the materials stored at the site from potential security threats, in the context of the September 11, 2001, terrorist attack. The results of these analyses will determine what actions we take at Mound in the future. Until a decision is made on the nature of the actions to be taken, the materials will be moved to an interim location at another site.

The Department will continue to maintain the iridium fabrication facilities at Oak Ridge to support fabrication of radioisotope power systems. These facilities encapsulate and contain the plutonium (Pu)-238 pellets used in the space power systems. The Department will continue to maintain the option to produce Pu-238 domestically to satisfy national security missions. Fiscal year 2003 activities will focus on conceptual design activities associated with processing facilities at Oak Ridge, and on supporting activities to move the neptunium-237 from the Savannah River Site in South Carolina to Oak Ridge. DOE plans to produce at least eight iridium cladding sets at Oak Ridge, at least eight encapsulated Pu-238 pellets at Oak Ridge, and process at least two kilograms of Pu-238 through the scrap recovery line at Los Alamos.

Finally, the President's fiscal year 2003 budget request for the National Aeronautics and Space Administration (NASA) proposes a 5-year, \$1 billion new Nuclear Systems Initiative. In partnership with industry and academia, DOE will develop for NASA technologies that could power missions to the far reaches of the solar system. DOE will develop a new generation of radioisotope power systems to generate electrical power for spacecraft and scientific instruments for missions in deep space and on planetary surfaces. For key NASA science missions, these systems offer enormous advantages over other power options. For example, the capability of a NASA rover to remain operational on the surface of Mars can be increased from a few months to a few years, increasing the science return many times over. Also, DOE will participate in the development of a nuclear fission reactor with an advanced electric propulsion system that would enable spacecraft to make faster trips throughout the solar system, to carry out robust scientific missions, and to visit multiple destinations on the same mission.

The Department is also proceeding with permanent shutdown and deactivation of the Fast Flux Test Facility (FFTF) at the Hanford Site in Washington this fiscal year. Experience gained from the Experimental Breeder Reactor II deactivation is being applied to the deactivation of FFTF, which should result in cost and schedule efficiencies. The Department has proposed \$36.1 million in fiscal year 2003 to continue making progress on deactivation. In the fiscal year 2003 budget request, the Department will validate the fuel handling control systems, reestablish the hot cell operating capabilities, upgrade sodium drain controls, and restore the Sodium Storage Facility.

#### MEDICAL ISOTOPES FOR RESEARCH AND HEALTH CARE

The remaining funding requested for Radiological Facilities Management is to maintain the infrastructure for production and distribution of isotopes. Although most of our isotopes are for medical research, the Department does provide isotopes for commercial uses that otherwise would not be available. In fiscal year 2001, we served 324 customers located in 20 countries, exceeding 94 percent on-time delivery of 589 shipments. Many of those that were delayed were a result of actions taken by DOE after September 11, 2001, terrorist attack to further assure the safety and security of radiological material shipments.

This year, we are changing the process we apply for producing, distributing, and pricing our research isotopes. A new protocol—Nuclear Energy Protocol for Research Isotopes (NEPRI)—will guide the selection of isotopes for future development, production, and distribution. A peer review selection process was initiated last month to decide what research isotopes DOE will produce in fiscal year 2003. This process is intended to assure that DOE produces those isotopes that provide the greatest benefit to the research community and the public. Isotopes will be priced such that production costs are paid in advance by the customer.

Over the last several years, DOE has been providing actinium (Ac)-225 for use in cancer research. In fiscal year 2003, DOE will continue to supply the Ac-225 at the level available in fiscal year 2002. However, any future processing of thorium-229 needed to increase the supply of Ac-225 will be financed by the private sector. DOE will issue a request for proposals this year soliciting private sector participation in the production of Ac-225.

The Department is requesting \$24.3 million in fiscal year 2003 for salaries, travel, support services and other administrative expenses and field personnel providing direction to NE programs. Although NERAC members receive no salary, the program direction account also supports the activities of the NERAC.

#### CONCLUSION

Mr. Chairman, and Members of the Subcommittee, this concludes my prepared statement. I would be pleased to answer any questions you may have.

Senator REID. Mr. Barrett.

#### STATEMENT OF LAKE BARRETT

Mr. BARRETT. Thank you very much, Mr. Chairman, Senator Domenici. I do appreciate those kind opening remarks from both of you.

#### YUCCA MOUNTAIN

Fiscal year 2002 has been the most significant year for this program. The Secretary and the President recommended the Yucca Mountain site to be the Nation's high level radioactive waste geologic repository to Congress on February 15. In his recommendation, the President also urged the Congress to undertake any necessary legislative action on his recommendation in an expedited and bipartisan fashion. For Secretary Abraham to recommend the site to the President, he determined that sound science supported that the Yucca Mountain site is scientifically and technically suitable for the development of a repository. The Secretary and the President also considered compelling national interests, such as national and energy security, in their decisions.

A year with such progress still has further challenges ahead. As the President emphasized, Congress must act in order to complete the site approval process if the State of Nevada follows through with its anticipated disapproval. If Congress does not pass the repository siting resolution, the site will stand disapproved and the program will be promptly terminated. The disposition of the Nation's wastes will then still be an issue for the Congress to resolve.

We face other challenges through litigation over the delay in meeting our contractual obligation to the nuclear utility companies to begin accepting their waste and spent fuel in 1998. There is also litigation with the State of Nevada over the water permits and other issues. For example, effective April 9 of this year our water permits with the State of Nevada will expire. Although we have requested extensions of these permits in a timely manner, we are embroiled in complex litigation.

If the Congress designates the site, we will proceed with our plans in 2003. We will work in 2003 to submit a license application to the Nuclear Regulatory Commission in 2004 and develop a transportation system necessary to move spent fuel and high level waste in 2010.

For Yucca Mountain, \$425 million is requested to transition from the site characterization activities to the license application. In the



waste acceptance and transportation business area, the budget request is \$17 million. We will conduct activities that are necessary to support the removal and transportation of spent nuclear fuel from reactor sites to the Yucca Mountain site. These logistical and institutional planning and development activities for a national transportation system were deferred due to historical budget reductions, allowing available resources to be focused upon the site recommendation decision. We must now resume preparations necessary for a national transportation system if we are to be able to move spent fuel and high level waste in 2010.

In conclusion, I am proud to say that we have conducted a world-class investigative science program to determine whether the Yucca Mountain site is suitable for the next stage of possible development. We overcame difficult challenges and made significant progress. We are developing a repository design and operational concept that is fully integrated in the local geologic setting, that would also enable future generations to make the decisions about the repository, providing them with the flexibility to determine if the length of the monitoring period, when to close the facility, or if retrieval of the emplaced materials would be appropriate. This design would be fully flexible and compatible with any possible advanced nuclear technologies that may be developed over the coming years. This built-in flexibility will allow judgments to be made on those issues based on the societal issues and the societal needs by the generation at that time.

We are fully committed to building a safer, more secure path to the future and to ensure the continued strength of this Nation and its resources for both present and future generations.

I thank you for this opportunity to present our budget.

[The statement follows:]

PREPARED STATEMENT OF LAKE H. BARRETT

Mr. Chairman and members of the Committee, I am Lake Barrett, Acting Director of the Department of Energy's Office of Civilian Radioactive Waste Management. I appreciate the opportunity to present our fiscal year 2003 budget request to you and discuss our plans to develop a license application for a geologic repository at the Yucca Mountain site in Nevada.

The year 2002 is a significant year for the program. On February 15, 2002, after receiving the recommendation of the Secretary of Energy, President George W. Bush considered the Yucca Mountain site qualified for an application for a construction authorization for a repository and recommended the Yucca Mountain site to the U.S. Congress for this purpose. The President also urged the Congress to undertake any necessary legislative action on his recommendation in an expedited and bipartisan fashion. In coming to this decision, the President accepted the recommendation of Secretary of Energy Spencer Abraham who reviewed the scientific research conducted over 20 years. Secretary Abraham considered and is convinced that sound science supports the determination that the Yucca Mountain site is scientifically and technically suitable for the development of a repository. Following his determination that the site was suitable, the Secretary also considered compelling national interests. In the end, his recommendation stated that "irrespective of any other considerations, he could not and would not recommend the Yucca Mountain site without having first determined that a repository at Yucca Mountain will bring together the location, natural barriers, and design elements necessary to protect the health and safety of the public."

A year with such progress still has further challenges ahead. As the President emphasized, Congress must act in order to complete the site approval process if the State of Nevada follows through with its anticipated disapproval. If Congress does not act the site will stand disapproved and this will result in the shutting down of the Program even though the site has been deemed scientifically suitable. Second, we face many other challenges from the State of Nevada. For example, our water

permits will soon expire, effective on April 9, 2002. Although DOE and the Department of Justice have requested timely extensions of these permits in accordance with Nevada law, we are embroiled in complex litigation on this issue that may take months or years to resolve.

Our fiscal year 2003 budget request of \$527 million assumes the site approval process was successful and allows us to advance our Nation's policy for the long-term management of spent nuclear fuel and high-level radioactive waste. In fiscal year 2003, we will advance work required to develop a license application for a geologic repository, to be submitted to the Nuclear Regulatory Commission (NRC) in 2004, and to develop a national transportation program necessary for moving spent nuclear fuel and high-level waste by 2010.

#### BACKGROUND

In transmitting his recommendation, President George W. Bush stated in his letter to the Speaker of the House of Representatives and the President of the Senate on February 15, 2002 that:

Proceeding with the repository program is necessary to protect public safety, health, and the Nation's security because successful completion of this project would isolate in a geologic repository at a remote location highly radioactive materials now scattered throughout the Nation. In addition, the geologic repository would support our national security through disposal of nuclear waste from our defense facilities.

A deep geologic repository, such as Yucca Mountain, is important for our national security and our energy future. Nuclear energy is the second largest source of U.S. electricity generation and must remain a major component of our national energy policy in the years to come. The cost of nuclear power compares favorably with the costs of electricity generation by other sources, and nuclear power has none of the emissions associated with coal and gas power plants.

This recommendation, if it becomes effective, will permit commencement of the next rigorous stage of scientific and technical review of the repository program through formal licensing proceedings before the Nuclear Regulatory Commission. Successful completion of this program also will redeem the clear Federal legal obligation to safely to dispose of commercial spent nuclear fuel that the Congress passed in 1982.

[The President's] recommendation is the culmination of two decades of intense scientific scrutiny involving application of an array of scientific and technical disciplines necessary and appropriate for this challenging undertaking. It is an undertaking that was mandated twice by the Congress when it legislated the obligations that would be redeemed by successful pursuit of the repository program. Allowing this recommendation to come into effect will enable the beginning of the next phase of intense scrutiny of the project necessary to assure the public health, safety, and security in the area of Yucca Mountain, and also to enhance the safety and security of the Nation as a whole.

In Secretary Abraham's recommendation, he discussed the growing number of power plants not able to find additional storage space and being forced to shut down prematurely. Ten facilities have already closed, such as Big Rock Point, on the banks of Lake Michigan. They house spent fuel and incur significant annual costs without providing any ongoing benefit. Over the long-term, without active management and monitoring, degrading surface storage facilities may pose a risk to any of 20 major U.S. lakes and waterways, including the Mississippi River. More than 161 million Americans in 39 States reside within 75 miles of a commercial nuclear reactor site. It is essential that the waste is in one central remote location.

Since the enactment of the Nuclear Waste Policy Act in 1982, our Nation has made a substantial investment in permanent geologic disposal of the Nation's spent nuclear fuel and high-level waste. The President's decision to site Yucca Mountain for the repository was a significant landmark. The development of a license application in fiscal year 2003, to be completed in calendar year 2004, is the next step in the process outlined in the Nuclear Waste Policy Act, as amended.

#### SUMMARY OF THE FISCAL YEAR 2003 APPROPRIATION REQUEST

The Office of Civilian Radioactive Waste Management fiscal year 2003 budget request of \$527 million is an increase of \$152 million (approximately 40 percent) above fiscal year 2002 funding. The fiscal year 2003 budget supports the scientific and technical analyses necessary to prepare a license application for submittal to the NRC in calendar year 2004. Some of this work had been deferred in prior years so that all resources could be focused on the site recommendation activities.

## YUCCA MOUNTAIN

Of the \$527 million request, \$424.9 million, over 80 percent, supports the work at Yucca Mountain to develop a license application to construct a repository. The information in the license application must be sufficient for the NRC to conduct an independent review and reach a construction authorization decision. It must demonstrate that the repository can be constructed and operated with reasonable expectation that the health and safety of the public will be protected for at least 10,000 years. The increase in funds provides for work to develop the design, analyses, and specifications for the license application; to conduct performance confirmation testing, monitoring, and evaluation activities, as required by the NRC's licensing regulations; and for the Nevada transportation planning. The Nevada transportation budget element is new in fiscal year 2003; it includes \$6 million for initial conceptual design and technical support.

## WASTE ACCEPTANCE, STORAGE &amp; TRANSPORTATION

In fiscal year 2003, the Program is requesting \$17.1 million to conduct activities that will support the major actions that will precede removal and transportation of spent nuclear fuel from reactor sites to the Yucca Mountain facility. The fiscal year 2003 request is an increase of \$12.9 million over the fiscal year 2002 funding. The logistical and institutional planning and development of a national transportation system were deferred until the site was recommended to the President. If Congress approves the site, it is imperative that we resume the preparations necessary for implementing a transportation system to support moving spent nuclear fuel and high-level radioactive waste in 2010. Prior planning for transportation is being evaluated and we will regain momentum to develop the transportation system.

## PROGRAM ORGANIZATION

The Office of Civilian Radioactive Waste Management was established by the Nuclear Waste Policy Act of 1982 to implement the Federal policy for permanent geologic disposal of commercial spent nuclear fuel and high-level radioactive waste. The Office within the Department of Energy has approximately 200 full-time equivalent Federal employees and a managing and operating (M&O) contractor, Bechtel/SAIC, Inc. with a staff of approximately 1600. The position of the Director for the Office was also established by the Nuclear Waste Policy Act. The Director is located in Washington D.C. Most of the employees are in Las Vegas at the Yucca Mountain Project Office or at the Yucca Mountain site. The Office of Waste Acceptance, Storage and Transportation is located in Washington DC., as well as the Office of Program Management and Integration.

## OBJECTIVES AND ACCOMPLISHMENTS FOR FISCAL YEAR 2002

The fiscal year 2002 accomplishments are vital for to the next steps in the process. This year the Program:

- Finalized the Department's Repository Siting Guidelines (10 CFR Part 963)
- Obtained an NRC sufficiency letter for the site recommendation
- Completed the scientific work necessary to support a Secretarial decision to recommend the Yucca Mountain site for development as a repository
- Completed the Environmental Impact Statement; and
- Finalized the Site Recommendation Report for the Secretary to submit to the President, and subsequently for the President to submit to Congress.
- The Program's primary objective for the remainder of this year is to conduct the scientific and engineering work identified in fiscal year 2001 as necessary to support the preparation of the license application. This work includes:
  - Testing and analyses to further characterize and quantify the uncertainties in the assessments of the long term performance of the repository;
  - Activities to evaluate modifications to the operations and/or design of the potential repository to reduce the maximum temperatures reached after closure of the repository;
  - Studies of waste package materials to improve understanding of corrosion processes; and
  - Work on the development of multiple lines of evidence for a safety case.

## PERFORMANCE MEASURES FOR FISCAL YEAR 2003

The fiscal year 2003 performance measures for the program are outlined in the Department's fiscal year 2003 budget request. They are to:

- Complete additional testing and analyses required to support license application design;

- Continue development of the design that will be used in the license application;
- Continue development of a license application for submittal to the NRC for authorization to construct a repository;
- Issue final “Policy and Procedures for Implementation of Section 180c of the Nuclear Waste Policy Act, as amended;
- Develop and issue a final request for proposals for waste acceptance and transportation services; and
- Complete and issue Total System Life Cycle Cost and Fee Adequacy reports.

The Department will focus its fiscal year 2003 efforts on activities necessary for license application design and will conduct activities associated with the Federal government’s waste acceptance obligation, assuming Congress approves the repository site in 2002. It is critical that funding levels, starting in fiscal year 2003 through fiscal year 2010, are substantially increased from prior years to maintain the schedule to begin waste acceptance at Yucca Mountain by 2010. Congressional approval of the Yucca Mountain site in calendar year 2002 commences the movement to submitting a license application in calendar year 2004, obtaining NRC authorization as early as thirty-six months after submittal, and building the system to begin waste acceptance in 2010.

#### DETAILED DISCUSSION OF THE FISCAL YEAR 2003 BUDGET REQUEST

##### YUCCA MOUNTAIN

The most significant increases requested in the Yucca Mountain budget are in the area of Licensing and Performance Assessment. This request increase signals the natural transition from the site characterization phase to the initiation and development of the license application phase of the Program. The request to increase Design and Engineering will provide the detailed design work necessary for the license application effort.

##### LICENSING AND PERFORMANCE ASSESSMENT

The fiscal year 2003 request for Licensing and Performance Assessment is \$111.9 million, a 70 percent increase from last year.

To obtain a NRC construction authorization, the Department of Energy must submit a license application to include:

- A description of site characteristics;
- Waste package designs;
- Repository surface and subsurface facilities;
- Operation and maintenance plans for surface and subsurface facilities;
- Results of an integrated safety analysis for the pre-closure period;
- Results of the Total System Performance Assessment for the post-closure period; and
- A discussion of how the proposed waste package and repository will comply with applicable regulatory requirements.

The application will include a discussion of the safeguards, certification, and physical security plan, and descriptions of the quality assurance program, test and evaluation plan for the development and operation of the repository, and required performance confirmation program. A licensing support network is required for records included in the license application. Processes have been developed and need to be maintained for the review of records, verification of data planned for inclusion, and traceability of the documents. It is essential to have state-of-the-art technical information management capability to manage and ensure the integrity of these records.

The Total System Performance Assessment will analyze how a repository, with each waste type encapsulated in specially designed waste packages, may perform in the geologic environment of Yucca Mountain following repository closure. This safety analysis will evaluate a nominal case that considers those processes and events deemed likely at Yucca Mountain, and the probabilities and potential consequences of disruptive events such as earthquakes and volcanic eruptions, and the possible effects of human intrusion into the repository after permanent closure.

Another iteration of the Total System Performance Assessment will be completed in fiscal year 2003 to support the license application. Each iteration has reflected an increased understanding of how emplaced waste would interact with the natural and engineered barriers.

The anticipated 25 to 35 technical interactions in fiscal year 2003 with the Nuclear Waste Technical Review Board, the NRC, and other oversight agencies will be necessary to develop the license application. Comments by these groups on the scientific tests, designs, and modeling infuse the process with invaluable insight. Pre-licensing interactions with the NRC contributes to a common understanding of the

issues that are significant to the overall repository performance, and agreement on the adequacy of methods and approaches to resolve these issues.

#### CORE SCIENCE

The year's budget request of \$71.3 million represents a slight decrease from last year. Core Science activities include collecting data from the surface and subsurface; performing laboratory tests; monitoring and collecting environmental data; and modeling natural processes. Testing to support the license application continues to reduce the uncertainty in the technical databases, the Total System Performance Assessment and design features. These tests will continue as part of the performance confirmation program required by the NRC. Some of these studies are conducted under a cooperative agreement with the University and Community College System of Nevada.

#### NEVADA TRANSPORTATION

In fiscal year 2003, \$6 million is requested to initiate Nevada transportation activities. Transportation work within the State of Nevada would have been premature prior to a site designation. To have the capability to accept waste at Yucca Mountain the selection and development of a rail spur from the mainline railroad to the Yucca Mountain site will need to be completed. The fiscal year 2003 initial funding of \$6 million will allow work to begin on the rail corridor selection, the preliminary rail design, and the land acquisition process.

#### DESIGN AND ENGINEERING

The fiscal year 2003 request for Design and Engineering is \$128.5 million, an increase of 179 percent over last year. This increase will allow us to resume engineering and design work to support a license application. This work was deferred until mid-2002 while the Program focused on scientific and technical activities required for a decision on whether to proceed with repository development.

The design and engineering products needed to support the license application include the development of the pre-closure integrated safety analysis; design studies to support the development of the post-closure safety analyses; design bases; and a description of the waste package, waste forms, and surface and underground facilities and systems. The design for license application products will be completed in calendar year 2004.

In fiscal year 2003 the Program will incorporate modular surface and subsurface design and construction concepts to evaluate how a step-wise, flexible repository system can integrate new technologies and new operation concepts as they become available. The Program is also analyzing the potential advantages of cooler repository operating temperatures and what effect they might have on reducing uncertainties associated with long-term performance.

Substantial design work in support of procurement and construction activities must be completed before construction can begin. The amount of design work necessitates that it be started before the license application is submitted to the NRC.

For repository development, the systems engineering process is important to the coordination and integration of design functions that meet regulatory and safety requirements for protecting workers, the public and the environment. It is essential to demonstrate designs "as built" will operate cost-effectively and efficiently; and it is crucial to ensure that changes to designs and specifications are documented and controlled in accordance with quality assurance requirements.

#### OPERATIONS AND CONSTRUCTION

The fiscal year 2003 request for operations and construction is \$45.6 million, a 34 percent increase from fiscal year 2002. Operations and Construction encompasses the work required to provide the support systems, infrastructure, construction, utilities, and safety systems needed to support field testing, and to maintain access to the site and underground research facilities at Yucca Mountain. The request for an increase in fiscal year 2003 is necessary to upgrade or replace some of the underground systems in the Exploratory Shaft Facility. Systems, such as rail, power supply, and ventilation systems, built as temporary construction systems, were adequate during site characterization. However, to maintain the site and continue compliance for a safe environment, several site infrastructure improvements are required. These improvements include: code compliance and safety upgrades; and the design and construction of a new shop building and warehouse, a fueling facility with a compressed natural gas design and an operations center. Also it is necessary

to replace the obsolete operating equipment now being used and to design the balance of plant area between the portals.

#### WASTE ACCEPTANCE, STORAGE AND TRANSPORTATION

The mission of the Waste Acceptance, Storage and Transportation Project is to achieve the safe orderly transfer of spent nuclear fuel and high-level radioactive waste to the repository. The Project also maintains the waste acceptance agreements between the Department and the owners and generators of spent nuclear fuel and high-level radioactive waste.

For fiscal year 2003, we request \$17.1 million to begin long lead-time logistical and planning activities for waste acceptance and transportation. If Congress approves the President's recommendation, there will be a need in the future for additional funding for transportation-related activities.

#### TRANSPORTATION

For fiscal year 2003, we request \$14.2 million to resume the activities necessary to begin the acceptance and transportation of spent nuclear fuel and high-level radioactive waste beginning in 2010. This request is an increase of \$12.2 million from last year. The request would fund the development of our plans for waste acceptance and transportation services and awarding a contract or multiple contracts in fiscal year 2003. It provides for the preparation of acquisition documents, development of technical specifications, and issuance of a Request for Proposal for waste acceptance and transportation services after repository site designation. The current interactions with stakeholders will be increased to resolve institutional issues such as routing, inspection, and emergency preparedness in order to ensure our ability to begin the acceptance and transportation of spent nuclear fuel and high-level waste in 2010. Also, we are planning to issue a Notice of Policy and Procedures to provide assistance to States and Indian Tribes for training in the procedures required for safe routine transportation and emergency response. We intend to increase our support of work being performed at the national laboratories that is focused on ensuring that spent nuclear fuel can continue to be transported safely and securely.

#### WASTE ACCEPTANCE

For fiscal year 2003, \$2.3 million is requested, which is a 44 percent increase from last year. These activities include the collection and maintenance of spent nuclear fuel discharge and projection information; maintenance and implementation of the Standard Disposal Contract; and interactions with the NRC, contract holders, and others concerning nuclear materials management. In addition, we anticipate an increased level of interactions with contract holders to assist in the planning and development of the waste acceptance and transportation system. Numerous issues related to the scheduling of waste acceptance activities and the physical and logistical requirements of serving the contract holders sites must be resolved in order to allow for the implementation of an efficient waste acceptance and transportation system.

#### PROGRAM MANAGEMENT AND INTEGRATION

For fiscal year 2003, we request \$85 million for Program Management and Integration activities, which is a 9 percent increase from fiscal year 2002. The increase supports additional strategic planning requirements, program management support, and technical support services.

Program Integration is comprised of Quality Assurance, Program Management and Human Resources and Administration. These offices provide management support to the Program Director, the Yucca Mountain Site Characterization Project, and the Waste Acceptance, Storage and Transportation Project. The fiscal year 2003 funding supports activities to:

- Ensure that NRC quality assurance requirements are appropriately incorporated into technical documents, including the maintenance of the Qualified Suppliers List and database;
- Integrate, through system engineering, the waste management system;
- Coordinate and participate with external agencies, i.e., NRC, the Environmental Protection Agency, and the Nuclear Waste Technical Review Board;
- Establish updated safeguards and security policy and procedures;
- Provide required reports and documents to Congress;
- Implement our technical information management; and
- Manage the Nuclear Waste Fund investment portfolio.

The fiscal year 2003 request also provides for salaries and benefits of Federal civilian employees, travel, building maintenance, rents, communication, utilities, the Working Capital Fund, and support services.

#### FUTURE FUNDING CHALLENGES

To maintain the current schedule for waste acceptance at a repository by 2010, the fiscal year 2003 budget provides sufficient funding for DOE to start the license application preparation. However, funding for the capital costs to ramp-up the transportation system, and to construct the repository must begin prior to receipt of a license from the NRC. To sufficiently fund the increases needed, making the Nuclear Waste Fund available to the Program for its intended purpose will be a primary issue.

#### LITIGATION

The Department is in litigation over the delay in meeting our contractual obligation to nuclear utility companies to begin accepting their spent fuel by January 31, 1998. The Courts have determined that the Federal Government is liable to compensate utilities for additional costs they may have incurred due to the delay.

The Government has estimated its liabilities to all contract holders to be on the order of \$2 to \$3 billion. The suits filed in the Court of Federal Claims allege damages of \$5.94 billion. However, many of the plaintiffs in the cases filed to date have not claimed specific damages, but have requested the Court to award damages, as appropriate. Some of the plaintiffs have claimed current damages on the order of \$1 billion each, noting that additional damages will occur as the Governments' delay continues.

#### CONCLUDING REMARKS

We have conducted a world class investigative science program to determine that the Yucca Mountain site is suitable for further development. We have developed repository designs and operational concepts that would enable future generations to make decisions about a repository, providing them with the flexibility to choose closure, indefinite monitoring, or retrieval of emplaced materials. During this journey we have maintained the essential momentum to implement our Nation's policy for the management of spent nuclear fuel and high-level radioactive waste. We have transformed problems into opportunities; and replaced enormous challenges with formidable progress. We are committed to building a safer, more secure path to the future and to ensure the continued strength of this Nation and its resources for future generations.

#### OFFICE OF SCIENCE ROLE IN NATIONAL SECURITY MISSION

Senator REID. Dr. Orbach, how does the Office of Science fit into the national security mission of the Department of Energy?

Dr. ORBACH. We have created the basic research framework to address many of the questions dealing with homeland security. We have funded research which is now being developed at other laboratories. We are implementing research programs ourselves. For example, in the Genomes to Life project we are in the process of working out, the ability to identify the genome of biological agents by using methods on a chip, so that one can deploy handheld devices in the field that could detect chemical agents or biological agents or radiological agents across the spectrum and hopefully develop methods for dealing with them.

It is an integrated program that involves almost every component of the Office of Science, but it is one that I believe is active and has already contributed. We already have handheld devices in the field developed by Oak Ridge National Laboratory for radiation detection.

We are also developing neutron sources that would be immediately available for detection of explosives by neutron activation.

You will see across the breadth of the office a desire to assist homeland security in every aspect of our work.

Senator REID. So it is fair to say—well, I should not say that. You have outlined some of the things that are being done in relation to the homeland security. What major new research opportunities in addition to those you have outlined are available to you this coming year?

#### GENOME IDENTIFICATION

Dr. ORBACH. In the budget which has been submitted to you, there are developments explicitly associated with the genome identification. There are about 50 agents which are currently being sequenced. We have a role in that sequencing in order for immediate identification, so that in the field one will know what the agent is as opposed to having to send to a laboratory or waiting. That is part of our genome initiative. I believe we have \$3 million associated with it.

Senator REID. What are some of the other things you are going to be doing that are new?

#### NANOTECHNOLOGY INITIATIVE

Dr. ORBACH. There will be other activities associated with new materials that will be able to withstand large pressures or radiation effects. We have a nanotechnology initiative which is being fully developed now which will create at the nanoscale level materials which can resist radiation and other difficult environments. They will also be of use in other areas, for example fusion research. But they will enable us to provide materials for the effort.

We also are working with the Office of Homeland Security to assist them in the basic science needs that they have.

#### FUSION

Senator REID. We hear, and I just heard you mention the word “fusion.” We all have heard for years and years that fusion research is on the verge of a breakthrough. Recently I heard news reports concerning something called coffee cup fusion and these reports seem to have generated a great deal of controversy in the press. How about in the scientific community?

Dr. ORBACH. They have also generated a great deal of controversy in the scientific community. It is referred to often as bubble fusion because of the thermoluminescence method used to create the conditions. If I were to give you a summary statement, it would be a quote from a very famous British scientist at the turn of the century who said that “Nothing is too wonderful to be true, if it be confirmed by experiment.” Right now we are attempting to confirm independently by experiment that those results are right.

We have at Oak Ridge National Laboratory, where the report originated, in conjunction with RPI, Rensselaer Polytechnic Institute, we are going to redo that experiment. Unfortunately, we have learned that the apparatus itself degraded and so we are going to construct a new apparatus with the principal investigator working with a team of other scientists from Oak Ridge, that will attempt to replicate the experiment under very carefully controlled condi-



tions, in particular to measure the neutron flux and make sure that it is coincident with the collapse of these bubbles in the liquid.

We are not sure of what the answer will be, but we hope to finish that new experiment by about the middle of June. I can assure you that elsewhere in this world there are a lot of people attempting to reproduce that experiment as we speak.

#### PROBLEMS ATTRACTING SCIENTISTS AT NATIONAL LABS

Senator REID. Are there any problems that you have found attracting research scientists at any of the national labs, especially given the fact that some of these labs are getting over 50 years old?

Dr. ORBACH. Absolutely. We have a serious manpower problem, both of retention but also of hiring. Something like half of the scientists within the Department of Energy will be eligible for retirement over the next 10 years. It is a daunting prospect in terms of where their replacements will come from.

What makes it even more troubling is that the number of Ph.D.'s in the physical sciences is dropping. The test scores in K through 12 are dropping in science. We regard this as a very serious issue and one that is very difficult to grapple with.

I would like in the future to attempt to address this as best I can in conjunction with the National Science Foundation and the Department of Education to see if we can use some of the unique DOE facilities, for example our laboratories, to work on the science education area to try to develop a work force in science.

Senator REID. It would be great if you could come up with some direction for us. Senator Domenici and I just traveled to New Mexico. I for the first time went through those two labs there. I was stricken by a couple things. Number one is the intensity of the feelings of the people that work there in those labs. It is like these men and women are part of a team that is headed for the Superbowl. They had such great spirit.

The other thing I was struck with is how little money they make. We had there at Sandia a medical doctor who gave up a very lucrative medical practice to come there and work for about \$100,000 a year. He said he is happier than he has ever been in his life. But a lot of people correlate happiness with money. This man did not and he is I am sure a better person for that.

But if you could help us as we work our way through this year, give us some ideas what we can do to make people feel better about the work they do, and they already feel pretty good about it, but, more importantly, what we can do to recruit more scientists and perhaps educate more scientists.

Dr. ORBACH. I would be delighted to work with you.

Senator REID. You having come from an academic background, I think are uniquely situated and suited to help us with that.

Dr. ORBACH. I would be delighted. I was in northern New Mexico myself for 2 days and worked with the elementary schools, middle schools, high schools and community colleges to encourage children to go on for science degrees for higher education.

Senator REID. We all encourage them to do that. I have about as much knowledge about science as this glass here, but I know that it is important that we do that. You know, there are some things going on in the world today that is going to help us. I think this

book, this movie I should say, "Beautiful Mind," I think that—I saw the movie and I read the book. I was fascinated by the academic communities that he found himself in and how interesting it was to read about some of the research that he and others were involved in. We have to get others to feel how important it is to be involved in things scientific. So we need your help there.

Mr. Magwood, I have a couple questions of you. Do you still feel that technology holds the potential for treating waste in the future?

#### SPENT FUEL TREATMENT

Mr. MAGWOOD. I think there are tremendous possibilities. We have been working with the national laboratories and the international community to examine what might be possible if we are able to develop these new technologies. We clearly have a long, long way to go. We have taken only the early steps.

Senator REID. But if we do not start we never get to the end, do we?

Mr. MAGWOOD. Granted. But we have started, the very early steps. If you look at the work that has been accomplished so far in showing that we know how to, for example, pull the uranium out of spent fuel and reduce the volume without separating plutonium and creating a proliferation hazard—looking at the progress that has been made over the years at Argonne National Laboratory in demonstrating the viability of electrometallurgical processes—we really have started.

However we do have to make a commitment to go further. As I said in my oral statement, we are developing a plan that will be delivered to Congress in May that will focus on how we proceed in the future. I think it will show the right way to go forward.

Senator REID. Senator Domenici.

Senator DOMENICI. Well, that is true, but we have to fund the program, too.

Could I just—the Department has reduced the budget request from \$80 million to \$18 million. They chose to combine the AAA program with the pyroprocessing. In combining them, that might be reasonable. In fact, redefining the whole program emphasizes the importance of both reactors and accelerators in improving the management of spent fuel. The accelerators clearly are not the only one in the future for the AAA program. But a better title for this whole area might be "Advanced Fuel Cycle Development" and you might consider that.

But clearly we cannot continue with a funding level that is so much reduced from last year when that level seems to be inconsistent with the President's energy policy. If you read what Vice President Cheney put together with reference to nuclear, it would appear that areas like this should have been funded and kept going at a very significant momentum. Yet they were reduced.

Can you use the money if we bring it up to the level we had in for this year or more in your program

Mr. MAGWOOD. As I mentioned, we are making considerable progress in developing the plan and as such I have a fairly good idea of where we stand. In looking at what we have been able to accomplish with the NERAC Subcommittee led by Dr. Richter, we have been able to scope out a potential research and development

effort that could proceed over the next 5 or 6 years, an effort that could easily use the kinds of resources you are talking about.

Before we embark on that kind of work we clearly require a solid commitment from all the relevant branches of government that we really want to go forward with this activity. Otherwise I think it is unfair to the scientists at the laboratories, it is unfair to the students at the universities and the people in industry who support these activities if we simply stop and start. I would rather get a firm consensus and then launch forward as fast as possible.

#### NUCLEAR POWER 2010

Senator DOMENICI. All right. Let me suggest, however, that there is one part of your budget that has very good news in it. The Department is providing \$38 million to support a near-term effort. The goal of that is having advanced reactors operating in the United States by 2010. Obviously, those are reactors that are completely different than what we are talking about. They cannot melt down, they are smaller in size, they use a different cycle of fuel.

Can you elaborate on how that program is going to be implemented?

Mr. MAGWOOD. I would be very happy to. We are working very closely with the industry. While working closely with the industry often can expose a program like ours to allegations that we are engaged in corporate welfare, I believe we are doing exactly what government should be doing at this point in time. We are looking at the institutional barriers to new nuclear power plants in this country. While industry must make the economic case for new nuclear power that this is the right thing to do from a business perspective, there is a role for government removing barriers such as regulatory barriers. As you know, there are very important but untested licensing processes of the Nuclear Regulatory Commission that though streamlined have never been demonstrated, have never been proven to be effective. It is a very high risk for industry to test those processes without government support.

While I do not believe that we will provide most of the dollars involved in testing those processes, I think that having the government involved in those processes, working as a partner with industry, is absolutely essential to moving forward.

The NERAC has determined that there are a range of technologies that are available that can make it to 2010. Some of them are variations of the light water reactors that we developed with industry back in the early nineties, the late nineties, rather, such as the AP-1000 from Westinghouse. There are some more exotic technologies, such as the reactor that is being worked on in South Africa and that Exelon has been very interested in. I think that these technologies are going to compete against each other over the next few years and we are going to really work closely with industry to make sure that there can be a clear business decision on whether those things go forward or not.

Senator DOMENICI. I have one last question with reference to global climate that somebody can answer, perhaps you, Dr. Orbach, and then I want to make an observation regarding research on alternatives with reference to the fuel cycle.

Global climate change research, I do not know who answers that. Is that yours?

Dr. ORBACH. Yes.

#### GLOBAL CLIMATE CHANGE RESEARCH

Senator DOMENICI. The Department of Energy had a longstanding role in global climate change research, although a lot of people do not know that, just like they do not know that the Department has a very big job in the genome program, always did, had one-third of the program in terms of dollars for many of the years that we were funding the Genome Project.

But the Department of Energy's role there, longstanding role, is there on global climate change. The White House has just recently announced a new global climate change strategy. Can you describe for me the role that the Department of Energy will have in that new White House agenda, the need for enhanced research in global climate change that will take advantage of the assets of the laboratories?

Dr. ORBACH. Yes, thank you. It is an inter-agency initiative and the Office of Science has been charged with the carbon cycle for North America. It has been said that the North American area is actually a sink for carbon, not a source, even given our large economy. In order to understand what the flow of carbon is, we are looking at both the sources of carbon, carbon dioxide, and also the sinks, which include both land masses and ocean. So we hope to improve the accuracy of the carbon cycle for North America as part of that initiative.

#### SPACE POWER SYSTEMS

Senator DOMENICI. Now, the 2003 NASA budget proposes a nuclear systems initiative. Is the DOE involved in that? What role might they have in that program?

Dr. ORBACH. I am sorry, Senator. I am unaware of that.

Senator DOMENICI. Are you aware of it, Mr. Magwood?

Mr. MAGWOOD. Yes. As you may recall, Senator, we have in our fiscal year 2002 budget a component of our advanced reactor power systems program called special purpose fission, in which we were provided dollars to look at the possibility of using space reactors to power NASA spacecraft for deep space exploration. After working with NASA very closely for the last several years, NASA has concluded that the time is right to begin a major new program to explore the use of these technologies for deep space exploration. NASA will spend, as you said, about a billion dollars over the next 5 years to look at these technologies.

DOE will be the primary contractor, I guess I would say, to NASA to develop these nuclear technologies.

Senator DOMENICI. Well, I want to say, in wrapping up any questions I might have of you, Mr. Magwood, I remain committed to the new programs with reference to waste disposal. I do not think just because the President is moving down using the statutory powers to establish a repository for nuclear waste at Yucca Mountain, I do not believe we have come close to solving the problem of nuclear waste disposal.

I am going to work very hard with my friend the chairman to see that we continue to fund the programs for alternative ways to do this. It appears to this Senator if we would have started 10, 15 years ago with anything close to the kind of money we were spending for the underground repository on doing research, we could have come up with a program with much less toxicity in the residue than what we have got now.

We understand we could be moving toward a 300-year life rather than 10,000 year. Half-life, I should have said half-life. It is very hard to find a repository that you can model in terms of safety with a 10,000 year half-life, but it would not have been difficult and will not some day when we have a much lesser number of years.

So wherever that has been reduced here, I am going to work hard to put it back in. So your job is going to continue. I hope you are optimistic about it, and the fact that it is not included with sufficient resources to continue at the level we had this year in the President's budget, I hope that will not hold you down if in fact we give you the money and urge that you proceed in that regard, because I think it is very, very important.

#### ADDITIONAL COMMITTEE QUESTIONS

I have a number of questions for you, doctor, but I am going to submit them for the record. Unless the chairman cares to proceed, I am finished for the day.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

#### QUESTIONS SUBMITTED FROM SENATOR HARRY REID

##### BIOTECHNOLOGY

*Question.* We are aware that the Office of Biological and Environmental Research (BER) oversees basic research including biotechnology research programs. What is the prospect of these programs contributing to the DOE mission?

*Answer.* We are quite confident that basic biotechnology research programs in BER will contribute substantially to the DOE mission. Already the genomic DNA sequencing of microbes with relevance for clean energy, carbon sequestration, bioremediation, and biothreat detection and defeat has stimulated research in each of these areas throughout the scientific community. Similarly, the planned genomic sequencing of the poplar tree has energized the research communities that study the use of the poplar for energy biomass, carbon sequestration, and bioremediation. Research in BER's Natural and Accelerated Bioremediation Research program is developing biological solutions for the cleanup of metals and radionuclides, contaminants unique to DOE waste sites. BER research has developed novel biological sensors with broad applications ranging from environmental monitoring for cleanup activities or biothreat agents to the broader medical and defense needs of other agencies. BER research on the carbon cycle and on the molecular details of the carbon cycle in ocean and terrestrial ecosystems will impact our ability to design strategies to sequester carbon and to estimate the North American carbon sinks, important in the global politics of carbon emissions and sequestration. Finally, the Genomes to Life program, jointly managed by BER and the Office of Advanced Scientific Computing Research (ASCR), will support fundamental systems biology research that will underpin our ability to use Nature's solutions and design strategies to develop our own solutions for clean energy, carbon sequestration, bioremediation, and the defeat of bioterrorism.

*Question.* The BER Advisory Committee has recommended that funding of \$200 million annually be provided for a new initiative in biology and biotechnology—the Genomes to Life program. For the upcoming fiscal year, the budget request is only \$40 million. In which year would you anticipate that the \$200 million recommendation will be requested?

Answer. As part of its out-year planning, the Department will consider Genomes to Life program needs and develop the appropriate budget profile.

*Question.* Could you explain how this new initiative in biotechnology—the Genomes to Life program—applies in each of the four DOE missions of (1) clean energy; (2) carbon sequestration; (3) bioremediation; and (4) defeating bioterrorism.

Answer. As we look into the future we believe that fundamental scientific advances in the Genomes to Life Program will underpin remarkable and diverse pay-offs in each of these four DOE missions.

*Clean Energy.*—Within the near future advances in systems biology, computation, and technology will contribute to increased biology-based energy sources. In a few decades they will contribute to energy security through a major new bioenergy industry.

*Carbon Sequestration.*—Within the near future advances in systems biology, computation, and technology will help us understand earth's carbon cycle and design ways to enhance carbon dioxide (CO<sub>2</sub>) capture. In a few decades they will help us stabilize atmospheric carbon dioxide to counter global warming.

*Bioremediation.*—Within the near future advances in systems biology, computation, and technology will lead to cost-effective ways for environmental cleanup. New technology will save billions in waste cleanup/disposal.

*Defeating Bioterrorism.*—Within the near future new technology will enable rapid detection of biothreat agents and identification of molecular targets for antibacterials and antivirals to underpin enhanced detection and response to biothreat agents.

*Question.* If the Congress were to provide additional funds this year, doubling the budget request of \$40 million, to accelerate this initiative to meet these important DOE missions and urgent national needs, how would these additional funds be used?

Answer. We believe the President's Request strongly and adequately funds this program. A key component of the Genomes to Life program is the formation of large, interdisciplinary teams of scientists at universities, national laboratories, and industry conducting research at the interfaces of the biological, physical, and computational sciences. Additional funds would, in part, be used to more quickly fund a critical mass of these research teams addressing each of the program's research goals. A second long-term goal of the program is to develop new scientific capabilities that we could use today but that simply do not exist in a generally useable form, such as real time molecular imaging and single molecule chemistry. These capabilities could be accelerated. Finally, the Genomes to Life program will require novel capabilities for new high throughput biology for protein production, molecular imaging, small molecule production, and proteomics. Development of these novel capabilities is a central component of the new high throughput biology that will characterize the Genomes to Life program and could be accelerated.

#### ENERGY BIOSCIENCES

*Question.* The Department of Energy fiscal year 2003 budget request deletes the separate budget line for Energy Biosciences within the Office of Science, Basic Energy Sciences and instead provides funding for Energy Biosciences under the broader category of Chemical Sciences, Geosciences, and Energy Biosciences. Does this represent a reduced emphasis by DOE Basic Energy Sciences on Energy Biosciences research?

Answer. Energy biosciences research is a very important component of the Basic Energy Sciences program and its support will continue. Indeed, the purpose of the change is to strengthen biosciences in the organization. The change directly aligns the budget and management structure within the Office of Basic Energy Sciences. Chemical sciences, biosciences, and geosciences have been managed together because of the growing convergence of these disciplines, especially between chemistry and biology. We expect that strengthening of energy biosciences research will occur by growth in the traditional areas supported by this program, for example, by developing a systems approach to the genetic modification of plants, and by growth in other areas that build upon the convergence of the chemical, materials, and biological sciences. For example, a workshop held early this year highlighted the interactions of the biological and materials sciences for biomolecular materials production. A forthcoming workshop later this spring will highlight the interactions of the biological and chemical sciences in the area of catalysis. In the past few years, we have nearly doubled the staff of the Energy Biosciences activity from 2 to 3½ scientific program managers in recognition of the importance of this area of research within the organization. The energy biosciences research is clearly identified in the Basic Energy Sciences program budget on page 547.

*Question.* Does DOE Basic Energy Sciences plan to use any funds that the Congress appropriated for Energy Biosciences research for fiscal year 2002 for other purposes?

*Answer.* No. All of the funds that the Congress appropriated for Energy Biosciences research for fiscal year 2002 will be used for this purpose only.

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QUESTIONS SUBMITTED FROM SENATOR PETE V. DOMENICI

SCIENCE FUNDING

*Question.* I've been concerned for several years that there is inadequate recognition in the scientific community and the Administration on the importance of the physical science research conducted by the Department's Office of Science.

Strong increases for NIH budgets have been the norm, and there is good recognition of the importance of NSF on the Hill. The Health Sciences share of our R&D has moved from about 25 percent of the Federal budget in 1980 to almost 55 percent in 2003.

But, in my view, the important role played by the Office of Science in our Nation's high technology infrastructure is not well recognized.

I suggest that the Department should develop a strong campaign to help the public and lawmakers understand the contribution made by the Office of Science. The public needs to understand that advances in one key area like health sciences depend on research in multiple fields. If physical sciences are not advancing at rates close to the medical sciences, I fear we are losing opportunities for key breakthroughs.

Do you share my view that the Office of Science should undertake such an educational campaign? And do you share my concern for a growing imbalance in the research portfolio of our Nation?

*Answer.* The Office of Science plays a critical role in the Nation's scientific enterprise. Not only do we build and operate large scientific instruments essential to virtually every research area, but we are also the primary support for many important areas of science ranging from whole fields, such as high energy physics, and nuclear physics, to subfields, such as combustion chemistry. I agree with you that this is not well recognized, as does Secretary Abraham, who made educating both the public and the Congress on the value of the Office of Science one of my highest priorities.

I also understand and share your concern about funding for the physical sciences, and the potential loss of opportunities for key breakthroughs in many areas. The physical sciences are in a period of revolutionary change, based in large part on the insights offered by new generations of scientific instruments of the type built and operated by the Office of Science, such as synchrotron light sources, neutron sources, atomic resolution microscopes, particle physics accelerators and computing centers—tools that are also absolutely essential to continued progress in the life sciences. I sincerely believe that the scientific opportunities facing us in the physical sciences have the potential to revolutionize our understanding of the universe and create better lives for our Nation's citizens, and that we should exploit those opportunities. Our fusion science program is making progress toward a new source of energy to reduce our dependence on oil and reduce atmospheric emissions; nanoscience research promises materials designed atom-by-atom to meet the needs of industry, our programs in high energy and nuclear physics are leading the world in increasing our knowledge of the fundamental nature of matter, energy and time. Nevertheless, I also support the recent increase in funding for the life sciences. It has sparked a biotechnology revolution that is changing the face of medicine and creating new industries, and the Office of Science is part of this biotechnology revolution. We initiated the Human Genome Project and developed many of the tools and techniques that underly its success. We plan to apply these tools and techniques to our (Genomes to Life) program to develop a sophisticated understanding of microbes and plant biology that will allow us to use them for energy production, carbon sequestration, countering bioterrorism and remediation of hazardous waste.

The President's budget request that is before the Congress is a substantial step toward strengthening the scientific base of the Office of Science and allowing us to exploit the opportunities before us. The completion of some projects, along with reduced funding requirements for the Spallation Neutron Source, effectively provides a 5 percent increase in funding for science, allowing us to strengthen our research programs while also increasing operating times at our user facilities.

## LOW DOSE RADIATION RESEARCH

*Question.* I helped you initiate your important program in low dose radiation research a few years ago, to try to better determine health risks from exposures to low levels of ionizing radiation. This research could have far-reaching implications, from improved cleanup standards for DOE sites to better appreciation of the risks associated with operations involving radioactive materials. With the National Academy's seventh study on Biological Effects of Ionizing Radiation (called BEIR VII) nearing a conclusion, results from this program are especially timely.

In past years, this budget has been reduced in Budget Requests, only to be restored by Congress. I appreciate that this year the request of \$17.5 million is close to the current year level of \$17.8 million. But it's my understanding that the DOE's own program plan for this study calls for budgets of about \$25 million.

Is this work advancing the state of knowledge in this critical area at a pace to impact the BEIR VII study?

*Answer.* Yes. To date, 153 peer-reviewed papers have been published in the scientific literature reporting results of research funded by the Low Dose Radiation Research Program. A number of these published papers have already been listed on the BEIR VII website as citations provided to BEIRVII committee members for consideration ([http://www7.nationalacademies.org/brer/BEIR\\_VII\\_refs.html](http://www7.nationalacademies.org/brer/BEIR_VII_refs.html)). The entire list of current publications has been sent to the BEIR VII staff at the National Academy and will be available to the committee well before the next meeting of BEIR VII, in July of 2002. The estimated time of completion of the BEIR VII report is late 2003 and will allow time for additional publications from the Low Dose Program to be considered in their final report. BEIR VII staff members have also attended all three of the Low Dose Program's investigator workshops that are attended by all scientists funded by the program.

Although the program is only in its fourth year, much has already been learned. Because of new technology, arising in part from genomics research and the success of the Human Genome Program, we are able to measure changes in gene activity at the cellular and molecular level that were previously below the limits of measurement. A key finding is the observation that low doses of radiation (less than 10 rads, a dose that is twice the annual DOE radiation worker exposure limit) activate hundreds of genes most of which are different from the genes activated by high doses of radiation. While the significance of this observation for human health risk remains to be determined, this result clearly shows that biological responses to low doses of radiation are not simply less than the response to high doses of radiation but are qualitatively very different.

Research in the program is also investigating the biological responses of unirradiated cells that are neighbors of a cell that was irradiated the situation inherent at low doses of radiation. This research has clearly shown that irradiated cells can elicit a response in their unirradiated neighbors demonstrating the importance of communication between cells in biological systems. Further studies will determine whether this communication is ultimately deleterious or protective for intact tissues.

The Low Dose research has reanalyzed the doses received by atomic bomb survivors. These calculations will be completed in fiscal year 2002 and used by the BEIR VII committee in writing their report.

*Question.* And is it resource constrained in its progress?

*Answer.* The funding is adequate within the context of the overall priorities for the Office of Science and the Biological and Environmental Research program. To date, the Low Dose Program has funded a total of 76 separate projects—30 at national laboratories, and 46 at universities and other institutions. Currently 52 projects are funded and we are in the process of reviewing more than 50 proposals and applications for new research received in response to our most recent solicitation for new research. The program has attracted and is supporting the best science in low dose radiation biology and is the leading program internationally. The program has been very productive as indicated by the number of publications that have appeared in the peer-reviewed literature.

## SCIENCE IN AN UNDERGROUND LABORATORY

*Question.* Last year there was a review by NSF to explore deep underground sites for sensitive nuclear experiments.

As part of their review, there was strong recognition that some experiments require the deepest location—like the Homestake mine—and others benefit more from the ultra-low background, ultra-clean conditions, and superb infrastructure associated with the Waste Isolation Pilot Plant at Carlsbad.



I provided funding within the EM budget this year to start a neutrino experiment at WIPP. But logically, these experiments should be championed within the Office of Science.

Will the Office of Science seriously evaluate and champion opportunities for key experiments in the environment provided by WIPP?

Answer. The Office of Science strives to champion the most interesting and promising experiments in all fields of basic energy research. The Office would, of course, be interested in receiving promising proposals for experiments utilizing the Waste Isolation Pilot Plant at Carlsbad. As is customary with all proposals received in the Office of Science, these proposals would undergo external peer review and be funded based on the results of this peer review and the availability of resources.

Some of these experiments (EXO, OMNIS, high pressure helium detector) are aimed at WIPP, with this site claimed by scientific proponents to be a good match to their needs. For the neutrino/nucleon decay experiments, there is an on-going scientific debate involving the relative location of accelerator facilities that might provide neutrino beams and the energies of these beams.

#### GLOBAL CLIMATE CHANGE RESEARCH

*Question.* The Department of Energy has had a long-standing role in the Global Climate Change research agenda.

The White House just recently announced a new Global Climate Change strategy.

Can you describe for me the role that the Department of Energy will have in the new White House agenda and the need for enhanced research on Global Climate Change that would take advantage of the assets in DOE's laboratories?

Answer. One role the Department will play in the Administration's Climate Change program is to advance our understanding of the carbon cycle. Specifically, our research will seek to understand where the carbon dioxide emitted to the atmosphere is going and what role terrestrial ecosystems in North America play in the carbon cycle as either a source or sink for carbon dioxide. The Department's other programs in climate change research are also expected to play an important role in the White House agenda for research beyond the Climate Change Research Initiative.

For example, the national laboratories provide our climate change research facilities, such as the Atmospheric Radiation Measurement Cloud and Radiation Testbed facilities—the ARM sites—and the high performance computing facilities essential for developing and using the advanced climate model and the ARM data. Coupled with these facilities, the laboratories also provide science teams needed to develop advanced high-resolution ocean and sea ice models as components of coupled climate models, novel diagnostic tools to evaluate the performance of climate models, and new models for simulating climate processes, carbon cycling and sequestration in terrestrial and ocean systems, and the ecological impacts of climate change.

#### UNIVERSITY REACTOR FUEL ASSISTANCE AND SUPPORT

*Question.* For the current year, the Congress provided \$17.5 million for the University Reactor Support Program. This included a \$5.5 million add over the budget request to specifically establish geographically distributed university research reactor user facilities and geographically distributed training and education research reactors?

This was one of the major recommendations of the April 2001 NERAC Report on University Research Reactors.

Can you assure me that the \$5.5 million increase is being used for this purpose?

Answer. Yes, the \$5.5 million added by the Congress for geographically distributed university research, training and education reactors will be used exclusively for that purpose. The Innovations in Nuclear Infrastructure and Education (INIE) program was established in fiscal year 2002 to accomplish this task.

*Question.* Can you give me an update on this effort? Will it be peer reviewed? Will it involve substantial financial support from the nuclear industry?

Answer. On December 21, 2001, after the fiscal year 2002 Appropriation Bill was signed by the President, the Department issued a solicitation for proposals under the Innovations in Nuclear Infrastructure and Education (INIE) program. By the solicitation closing date of March 15, 2002, 13 proposals had been received from the university community. A peer review panel of seven independent experts from outside the Department has been established to review the proposals and make award recommendations to the Department's selection official. The peer review panel is scheduled to meet in late April and report back to the selection official by May 1, 2002. It is expected that the announcement of awards will occur by early June 2002 with grants issued in July 2002. Industry support is one of several review criteria

being used by the peer review panel in evaluating the proposals and it appears that many of the proposals include substantial financial support from industry.

#### URANIUM-233

*Question.* The Congress has urged the Department to proceed with a Request for Proposal on a project to extract medically valuable isotopes from the excess uranium 233 stored at Oak Ridge National Laboratory.

This is potentially a very exciting effort.

When do you expect to present a project plan to the Congress on this effort?

*Answer.* House Report 107-258 requested a budget-quality project plan that presents all costs, including the estimated life-cycle costs for storage and disposal of the excess 233U before the Request for Proposals (RFP) is issued. The project plan is in final Departmental review and should be delivered to Congress by the end of May.

*Question.* Can you provide an update on this effort and tell when you expect the RFP will be out?

*Answer.* A final draft of the Request for Proposals (RFP) has been prepared; we expect the Department will be ready to issue the RFP in FedBizOps following submission of the project plan to Congress.

#### NUCLEAR POWER 2010 INITIATIVE

*Question.* Two years ago, this Subcommittee led the way in creating a new R&D program in Nuclear Energy Technologies. The effort has been focused on both near-term and longer-term development of next generation power reactors.

There are great opportunities to deploy new reactors that would have superior economics, no possibility of a core-meltdown, reduced waste, and more proliferation resistant.

I commend the Department for providing \$38 million to support a near-term effort with the goal of having new advanced reactors operating in the United States by 2010.

Can you elaborate on this program in greater detail?

*Answer.* The Nuclear Power 2010 initiative is a joint government/industry cost-shared program to develop advanced reactor technologies and demonstrate new regulatory processes leading to initiation of private sector construction of new nuclear power plants in the United States by 2005 and their operation by 2010.

The Department's Nuclear Energy Research Advisory Committee issued on October 31, 2001, A Roadmap to Deploy New Nuclear Power Plants in the United States by 2010, which recommends actions to be taken by industry and the Government to support deployment of new advanced nuclear power plants in the United States by 2010. The recommendations, which have broad industry support, provide the basis for the activities of the Department's Nuclear Power 2010 program.

The Nuclear Power 2010 program includes a phased plan of action to achieve near-term deployment. This phased approach includes a Regulatory Demonstration phase and a Design Completion phase. The Regulatory Demonstration phase will demonstrate the previously untested Early Site Permit (ESP) and combined Construction and Operating License (COL) regulatory processes to reduce licensing uncertainties and the attendant financial risks to the licensee. The Design Completion Phase will support work to finalize and certify those advanced reactor designs which U.S. power generation companies are interested in constructing as evidenced by their willingness to share in the costs of obtaining a certified design ready for deployment.

In fiscal year 2002, cost-shared Regulatory Demonstration projects will be initiated with industry to demonstrate the Nuclear Regulatory Commission (NRC) ESP licensing process. The ESP process was established by the NRC to enable completion of the site evaluation component of nuclear power plant licensing before a utility makes a decision to build a plant. In response to the Department's February 2002 solicitation for ESP License Demonstration Projects, proposals were submitted by Dominion Energy, Inc., Entergy, and Exelon Generation Company. These proposals are currently under review with award selection planned for May 2002. The Department anticipates NRC approval of the ESP applications by late 2004.

During fiscal year 2002, fuel development and test planning activities were initiated at the Idaho National Engineering and Environmental Laboratory and the Oak Ridge National Laboratory in support of advanced gas-cooled reactors. In addition, the Department is continuing to fund NRC for development of a gas reactor regulatory and licensing framework.

In fiscal year 2003, the Regulatory Demonstration activities initiated in fiscal year 2002 will continue. In addition, cost-shared Design Completion projects will be initi-

ated with industry to support NRC design certification and design completion of at least one advanced reactor. The Department anticipates that these Design Completion activities will include cost-shared first-of-a-kind engineering, fuel qualification and prototype component development.

In fiscal year 2004, cost-shared projects will be initiated with industry to demonstrate the NRC combined Construction and Operating License (COL) process. The Department anticipates these NRC license applications to lead to initiation of private sector construction of new nuclear power plants in the United States by 2005 for operation by 2010. The Department will also conduct a nuclear industry infrastructure assessment to identify the current state of fabrication, manufacturing, and construction capabilities required to support deployment of new nuclear power plants by 2010.

*Question.* What is the projected cost of this program over the next 8 years?

*Answer.* The total cost of the program over the next 8 years will depend largely on the reactor technologies that are found to be attractive by different generation companies in different regions of the country and the costs associated with design completion and licensing new nuclear power plants. The Department has established plans to invest \$38.5 million in fiscal year 2003. Once it becomes clear which technologies would be involved in new nuclear plant deployments in the United States, we will be able to project the total cost of the programs.

*Question.* Would it be possible to accelerate the program with additional resources?

*Answer.* The program can be accelerated if additional resources are received in fiscal year 2003 and fiscal year 2004. Specifically, the activities associated with design completion including first-of-a-kind engineering and material testing could be accelerated. Regulatory demonstration activities including Early Site Permit applications and combined Construction and Operating License activities are proceeding at a pace consistent with current NRC and industry plans. Accelerated design completion would reduce uncertainty in plant construction cost estimates and would likely accelerate a decision by industry to construct a new nuclear plant.

*Question.* How is the Department using the \$3 million provided last year to support the longer-term recommendations that will come out of the Generation IV Technology Roadmap?

*Answer.* The fiscal year 2002 Energy and Water Development Appropriation associated provided \$3,000,000 for advanced reactor development consistent with the longer-term recommendations of the Generation IV Technology Roadmap and to continue research begun in the current fiscal year in small modular nuclear reactors. The Department's Generation IV Technology Roadmap is scheduled for completion in early fiscal year 2003. The research and development activities for next generation nuclear energy systems will begin in earnest in fiscal year 2003.

#### NASA'S NUCLEAR SYSTEM INITIATIVE

*Question.* The Fiscal year 2003 NASA budget proposes a (Nuclear Systems Initiative.) This initiative will develop new radioisotope power systems for on-board electric power on future space platforms, and it will also conduct research and development on nuclear electric propulsion systems that would allow future spacecraft to speed throughout the outer reaches of the solar system. NASA has proposed spending \$126 million in fiscal year 2003 and up to \$1 billion in the next 5 years. What will be DOE's role in this exciting new effort? *Answer.* As you indicated, the NASA nuclear systems initiative has two primary parts, radioisotope power systems and nuclear electric propulsion. DOE will have major roles in both parts. Historically, DOE has developed and delivered radioisotope power systems to NASA for 35 years. DOE will perform that same function as part of this new initiative. NASA will provide funding to DOE to develop new radioisotope power systems.

Currently, the planning focuses on two key systems. One will be a new Multi-Mission Radioisotope Thermoelectric Generator that will build on the systems used in past missions but will be designed to operate on both surface environments such as Mars as well as in the vacuum of space. The second will be a new Stirling Radioisotope Generator that will take advantage of the higher efficiency offered by this dynamic conversion technology in order to reduce the amount of plutonium-238 that is required to power the generator. This system will also be designed to work both on planetary surfaces (Mars) as well as in space. In addition to funding DOE for specific system development efforts, NASA will also pursue, through its own Centers, advanced technologies that may be applicable to future systems.

DOE's role in the nuclear electric propulsion efforts is still evolving. As the nuclear agency for the Federal Government, DOE will play a lead role in the research related to developing the space reactor portion of a nuclear electric propulsion sys-

tem. However, initial planning has the power conversion and heat rejection subsystems remaining the primary responsibility of NASA. Because of the direct interrelationship of the reactor and the power conversion and heat rejection subsystems, the precise roles and interfaces are still being negotiated. In any event, the Department will have a significant and key role in supporting NASA in the space reactor portion of the initiative. Discussions are presently ongoing between the NASA Administrator and senior Department officials on organizational options for managing the space fission reactor portion of the initiative.

ADVANCED NUCLEAR MEDICINE INITIATIVE (ANMI)

*Question.* The Advanced Nuclear Medicine Initiative (ANMI) provides basic research and educational grants in the field of nuclear medicine. These R&D grants have yielded exciting results for the development of new radiopharmaceuticals, insights in radiobiology, and possible new methods of treating cancer.

In recent years the program has been funded at the level of \$2.5 million per year. In fiscal year 2003 funding has been dropped to zero. The Department has also proposed changing the manner in which it provides radioisotopes to the research community.

I am concerned that these changes have been made without a senior level agreement with NIH as to how the government is going to continue to support this important mission.

Will the Department work to secure such an agreement?

*Answer.* We have communicated with senior officials of the Department of Health and Human Services and initiated a dialog with the National Institutes of Health about the changes anticipated in our medical isotope program and our mutual interest in assuring an adequate supply of isotopes to support nuclear medicine research. Additionally, as a first step, we are jointly sponsoring a special session at the annual Society of Nuclear Medicine meeting in June 2002, to explore the roles of our respective agencies in assuring research isotope availability.

*Question.* Will you elaborate as to why, at a time when nuclear medicine has an opportunity to contribute tremendously to molecular medicine, you have chosen to reduce support of the Advanced Nuclear Medicine Initiative (ANMI)?

*Answer.* As you indicated, in fiscal year 2003, the Department has not included funds for the Advanced Nuclear Medicine Initiative (ANMI). The ANMI program was launched in fiscal year 2001 with \$2.5 million in each of fiscal year 2001 and fiscal year 2002. With this funding, we have supported a total of nine research grants and five educational grants to post-secondary institutions, including the expansion or establishment of nuclear pharmacology graduate programs at U.S. universities. These 14 awards, which were provided for up to 3 years, will be completed in fiscal year 2003, with funds remaining from fiscal year 2002.

The ANMI concludes with a record of considerable success, including the development of new scientific and technical innovations, represented by several papers that have been presented at topical meetings and submitted to professional periodicals.

Two papers accepted for publication.

—Yao, Z., DeNardo, S.J., DeNardo, G. L., et.al. “Effect of Molecular Size of PEGylated Peptide on the Pharmacokinetics and Tumor Targeting in Lymphoma Bearing Mice”, *Cancer Research*, 2002; accepted.

—Balogh, L., Bielinska, A., Eichman, J. D., Valluzzi, R., Lee, I., Baker, J. R., Lawrence, T. S., and Khan, M. K. “Dendrimer Nanocomposites in Medicine,” *Chemica OGGI*, 2002; accepted.

Five presentations given or to be given at meetings involved in nuclear medicine.

—Balogh, L., Cook, A. C., Baker, J. R., Khan, M. K., “Development of Radioactive Dendrimer Nanocomposites.” To be presented at the Society of Nuclear Medicine, June 15–19, 2002. Los Angeles, CA.

—Balogh, L., Eichman, J. R., Baker, J. R., Khan, M. K., Lawrence, T. S., Sorenson, D. R., and Edwards, C. A., “Imaging and Drug Delivery Using Dendrimer Nanocomposites.” 1st International Meeting On Nanoparticles 2001, Feb. 24–27, 2001 Orlando, FL.

—Balogh, L., Baker, J. R., Khan, M. K., Lawrence, T. S., Sorenson, D. R., and Edwards C. A., “Imaging Gold Dendrimer Nanocomposites in Cells,” Symposium Y5.3 MRS Spring Meeting, April 16–20, 2001. San Francisco, CA.

—DeNardo, S. J., Yao, Z., DeNardo, G. L., Song, A., Kukis, D. L., Mirick, G. R., Lamborn, K. R., O’Donnel, R. T., and Lam, K. S. “Effect of Molecular Size of PEGylated Peptide on the Pharmacokinetics and Tumor Targeting in Lymphoma Bearing Mice.”

—DeNardo, S. J., Yuan, A., Richman C., O’Donnel, R. T., Goldstein, D. S., Shen, S. S., and DeNardo, G. L. “Therapeutic Index Enhancement by DOTA Peptide

Linkage in 111-In/90-Y DOTA-Lym-1 and m170 Mabs in Clinical Trials.” To be presented at the Society of Nuclear Medicine Meeting June 15–19, 2002.

Subjects of these articles include: development of antibodies for cancer therapy; development of nanocomposites to treat tumors; tumor targeting for radioisotope therapy; delivery of alpha-emitting isotopes and improving the methods for their delivery to cancers such as breast and prostate and also leukemia.

Five Nuclear Medicine and Pharmacy graduate programs have been established or enhanced at the following universities through the ANMI:

University	Program
Purdue University .....	Nuclear Pharmacy Education
Washington University (St Louis) .....	Graduate Research in Nuclear Medicine
University of Wisconsin .....	Training for MS-Level PET Medical Physicists
Washington State University .....	Nuclear Pharmacy Graduate Certificate Program
University of New Mexico .....	Nuclear Pharmacy Graduate Education

These grants will produce masters and doctoral level graduates to fulfill a recognized shortage of trained nuclear medicine personnel. Specifically, the grants have expanded the number of institutions graduating nuclear pharmacists and have increased the availability of medical physicists to meet the rapidly growing demand for these specialists in the United States.

While we continue to support the objectives of this program and recognize the value of DOE’s infrastructure to medical isotope research, we must focus our attention and resources on other issues of greater priority.

ADVANCED ACCELERATOR APPLICATIONS PROGRAM (AAA)

*Question.* Within the last year, Congress received a report on future plans for the AAA program that painted a picture of major contributions involving study of improved nuclear waste strategies.

The President’s National Energy Policy spoke strongly about the importance of this work. It specifically recommended development of advanced nuclear fuel cycles and next generation technologies for nuclear energy as well as reexamination of our policies for reducing waste streams and enhancing proliferation resistance through study of advanced reprocessing and waste transmutation. That is exactly what AAA is doing.

The Department chose to combine the AAA program with the pyro-processing program in the budget request. Combining those programs may be reasonable, and in fact, redefining the whole program to emphasize the importance of both reactors and accelerators in improved management of spent fuel would be reasonable. Perhaps a better title for this whole area might be something like Advanced Fuel Cycle Development.

But the Department also reduced the budget from about this year’s \$80 million to a proposed \$18 million.

Would additional resources to support this important effort be consistent with the direction the President laid out in his National Energy Policy Report?

*Answer.* This program activity has evolved significantly over the last 3 years. Originally, it was directed to apply high-energy accelerators to transmute spent fuel to lower quantity, less toxic forms. Consistent with the direction of Congress, we are combining the technology activities at the national laboratories and the University of Nevada-Las Vegas into a single, integrated program to explore both reactor and accelerator technologies associated with spent fuel pyroprocessing and transmutation.

While we are interested in the potential of this research, we also recognize that it represents a long-term, potentially expensive commitment of the Department’s scarce nuclear technology research funding.

An independent expert committee chaired by Dr. Burt Richter believes that the next phase of this research could cost about \$500 million per year over the next 5 to 6 years. Before we can commit to such an investment, it is important that we be certain that the goals and approach of this research be carefully reviewed and a clear plan established.

Such a plan is now being written with considerable input from Dr. Richter’s committee and should be provided to Congress in May. Unfortunately, this plan could not be completed in time to support a more robust funding request during the formulation of the Department’s fiscal year 2003 budget.

Once it is complete, however, I am confident that the plan will detail a technical approach to this research that we will be able to discuss with Congress and use to determine an appropriate path-forward, including funding, for this research.

Finally, I agree with your observation that this area of research might more appropriately be designated Advanced Fuel Cycle Development.

#### NUCLEAR ENERGY PLANT OPTIMIZATION (NEPO)

*Question.* Nuclear Energy is making immense contributions to the Nation's electricity needs. Plants are operating at record levels of efficiency, with a plant capacity factor approaching 91 percent in 2002.

The goal of NEPO is to ensure that our plants continue their performance, and extend their contributions beyond their initial 40-year license period. NEPO is a fully cost-shared program, with equal or greater funds invested by private industry.

NEPO was supported in a formal letter from all 33 U.S. members of the EPRI Nuclear Power Council, who recommended increased funding. Those 33 members represent virtually every nuclear power company in America.

NEPO received \$5 million in 2000 and 2001 and \$6.5 million in 2002. The Department recommends zero in 2003.

Given the importance of optimum plant operation and the importance of re-licensing plants, what is the rationale for the proposal to zero budget in 2003?

*Answer.* The Department continues to support the goals of the NEPO program which are to ensure that current plants can continue to deliver reliable and affordable energy supplies through the end of their extended licenses. The Department requested no funding for NEPO for fiscal year 2003 in order to fund other, higher priority programs.

*Question.* Are the goals of the NEPO program consistent with the President's National Energy Policy?

*Answer.* Yes. The goals of the NEPO program are consistent with the Nuclear Energy Policy objective of U.S. energy security.

The research and development conducted under NEPO seeks to increase electrical generating capability from our current fleet of 103 operating nuclear plants through technical innovation, to improve on the recent gains by the industry in operating capacity factors which are near 90 percent, and to break through the technical barriers to continued operation so that our existing plants can achieve and exceed a total of 60 years of operation.

#### NUCLEAR ENERGY RESEARCH INITIATIVE

*Question.* I've been a strong champion for re-creating the research infrastructure that can underpin a strong future for nuclear energy. The NERI program is one of the most important of these programs, with its focus on R&D projects essential for regaining and maintaining American's nuclear energy leadership.

With the Nation's requirements to provide nearly 400,000 megawatts of new electric generating capacity by 2020, the NERI program takes on even more importance.

In the current year, NERI is funded at \$32 million. The President's budget suggests \$25 million, a significant cut. I can easily understand the rationale for a significant increase, I fail to understand how a cut could logically be proposed.

How many ongoing research programs will be terminated, and how will these affect new awards?

*Answer.* No research projects will be terminated as a result of the fiscal year 2003 budget request. The Department's funding request will support continuation of the 16 new projects expected to be awarded in fiscal year 2002 as well as projects ongoing from prior years. However, the fiscal year 2003 budget request will not support the initiation of new NERI research projects.

*Question.* NERI was just starting an international component, to tap the immense opportunities for international collaboration in nuclear energy research. How does the President's budget impact the ability to progress on international efforts?

*Answer.* The Department's fiscal year 2003 budget request fully supports International Nuclear Energy Research Initiative (I-NERI) activities currently being conducted under bilateral agreements with France and South Korea and activities planned with South Africa, Japan and Brazil. The Department currently has four I-NERI projects with France, six projects with Korea and one project with the OECD Nuclear Energy Agency. The Department also anticipates initiating up to five new I-NERI projects with South Africa, Japan and Brazil in fiscal year 2002. The Department's fiscal year 2003 budget will support the continuation of these activities.

## SCIENCE AT THE PROPOSED YUCCA MOUNTAIN REPOSITORY

*Question.* Recent reports and press statements have expressed concern that the Department is relying too heavily on engineered barriers to limit potential dispersal of radioactive materials from spent fuel?

How do you respond to these reports?

Could a stronger case be made for the integrity of the natural barriers than the Department has done to date?

And if so, will you encourage that the scientific studies to possibly support the natural barriers be conducted?

*Answer.* Geologic isolation plays a significant role in repository performance at Yucca Mountain. We included both natural and engineered systems in evaluating long-term Yucca Mountain performance, in accordance with the National Academy of Sciences (NAS) recommendations and with Environmental Protection Agency (EPA) and the Nuclear Regulatory Commission (NRC) regulations.

Critics have implied that our total system performance assessment relies almost entirely on engineered barriers: that implication is incorrect, or misinformation. The Department designed the Total System Performance Assessment (TSPA) to forecast the performance of the repository within the Yucca Mountain setting, and assess that performance against the regulatory standards as specified by NRC in 10 CFR 63. The NRC's regulatory requirements conform to the EPA standards for the protection of the public health and safety as specified in 40 CFR 197, which, pursuant to the Energy Policy Act of 1992, are consistent with the recommendations of the NAS. The risk-informed, performance-based approach embodied in the NRC and EPA regulations requires DOE to analyze compliance with public health and safety standards based on a TSPA that takes into account the features, events, and processes associated with the natural geological setting at Yucca Mountain working in concert with the man made engineered barriers.

Yucca Mountain is an isolated site in a closed hydrological basin. Tunnels that might isolate spent nuclear fuel and high level waste would be nearly 1,000 feet below the surface and the water table is nearly 2,000 feet below the surface. Our understanding of the water movement within Yucca Mountain suggests that over 90 percent of the annual rainfall at this site is evaporated, meaning less than half an inch of rain water might travel beneath the surface. Our analysis of water samples within the mountain suggests that water in the rocks is thousands of years old.

Natural properties in the rock formation beneath Yucca Mountain provide sorption that would further reduce any movement of molecules. These are some examples of natural features and process that our TSPA took into account along with man made engineered systems to ensure that we meet the NRC and EPA's regulations.

The natural systems of Yucca Mountain do provide substantial barriers to the release of radionuclides from a repository and thousands of years of protection. Should any of the waste packages fail during the regulatory compliance period of 10,000 years, the natural barriers of Yucca Mountain would also assure that the public's health and safety are protected.

## TRANSPORTATION SECURITY

*Question.* In light of the events of September 11, there are a lot of concerns from the States regarding security of transportation of nuclear wastes.

What specifically is DOE working on to address this?

I am especially interested in how DOE is cooperating with NRC. Will you elaborate on that relationship?

*Answer.* The September 11 attacks have prompted the Department and many other Federal agencies, including the NRC, to review the safeguards and security regulations and the basis for their threat assessments. If these reviews result in changes to the NRC requirements for physical protection, the Department will comply.

## QUESTIONS SUBMITTED FROM SENATOR LARRY CRAIG

## ENVIRONMENTAL SCIENCE

*Question.* As a result of its (Top to Bottom Review) of the Environmental Management Program, the Department of Energy concluded that the EM Science and Technology program was not focused on EM program needs. For this reason, DOE proposes in its fiscal year 2003 budget request that the EM Science and Technology program be transferred to the DOE Office of Science.

For the record, would you please provide a detailed "cross walk" which maps the EM Science and Technology program elements which were funded in fiscal year 2002 to the proposed budget structure for fiscal year 2003?

Answer. The fiscal year 2003 Presidents Request proposes to move two EM Science and Technology program elements to the Office of Science. In fiscal year 2002 the EM Defense Environmental Restoration and Waste Management, Science and Technology program, included the Environmental Management Science Program and the Savannah River Ecology Laboratory. In fiscal year 2003 the President's Request proposes to move these two activities to the Office of Science's Biological and Environmental Research Program, Environmental Remediation subprogram under the Clean-Up research activity.

#### EM SCIENCE AND TECHNOLOGY PROGRAM ELEMENTS

*Question.* Please also provide a list of those EM Science and Technology program elements which would no longer be funded in either EM or Science under DOE's proposed fiscal year 2003 budget.

Answer. In response to recommendations from the Top-to-Bottom Review, the Science and Technology (S&T) program is being refocused to ensure its activities support its core mission of accelerated cleanup and closure. As part of this effort, the basic research that had been conducted in partnership by the DOE Offices of Environmental Management (EM) and Science (SC) will transfer to SC. Remaining S&T activities in the EM S&T program are being realigned to support two areas: (1) closure site support, to ensure that closure sites, such as Rocky Flats and the Ohio sites, have the necessary technology and technical support to meet closure scheduled, and (2) alternatives and step improvements to current high-risk/high-cost baselines, to ensure all possible alternatives have been evaluated and that workable alternatives are available and implemented as cleanup activities progress.

Each field manager is currently developing plans to achieve more risk reduction and accelerate cleanup at the sites. The manager is also assessing what the S&T requirements are to support these accelerated plans and is prioritizing these requirements for the site. Based on this input, EM will determine which S&T activities should be supported in fiscal year 2003. EM anticipates making determinations about specific S&T projects to be supported within the fiscal year 2003 funding request in summer of 2002.

#### ALLOCATION CRITERIA FOR FUNDING FOR ENVIRONMENTAL SCIENCE

*Question.* For any EM Science and Technology program elements that are to be retained and managed out of the EM Headquarters program element, please provide the criteria upon which DOE will allocate these program dollars to the field.

Answer. The technology development activities conducted in EM's Office of Science and Technology program in fiscal year 2003 will be realigned to address a streamlined program that is focused on (1) closure site support, to ensure that closure sites have the necessary technology and technical support to meet closure schedules, and (2) alternatives and step improvements to current high-risk/high-cost baselines, to ensure all possible alternatives have been evaluated and that workable alternatives are available and implemented as cleanup progresses.

EM plans on allocating S&T funds requested for fiscal year 2003 to projects that align with the new program focus, and that are needed to support plans being developed by the sites to accelerate cleanup. We are currently working with the EM field offices to determine which S&T projects will receive funding in fiscal year 2003.

#### ELECTROMETALLURGICAL TREATMENT

*Question.* The requested funding level for fiscal year 2003 for electrometallurgical work at Argonne National Laboratory will only support the treatment of about one half ton per year of EBR II fuel. This will not allow the lab to meet its compliance commitment to the State of Idaho for treatment of this fuel. The overall funding level would also result in a layoff of approximately 160 positions in Illinois and Idaho.

Given the endorsement of the pyroprocessing technology in the National Energy Plan, how does DOE justify this requested funding level and the adverse impacts created by it?

Answer. The Department is very interested in the potential of pyroprocessing, transmutation, and other advanced fuel cycle technologies. The successful demonstration of electrometallurgical treatment technology at Argonne National Laboratory has provided additional confidence regarding the practicality of this technological approach. Additional research may show that this research is applicable to



the development of a future advanced technology approach to managing spent nuclear fuel.

A subcommittee of the Nuclear Energy Research Advisory Committee, chaired by Nobel Laureate Burton Richter, believes that the research required to investigate these advanced nuclear fuel technologies could require an investment of about \$500 million over the next 5 to 6 years. Before the Department could consider a commitment to such an activity, it is essential that the goals and technical approach of this research be carefully reviewed and a clear plan established.

Pursuant to this, the Department is preparing a plan that details the research that would be necessary to carry out an advanced fuel cycle program. This report, developed with input from Dr. Richter's subcommittee, will soon be provided to Congress. It will provide a basis for informed discussions as the Administration and Congress weigh the potential benefits and costs of a new research initiative in this area—an initiative that will meet the aggressive technology objectives anticipated by the National Energy Policy.

Unfortunately, neither our current research efforts nor the deliberations of the Nuclear Energy Research Advisory Committee were sufficiently advanced last year to permit this report to be completed in time for the fiscal year 2003 budget request. As a result, the Department's request for this research represents the funds required to continue the treatment of sodium-bonded fuel and meet our commitments to the State of Idaho.

That said, the current EMT rate is approximately one half ton of spent nuclear fuel per year and we anticipate that with the funding requested in fiscal year 2003, we can continue to operate the Fuel Conditioning Facility at this treatment rate. We also intend to increase this rate in the future with the intent of fulfilling our commitment with the State of Idaho to treat and remove all EBR-II spent fuel. Finally, it is our intent to minimize any adverse worker impacts at Argonne National Laboratory and we stand committed to working closely with the Laboratory, the workers, stakeholders and Congress to assure that this objective is met.

#### SUBCOMMITTEE RECESS

Senator REID. The subcommittee stands in recess.

[Whereupon, at 2:21 p.m., Friday, March 15, the subcommittee was recessed, to reconvene subject to the call of the Chair.]



# **ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 2003**

**MONDAY, MARCH 18, 2002**

U. S. SENATE,  
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,  
*Washington, DC.*

The subcommittee met at 11 a.m., in room SD-124, Dirksen Senate Office Building, Hon. Harry Reid (chairman) presiding.  
Present: Senators Reid and Domenici.

## **DEPARTMENT OF ENERGY**

**STATEMENT OF JOHN A. GORDON, UNDER SECRETARY FOR NUCLEAR SECURITY AND ADMINISTRATOR, NATIONAL NUCLEAR SECURITY ADMINISTRATION**

### **ACCOMPANIED BY:**

**DR. EVERET BECKNER, DEPUTY ADMINISTRATOR FOR DEFENSE PROGRAMS**

**LINTON BROOKS, DEPUTY ADMINISTRATOR FOR DEFENSE NUCLEAR NONPROLIFERATION**

**ADMIRAL FRANK L. BOWMAN, U.S. NAVY, DIRECTOR, NAVAL NUCLEAR PROPULSION PROGRAM AND DEPUTY ADMINISTRATOR FOR NAVAL REACTORS**

### **OPENING STATEMENT OF SENATOR HARRY REID**

Senator REID. The subcommittee will come to order.

I really appreciate everyone's patience. This hearing was scheduled for 10:00. Senator Domenici asked if I could put it off, and I was happy to do that. I saw him a little while ago, and he said that he had a meeting with Senator Lott that should be ending soon. We are going to go ahead and start the meeting, though.

Today is the third in a series of four budget oversight hearings for the Energy and Water Development Subcommittee. We have heard, so far, from three offices at the Department of Energy: the Office of Science, the Office of Nuclear Energy, and the Office of Civilian Radioactive Waste Management. We have also heard from the Bureau of Reclamation and accepted written testimony from the U.S. Corps of Engineers, for reasons that are obvious to everyone.

For the information of other Members and staff, the subcommittee will hold one more budget oversight hearing this year. We will wrap up our budget hearings on April 18th. On that day, we will hear from the Office of Environmental Management and the Office of Energy Efficiency and Renewable Energy, two important programs within the Department.

Today we will hear from four witnesses: General John Gordon, Administrator of the National Nuclear Security Administration; Dr. Everet Beckner, Deputy Administrator for Defense Programs, and Ambassador Linton Brooks, Deputy Administrator for Defense Nuclear Nonproliferation; and Admiral Frank Bowman, Deputy Administrator for Naval Reactors.

Senator Domenici and I both appreciate you being here. My duties as the Assistant Majority Leader require my presence on the Floor when we are in session. As a result, it is extremely difficult to find time on Tuesday, Wednesday, or Thursday to do these hearings, and we have decided to do them, on this committee and another that I run, on Mondays and Fridays. So we appreciate your flexibility.

The good part about having them on Mondays and Fridays is that we are not interrupted by votes, so we will be able to start this and end it. And it is better for everyone, I believe.

It is my understanding, General Gordon, that you just got back from a series of meetings in Europe. I am particularly grateful for your attendance so early in a busy week, after having just gotten back.

In the interest of time, I will have my written statement be a part of this record, and will extend the same opportunity to members of the subcommittee and the full committee who wish to be heard on these matters in today's hearings.

Once we have heard from subcommittee members, and that is going to be fairly limited today, I will have a series of questions, including some that will be submitted for the record.

General Gordon, I hope you will take a few minutes to clarify some of the recent press accounts generated on development of new weapons testing capabilities and the possibility of resumption of weapons testing. The more I read about these subjects, it appears the less I know, so I need some direction, as we all do.

To the extent that the administration is hoping to change some of these policies, I expect there will be a full consultation and collaboration with Congress, especially that most of these rooted in the Federal law.

General Gordon, I appreciate the good work that you are doing, pleased that you have nearly a full team in place now, and hope that they will be able to ease the burden on you personally.

I look forward to hearing from each of you. At today's hearing, as has been indicated, we will hear from four individuals, and we will do that in the order that I have announced, with General Gordon, Dr. Beckner, Ambassador Brooks, and Admiral Bowman, going in that order.

If you would proceed General Gordon, after each of you have completed your statements, if you wouldn't mind waiting, and we will do the questions all at once.

General Gordon?

STATEMENT OF GENERAL JOHN A. GORDON

General GORDON. Thank you, Mr. Chairman. I will have a larger written statement, which we have submitted for the record.

Senator REID. And I would ask each of you to hold your remarks to about 10 minutes, with the exception of you, General Gordon, because of the elaboration that I have asked that you give.

General GORDON. I will try to not take much longer than that, as well, in the interest of your time, sir.

And what I would like to do this morning, Mr. Chairman, is give you actually more of a report on the National Nuclear Security Administration (NNSA) than the gory details of the budget, which of course are available, and we can talk to you in the detail that you like.

Last year, I once likened the job at NNSA to changing the jet engines of an airplane while we were flying the airplane and trying to accomplish the mission at that same time, and to do so with a short-handed crew.

Mr. Chairman, the job and the concept of the job has not gotten a lot easier. We are still spending the greatest percentage of our time, the priorities of our efforts, on the mission; on flying the airplane. And I can report that that actually is going quite well. I am broadly satisfied with the products and the performance of the Federal workforce, our great laboratories, the plants, the Nevada Test Site, our critical nonproliferation programs, and the great work done on target every day from Naval Reactors.

The leadership of these sites and these organizations are focused on output. They are focused on making strong contributions to the mission every day. And they are making real progress, improving management, improving business practices, working together better than they have in a long time as a system, laboratories and plants.

And, Mr. Chairman, as you noted, I can no longer report that we have a short crew, just the opposite. After about a year, we now have in place a strong leadership team, so that as we actually go to change out our jets that is, some rather significant changes in the structure of our organization—we finally have in the right place the people to make it happen, with Ambassador Brooks, Dr. Beckner, and our old friend, Admiral Skip Bowman.

Now, we have been busy, Mr. Chairman, despite not having in place a full management team for much of the last 13 months. And NNSA is not without accomplishment.

More than anything else, and with no small amount of support from the Congress, we have really revitalized the mission. People feel pretty good about their work. They feel pretty good about their future. There is a sense that morale is up, recruitment is up, and retention is up.

We are making progress on diversity. We have solid security and counterintelligence programs. Infrastructure is now on a long-term planning schedule. It is linked to our planning program and budget system. We have a strong manager with a discipline process, and, again, with great support from the Congress to get started. And we have a specific line in this year's budget request from the President.

We have an improved relationship with DoD, seen through the work of the NPR, the Nuclear Posture Review. That report stands as an important vision of the way forward to identify long-term requirements for NNSA. But I would point out a maybe not so obvi-

ous result of that was, in fact, a renewed spirit of cooperation and coordination between DoD and the NNSA. This relationship is working at the Nuclear Weapons Council level, at the policy level, and at the technical level. The DoD has come out and vocalized its strong support for our needed programs, and that is a most welcome development.

As you know, Mr. Chairman, we have launched a significant reorganization effort to streamline NNSA. We will eliminate an entire layer of management of the complex. And when complete, each of NNSA's eight contractor-operated sites, at least those in DP and NN, will report to an area office, which will, in turn, report to the administrator. And there should be no more questions about two headquarters.

To be able to do this, we will reengineer the entire complex to reduce the number of separate offices, eliminate unnecessary layers, focus on needed functions. So what we are seeking here is a streamlined Federal structure, where the laboratory and plant managers will be given clear, more consistent expectations, and can be effectively held accountable for achieving expected results.

We are taking steps to be much more efficient. We have significantly streamlined oversight. In place today is improved oversight for Environmental, Safety, and Health, and security. We have launched an initiative to cut administrative burdens by 50 percent, even though we get stacks of paper for those who ask us to cut these burdens. And we are running a pilot program to change the regulatory burden that we place on our labs and plants.

All of this is nothing if we do not, in fact, accomplish the missions. It is just process, but our Stockpile Stewardship Program confirms that the Nation's nuclear weapons remain safe, secure, and reliable. We are continuing to improve our surveillance tools. When we find aging problems, we know what to do with them, we know how to fix them, and we go off and do that.

No identified problems, by the way, suggest a need to return to nuclear testing anytime soon.

Our science campaigns are moving ahead, and the National Ignition Facility seems solid on its new track, with strong leaders and strong management.

The pit manufacturing and certification campaign is coming around, again, with strong and committed leadership.

Nevada programs are pointing the way in many areas. The sub-critical experiments at U1A are, indeed, critical to our work, both on pit certification and the broader questions of certification. A total of five more tests are scheduled this year. JASPER, one of the world's only gas gun of this nature, is moving ahead and, again, will provide very important and valuable information to the Stockpile Stewardship Program.

Our nonproliferation programs continue to make good progress. They received a real shot in the arm and, frankly, a shot of money after 9-11. Using that supplemental funding, we are accelerating our programs and expect to see new success in reducing the threats we might face. After a comprehensive review by the administration, we are launching a less costly and, I think, a more effective plutonium disposition program.

And Naval Reactors continues to improve and produce every day.

Mr. Chairman, probably what I am most proud of is the response of this enterprise to the tragedy of 9–11. From enhanced security to people and to equipment on the scene, I could not have asked for a more rapid, a more competent, or a more generous response.

The security responses remain in place to this day, Mr. Chairman, at some expense and some hardship. But they are necessary. And over a period of time, we will need to rethink our architecture for security. But we have about the best protected sites in the country today, and I intend to keep them that way.

We are also showing the Homeland Security Council the unique and special capabilities of our people and our sites. We have much, much to offer in the war against terrorism.

Mr. Chairman, we have made truly remarkable progress with our budget process and the support from the administration. We are enjoying a new relationship with the Office of Management and Budget. We are broadly pleased with the proposed increase in the budget submitted by the President, and our 5-year plan is finishing its way in the administration, en route to Congress.

I would comment that full implementation of our planning, programming, and budgeting system is going a little more slowly than I had hoped, but I believe we are on the right course.

Mr. Chairman, the budget request for all of NNSA is just over \$8 billion. The increase for Defense Programs to \$5.9 billion demonstrates the support of the administration for the weapons programs and puts us on track to restoring the health of the enterprise, its infrastructure, and accomplishing the required work to maintain the stockpile and to build a long-term scientific base to support these weapons long into the future. The Administration requests \$1.1 billion for defense nuclear nonproliferation. This is the largest such request ever. In many ways, the events of 9–11 have driven home the importance of these programs.

This increase comes after a long and extensive review of our nonproliferation programs in what was, frankly, a pretty skeptical environment. That skeptical review both strengthened the programs and, importantly, strengthened the Administration's support for them. We certainly did not get rubberstamp approval. We now have their full support.

This budget would permit us to make real progress on all fronts of our programs, from MPC&A through safeguards and security, and helps prevent weapons and material from falling into the wrong hands. We help at borders here and in Russia. We are moving ahead with the plutonium disposition program with the decision to proceed with the MOX-only initiative.

And NNSA is also providing support to homeland security. We develop advanced technologies to detect chemical, biological, and nuclear contamination. We are deploying these technologies to protect us today. We have requested \$283 million for nuclear nonproliferation R&D to continue this type of research.

As an aside, Mr. Chairman, we are doing this somewhat ad hoc, as we understand fully the dimensions and the requirements of the Homeland Security Council and the counterterrorism operators. We may want to align ourselves a little differently within our organizations, once we understand the full dimension of how we will support this ongoing effort.

Mr. Chairman, we are requesting \$708 million for the Naval Reactors Program, which supports the submarines and carriers now on-stations around the world. This relatively small increase above inflation is primarily for our work to bring the dry spent-fuel storage facility in Idaho on-line, while maintaining the safety, performance, and reliability of operating reactors in aircrafts and submarines.

Nuclear-powered ships have served a vital deterrent role for well over half a century. They continue to prove their worth, their value, every day in the aftermath of September 11.

Mr. Chairman, I want to be here today in front of you and sound optimistic about the future of NNSA. I am pleased with the direction we are going, and I want to lock in our successes. But I am not fully content with the pace of what we are accomplishing.

Despite my optimism, certainly not all is perfect as we face uncertainties and difficulties as we move ahead. Actually making the kind of organizational changes we are trying to do is difficult and time-consuming. We still run big programs that push the limits of technology. That in itself entails considerable risk. And there is near certainty that in one or more programs sometime in the future we will have some unexpected problems, and we will be up talking about those. We struggle with large and complex programs in a large and complex organization, but we are pushing the bounds of technology. The directions are good. The missions are good. And the resources are becoming available.

#### PREPARED STATEMENT

Mr. Chairman, that concludes my opening statement. I thank you and all the members of the Subcommittee for the support they give to this enterprise, to this mission, but, most importantly, to the people who accomplish it. Thank you.

[The statement follows:]

#### PREPARED STATEMENT OF JOHN A. GORDON

Thank you for the opportunity to appear today to discuss the fiscal year 2003 President's budget request for the National Nuclear Security Administration (NNSA). The fiscal year 2003 unified NNSA budget request totals \$8.0 billion, representing an increase of \$433 million, or nearly 6 percent over the fiscal year 2002 enacted appropriation, which includes \$357 million in supplemental funding. I would like to begin my testimony here today by setting a policy framework and discussing the issues faced by NNSA.

#### TRANSFORMING THE NATIONAL SECURITY STRATEGY

President Bush is transforming our national security strategy to meet the threats of the 21st century. The NNSA is intimately involved in the formulation of the Administration strategy through participation in the Strategic Review, Nuclear Posture Review and the review of nonproliferation programs. We have accelerated research and development into technologies to detect and deter weapons of mass destruction. We responded swiftly and comprehensively to the terrorist events of September 11th, protecting our valuable national security assets and employees, and offering our unique capabilities to the national response. We have contributed directly to the Homeland Security needs of Governor Ridge with our technology and scientific staff. Work such as this will extend into fiscal year 2003 and beyond.

While the policies and priorities established by the President, the Secretary, and the Congress will determine the scope of our work over the years to come, nuclear deterrence remains the cornerstone of our national defense strategy for the foreseeable future. The NNSA will also be deeply involved in arms reduction and non-proliferation activities, and will make significant contributions to the Administra-



tion's new capabilities-based national security strategy that requires us to maintain our military advantages in key areas while developing new capabilities. The NNSA will continue to be involved in the nation's Homeland Security efforts. The Naval Reactors program will continue to be responsible for all naval nuclear propulsion work.

The NNSA faces major challenges during the next 5-year period in responding to evolving customer requirements while maintaining and improving the health of the nation's national security enterprise. The expanded focus on international terrorism following the September 11th attacks underscores the importance of maintaining a strong capability in the science and technology of national security. NNSA's ability to perform its national security functions depends upon renewing our internal capabilities. As we conduct our daily technical work of maintaining the reliability, safety, and security of the Nation's nuclear weapons and developing the scientific tools necessary to perform our work, we need to ensure that our national security enterprise remains capable. Both the physical and intellectual infrastructure of the national security enterprise were built during the era of underground nuclear testing, and have eroded to the point that we are no longer able to perform some essential tasks. It is imperative that we address these issues during the upcoming 5 year period. NNSA's program and budget planning emphasizes maintaining an adequate workforce of scientific, technical and business skills, and building a diverse, multi-talented leadership. We must be able to recruit, train, and develop quality employees throughout our organizations in a highly competitive employment environment. We must implement our plans to renew the physical infrastructure to ensure adequate capability and capacity as well as compliance with environment, safety, health and security standards.

Another key element to NNSA's ability to perform its national security functions is an organizational plan to achieve greater effectiveness and efficiency. Last month, I submitted NNSA's "Report to Congress on the Organization and Operations of the NNSA" describing our accomplishments to date and our strategy for operating an integrated national security enterprise. I will further discuss this plan later in this testimony.

BUDGET SUMMARY

This request for fiscal year 2003 marks the first unified NNSA budget request to the Congress. In this request, the NNSA is \$8.039 billion, an increase of nearly 6 percent over fiscal year 2002.

By way of summary, the NNSA fiscal year 2003 request supports the recommendations from the Nuclear Posture Review to maintain weapon capability without underground nuclear testing, develop a stockpile surveillance engineering base, refurbish and extend the lives of selected warheads, and maintain the science and technology base needed to support nuclear weapons. The request protects the operational readiness of the nuclear weapons stockpile through surveillance, experiments, and simulations for individual weapons and weapon systems, and investment in advanced scientific and manufacturing for the future.

The Administration's full commitment to nonproliferation and a major effort with Russia is reflected within the fiscal year 2003 request as we seek to prevent the proliferation of nuclear weapons. This request provides a down payment on that commitment which fully supports the U.S. policy on bilateral cooperation.

The funding requested also maintains NNSA's critical role in providing for Homeland Security through our expertise in the detection of nuclear materials and the capability to respond to emergencies involving them, including capabilities in detection of chemical and biological threats.

The Naval Reactors program, a critical part of the national security mission supporting the nuclear submarines and carriers stationed around the world, is fully supported in the request.

FISCAL YEAR 2003 NNSA CONGRESSIONAL BUDGET REQUEST

[In thousands of dollars]

	Fiscal year 2001 Comparable ap- propriation	Fiscal year 2002 Comparable ap- propriation	Fiscal year 2003 request	Dollar change	Percent change
Office of the Administrator: Pro- gram Direction .....	\$326,148	\$326,486	\$347,705	\$21,219	6.5
Weapons Activities:					
Defense Programs .....	4,531,533	4,811,761	5,116,913	305,152	6.3
Safeguards and Security .....	411,418	2,554,881	509,954	-44,927	-8.1

## FISCAL YEAR 2003 NNSA CONGRESSIONAL BUDGET REQUEST—Continued

[In thousands of dollars]

	Fiscal year 2001 Comparable ap- propriation	Fiscal year 2002 Comparable ap- propriation	Fiscal year 2003 request	Dollar change	Percent change
F&I Recapitalization .....	8,700	196,800	242,512	45,712	23.2
Total, Weapons Activities ...	4,951,651	<sup>3</sup> 5,563,442	5,869,379	305,937	5.5
Defense Nuclear Nonproliferation ....	864,131	<sup>4</sup> 1,026,586	1,113,630	87,044	8.5
Naval Reactors .....	688,761	689,273	708,020	18,747	2.7
Use of Prior Year Balances (Other Defense Activities) .....	-3,244	-269	0	-269	-100.0
Total, National Nuclear Se- curity Administration .....	6,827,447	<sup>5</sup> 7,605,518	8,038,734	433,216	5.7

<sup>1</sup> Includes \$25,000 supplemental appropriation for Secure Transportation Asset.

<sup>2</sup> Includes \$106,000 supplemental appropriation.

<sup>3</sup> Includes \$131,000 supplemental for notes 1 and 2 above.

<sup>4</sup> Includes \$226,000 supplemental appropriation.

<sup>5</sup> Includes \$357,000 supplemental for notes above.

The President's fiscal year 2003 budget request was developed based on three primary resource drivers. First, the strategic reviews of national security-related activities conducted this past year. The NNSA actively participated in the President's Strategic Review of deterrence and missile defense policy, and review of U.S. nonproliferation programs with Russia. The NNSA was also a key participant in the Administration's Nuclear Posture Review (NPR) which lays out the direction for this nation's nuclear forces over the next 5 to 10 years. These reviews validated the NNSA's activities in weapon systems refurbishments and the need for a robust, responsive research and development and industrial base. The second driver is the war on terrorism as we work to counter weapons of mass destruction and support the Homeland Security effort. The NNSA Laboratories are on the cutting edge of technology and have a vital national security role to play in combating terrorism. The third and final driver is the President's Management Initiatives on the human capital management and competitive sourcing initiatives which serve to focus our fiscal year 2003 activities, particularly in the Federal Program Direction budget. Recruitment, retention, and skill mix are critical to NNSA's success in the future and are key to our plans for re-engineering the workforce.

These drivers to the fiscal year 2003 budget presented serious challenges in balancing our funding request. These challenges included: maintaining the safety, security and reliability of the nuclear deterrent without underground testing or new warhead production; countering the proliferation of weapons of mass destruction; supporting the nuclear propulsion needs of the U.S. Navy; dealing with the rapidly evolving counter terrorism and security environment; and balancing these mission activities with real progress in the standup of the NNSA organization and streamlining the Federal management structure. We answered the challenges with a unified NNSA budget for the fiscal year 2003 request that:

- Balances the near-term needs for stockpile maintenance and refurbishments with longer-term scientific programs to assure stockpile certification in the future.
- Maintains the safe and secure operation of the Weapons Complex.
- Expands U.S. nonproliferation programs in Russia and elsewhere, including Plutonium Disposition, Russian Transition Initiatives, Nuclear Safety, and Materials Protection, Control and Accountability.
- Increases multi-year efforts to refurbish the physical infrastructure of the Weapons Complex.
- Accelerates research and development of nonproliferation technologies, including those with significant counter terrorism applications.
- Advances weapons technology development.
- Implements Presidential Management Initiatives through re-engineering and streamlining.

I will now address the most significant funding changes requested in fiscal year 2003. Detailed explanations of all NNSA program activities are contained in the formal budget request.

## STOCKPILE STEWARDSHIP

In spite of the many challenges we are facing, the NNSA has continued to meet the core Stockpile Stewardship mission that is to maintain the safety, reliability, and performance of the nuclear stockpile to meet national security requirements.

As I stated earlier, the NNSA actively participated in the strategic reviews of national-security related activities conducted by the Administration. Participation by NNSA ensured that the choices, plans, and requirements being developed were within the realm of the technical and production capabilities of the NNSA. It also increased the awareness of our issues and technical capabilities by the Administration's national security senior management team.

While there are many important points and conclusions in the NPR including the goals to reduce operationally deployed nuclear weapons to between 1,700 and 2,200 by calendar year 2012 and the maintenance of a "responsive force" for use as a hedge against unforeseen problems, several points are of particular relevance to the NNSA:

First, nuclear weapons, for the foreseeable future, remain a key element of U.S. national security strategy. The NPR reaffirms that NNSA's science-based Stockpile Stewardship Program is necessary to assure the safety and reliability of the nuclear stockpile in the absence of nuclear testing. This includes basic surveillance of our aging weapons, systems refurbishment, chemistry and metallurgy of materials aging, detailed understanding of weapons physics, reestablishment of warhead advanced concepts teams, and development of additional diagnostic and predictive tools for long-term stewardship. The NPR revalidated the stockpile refurbishment plan previously developed and approved by the NNSA and the Department of Defense. The fiscal year 2003 budget request for Directed Stockpile Work is \$1.2 billion, an increase of \$190 million, or about 18 percent over last year. Principally, this increase allows us to support life extension activities for the W80, W76, and B61 warheads, including supporting research and development and additional hydrodynamic testing for assessment and certification. Also, \$2.1 billion is requested for the 17 scientific and engineering campaigns that provide the knowledge, technologies and capabilities to address current and future stockpile issues.

Second, more than any previous review, the NPR's concept of a New Triad emphasizes the importance of a robust, responsive research and development and industrial base. This calls for a modernized nuclear weapons complex, including contingency planning for a Modern Pit Facility, which will provide the nation with the means to respond to new, unexpected, or emerging threats in a timely manner. The fiscal year 2003 budget request supports our industrial base in two key ways: a request of \$1.7 billion for Readiness in Technical Base and Facilities, a 10 percent increase supporting the operations of weapons complex facilities; and, a \$243 million request for the Facilities and Infrastructure Recapitalization program to continue this important multi-year initiative into its third year.

Third, a study examining the aspects of reducing test readiness lead time below the 24 to 36 month requirement for a fully diagnosed test. The NPR states that the lead time needs to be shortened out of prudence, not because there is a current need to test. In fiscal year 2002, the NNSA and the DOD will study the optimum test readiness time that best supports the new triad as directed by the NPR. Pending the outcome of the study, the fiscal year 2003 request includes \$15 million for Enhanced Test Readiness activities at the Nevada Test Site.

Finally, the NPR calls for a stable, adequately funded Future-Years Nuclear Security Program (FYNSP). The NNSA's costs will not be reduced in the immediate future as a result of NPR. Near-term costs are driven by restoring production capabilities and revitalizing the infrastructure, not by the number of warheads in the stockpile or even the number to be refurbished. In fact, we expect that cost savings from refurbishment of a smaller number of weapons will not be realized until about fiscal year 2010. The NNSA enterprise's capacity will be stretched, approaching maximum capacity while our systems are on the process line for refurbishment, thereby limiting our ability to dismantle significant numbers of weapons over the next 10 years. The FYNSP document is in final preparation and is expected to be provided shortly.

Also, I would like to point out a less obvious, but significant result of the NPR. Conduct of the NPR has improved the cooperation and coordination between the NNSA and DOD. The Nuclear Weapons Council is working, policy levels between the agencies are effective, and the DOD has offered strong support for needed programs in NNSA.

In addition to the activities discussed above, the fiscal year 2003 budget request for the Stockpile Stewardship Program will support:

—Assessment of manufacturing concepts for a Modern Pit Facility.

- Production of tritium in Tennessee Valley Authority reactors beginning in fiscal year 2003.
- Manufacture of a certifiable pit, and the capability to certify a pit by 2009 with the goal of achieving an earlier date of 2007.
- Maintenance of ability to conduct underground testing.
- Complete National Ignition Facility internal infrastructure required for “first light”, eight beam, stockpile stewardship experiments in fiscal year 2004.

I would like to note that, for the first time in a number of years, weapons systems cost data is included in the fiscal year 2003 budget request as requested in the fiscal year 2002 Energy and Water Development Appropriations Act Conference Report, 107–258. The weapons systems cost data for fiscal year 2003 are provided in the Directed Stockpile Work section of the budget. In addition, we have resumed reporting for nuclear weapons acquisition costs for weapons systems in Phase 6.3 and beyond (W87, W76, and W80 Life Extension Programs) in a separate, classified document.

#### NONPROLIFERATION ACTIVITIES

At \$1.114 billion, the fiscal year 2003 budget request for nonproliferation related activities is the highest at which these programs have ever been funded.

When Secretary Abraham came into office he began working closely with the White House to review our cooperative assistance programs with Russia. It was important that nonproliferation programs were responsive to the new strategic environment being shaped by Presidents Bush and Putin. At the Crawford summit, the two Presidents called for improved cooperation with respect to the protection and accounting of nuclear materials, and the prevention of illicit nuclear trafficking.

Shortly after the Bush/Putin summit, the Secretary met with Russian Minister of Atomic Energy Rumyanstev to accelerate and expand cooperative measures on materials security and accountability. The Secretary’s meeting with the Russian minister was a major success. Agreement was reached on the need for greater cooperation, improved steps for protection of dangerous materials, enhanced safeguards of fissile materials, and ways to boost safety and security in the peaceful use of atomic energy. The Administration is fully committed to the success of this deepening cooperation between these former foes.

This commitment is reflected in the diversity of our programs to address non-proliferation concerns in Russia and indeed, throughout the world. NNSA uniquely integrates technical and policy expertise to guide and implement the full range of U.S. nonproliferation priorities and initiatives. Whether ensuring that former Russian weapons experts are able to put their skills to use on peaceful and commercial initiatives, reducing the footprint of Russia’s “closed” nuclear cities, or leading on-the-ground programs to secure at-risk nuclear materials in Russia, North Korea, or elsewhere, NNSA is at the forefront of U.S. efforts to halt the proliferation of weapons of mass destruction and advance U.S. nuclear security interests. As a scientific organization and working closely with our national laboratories, NNSA brings to the table unique assets that have allowed us unprecedented access to foreign scientific communities. In Russia and other former Soviet states, for example, the great strides that have been made to secure nuclear materials and WMD expertise or improve reactor safety are made possible by the access NNSA has to its counterpart organizations in these countries.

The Administration’s strategic review of NNSA’s nonproliferation programs with Russia confirmed the importance of these programs and resulted in a significant policy change which is reflected in the fiscal year 2003 budget request. In January 2002, the Administration announced plans to proceed with a workable, technologically possible, and affordable approach to disposal of surplus U.S. plutonium.

The United States plans to dispose of 34 metric tons of surplus weapons grade plutonium by turning the material into mixed oxide fuel (MOX) for use in commercial nuclear reactors. This decision follows a review by the Administration of alternative technologies to dispose of surplus plutonium to meet the nonproliferation goals agreed to by the U.S. and Russia while making the program less costly and more effective.

In September 2000, the U.S. and Russia signed the Plutonium Management and Disposition Agreement committing each country to dispose of 34 metric tons of surplus weapons-grade plutonium each, in rough parallel. With the U.S. decision, we will be able to move forward on meeting our obligations under this agreement.

Previously the U.S. government endorsed a dual-track approach to dispose of the plutonium by turning some of the material into MOX reactor fuel and immobilizing the remaining plutonium for long-term storage. Eliminating immobilization from the disposition pathway saves nearly \$2 billion in life cycle funding, decreases pluto-

mium storage costs, and facilitates closure of the former nuclear weapons complex sites. Importantly, the MOX fuel technology is proven, having been used by European countries in their reactors for more than 20 years.

The MOX conversion process is expected to cost \$3.8 billion over 20 years, including the construction of new disassembly and fuel fabrication facilities at the Savannah River Site in South Carolina. Construction of the facilities is set to begin in fiscal year 2004.

The Department of State and the NNSA will work with their counterparts in Russia to achieve the disposition of Russian surplus weapons-grade plutonium through the MOX process. Bilateral cooperation and inspections will assure progress and compliance with the agreement.

The fiscal year 2003 budget request for the Fissile Materials Disposition program, including both Operating and Maintenance and Construction funding, is \$384 million.

#### SECURITY AND COMBATING TERRORISM

The NNSA employees and assets responded aggressively and immediately in the aftermath of the terrorist attacks on September 11, 2002. Specifically, the NNSA:

- Strengthened physical security at our sites to assure the safety and security of nuclear weapons, the weapons complex and its employees, special nuclear material and other high value assets in custody of NNSA.
- Provided technical assets and staff to aid in the recovery efforts in New York City and at the Pentagon.
- Worked closely with intelligence and law enforcement by providing NNSA experts in their facilities, on the working groups, on the White House Counter Terrorism Task Force, and in the Office of Homeland Security.
- Began studies to analyze the potential of high-energy, high-velocity attacks at key nuclear material and nuclear material storage locations.
- Established NNSA's Combating Terrorism Task Force to coordinate a systematic review of twelve key areas of NNSA security and operational responsibilities to recommend immediate improvements.
- Established a working group, drawing from all the work at NNSA facilities, to define what capabilities we can bring to bear on the problems at hand, and not just in the nuclear arena. NNSA has capabilities in many technical areas ranging from chemical/biological weapons to sensors, to aircraft and airport security. In the area of sensors, we have the best capability in the world and are working to promote greater integration across our research and development programs.
- Responded to the changed threat by joining with the DOD in an immediate review of the "design basis threat."

The NNSA laboratories are being used to improve homeland security in ways that are not perhaps fully recognized by the public. The laboratories develop advanced technologies that detect chemical, biological and nuclear agents. These technologies help protect us today. Chemical and biological technologies and agents developed by the NNSA laboratories were used to help cleanup the Congressional office buildings of anthrax.

In the aftermath of the September 11th attack, the NNSA efforts required substantial additional funding in order to achieve a safer security posture. This needs to be considered when making comparisons between the fiscal year 2003 request and the total fiscal year 2002 available funds. The fiscal year 2002 emergency supplemental appropriation for terrorism related activities provided \$357 million to the NNSA. Weapons Activities Safeguards and Security program received \$106 million to hire and train additional protective force personnel, initiate physical security upgrades, and to address cyber-security infrastructure upgrades. The Secure Transportation Asset program received supplemental funding of \$25 million to enhance security against the emerging threat.

The Defense Nuclear Proliferation program account received \$226 million in supplemental funding to accelerate priority efforts in Nonproliferation Research and Development, International Nuclear Materials Protection and Cooperation, International Nuclear Safety and Cooperation, and additional Federal staffing.

The fiscal year 2003 budget request continues to emphasize NNSA's security and nonproliferation programs. The Weapons Activities Safeguards and Security program request is \$510 million. This allows for continued enhancements to protective forces and security systems. However, NNSA may need to revisit this funding level to accommodate emerging issues. We need to look at a new security architecture and a new way of doing business that does not assume ever increasing resources for security, or prevent the conduct of science and production at our facilities. The

National Center for Combating Terrorism at the Nevada Test Site is separately requested in fiscal year 2003 at \$10 million.

#### FACILITIES AND INFRASTRUCTURE RECAPITALIZATION

As I have testified and discussed with many of you over the past year, improving the condition of the nuclear weapons complex's facilities and infrastructure remains a priority effort. Your support for these efforts is both necessary and timely. The restoration, revitalization, and rebuilding of the physical infrastructure is key to the maintenance of mission-capable facilities which contribute to credible nuclear deterrence. Recently, the NPR validated the findings of the NNSA regarding the condition of the complex and our path forward.

Currently, Defense Programs acts in a landlord capacity and manages the complex day-to-day through its Readiness in the Technical Base and Facilities activities. From our studies, we have determined that the complex deteriorates by about \$200 million annually. To arrest this deterioration and eventually begin to improve the condition of the weapons complex, the NNSA established the Facility and Infrastructure Recapitalization Program. The fiscal year 2003 budget request places a high priority on this activity, with a request of \$243 million a 23 percent increase over the fiscal year 2002 level. Future plans call for ramping up this expenditure from the current annual range of \$200 million to \$500 million and sustaining the funding for about a decade. We continue to refine this outlook but that is about the size of the requirement.

I have added a corporate facilities management program that complements the infrastructure spending and addresses one of your major concerns regarding responsible fiscal accountability. We have instituted Ten-Year Comprehensive Site Planning, established industry standard performance measures, and accurate reporting measures that now provide for measuring progress.

The recapitalization program will focus on working off maintenance backlogs, prioritized to reduce or eliminate the risk of unplanned operational downtime due to equipment failure, extend the expected effective life span of equipment, optimize facility efficiencies, and repair, renew and refurbish existing structures. Also, the program supports dismantlement and removal of deactivated facilities and infrastructure that are excess to current and future mission requirements, and infrastructure planning activities to prepare and develop necessary plans for the execution of outyear Facilities and Infrastructure Recapitalization Program projects.

The condition of the nuclear weapons complex is poised for improvement across its eight sites. A year ago, I unfolded this story of condition and need. The response has been substantial. The NNSA will continue this initiative until the complex has restored lost capabilities, modernized other capabilities, and is sound, safe, and secure.

#### NAVAL REACTORS

Our Naval Reactors program, which supports the nuclear powered submarines and carriers now on station around the world, remains a critical part of the national security mission. This program is requesting the smallest increase in the NNSA's fiscal year 2003 budget. We are requesting \$707 million, an increase of about 3 percent. The increase will help to maintain the constant progress and consistent contribution to the nation's nuclear deterrent force that we have come to rely upon from the Naval Reactors program. The small increase above inflation is primarily for work to bring the dry spent fuel storage facility in Idaho online while continuing Naval Reactors activities to ensure the safety and reliability of the 102 Naval reactor plants, upgrade and improve existing reactor plants, and develop new reactor plants.

#### OFFICE OF THE ADMINISTRATOR

Finally, the budget request for my office in NNSA, the Office of the Administrator, is 6 percent higher than the fiscal year 2002 appropriation—a \$21.2 million increase. This account provides corporate direction and oversight of NNSA operations consistent with the principles of protecting the environment and safeguarding the safety and health of the public and the workforce of the NNSA. As you will remember, the fiscal year 2002 Energy and Water Development Appropriations Act consolidated the program direction funds from weapons activities and defense nuclear non-proliferation within the Office of the Administrator appropriation. The Naval Reactors program direction and the Secure Transportation Asset program direction remain separately funded program direction accounts. The increase in the Program Direction budget supports annual cost-of-living increases in salaries and benefits while

support services and other related expenses remain at their fiscal year 2002 program levels.

#### NNSA ORGANIZATION STANDUP

At the beginning of this testimony, I noted that the NNSA organizational objectives are to improve effectiveness and efficiency. We approached the NNSA organization standup by implementing a two-phase plan. The first phase, essentially complete, focused on creating an integrated Headquarters organization, and defining the structural relationship between the Federal elements at Headquarters and the field locations. The second phase focuses on realigning our field structure and improving efficiencies through eliminating overlaps in responsibilities within the Federal structure and reducing unnecessary administrative burdens placed on those performing the mission.

Last month, I submitted NNSA's "Report to Congress on the Organization and Operations of the NNSA" describing our accomplishments to date, our plan for assigning roles and responsibilities to and between Headquarters and field organizational units, and our strategy for operating an integrated national security enterprise. Much was accomplished in the past year. The NNSA:

- Developed the first NNSA Strategic Plan as a framework for all programs and the new organization.
- Implemented a new organizational structure that consolidates Headquarters support functions allowing mission programs to focus more intensively on achieving results.
- Installed the NNSA leadership team responsible for mission performance and driving organizational improvement.
- Began integrating NNSA decision making through a new Management Council. Adopted the Planning, Programming, Budgeting, and Evaluation (PPBE) system as NNSA's core business model in order to restore financial credibility and discipline to our financial processes.
- Further defined NNSA's relationship as a "separately organized agency" within the Department of Energy through streamlining external oversight of environment, safety, health, and security, and established an independent federal human resource capability.
- Resolved the key organizational issues left unanswered by the May 2001 report.
- Refined NNSA's strategy for achieving an effective and efficient organization.

The recently released report summarizes our first-ever NNSA Strategic Plan, provides a detailed plan for assigning roles and responsibilities between Headquarters and field elements, and discusses our objectives in fiscal year 2002 and beyond. We plan to eliminate a layer of management and oversight over the nuclear weapons complex by removing the Operations Offices from the NNSA chain of command and converting these offices to service centers providing support services such as procurement and human resources. Each of the eight NNSA contractors will report to eight site offices which will in turn report to the Administrator. This locates NNSA support, decision making and oversight close to the contractor, consolidates service functions, and allows staff reductions downstream.

Contract and project management will rest with each NNSA site office. Integration of weapons production activities will be performed in Albuquerque, New Mexico. Headquarters staff will continue to be responsible for program planning, budgeting, policy development, and management of weapons research and development and nonproliferation activities.

NNSA will launch a systematic re-engineering campaign to reduce the number of separate offices and layers of Federal management, reduce the overall number of Federal employees, and correct skills mismatches. Federal staff not performing core functions will be redeployed and retrained as necessary. We intend to use incentives to encourage higher-than-average attrition, career development, and retention of highly skilled employees to right size and reinvigorate our staff.

We will need your support in funding the Office of the Administrator Program Direction request of \$348 million to implement the re-engineering campaign. Successful re-engineering cannot be accomplished without adequate resources to retain highly skilled employees, retrain employees with skills mismatches, recruit the right technical skills, and to cover the significant costs associated with separation incentives.

NNSA has instituted an Administrative Workload Reduction Initiative using comprehensive input from the laboratories and plants, with task forces identifying specific improvement and reducing administrative burdens. As a result, NNSA contractors will be given clearer and more consistent expectations. They will also continue to comply with all environment, safety and health and security policies.

When these changes are fully implemented, we will realize the goals set by Congress in establishing the NNSA. By clearly defining roles and responsibilities, we will increase accountability and reduce duplication. By reducing administrative burdens on the NNSA contractors, we will operate more efficiently and hold the contractors accountable for delivering on our expectations.

#### CONCLUSION

This concludes my written testimony on the policy framework and issues that shaped the formulation of the unified NNSA budget request for fiscal year 2003. The specific program activities are discussed in great detail in that request. Now, I will be pleased to answer your questions.

Senator REID. Senator Domenici, would you like to give your statement now?

#### STATEMENT OF ADMIRAL FRANK L. BOWMAN

Senator DOMENICI. Let's proceed. I will give it in a little while.

Admiral BOWMAN. Mr. Chairman, thank you for the opportunity to testify today. And let me also thank you and the committee for the faith that you have placed in this program and for protecting the core values that have been the hallmark of the Naval Reactors Program's success for more than 50 years.

Through your efforts, our nuclear fleet remains deployed around the world, fully engaged in the war on terrorism. Our ongoing campaign against terrorism underlines the importance, as General Gordon was saying, of nuclear-powered ships. Aircraft from the nuclear-powered aircraft carriers U.S.S. *Enterprise* and U.S.S. *Carl Vinson*, and Tomahawk missiles launched from submarines and surface ships, carried out the initial attacks on targets in Afghanistan without any of the restrictions faced by most of our land-based forces. Our nuclear fleet again demonstrated the capability to operate freely, wherever needed, to protect our Nation's interests.

Many of the impressive capabilities these ships and submarines possess were developed with funding supported by and provided by this subcommittee. Although new development is important, my number one priority is ensuring that the officers and sailors out there defending our Nation's interests are operating safe and effective nuclear propulsion plants. In fact, this is where most of my funding supports.

The average age of these ships today is 16.5 years, but this average will exceed 22 years by the end of the decade because so few ships are being added. As these ships age, they place a greater and greater demand on Naval Reactors' DOE budgets.

Also with the funding provided by this subcommittee, we are designing better, more cost-effective nuclear propulsion plants for the future. The Navy's new *Virginia*-class attack submarine, when delivered, will provide needed capability for the 21st century at an affordable price.

The nuclear propulsion plant design of the new CVNX aircraft carrier is well underway. The CVNX reactor plant will provide 25 percent more energy than the *Nimitz*-class ships and substantially more electric-generating capacity than the reactors and electric plant used in those *Nimitz*-class ships today.

To meet the increasing demands on our submarine fleet, I have started conceptual work on a Transformational Technology Core to



deliver a significant energy increase to future *Virginia*-class ships with minimum impact to the overall ship design.

To accomplish all this work, the fiscal year 2003 budget request, as General Gordon said, is \$708 million, an increase of \$5 million (after inflation) from fiscal year 2002 to 2003.

To put the budget request in perspective, it is less than 4 percent of the total DOE budget. From the early 1990s to 2000, Naval Reactors' budget actually declined 32 percent in real terms and has remained fairly steady for the last 3 years.

Naval Reactors' fiscal year 2003 budget request is adequate to meet Program requirements for now. To live within our means, over the past several years, Naval Reactors has eliminated infrastructure, consolidated functions and facilities, revised work practices to become more efficient, and downsized the nuclear industrial base.

Simply put, we have cut out the fat, but we are now cutting into the muscle of the organization.

I am reviewing future resource requirements to determine what will be necessary to deliver technology that the Fleet will need in the decades ahead.

Our husbanding of the taxpayers' dollars provided by this subcommittee has been positively recognized in two very recent reports.

The GAO just reported: "The Office of Naval Reactors has long been recognized as having a focused mission, strong leadership, clear lines of authority, long-serving employees, and a strong set of internal controls, as well as a culture that enhances accountability and good controls over its costs and contractor performance."

In forwarding the Naval Reactors fiscal year 2003 budget request to you, OMB noted: "Outputs are identifiable and make key contributions to national security; delivery schedules are consistently met; contracts have positive and negative incentives and include performance requirements."

Let me briefly discuss the most important issue I see with our submarine fleet today. It is simply that we do not have enough of them.

Today we have only 54 operational SSNs, or fast-attack submarines, not enough to meet all of our unified commanders' and national intelligence community's highest operational and collection requirements.

We have done a great deal to stretch existing assets within existing budgets and overall defense priorities. We are refueling the first generation of the *Los Angeles*-class submarines and extending those submarines from 30 to 33 years of life. We are also forward-basing three submarines in Guam to maximize their effectiveness by putting them closer to the action. The only long-term solution, however, to meeting force level requirements is to build more submarines. This must be part of future budget deliberations within the Department of Defense.

The practice of buying submarines one at a time will not achieve the submarine numbers we need for the future, nor is it a cost-effective way to buy anything, especially submarines. Multi-year procurements of more than one ship per year would provide significant savings compared to one per year (the way we are doing it now).

Innovative contracting approaches should be encouraged in this period of tight resources for ship construction.

As my very good friend Admiral Bob Natter, our Atlantic Fleet Commander, says: "You know, we can fight them over here or we can fight them over there, and I prefer to fight them over there."

Well, I do, too. Everybody knows and agrees that submarines will be an absolutely necessary part of fighting them over there.

Deputy Secretary of Defense Paul Wolfowitz recently said: "We must exploit our military strengths as the war on terrorism continues. These strengths are intelligence, precision strike, and the ability to operate underwater."

Well, that sounds just like submarines to me. And I think we need to get going on this build program.

The unique capabilities inherent in nuclear power have played a vital role over the past 50 years in our Nation's defense. This legacy is as strong and vibrant today as it has ever been. Because of your strong support, this program has been able to establish and maintain an unparalleled record of excellence in meeting the threats to our Nation with speed and resolve.

I thank you for that support and ask only that your support continues on into the future.

Naval Reactors' record is strong. Our work, I believe, is important. And the funding needs are modest.

#### PREPARED STATEMENT

Mr. Chairman, with your permission, I will submit for the record a written statement that contains more detail on the Naval Reactors' DOE budget and also the program's annual environmental, occupational radiation exposure, and occupational safety and health reports.

[The statement follows:]

#### PREPARED STATEMENT OF ADMIRAL FRANK L. BOWMAN

Thank you for inviting me to testify on Naval Reactors' fiscal year 2003 Department of Energy budget request.

Let me also thank you for the faith you continue to place in my Program and for protecting the core values that have been the hallmark of the Program's success for more than 50 years. Through your diligent efforts and support, our nuclear fleet remains deployed around the world, fully engaged in the war on terrorism.

We all recognize that the threats our country faces today are as great as anytime in the past. We also know these threats are not limited to hostile nations with fixed borders but can come from organizations with no fixed borders, operating under a veil of secrecy and outside the international community.

Our ongoing campaign against terrorism underlines the importance of nuclear-powered ships in defending our national interests and in responding to aggression against the United States. As our Nation was being attacked on September 11, USS ENTERPRISE was headed home, by way of a planned port visit. Upon seeing the attack on our country on CNN at sea, the captain ordered the rudder hard over and USS ENTERPRISE reversed course and prepared for action as the first aircraft carrier in position to respond to the attack. Also, a nuclear-powered submarine was within striking distance to attack targets in Afghanistan on September 11.

When the President did order our military forces into action, aircraft from the nuclear-powered aircraft carriers, ENTERPRISE and CARL VINSON, along with *Tomahawk* missiles launched from submarines and surface ships, carried out the initial attacks on targets in Afghanistan without any of the restrictions imposed on most land-based aircraft. Our nuclear fleet again demonstrated its capability to operate freely over much of the globe within striking range of the majority of targets.

It is more than a commercial—our aircraft carriers are 4½ acres of sovereign U.S. territory from which we can conduct sustained combat operations quickly and with-

out having to negotiate staging rights on foreign soil. Nuclear power enhances these warships' capability and flexibility to sprint where needed and arrive ready for around the clock power projection and combat operations. Sustained high-speed capability (without dependence on a slow logistics train) enables rapid response to changing world circumstances, allowing operational commanders to surge these ships from the United States to trouble spots or to shift them from one crisis area to another. Nuclear propulsion helps the Navy stretch available assets to meet today's worldwide commitments.

Our 54 operational nuclear attack submarines (SSNs) in the Navy's inventory possess inherent characteristics such as stealth, endurance, mobility, firepower, and multimission flexibility. These characteristics allow submarines unfettered access to contested battlespace 24 hours a day, 7 days a week, for as long as required. Once there, submarines can covertly monitor adversaries without risk of political or military escalation—a particularly valuable capability since adversaries understand and can sometimes avoid reconnaissance. Should tensions escalate, submarines can also execute *Tomahawk* strikes from undisclosed locations without warning, often from inside an adversary's defensive umbrella.

The Nation's 18 strategic ballistic missile submarines (SSBNs) continue to form the bedrock of the country's strategic deterrence. These submarines carry the majority of our nuclear triad's warheads and are the most survivable units in this force, at the least cost.

Many of the impressive capabilities these ships possess were developed with funding that was supported by this subcommittee.

While new development is important, the number-one priority is ensuring the officers and Sailors that are out there defending our Nation's interests are operating safe, effective nuclear propulsion plants. This is where most of Naval Reactors' funding goes. Today, the Naval Reactors Program supports 102 reactors in 54 operational attack submarines, 18 ballistic missile submarines, 9 nuclear-powered aircraft carriers, 4 training and prototype platforms, a deep submergence vehicle, and 1 attack submarine undergoing inactivation.

The average age of these ships today is 16 years, but this average will exceed 22 years by the end of the decade because so few new ships are being added to the Fleet. As these ships age, they place a greater and greater demand on Naval Reactors' DOE budgets.

Also, with the funding provided by this subcommittee, we are designing better, more cost-effective nuclear propulsion plants for the future. When the Navy's new VIRGINIA-class attack submarine is delivered, it will provide needed capability for the 21st century at an affordable price. The reactor plant design uses advanced component and systems technology—including the first core designed from the start to operate throughout the life of the ship. The VIRGINIA-class also has a simplified plant arrangement with fewer components compared to previous designs, which reduces construction costs and will reduce future maintenance costs.

The nuclear propulsion plant design of the new CVNX-class aircraft carrier is well underway. The CVNX reactor plant will provide 25 percent more energy than NIMITZ-class ships and substantially more electric generating capacity than the reactors and electric plant used in NIMITZ-class ships. The extra energy will support higher operational tempos and future electrical load growth in the CVNX-class or longer life. We are designing and developing the CVNX nuclear propulsion plant without an increase in our DOE budget.

To meet the increasing demands on our submarine fleet, Naval Reactors is working on a Transformational Technology Core (TTC) to deliver a significant energy increase to future VIRGINIA-class ships with minimum impact to the overall ship design. New transformational capabilities will soon be coming to the nuclear-powered submarine fleet through the conversion of four Trident submarines into SSGNs. With these ships, the Navy will be able to give theater CINCs an extraordinary strike/Special Operating Forces capability with a flexible, survivable platform that simultaneously relieves the operational strain on our naval forces. Surface ships and attack submarines now carrying *Tomahawks* can be freed up for other missions—a force multiplier. To this end, we are on course for a UUV and *Tomahawk* demonstration in December 2002 on an OHIO-class submarine.

#### NUCLEAR FLEET ISSUE

Let me briefly discuss the most important issue I see with our submarine fleet today—put simply, we do not have enough of them:

—Today, we have only 54 operational SSNs—not enough to meet all of the Unified CINCs' and the national intelligence community's highest operational and

collection requirements as identified in the 1999 Joint Staff SSN report on force level.

- Fleet operational data and Joint CINC demands clearly show the mismatch between current force structure and requirements. With force structure decreasing over the past several years, submarine operational commanders have had to reduce the number of deployed ships. And in spite of the fact that fewer SSNs have been available to deploy, the demand for submarines continues to increase, especially since September 11.
- The Navy is doing what it can to stretch existing assets to meet requirements within today's budget and overall priorities. For example:
  - We are refueling the first generation of the LOS ANGELES-class submarines and extending these submarines from 30 to 33 years. However, pushing the hull life comes at a cost. Life extension exacerbates the "aging Fleet" problem. As the Fleet ages, more resources are required for support, and we have our young submariners out there with outdated technology.
  - Additionally, to improve the operational effectiveness of the submarine fleet, we have taken steps to forward-base three submarines in Guam to maximize their effectiveness by putting them closer to the action.
  - To meet just the highest priority requirements being placed on the submarine fleet, we should refuel all remaining LOS ANGELES-class submarines. Two are currently scheduled for inactivation. While this is the right near-term decision to stem the bleeding for submarine force restructure, refueling LOS ANGELES-class submarines does not solve the longer-term problem with submarine force structure. Next decade, we will decommission three or four LOS ANGELES-class submarines per year as the boats built in the 1980s reach end of service life.

The only long-term solution to meeting force level requirements is to build more submarines. As we consider future budgets, we must include increasing the VIRGINIA-class submarine build rate to meet the Nation's long-term force level requirement for attack submarines. The force level issue is ultimately a resource question. The practice of buying submarines one at a time will not achieve the submarine numbers we need for the future and is not a cost-effective way to buy anything, including submarines. Multi-year procurements of more than one ship per year would provide significant savings compared to one per year. Coupled with leverage from buying material in Economic Ordering Quantities, real savings can be achieved. Innovative contracting approaches should be encouraged in this period of tight resources for ship construction.

As my good friend, Admiral Bob Natter, our Atlantic Fleet Commander, says, "We can fight em here or we can fight em over there. I prefer to fight them over there." Well, me too. Everyone knows and agrees submarines will be an absolutely necessary part of fighting them over there. Deputy Secretary of Defense Paul Wolfowitz recently said we must exploit our military strengths as the war on terrorism continues. These strengths, he said, are intelligence, precision strike, and the ability to operate underwater. Well, that sounds just like submarines to me. We need to get going.

#### FISCAL YEAR 2003 DEPARTMENT OF ENERGY BUDGET REQUEST

Naval Reactors' fiscal year 2003 DOE budget request is \$708M, an increase of only \$5M after inflation from fiscal year 2002 to fiscal year 2003. To put my budget request in perspective, it is less than 4 percent of the DOE budget. From the early 1990s to 2000, Naval Reactors' budget has declined 32 percent in real terms, and has remained fairly steady for the last 3 years.

Naval Reactors supports the 81 nuclear-powered warships that make up over 40 percent of the Navy's major combatants. This responsibility includes ensuring safe and reliable operation of reactor plants in these ships, enhancing the reactor plants' performance, as well as developing improved reactor plants to support the Navy's needs for the future.

Sustaining today's 102 operating reactors requires continual analysis, testing, and monitoring of plant and core performance. Nuclear propulsion is a demanding technology—the harsh environment within a reactor plant subjects equipment and materials to the harmful effects of irradiation, corrosion, high temperature, and high pressure over a lifetime measured in decades. In addition, naval reactor plants must be rugged enough to accommodate ships' pitching and rolling; have the resilience to respond to rapidly changing demands for power; be robust enough to withstand the rigors of battle and shock; and be safe and easily maintainable by the Sailors who must live next to them.

Naval Reactors' DOE laboratories have made significant advancements in components, materials, core lives, and predictive capabilities. These advancements allowed the Navy to extend the service life and intervals between major maintenance periods for nuclear-powered warships and to reduce ship off-line time for maintenance. Increasing ship availability also increases the Navy's warfighting capability, while reducing maintenance costs. Added ship availability is particularly important in the face of Fleet downsizing, because the operational demands on each remaining ship continue to increase. In the same vein, some development effort is devoted to ensuring Naval Reactors can meet the Navy's need to extend warship lifetime. Longer ship lifetimes are achievable because we are able to extend reactor plant lifetime. But longer lifetimes require more resources to support an older fleet.

We are able to extend the lifetime of existing reactor plants because of the robust designs that resulted from solid engineering and design work done upfront. After significant additional engineering work, we determined that those reactor plants will be able to stay in service longer than we had originally intended. The engineering work to support those ships in their extended lives will continue during that period of life extension. For new reactor core and reactor plant designs, we are using the experience of the past 50+ years to incorporate improvements into both design and construction. It is imperative that we continue to deliver robust designs. It is equally important that we do the necessary engineering work now to ensure that those reactor plants are able to meet the needs of national defense now, and for the next several decades.

New plant development work at the Program's DOE laboratories is focused on completing the design of the next-generation submarine reactor for the Navy's new VIRGINIA-class attack submarines and on continuing the design for a new reactor plant for the Navy's new CVNX-class aircraft carriers.

The design of the reactor plant for the VIRGINIA-class submarine is nearly complete. Today, 100 percent of reactor plant components have been delivered—all on schedule to support ship construction, and within budget. The pre-reactor-fill testing and initial reactor fill for the lead ship have been completed. Reactor plant construction is over 98 percent complete, and overall lead ship construction is over 70 percent complete and on schedule. VIRGINIA is expected to go to sea in fiscal year 2004 and will provide needed capability for the Navy at an affordable price.

CVNX is the first new carrier designed since the 1960's NIMITZ-class. The CVNX reactor plant will build on three generations of nuclear propulsion technology developed for submarines since NIMITZ. This plant will incorporate needed advancements in warfighting capabilities and significantly reduce lifecycle costs.

Reactor plant design work is on schedule to support the long design and manufacturing lead-times of reactor plant components needed for the CVNX ship construction schedule. Current design efforts include general arrangement design, system description and diagram development, and component design (such as final sizing and system interface evaluations). Long-lead reactor plant forging procurements began in fiscal year 2001, and the first reactor core procurements will begin in fiscal year 2003. Necessary system descriptions and general arrangements required for later design activities have been established.

Major inactivation work on shutdown prototype reactors is nearly finished. The last of the prototype reactor plants at the Naval Reactors Facility in Idaho was defueled in fiscal year 1999. Inactivation and cleanup work at the Windsor site in Connecticut is complete, and regulatory approval for unrestricted release has been requested. The two shutdown prototype reactors at the Kesselring site in New York have been inactivated and defueled, and major dismantlement work will be completed in fiscal year 2002.

#### PROGRAM BUDGET REQUIREMENTS

Naval Reactors' fiscal year 2003 DOE budget request of \$708M is adequate to meet Program requirements for now. To live within our means over the past several years, Naval Reactors has eliminated infrastructure, consolidated functions and facilities, revised work practices to become more efficient, and downsized the nuclear industrial base. To support higher priority efforts—fleet support, CVNX- and VIRGINIA-class reactor plant designs, spent fuel processing, and prototype inactivation work—I have deferred important work, such as advanced reactor technology work and technology development for a submarine with electric drive, dismantlement and clean up of shutdown facilities and laboratory facility upgrades. It is not healthy to defer advanced concept development for a long period. This is the seed corn to meet future requirements and to ensure that we maintain our preeminent position in naval power. In addition, my laboratory facilities are approaching or exceeding the 50-year point and need upgrading and refurbishment. Also, we are beginning devel-

opment of a new, high-energy core to meet Fleet demands in the future. I am reviewing future resource requirements to determine what will be necessary to deliver technology the Fleet will need in decades ahead.

NAVAL REACTORS FISCAL YEAR 2003 DEPARTMENT OF ENERGY BUDGET DETAIL

Naval Reactors' technical budget request is categorized into four areas of technology: Reactor Technology and Analysis, Plant Technology, Materials Development and Verification, and Evaluation and Servicing. This approach supports the integrated and generic nature of our DOE research and development work. The results of Naval Reactors DOE-funded research, development, and design work in the following technology areas will be incorporated into future ships, and retrofitted into existing ships.

The \$228.6M requested for Reactor Technology and Analysis will fund continued work on the next generation reactor for the VIRGINIA-class submarine and development work on the new reactor for CVNX-class aircraft carriers, and will ensure the safe and reliable operation of existing reactors. The reduction in operating plant maintenance periods places greater requirements on thermal-hydraulics, structural mechanics, fluid mechanics, and vibration analysis work to accurately predict reactor performance and to identify and avoid problems. Also, the continued push for longer life cores means we will continue to operate reactors beyond our operational experience base for many years to come. Developing improved analysis tools and a better understanding of nuclear data will allow us to predict performance more accurately throughout extended core life. Other efforts in this area include improving and streamlining core manufacturing processes to reduce cost and hazardous waste, performing reactor safety analyses, developing components and systems to support the Navy's acoustic requirements, and developing improved shield designs to reduce costs while preserving our record of excellence in radiological and environmental control. In addition, Naval Reactors is beginning concept studies on a new high-energy core, the transformational technology core (TTC), to support increased Fleet operation requirements.

The \$112.1M requested for Plant Technology provides funding to develop and analyze those systems that transfer, convert, control, and measure reactor power to maximize plant performance. The request reflects the goal of enhancing steam generator performance, which will benefit CVNX steam generators—the largest components developed to date by Naval Reactors. Development of technologies in the areas of chemistry, energy conversion, instrumentation and control, plant arrangement, and component development will continue to improve performance and support operational requirements. Naval Reactors is also developing components to address known limitations or to improve reliability of instrumentation and power distribution equipment to replace older, technologically obsolete equipment that is increasingly difficult to support.

The \$136.2M requested for Materials Development and Verification will fund essential material analysis and testing as ships are kept in service longer than originally intended as well as part of Naval Reactors' share of the Advanced Test Reactor (ATR). Reactor core and reactor plant materials will have to perform safely and reliably for a longer time. Work on the core and core structural materials includes testing and analysis of fuel, poison, and cladding materials to verify acceptable performance, as well as developing materials with improved corrosion resistance. Testing and development of reactor plant materials also ensures reliable performance and leads to improvements such as reduced cracking and stress.

The \$144.4M request for Evaluation and Servicing sustains the operation, maintenance, and servicing of land-based test reactor plants and part of Naval Reactors' share of the ATR, a specialized materials testing facility operated by the DOE Office of Nuclear Energy, Science, and Technology. Materials, components, cores, and systems in these plants provide important technical data and experience under actual operating conditions, thus allowing potential problems to be identified and addressed before they occur in the operating Fleet. With proper maintenance, upgrades and servicing, the two operating test reactor plants and the ATR will continue to meet testing needs for quite some time.

Evaluation and Servicing funds also support initiation of a dry spent fuel storage process line that will allow for placement into dry storage at Naval Reactors Facility (NRF) of naval spent nuclear fuel currently stored at the Idaho Nuclear Technology and Engineering Center (INTEC). Additionally, these funds support ongoing cleanup of facilities at all Naval Reactors sites to reduce hazards to personnel, and reduce potential liabilities due to aging facilities, changing conditions, or accidental releases.

## PROGRAM INFRASTRUCTURE AND ADMINISTRATIVE REQUIREMENTS

In addition to the budget request for the important technical work discussed above, infrastructure and administrative funding is also required for continued operation of the Program. Specifically, the fiscal year 2003 budget request includes:

- Facility Operations.*—\$50.0M in funding is to maintain and modernize the Program's facilities, including the Bettis and Knolls laboratories and the Expended Core Facility (ECF).
- Construction.*—\$11.3M in funding is to refurbish and replace Program facilities. This includes the continuation of the ECF Dry Cell project in Idaho, which will significantly improve Naval Reactors' ability to process naval spent fuel for dry storage. (As identified and agreed to in a Settlement Agreement signed by the Department of Energy, the Navy, and the State of Idaho, Naval Reactors fuel must be among the early shipments of spent fuel to the first permanent repository or interim storage facility.) The requested funding also enables the continuation of the Major Office Replacement Building project.
- Program Direction.*—\$25.4M in funding is to cover Naval Reactors' 191 DOE personnel at Headquarters and the Program's field offices, including salaries, benefits, travel, and other expenses. This staff maintains oversight of the Program's extensive day-to-day technical and administrative operations, while continuing to ensure compliance with growing environmental, safety, and other regulatory requirements, all of which, notwithstanding our excellent record, necessitate substantial effort.

## PERFORMANCE MEASUREMENTS, GOALS, AND ACCOMPLISHMENTS

My Program has a long history of operating with the highest levels of integrity and operational accountability. Our husbanding of taxpayer dollars provided by this subcommittee has been positively recognized in two very recent reports. In forwarding my fiscal year 2003 budget request to you, The Office of Management and Budget (OMB) rated Naval Reactors as "Effective"—the highest adjectival rating on OMB's scale and noted: "Outputs are identifiable and make key contributions to national security. Delivery schedules are consistently met. Contracts have positive and negative incentives, and include performance requirements."

Furthermore, in a report dated December 12, 2001, the General Accounting Office recognized Naval Reactors' strong performance within DOE and NNSA. The report stated: "The Office of Naval Reactors, which is a part of NNSA, has long been recognized as having a focused mission, strong leadership, clear lines of authority, long-serving employees, and a strong set of internal controls, as well as a culture that enhances accountability and good control over its costs and contractor performance." The Naval Reactors Program has always been dedicated to continual improvement. We use semiannual reviews of short- and long-range plans to rebaseline work and revisit Program priorities. Monthly financial reports from contractors are used to compare actual performance against short- and long-range plans. Additionally, Naval Reactors headquarters maintains close oversight of its Management and Operating contractors through periodic reviews, formal audits, and performance appraisals.

For fiscal year 2001, my Program met or exceeded all three major performance targets. We ensured the safety, performance, reliability, and service life of operating reactors for uninterrupted support of the Fleet. We exceeded 90 percent utilization availability for test reactor plants, and by the end of fiscal year 2001, U.S. nuclear-powered ships had safely steamed over 122 million miles. Naval Reactors developed new technologies, methods, and materials to support reactor plant design, which included surpassing the fiscal year 2001 goal of 93 percent design completion of the next generation submarine reactor. We initiated detailed design on the reactor plant for the next generation aircraft carrier, which is on schedule to meet the planned ship construction start. Additionally, Naval Reactors maintained its outstanding environmental performance—no personnel exceeded Federal limits for radiation exposure, and no significant findings resulted from environmental inspections by State and Federal regulators.

## CONCLUSION

The ongoing support of the Senate Appropriations Committee, Subcommittee on Energy and Water Development, is one of the most important factors in our success story. The Subcommittee has recognized the requirements and demands the Program confronts daily: a growing need for power projection and forward presence far from home, which strains our dwindling number of nuclear ships; an aging nuclear fleet; and the funding required to meet these commitments today and in the future.

The unique capabilities inherent in nuclear power have played a vital role over the past 50 years in our Nations' defense. This legacy is as strong and vibrant today as it ever has been. Actions in the Persian Gulf, peacekeeping actions in Eastern Europe, and, most recently, the war against terrorism have demonstrated the value of nuclear power. With your continued support, this legacy will continue far into the future as the Nation meets each new threat with strength and resolve. Naval Reactors' record is strong, the work is important, and the funding needs modest.

I thank you for your support.

Senator REID. Dr. Beckner?

STATEMENT OF DR. EVERET BECKNER

Dr. BECKNER. Good morning. Thank you, Mr. Chairman, Members of the Subcommittee.

I am pleased to be here today as the first Senate-confirmed, Deputy Administrator for Defense Programs.

The support of this committee is very gratifying for the thousands of men and women across the country who have dedicated their professional lives to making the Stockpile Stewardship Program a success.

As I said in my confirmation hearing, I believe in systems analysis, and using the best information available to find the right solutions, not by intuition or accommodation, but by hardheaded analysis. And that is what we are doing with all the elements of the Stockpile Stewardship Program.

We are investing the resources that the Congress provides in the tools, and experimental capabilities that we must have to deliver on our commitments to our customer, the Department of Defense and the citizens of the United States, to ensure the long-term success of the Stockpile Stewardship Program.

This morning I will talk about several Stewardship Programs that are of particular interest to the committee, and ones that I focus on regularly.

First and most important are the Life Extension programs for the W87, the W76, the W80, and B61, all coming up in the fairly near future. Second, I will spend some time with the W88 pit manufacturing and certification activities at Los Alamos and our planning for the Modern Pit Facility. Third, the Nevada Test Site and its continuing role in meeting national security requirements. Fourth, the National Ignition Facility under construction at Lawrence Livermore National Laboratory. And finally, the Commercial Light Water Reactor program and the production of new tritium to support the stockpile.

First, let's talk about getting work done. The men and women of the Stockpile Stewardship Program continue to meet their formidable day-to-day challenges with ingenuity and innovation, both in the way we do science and in the way we organize the work we do. Without the critical work of our stockpile stewards at the labs, plants, and in the Federal structure, we could not perform our mission. Our people remain our number one resource, and that must be carefully attended now and into the future.

To that end, the NNSA must, and is working to improve the infrastructure across the complex. This committee has heard and seen first hand some of the antiquated working conditions we ask our people to work in. The funds available this year and the \$242 million in the President's budget this year for the Facilities and In-



frastructure (F&I) initiative will continue and make additional progress in correcting this problem. We believe this will have a direct impact on worker morale and productivity.

On the life-extension program, as Members of this Committee are well-aware, the NNSA labs and plants have a validated requirement from the Nuclear Weapon Council to extend the service life of the W87, the W76, the W80, and the B61. This requirement was, if you recall, revalidated by the recently completed Nuclear Posture Review, which lays out the direction for this Nation's nuclear forces for the next five to 10 years.

Life-extension work involves all elements of the weapons complex. For the last several years, we have been extending the life of the W87 warhead for the Air Force. This work is ongoing at Y-12, Lawrence Livermore, Sandia, and at Pantex. We are more than halfway through this effort and expect to wrap it up early in 2004.

Life-extension for the W76 involves comprehensive overhaul of the warhead, including replacement of the arming, fusing, firing set; high explosives; gas transfer system; refurbishments. We will also be requalifying the weapon primary. For the W80, we will be replacing the trajectory sensing signal and the neutron generators, the tritium bottles, and the incorporating safety upgrades. For the B61, we will be refurbishing the secondary.

These life-extension programs will ensure that these weapons remain safe, secure, and reliable for an additional 30 years, once the work is complete.

On the W88 pit manufacturing and certification program, over the last several years, NNSA has been implementing a pit manufacturing certification program to restore the capability of the United States to manufacture and certify this critical component without nuclear testing. This project is a pivotal challenge to the Stockpile Stewardship Program. I am pleased with the high level of management attention the program receives at Los Alamos, and the progress made in meeting this important national security objective.

We remain on track to deliver a certifiable pit in fiscal year 2003 and a certified pit in fiscal year 2007.

On the Modern Pit Facility, while the Los Alamos, TA-55, for making the W88 pits is adequate for the task at hand, it lacks the capacity and flexibility to manufacture pits in sufficient quantity to support the entire stockpile, so the NNSA is working on a longer term solution. We have a project team in place that has undertaken the required preconceptual planning work. During this phase, we will be carefully examining a number of issues, including technology development, to ensure the facility will meet both current and future requirements to fabricate replacement pits for the current nuclear stockpile, or pits for new designs, if required. Our next decision point for the Modern Pit Facility will be later this spring, at which time we will decide on proceeding to conceptual design.

On enhanced test readiness, as Members of this Committee are well-aware, the NNSA is maintaining a capability to conduct an underground nuclear test within 24 to 36 months, based on existing presidential direction. The Nuclear Posture Review, however, raised several concerns about our test readiness posture, which we

are addressing in a study to be completed later this spring. DoD and NNSA will work together to refine nuclear test scenarios and evaluate cost-benefit tradeoffs in order to determine, implement, and sustain the optimum test readiness time to support the policies of the Nuclear Posture Review.

The President's fiscal year 2003 budget has requested an additional \$15 million to implement the results of the aforementioned study, once the administration determines the best path forward.

Senator DOMENICI. Did you say \$15 million?

Dr. BECKNER. Yes, \$15 million. The Nevada Test Site is a unique and critical component, not only for the Stewardship program but other national security activities as well. The subcritical experiments conducted at U1A, which General Gordon mentioned earlier, continue to provide our scientists and engineers vital data. Our most recent experiment, code-named Veto, was successfully carried out on February 14.

The National Ignition Facility is one of the most important science and engineering programs we have in the Stockpile Stewardship program. I know this committee has been a strong supporter of the project, and we are grateful for that support. In 2002, the NIF team at Lawrence Livermore is continuing to make steady progress against its milestones. We have recently reported to the committee and others that several important milestones were met on or ahead of schedule, including completion of conventional construction. The program remains on track to begin stewardship experiments in 2004 with eight beams. And by the time all 192 laser beams are brought up in 2008, we will have conducted some 1,500 stewardship experiments.

On tritium, we are continuing to make progress in establishing the new source of tritium. We have in place a multi-year contract with the TVA to provide irradiation services. We expect the Nuclear Regulatory Commission will grant license amendments to the TVA reactors—Watts Barr and Sequoyah—that will be used for tritium production. Commercial vendors across the country are manufacturing parts for the tritium-producing rods that will go into the reactors in early fiscal year 2004.

NTS's capabilities are broader than just stewardship. NTS has a critical role in helping the Nation deal with the new security challenges in the aftermath of September 11. Locating the National Center for Combatting Terrorism (NCCT) at the NTS with its infrastructure, facilities and resources assures that we ultimately prevail. Governor Ridge and the FEMA director, Joe Allbaugh, have been at the NTS, and I know were deeply impressed with the resources that can help train personnel and test technologies needed to win the war on terrorism.

Mr. Chairman, I know that Congress wants less bureaucracy and more output from this program, with fewer problems along the way. I know you want program output which enhances security, which maintains and enhances the safety and reliability and performance of the nuclear stockpile, and which bolsters U.S. leadership in science and technology.

## PREPARED STATEMENT

I am convinced that the management reforms that the NNSA is implementing will address your first concern. I am also convinced that the Stewardship program is today ensuring that America's nuclear deterrent is safe, secure, and reliable. And of equal importance, the science and engineering campaigns of stewardship are advancing the frontiers of science and technology to help the country meet the economic and security challenges of this new millennium. Thank you.

[The statement follows:]

## PREPARED STATEMENT OF DR. EVERET BECKNER

## INTRODUCTION

Good morning Mr. Chairman and members of the subcommittee. I am pleased to be here today as the first Senate confirmed Deputy Administrator for Defense Programs. The support of this committee is very gratifying for the thousands of men and women across this country who have dedicated their professional lives to making the Stockpile Stewardship Program a success.

As I said in my confirmation hearing, I believe in systems analysis, in using the best information available to find the right solutions, not by intuition or accommodation, but by hard headed analysis and that's what we are doing with all the elements of the Stewardship Program. We are investing the resources that the Congress provides, in the tools and experimental capabilities that we MUST have to deliver on our commitments to our customer, the Department of Defense, and the citizens of the United States, to ensure the long term success of the Stewardship program.

This morning I will talk about several Stewardship programs that are of particular interest to this committee, and ones that I focus on regularly. First, and most important are the life extension programs for the W87, W76, W80, and B61. Second, W88 Pit manufacturing and certification at Los Alamos and our planning for a Modern Pit Facility. Third, the Nevada Test Site and its continuing role in meeting national security requirements. Fourth, the National Ignition Facility under construction at the Lawrence Livermore National Laboratory. And finally, the Commercial Light Water Reactor program and the production of new tritium to support the stockpile.

First, lets talk about getting work done. The men and women of the Stockpile Stewardship Program continue to meet their formidable, day-to-day challenges with ingenuity and innovation both in the way we do science and in the way we organize the work we do. Without the critical work of our "stockpile stewards" at the labs, plants and in the federal structure—we could not perform our mission. Our people remain our Number One resource that must be carefully attended now and into the future. To that end the NNSA must, and is, working to improve the infrastructure across the Complex. This committee has heard and seen first hand some of the antiquated working conditions we ask our people to work in. The \$242 M in the President's budget this year for the F&I initiative will begin to correct this problem. This will have a direct impact on worker morale and productivity.

## LIFE EXTENSIONS

As members of this committee are well aware, the NNSA labs and plants have a validated requirement from the Nuclear Weapons Council to extend the service life of the W87, the W76, W80, and B61. This requirement was, if you will, revalidated by the recently completed Nuclear Posture Review, which lays out the direction for this Nation's nuclear forces for the next 5 to 10 years.

Life extension work involves all elements of the weapons complex.

For the last several years, we have been extending the life of the W-87 warhead for the Air Force. This work is ongoing at Y-12, Lawrence Livermore, Sandia and Pantex. We are more than half way through this effort and expect to wrap up the work by early 2004.

Life extension for the W76 involves a comprehensive overhaul of the warhead, including replacement of the Arming, Firing and Fuzing set, high explosives, and gas transfer system and refurbishment of the secondary. We will also be requalifying the weapon primary. For the W80, we will be replacing the Trajectory Sensing Sig-

nal and Neutron Generators, the tritium bottles and incorporating surety upgrades. For the B61 we will be refurbishing the secondary.

These life extension programs will ensure that these weapons will remain, safe, secure and reliable components of the U.S. nuclear deterrent for an additional 30 years once the work is complete.

#### W-88 PIT MANUFACTURING/CERTIFICATION

Over the last several years the NNSA has been implementing a pit manufacturing and certification program to restore the capability of the United States to manufacture and certify this critical component without nuclear testing. This project is a pivotal challenge to the Stockpile Stewardship program. I am pleased with the high level of management attention this program continues to receive at Los Alamos and the progress made in meeting this important national security objective. We remain on track to deliver a certifiable pit W88 pit in fiscal year 2003. Headquarters and LANL staffs have been able to accelerate the date for a certified pit to fiscal year 2007, resulting in a savings for the American taxpayers.

#### MODERN PIT FACILITY

While the LANL facility (TA-55) for making W88 pits is adequate for the task at hand, it lacks the capacity and flexibility to manufacture pits in sufficient quantity to support the entire stockpile, so the NNSA is working on a longer term solution. We have a project team in place that has undertaken the required preconceptual planning work. During this phase we will be carefully examining a number of issues including technology development to ensure that the facility will meet both current and future requirements to fabricate replacement pits for the current nuclear stockpile or pits for new designs, if required. Our next decision point for the Modern Pit Facility will be later this spring at which time we will decide on proceeding to conceptual design.

#### ENHANCED TEST READINESS

As members of this committee are well aware, the NNSA is maintaining a capability to conduct an underground nuclear test within 24 to 36 months, based on existing Presidential direction. The Nuclear Posture Review, however, raised several concerns about our test readiness posture which we are addressing in a study to be completed later this Spring. DOD and NNSA will work together to refine nuclear test scenarios and evaluate cost/benefit tradeoffs in order to determine, implement and sustain the optimum test readiness time to support the the policies of the Nuclear Posture Review.

The President's fiscal year 2003 budget has requested an additional \$15 M to implement the results of the aforementioned study once the Administration determines the best path forward. We will of course, keep the Congress fully informed on this important national security activity as we proceed.

#### OTHER NATIONAL SECURITY ACTIVITIES AT NEVADA TEST SITE

The Nevada Test Site is a unique and critical component not only for the Stewardship Program but other national security activities as well. The subcritical experiments, conducted at U1A continue to provide our scientists and engineers vital data on the performance characteristics of plutonium. Our most recent experiment, code named Vito, was successfully carried out on February 14. Vito was the first of three subcritical experiments in fiscal year 2002 in support of pit certification. NTS experimental capabilities are also being enhanced with the JASPER gas gun and the transfer of the Atlas machine. JASPER based experiments using plutonium will begin later this year. A new facility for Atlas is now under construction and on target for completion by the end of fiscal year 2002.

#### NATIONAL IGNITION FACILITY

One of the most important science and engineering programs we have in Stewardship is the National Ignition Facility. I know that this committee has been a strong supporter of the NIF project and we are grateful for that support. In 2002, the NIF team at Lawrence Livermore is continuing to make steady progress against its milestones. We have recently reported to this committee and others that several important milestones were met on, or ahead of schedule, including completion of conventional construction and positioning and seismic tie down of the target chamber. The program remains on track to begin Stewardship experiments in 2004 with 8 beams, and by the time all 192 lasers beams are brought up in 2008, we will have conducted some 1,500 stewardship experiments.

## TRITIUM

We are continuing to make progress in establishing the new source of tritium. We have in place a multi-year contract with the Tennessee Valley Authority (TVA) to provide irradiation services. We expect that the Nuclear Regulatory Commission will grant license amendments to the TVA reactors, Watts Bar and Sequoyah, that will be used for tritium production. Commercial vendors across the country are manufacturing parts for the tritium-producing rods that will go into the reactors in early fiscal year 2004.

I am concerned however with the Tritium Extraction Facility at Savannah River. While construction of the civil/structural portion of the Tritium Extraction Facility is well along it is several months behind schedule. In addition, the bids on the Rest-of-Plant contract were well above the baseline estimate. As the result of these and other factors, we are carefully reviewing and revising our cost and schedule estimates for completion of the facility. It is likely that we will be coming to the Congress with a new baseline in a reprogramming package yet this year, following completion of these cost and schedule reviews.

## NATIONAL CENTER FOR COMBATING TERRORISM

NTS' capabilities are broader than just stewardship. NTS has a critical role in helping the Nation deal with the new security challenges in the aftermath of September 11. Locating the National Center for Combating Terrorism (NCCT) at the NTS with its infrastructure, facilities and resources assures that we will ultimately prevail. Governor Ridge and FEMA Director Joe Allbaugh have been to the NTS and I know were deeply impressed with the resources that can help train personnel and test technologies needed to win the war on terrorism, just as it helped win the Cold War.

## CONCLUSION

Mr Chairman, I know that the Congress wants less bureaucracy and more output from this program, with fewer problems along the way. You want program output which enhances security, which maintains and enhances the safety, reliability and performance of the nuclear stockpile, and which bolsters U.S. leadership in science and technology. I am convinced that the management reforms that the NNSA is implementing will address your first concern. I am also convinced that the Stewardship program is today ensuring that America's nuclear deterrent is safe, secure and reliable. And—of equal importance—the science and engineering campaigns of Stewardship are advancing the frontiers of science and technology to help the country meet the economic and security challenges of this new millennium.

Senator REID. Ambassador Brooks?

## STATEMENT OF AMBASSADOR LINTON BROOKS

Mr. BROOKS. Thank you, Mr. Chairman, Members of the Committee.

This is my first opportunity to appear before this committee since my confirmation. I want to start by thanking the committee both for its support for me, but, much more importantly, for its support for the important programs that I am privileged to work on.

Like my colleagues, I also want to call attention to the dedicated men and women, both at the Department of Energy and in the national labs, who have been working extremely hard to carry out these programs, often under quite difficult conditions in the Russian Federation.

In less than 2 months, the President will meet with his counterpart in Moscow, and national security issues will be prominent on that agenda. We will benefit from the new strategic relationship the President has forged, but we also, in many ways, represent an example of it.

Our relationship with the Russian Federation is cooperative, based on common actions against common threat. It is also a good

paradigm for the new relationship that our two countries are forging.

Building on that relationship and the support of the Secretary of Energy and General Gordon, we are now enjoying levels of access in the Russian Federation that are unprecedented. We have made enormous strides in securing nuclear materials, in controlling the exodus of technologies and expertise. But, as this committee knows as well as anyone, only a small amount of plutonium or highly enriched uranium is enough for a weapon.

We continue to be concerned, particularly in the aftermath of the attacks of September 11, that this material is simply too tempting an opportunity we must not allow it to fall into the hands of rogue States.

This has given great impetus both in the Congress and in the Department of Energy to our programs for material protection. And I am pleased with the progress we have made. But I want to make it clear that there are other important programs in the Department as well.

Our programs are built, as you know, on four pillars: technology research and development; promotion of international nuclear safety; threat reduction efforts in Russia and the newly independent States and support for nonproliferation regimes. As General Gordon mentioned, we are seeking \$1.13 billion, which is a 36 percent increase from the last budget of the previous administration. This reflects not only the depth of the administration's commitment but the criticality of dealing with the threat.

Our research and development focus is not only on nuclear detection but on chemical and biological threat detection. We have accelerated our nuclear materials programs in Russia. We now expect to finish these programs at least 2 years ahead of schedule. We are accelerating our so-called Second Line of Defense Program. We will use, if appropriated, our fiscal year 2003 funding to install radiation detection at 21 additional strategic transit sites in Russia, Ukraine and Kazakhstan.

Our efforts to find commercially viable and peaceful work for former nuclear weapons scientists in Russia are enjoying increasing success. These individuals are involved in many commercial initiatives, some of them directly relevant to how we address the terrorist threat.

We are working with the Customs Department to improve its ability to detect nuclear materials. We have developed a new approach to disposing of excess plutonium. We got the job done 3 years faster than the previous approach, saved a total of \$2 billion, reduced peak-year funding, and reduced the technical risk.

We have assumed responsibility for shutting down the three remaining plutonium production reactors in the Russian Federation. We expect to accomplish this by 2007. We have also taken a new approach to international nuclear safety, recognizing our enduring responsibilities there beyond the Russian Federation.

Nonproliferation, in particular, is an area that has to be attacked on many fronts. We are working closely with our colleagues in the Department of Defense and the Department of State to cut off the supply of nuclear materials, to tighten international borders, and to help tighten our own borders. It is an ambitious agenda. We are

very pleased with the support we have gotten from Congress in the past and very pleased with the clear support that we have gotten following the administration review that General Gordon mentioned. We look forward to continuing to work to accelerate these important programs in the coming year. Thank you, sir.

Senator REID. I apologize to you, Ambassador Brooks, for stepping out for a minute, but each of the statements has been extremely helpful. Frankly, I have a long list of questions here, and most of them have been answered with the statements, and that is unusual. I think you have been very forthright. I have been extremely, I repeat, impressed with the statements.

I am going to ask a couple of questions, and, Pete, turn things over to you, and you can do your statement, if you want to make it, and ask all the questions you want. I am going to leave in about 15 minutes. Is that okay with you?

Senator DOMENICI. That is fine.

Senator REID. If you have to leave at noon, I will make it 10 minutes. How's that?

Senator DOMENICI. I have to leave at noon.

Senator REID. So we will divide the time. I will go to 10 till, and then you take the rest of the time.

Senator DOMENICI. Thank you.

#### STORAGE OF DISMANTLED WEAPONS STOCKPILE

Senator REID. General Gordon, if we start pulling thousands of weapons out of the stockpile, is the weapons complex capable of dismantling and storing all of the unneeded weapons inventory at this time?

General GORDON. Mr. Chairman, the answer to the question about are we capable of storing them safely and securely, the answer is yes. To bring them through a formal dismantlement process on a schedule and a time would eat into capacity that we are just now rebuilding to do this stockpile stewardship life-extension program work. So there is a balance to be made in how quickly we could dismantle weapons.

#### PIT PRODUCTION FACILITY

Senator REID. Maybe I should know the answer to this question from the statements that have been given, but how much pit production capacity will be required to meet future stockpile needs? And also, what are NNSA's plans for construction of a modern pit facility to meet these needs? When will it be required? And then, is there a cost associated with it?

General GORDON. There is no reason you should know that from our testimony, because I do not think we know the precise answer to that ourselves. From the NPR, we know that the deployed stockpile will be on the order of 1,700 to 2,200 weapons. A number of weapons will be kept in a reserve status beyond that. And a precise number and the disposition of those weapons has yet to be resolved.

With respect to a pit facility, we do know that sometime in the future, a Modern Pit Facility will be required. The numbers will depend both upon the size of the stockpile and the results of ongoing. They will also depend on the aging studies.

The work that is going on now, the scientific work on the aging issues, indicates a pretty long life for the pits is 45 or more years. And we will have another year or two to really stretch that out.

So, the idea of the Modern Pit Facility is to cut the time off the front of it by doing the required design and the preliminary work, but not to come close to building it until we can answer those questions much more precisely. The costs would have B's in it, though, for billions. With nuclear facilities, people sort of wave their hands and say they cost about \$10,000 a square foot in today's environment. So we need to get it right. We need not overbuild it. But when the time comes to build it, it will be expensive.

#### LEGISLATION TO MODIFY NUCLEAR WEAPONS

Senator REID. There has been talk that the department is considering research into modified nuclear weapons; some say even new ones. Would the law have to be changed to do this?

General GORDON. You asked me to comment on that in my statement, and I think I did not do a very good job of that. Let me come back to that. The proposal that is in front of us right now, is limited to one program, which is to build a so-called Robust Nuclear Earth Penetrator, which is simply take an existing design, package it in a way that could give it an opportunity to penetrate to depths greater than existing systems. That is the only specific work that is on the book. There is talk of some modifications to another system and there is no defined requirement for a new weapon at this time. So, by definition, everything is within the requirements of the legislation as now defined. And I do not see anything happening in the immediate future.

To be clear, though, or just to be certain we are on the same wavelength, I have asked, and the NPR has validated the suggestion that we begin an advanced concept group at our laboratories. The purpose of that is not to go out and look to design a specific new weapon, where we do not have a requirement for it.

But I would point out that in our ideas of retention of critical skills, one of those skills that is potentially fading rapidly, is the ability to design weapons. So what we have asked is that the labs put together a small group of young people who can begin to think about what the limits are, what the possibilities are, while they still can reach into the existing design community of the older designers who actually have had some experience.

Senator REID. We saw that in my tour of the labs. There was talk from some of the white-hairs and no-hairs that they felt that there should be new people coming up, that the work that they had done in years past was something that the new people have never done. So I am glad to see that being thought about.

#### RADIOLOGICAL DISPERSAL DEVICES

Ambassador Brooks, and anyone who wishes to comment on this, this morning's Washington Post has an article that is quite interesting, front page. And it talks about the risk of dirty bombs associated with the missing nuclear material in Russia. Would anyone comment about the article? Has anyone read it, I guess I should say?

General GORDON. Do you have anything on the article?



Mr. BROOKS. I just skimmed the article. I do not have anything particularly on the article.

General GORDON. Mr. Chairman, the news of the specific radio-nuclide generator as it is talked about in this article is, frankly, new to me. And I am not up-to-speed on it.

The concept of radiological dispersal devices, so-called dirty bombs, is reasonably well-understood and is a potential terrorist threat.

The idea would be that you could take waste material, radio-nuclide-generated material like this, medical waste material, fuel waste material, and somehow cause it, with an explosion, to be dispersed in the atmosphere, which would then contaminate an area, depending on how carefully and how accurately it was done.

This is, as the newspaper pointed out, this is a difficult problem to do in a very effective way. It is an easy weapon, if you can steal some and just try to get it around.

What we generally believe is that the only people who are likely to be killed by a so-called dirty bomb or radiological dispersal device are the people who try to assemble it or someone who happens to be caught up in the explosive radius of the conventional explosion that takes it out.

That said, it could, if well-designed, spread the material over a region, which would then have to be decontaminated, and could come with it the effects of some negative economics and the whole effect of terrorism that comes from being around unexplained, unintended radioactive sources.

#### U.S. CUSTOMS ASSISTANCE ON EXPORT CONTROL

Senator REID. Are we doing anything to help the Customs, regarding these nuclear products that are coming in?

General GORDON. Active programs—

Senator REID. Not “coming in”; I should say that people may try to bring in.

General GORDON. Very active programs. Do you want to comment?

Mr. BROOKS. Yes, may I add one thing to what General Gordon said on radiological dispersal devices? In one of the changes following September 11th, we are investigating with the Russian Federation whether there is work we can do to help improve the security of that material in Russia. We expect using about \$15 million of the additional funding provided to us in the supplemental to address this issue directly.

With regard to the Customs, we are doing several things. We have R&D that looks at detecting nuclear materials as they enter the country. We are looking, in particular, at how to do this in a way that doesn't slow throughput. For example, screen large containers, one concept is a sensor that is in a crane. Everything gets moved by cranes, and you could scan the container at the same time.

Detecting material is not particularly hard. Detecting material without slowing down the throughput is quite difficult.

Second, we are working closely with Customs on export controls. We are providing training, based on our experience overseas, in what we have learned in helping to improve the border security in

the Russian Federation. So we are trying to make sure that what we learn in the overseas part of our program is also applied in the United States.

Senator REID. One thing, Mr. Ambassador, in general, you should be aware, Customs is terribly, terribly understaffed. And you should be aware of that. So expecting them to do much with manpower won't happen.

Mr. BROOKS. We understand that, sir. And, in fact, the idea of the R&D—and, remember, we can't prove to you the R&D is going to succeed; but that is why they call it research.

But the idea is, in fact, not to depend on things that are staffing-intensive. If you had enough people, you would just take apart all the containers. But you can't do that.

#### RUSSIAN PROGRAM FUNDING

Senator REID. My last question, and you have talked about it a little bit, Ambassador Brooks, your current-year appropriation for the Russian program is almost \$300 million. That is \$120 million more than the 2001 level. The extra funds, they helped, according to what you just said, what you said in your prepared statement. Is that right?

Mr. BROOKS. Yes, sir.

Senator REID. And one of the little battles we had in our conference with the House last year was how much money we put in this program.

How much money do you think we should have in the program? I don't want you to be a Corps of Engineers Mike Parker.

But do you have any idea what we should have in a perfect world?

Mr. BROOKS. I think we are quite happy with where we are—  
Senator REID. Perfect answer.

Mr. BROOKS [continuing]. In both the 2002 and 2003, sir.

Senator REID. Just testing you. That was a good answer. Pete?

Senator DOMENICI. Mr. Chairman, first I want to thank you for starting the meeting at 11:00, which was done at my request. And clearly, I don't want to hold these people beyond 12:00, so I am going to put my statement in the record, and just ask a few questions, and make a few observations.

Senator REID. And we will both have a series of questions that will be submitted to you in writing. If you would answer those within the next couple weeks, that would be great.

General GORDON. Absolutely.

#### SANDIA NATIONAL LABORATORY PENSION PLAN

Senator DOMENICI. Fine. I have the same situation, and they are broken down for each of you, as best I could.

Let me first say, General Gordon, I am pleased that the department has made a decision with reference to the pension plan at Sandia National Laboratory, with reference to an effort to disperse in the future some of the excess funds that have been accumulating, and also to put the scientists and engineers at Sandia more on a par with those who are at the two other national laboratories. And that is a very good starting point for the morale at Sandia, which is beginning to change to a very positive one, since they are

being asked to do some very interesting, exciting, and important things.

General GORDON. Thank you for saying that, Senator. The laboratory has already reported that it has resulted in the retention of several important employees.

Senator DOMENICI. I am quite sure. And I am sure that it will do that in the future, and it probably will bring some people on to their staff that they are looking for, in these particular times.

#### PIT PRODUCTION FACILITY

Of all the issues, the one that surprises me the most, because it is just sort of like a migraine headache—if you have it, it just keeps coming back, you aren't quite sure when. But this pit production issue, we just have to get it finished, so that it doesn't keep coming back, at least to me.

So let me just say, I am very concerned about the fact that we had the money at the right level and then along comes a cut, and it seems to me that we decreased, what we have been told is necessary to stay on schedule, by \$52 million.

General, can you support that or tell me what we can expect? Why are we doing it this way?

General GORDON. Well, as you know, Senator, there was both a cut to the budget and some required funding to go into other areas, which resulted in something approaching a couple hundred million dollars to rebalance the programs. We rebalanced them as best we could at the time, leaving a shortfall primarily in the contingency of the pit program. We think it is very tight right now. We are continuing to look to be able to move some additional money against it, and we will be able to do some more as time goes on. It is a bit of a migraine, in that regard. I think about it every day, as well.

So we are running on a knife-edge balance. The program remains very tight and really well-balanced. And we are trying every day to make the best priority decisions we can. That is probably the best we can do with this answer right now. I would take 10 seconds, though, and tell you that the reports for lack of a better word, of where the management is going of the program itself is much improved. We were up there the other day and looked at a schedule. And for the first time, the program manager said we live or die by this schedule, and that is a new process.

Senator DOMENICI. Okay. Well, I understand how complicated it is. But I think the sooner you get rid of a migraine headache, if you can, the better off you are. That program, we ought to finish it, so we can tell everybody that is concerned about it that it has reached that critical stage.

Dr. BECKNER. If I could, Senator, I would add to the earlier comments. We do have a plan to make a decision on beginning the conceptual design work for that facility in, literally, the next 2 months.

Senator DOMENICI. I heard that.

Dr. BECKNER. So we are moving ahead.

Senator DOMENICI. I didn't get a chance to say thank you, Dr. Beckner, for taking this job. We have known each other for years. There is no doubt in my mind that you will do a wonderful job, and I thank you.

## NAVAL REACTORS FUNDING AND TECHNOLOGY

And Mr. Ambassador, we are glad that you took this and that you have come here. And I was going to make note of the fact that while you are relatively new to the NNSA—I think you joined in October—by my calculation, in the 6 months you have been on the job, the administration's budget request for your area alone has gone from \$774 million to \$1.1 billion for the next year. That is a 44 percent increase.

Now, General, if you can get some additional people to join you that can have that big an impact—In 6 months, you ought to just tell us about them.

General GORDON. Okay, Everet, the bar has been set.

Dr. BECKNER. Am I next?

Senator DOMENICI. You're next.

Let me ask, Admiral, we are hearing a lot about new nuclear reactors. It is so optimistic that some are saying we will be on our way, in the United States, to a new nuclear reactor within the next 7 years. I am not speaking of military; I am speaking of a reactor to produce electricity. Rather exciting.

Does any of this total new design concept have anything to do with the United States Nuclear Navy?

Admiral BOWMAN. Senator, I think that it is fair to say that my organization has, for these 50 years, been at the leading edge—

Senator DOMENICI. No question.

Admiral BOWMAN [continuing]. Of pushing the technology. And I think that some of the ideas that are being discussed today are leveraging some of the technology that we have developed with the funds provided by this committee over the years. So to that extent, yes.

Naval Reactors is not now looking at any of the new kinds of reactors that you have heard about—the pebble-bed, modular, high-temperature, gas-cooled reactor—explicitly for any immediate use.

But we certainly are a part of the materials area. And I think industry, for sure, leverages and enjoys the research and development that comes from our laboratories.

Senator DOMENICI. Well, Nuclear Navy is a tremendous example for those of us who attempt to be objective about the risks or lack of risks in having nuclear reactors around, and even moving the reactors from place to place, and certainly moving the spent fuel around. The United States Navy is doing that all the time, and it is doing it out there in an ocean, in water, which it totally miscible. If you put something overboard, it affects a very large area. And yet, you are in every port except one in the Nation, which is a pretty good way to say, when you do it right, it is about as safe as anything that you can do in that area.

General Gordon, I want to close by congratulating you. It did take awhile to get going, and I appreciate the objectivity of your statement in saying that we still have a long way to go. But when you have people on board like the two that are with you and some others that are joining you, I have no doubt that, within a couple of years, you will prove to all of those who might have been skeptics that the NNSA is going to work.

Already, I believe, it gives people better answers. You know who to talk to. You know who is in charge. And I think my colleague, who is now chairman, who was ranking member when we did that, when we accomplished that legislation, has also indicated, from his standpoint, that he had doubts, but the NNSA, in his opinion, was a good move.

And that is probably attributable as much as anything to the fact that we were fortunate to get you as the first person to be in charge. Best of luck, move ahead, get the management moved over under your jurisdiction as soon as you can. That's the job of these wonderful people that are helping you.

#### ADDITIONAL COMMITTEE QUESTIONS

As we move into this era of danger here in America, clearly they are going to look more and more to how you have arranged your agency, so you can be helpful to our country in the area of terrorism for years to come.

Thank you very much.

Thank you, Mr. Chairman.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

#### QUESTIONS SUBMITTED BY SENATOR PETE V. DOMENICI

##### OVERALL BUDGET FOR STOCKPILE STEWARDSHIP

*Question.* General Gordon, you are to be commended for what is overall a much improved budget request compared to previous years. This year's budget request is \$300 million over the current year's enacted level (a 5.5 percent increase). However, even within that budget request, there are some real question marks.

For example, the budget request for pit production is \$54 million below what you indicated would be required in last year's report to Congress. Also, the Science Campaigns, which are critical to maintaining our capability to certify the stockpile, are cut by 11 percent. Will you please comment on these two problem areas?

*Answer.* With regard to pits, the \$242 million for fiscal year 2003 in the September 2001 pit report to the Congress covers W88 pit manufacturing and certification and includes a contingency of some \$53 million, with a funding profile that was based on an fiscal year 2009 W88 pit certification date. Los Alamos and the NNSA have been able to accelerate the pit certification date to fiscal year 2007. This is expected to produce substantial savings in the out years (fiscal year 2008/09), but no near term savings are expected.

The Department's request of \$194 million in fiscal year 2003 for W88 pit manufacturing and certification also includes pit manufacturing technology and Modern Pit Facility activities. To balance near-term priorities for the Stockpile Stewardship Program, this request of \$194 million reduces fiscal year 2003 risk contingency funding for the W88 pit manufacturing and certification project and planned activities in pit manufacturing technology and the Modern Pit Facility. In addition, some funds were shifted to the Readiness in Technical Base and Facilities account so that facilities needed in manufacturing and certification would be ready. NNSA is fully committed to making the pit program successful. If additional funding is determined to be needed in fiscal year 2003, we will propose the necessary adjustments.

The reduction in funding requested for the Science Campaigns reflects a delay in the design of the Advanced Hydrodynamic Test Facility. While significant preliminary research work has been completed on the Advanced Hydrodynamic Test Facility, the requirements and thus the critical design features for this facility are still under development. Upon completion and review of the requirements, now expected in fiscal year 2003, the NNSA will consider funding for facility design work on a schedule consistent with those requirements and other Stockpile Stewardship priorities.

## OVERALL BUDGET FOR STOCKPILE STEWARDSHIP

*Question.* Could you use additional resources in these areas if they were provided?  
*Answer.* It is premature to apply additional resources to the Advanced Hydrodynamic Test Facility. Design work should follow the requirements, which are not yet adequately understood. For pits, additional resources would be used to reduce schedule risk and to ensure that the fiscal year 2003 manufacture of a certifiable W88 pit. If additional funding is determined to be needed in fiscal year 2003, we will propose the necessary adjustments.

*Question.* What are some of the highest priority tasks that you will not be able to accomplish within the requested budget?

*Answer.* The overall 6 percent increase in the fiscal year 2003 request for NNSA is the largest growth in any DOE organization for this year. Within that amount, the Directed Stockpile Work activities receive an increase of 18 percent over the fiscal year 2002 level. All of the highest priority tasks for Stockpile Stewardship are accommodated within those increases.

## FIVE YEAR BUDGETING PLAN

*Question.* General Gordon, section 3253 of the National Nuclear Security Administration Act of 1999 required you to submit a detailed 5-year budget plan. In your testimony, you said that the Nuclear Posture Review called for a stable and adequately funded 5-year budget plan. However, the NNSA budget documents indicate an outyear funding plan that grows only 2 percent a year, and includes the following statement, "Beyond 2003, the Administration will work with the Department of Defense to provide resources to meet NNSA's requirements outlined in the Nuclear Posture Review." What does that last statement mean, and when do you expect to deliver a detailed 5-year funding plan to the Congress?

*Answer.* The fiscal year 2003–2007 NNSA Future-Years Nuclear Security Program (FYNSP) was transmitted to cognizant congressional committees on March 26, 2002. The programs and 5-year funding envelope in the plan is based on the DOE outyear targets for NNSA combined with additional future years obligational authority currently scored in DOD accounts for NNSA's NPR-related activities. The OMB will work with NNSA and DOD during the fiscal year 2004 budget process to assure that sufficient national defense budget authority is provided to NNSA to meet NPR requirements.

*Question.* Can you give us some insights as to what levels of funding the plan will call for over the next several years?

*Answer.* The funding estimates for NNSA programs contained in the FYNSP are contained in the table below:

## FUTURE-YEARS NUCLEAR SECURITY PROGRAM

[Dollars in Millions]

Appropriation	Fiscal year				
	2003	2004	2005	2006	2007
Weapons Activities .....	\$5,869	\$6,457	\$6,738	\$7,023	\$7,314
Defense Nuclear Nonproliferation .....	1,114	1,406	1,502	1,639	1,604
Naval Reactors .....	708	720	733	747	761
Office of the Administrator .....	348	354	360	366	373
Total, NNSA .....	8,039	8,937	9,333	9,775	10,052

## GENERAL REDUCTION FROM THE CURRENT YEAR

*Question.* General Gordon or Dr. Beckner, the appropriations bill for the current year (fiscal year 2002) included an \$80 million general reduction to be generally applied proportionately across all programs, projects and activities. Your staff briefed the committee staff early this year and suggested that 30 percent of the general reduction (\$24.5 million) be applied to the long-troubled pit manufacturing program. I believe that is unacceptable, particularly given the great priority the Congress, the NNSA and Los Alamos have put on getting the pit program back on track. I understand you are revising your proposal on applying the general reduction, but we are now almost half-way through the fiscal year. How will the General Reduction be applied?

*Answer.* The general reduction was assessed to all Weapons Activities programs consistent with the guidance in the congressional reports and programmatic budget

execution priorities. A decision was made to exempt the Safeguards and Security activities based on the post 9/11 security situation. A Base Table containing the distribution of the General Reduction for all DOE programs was provided to Chairmen and Ranking Minority members of cognizant congressional committees by the DOE CFO on January 31, 2002.

*Question.* Will you assure me today that the pit program will be funded consistent with your own funding plan, and the resources provided by the Congress?

*Answer.* The NNSA will ensure that the pit program receives adequate funding to meet the fiscal year 2003 W88 pit manufacturing and fiscal year 2007 W88 pit certification milestones. Reprogramming have been proposed which will provide funding for the program in fiscal year 2002, consistent with current project needs.

#### TRITIUM

*Question.* General Gordon or Dr. Beckner, the Nuclear Posture Review states a goal of moving to 1,700 to 2,220 deployed weapons by 2012 plus a substantial number of weapons in reserve. Previously, you suggested that in order to maintain a 5-year reserve, you would need a new production capability on line by 2005. Given the conclusions of the latest NPR, do we still need a new production capability by 2005?

*Answer.* The changes in the nuclear force structure resulting from the recent Nuclear Posture Review do not affect the date when NNSA needs to begin irradiating tritium producing rods in the Tennessee Valley Authority's Watts Bar and Sequoyah reactors. Irradiation will still begin in the fall of 2003 as currently scheduled, particularly because the initial core loads of tritium rods will be "transition cores" that will not contain nearly as many tritium rods as will be utilized for steady state production.

*Question.* The NNSA is preparing to spend over \$400 million on a Tritium Extraction Facility over the next few years in South Carolina. I understand the project is not going particularly well and the project may have substantially over-run its projected cost. What is the status of the Tritium Extraction Facility project?

*Answer.* Construction of the civil/structural portion of the Tritium Extraction Facility at the Savannah River Site is well along, but is several months behind schedule. In addition, the bids on the Rest-of-Plant contract were well above the baseline estimate. As a result, we are currently in the process of reviewing and revising our cost and schedule estimates for completion of the facility. We have also asked the Department's Inspector General to review the program and recommend additional corrective measures, as appropriate. A reprogramming request has been submitted to the Congress for the necessary additional fiscal year 2002 capital funding required for construction of the facility, as well as proposing the necessary shifts in fiscal year 2003 funding.

*Question.* Given a possible change in tritium requirements, and substantial cost overruns in the tritium extraction facility, why should we not delay this project to fund other, more pressing, priorities?

*Answer.* The critical issue in tritium supply-demand assessments is the size and composition of the nuclear weapons stockpile. A reduction in the force structure would impact the tritium "need date" and, therefore, the number of tritium rods that must be irradiated in the TVA reactors. However, the fall 2003 initial irradiation date would not be affected. This is particularly true in view of the fact that the initial core loads of tritium-producing rods in each TVA reactor will be "transition cores" that will not contain nearly as many rods as will later be utilized for steady-state production.

#### NUCLEAR POSTURE REVIEW

*Question.* What are the budget implications of the NPR that we should see over the next 5 years?

*Answer.* The fiscal year 2003-2007 Future-Years Nuclear Security Program provided to cognizant congressional committees on March 26, 2002, contained estimates of the funding required for NNSA to carry out NPR-related activities. This information is contained in the table below:

## FUTURE-YEARS NUCLEAR SECURITY PROGRAM

[Dollars in Millions]

Appropriation	Fiscal year				
	2003	2004	2005	2006	2007
Weapons Activities .....	\$5,869	\$6,457	\$6,738	\$7,023	\$7,314
Defense Nuclear Nonproliferation .....	1,114	1,406	1,502	1,639	1,604
Naval Reactors .....	708	720	733	747	761
Office of the Administrator .....	348	354	360	366	373
Total, NNSA .....	8,039	8,937	9,333	9,775	10,052

*Question.* What activities are included in this budget that support the recommendations of the Nuclear Posture Review?

*Answer.* NNSA has been a key participant in the Administration's comprehensive Nuclear Posture Review, (NPR). The fiscal year 2003 budget request supports the NPR by requesting significant increases for Directed Stockpile Work to support upcoming weapon refurbishments, and Facilities and Infrastructure Recapitalization to assure a robust and responsive nuclear weapons infrastructure in sustaining deterrence and dissuasion.

In this connection, the report notes that the flexibility to sustain our enduring nuclear weapons stockpile, to adapt current weapons to new missions, or to field new weapons, if required, depends on a healthy program for stockpile stewardship and peer-review-based certification as well as a robust infrastructure for nuclear weapons production. It is a key point that not only the forces, but the demonstrable capabilities of the nuclear weapons complex itself, including its ability to sustain and adapt, are required to underpin credible deterrence in a changing security environment.

## NUCLEAR POSTURE REVIEW

Most importantly, this review reemphasizes the importance of nuclear weapons to deter the threats of weapons of mass destruction, to assure allies of U.S. security commitments, to hold at risk an adversary's assets and capabilities that cannot be countered through non-nuclear means and to dissuade potential adversaries from developing large-scale nuclear or conventional threats. To accomplish this goal, the NNSA expects to certify the stockpile through an aggressive science-based Stockpile Stewardship Program without resorting to underground nuclear testing. As discussed in the NPR, the NNSA will seek to reduce the lead-time to carry out a test by working with the DOD to refine test scenarios and evaluate the cost/benefit tradeoffs in order to determine, implement, and sustain the optimum test readiness time that best supports the New Triad. The review also reaffirms a stockpile refurbishment plan that has been under development between DOD and DOE and outlines the shape of the nuclear weapons stockpile as we significantly reduce the number of operationally deployed nuclear weapons to the 1,700–2,200 range over the next 10 years. The number and condition of warheads to be provided under the NPR is consistent with the plan put forth in this budget request. Simultaneously, the review calls for maintaining a "Responsive Force" which can be used to hedge against unforeseen problems in the deployed stockpile or an unexpected evolution of international relations. In addition, the NPR calls for NNSA to re-establish an advanced concepts effort to ensure that our nuclear weapons capability can respond to a spectrum of threats to U.S. security.

To indefinitely ensure the reliability and performance of this smaller number of weapons, the NPR calls for a modernized responsive nuclear weapons infrastructure to recover and sustain our nuclear weapons capability. Having significantly downsized the footprint of the nuclear weapons complex over the past 10 years, a modernized responsive infrastructure means upgrading our key facilities, many of which are now approaching 50 years in age, with a dedicated refurbishment program. It also means accelerating contingency planning for a modern pit facility to address long-term pit replacement needs.

*Question.* Are there items the NPR recommends that you cannot accommodate within this budget?

*Answer.* No. The NPR calls for a stable, adequately-funded Future Years Nuclear Security Program (FYNSP) to accomplish its goals, and the FYNSP transmitted on March 20, 2002, should be adequate to meet known requirements of the NPR.



## PIT PRODUCTION

*Question.* General Gordon or Dr. Beckner, in September of last year you notified this Committee that the W88 Pit Project costs at Los Alamos would be \$213 million for the current year, and \$242 million in fiscal year 2003. I worked to ensure the Congress ultimately provided every penny you said you needed. You can imagine my surprise, when your staff briefed the committee and suggested that 30 percent of the general reduction (\$24 million) be applied to this long-troubled program. Furthermore, the budget request for pit work at Los Alamos for fiscal year 2003 is not \$242 million—as you indicated in your report to us last fall—but only \$190 million. This is a decrease of \$51 million. Please explain the rationale for the reduced request for pit production.

*Answer.* The \$242 million for fiscal year 2003 in the September 2001 pit report to the Congress covers W88 pit manufacturing and certification and includes a contingency of some \$53 million, with a funding profile that is based on an fiscal year 2009 W88 pit certification date. Los Alamos and the NNSA have been able to accelerate the pit certification date to fiscal year 2007, this is expected to produce substantial savings in the out years (fiscal year 2008/09), but no near term savings are expected.

The Department's request of \$194 million in fiscal year 2003 for W88 pit manufacturing and certification also includes pit manufacturing technology and Modern Pit Facility activities. To balance near-term priorities for the Stockpile Stewardship Program, this request of \$194 million reduces fiscal year 2003 risk contingency funding for the W88 pit manufacturing and certification project and planned activities in pit manufacturing technology and the Modern Pit Facility. In addition, some funds were shifted to the Readiness in Technical Base and Facilities account so that facilities needed in manufacturing and certification would be ready. NNSA is fully committed to making the pit program successful. If additional funding is determined to be needed in fiscal year 2003, we will propose the necessary adjustments.

## FACILITIES AND INFRASTRUCTURE INITIATIVE

*Question.* General Gordon or Dr. Beckner, last year I was very pleased to work with Chairman Reid in getting the Facilities and Infrastructure rebuilding effort underway with \$200 million. I am pleased you have requested another \$240 million for fiscal year 2003—a 20 percent increase, however, I am still concerned. At this subcommittee's hearing on infrastructure earlier last year, you testified that there was an immediate need for an additional \$300–\$500 million per year for the next 17 years to refurbish the weapons complex.

In your written testimony today, you said you have “determined that the complex deteriorates by about \$200 million annually.” With these kinds of numbers, it will take much more than the currently requested amounts to rebuild the complex for the future. Will you update the Committee on the Facilities and Infrastructure Initiative?

*Answer.* It is my firm intention to update the Committee periodically on the newly renamed Facilities and Infrastructure Recapitalization Program. In addition, my staff is in close contact with the staff members of your Committee and the staff members of House and Senate's authorization and appropriations Committees and Subcommittees. The combined staffers were briefed in January 2002 and another briefing is scheduled for the July/August 2002 timeframe.

*Question.* What have you accomplished, and where do we need to go in the future?

*Answer.* As we have discussed, the difficult challenge of rebuilding of the complex required a change of culture regarding the maintenance of the facilities and infrastructure of the weapons complex, adopting a corporate facilities management approach, and money. Culture change is happening, albeit slowly. However we have accomplished much with regard to a corporate facilities management of the complex. A brief enumeration follows:

- Improved comprehensive planning throughout the complex
- Integrated planning process with budget activities subsequently improving assessment of F&I condition
- Implemented financial accountability and project execution measures Improve condition assessments throughout the complex
- Developed priority approach to sifting requirements on a “worst first” basis
- Funding from approved priority project list
- Integrated performance measures to all plants and laboratories appraisal systems Initiated cost saving through ROI project selection and execution
- Funding the elimination of excess facilities
- Funding from approved priority project list

- Integrated performance measures to all plants and laboratories appraisal systems Funding the elimination of excess facilities, to include reducing the complex footprint by some 500,000 sq ft in fiscal year 2002, and saving some \$5 million in surveillance and maintenance costs
- Managing through use of a coordinated project execution plan
- Developed facilities and infrastructure budget guidance which is being executed in the field
- Established Ten Year Comprehensive Site Planning process, now in its second year of usage
- Executed \$8.7 million (fiscal year 2001 Supplemental) worth of projects
- Establishing meaningful databases by which to manage the Facilities and Infrastructure Recapitalization Program
- Using the \$200 million fiscal year 2002 appropriated funds, NNSA will execute 81 Recapitalization projects (primarily maintenance & repair), 37 Planning projects (design & engineering for fiscal year 2003 recapitalization and facility disposition projects), and 32 Facility Disposition projects (ridding the complex of excess facilities)

With regard to the future, we are changing the culture, and the approach to facilities management. At this point money becomes important. The Facilities and Infrastructure Recapitalization Program is a multi-year approach to restoring, rebuilding, and revitalizing the nuclear weapons complex. The congress began the process by providing \$8.7 million in the fiscal year 2001 Supplemental Appropriation, which was followed by almost \$200M in the fiscal year 2002 Appropriation. The NNSA's plan is to ramp up in \$50 million increments annually over the next few years to a level of \$500 million. Once this level is reached, the plan is to sustain that level for a decade. I believe that our 5-year plan provides for this approach, which is, in my estimate, about the correct level of funding, all things considered. The continued support of congress is key to the future success of the Facilities and Infrastructure Recapitalization Program.

#### ADVANCED HYDRODYNAMIC TEST FACILITIES

*Question.* General Gordon or Dr. Beckner, hydrodynamic test facilities are some of the most important in the entire stockpile stewardship program. Los Alamos has been studying the use of proton radiography as a new tool with great promise. This works builds on the long legacy of accelerator-based programs at that Laboratory.

I realize that we are not ready to specify parameters of such an advanced hydrodynamic facility for future years, but I strongly support a research effort focused on understanding this technology and evaluating options for future construction. Failure to support the research effort will lead to loss of the key staff and destroy the research momentum completely. Once terminated, it would be extremely difficult to restart at a future date.

I'm very disappointed that the Department has chosen to cut the budget for "Advanced Radiography" by 36 percent and has suspended all work on an advanced hydrotest facility in fiscal year 2003. Please discuss your views of the importance of radiography to the weapons program.

*Answer.* Radiography is one of the fundamental tools required by the weapons laboratories for the study of nuclear stockpile issues. The Contained Firing Facility at Lawrence Livermore National Laboratory and the Dual-Axis Radiographic Hydrodynamic Test Facility (DARHT) at Los Alamos are two important radiography tools. The first axis of DARHT is operating and the hydrotests done to date have provided data of unprecedented quality to help resolve questions related to the stockpile. We continue to refine the operation of the DARHT first axis, while completing the second axis which will allow simultaneous views of hydrodynamic tests from two directions at multiple times. We are studying the needs of the stockpile certification processes in conjunction with the capabilities of the existing radiography facilities to determine future facility requirements.

*Question.* Why has the NNSA chosen to suspend conceptual design of an advanced hydrotest facility?

*Answer.* NNSA has a prudent path forward for the Advanced Hydrodynamic Test Facility. We have completed preliminary design work on the facility, however, the requirements and thus the critical design features for this facility are still under development. Additional design work without firm requirements, based on the needs of the stockpile is not appropriate.

#### ADVANCED HYDRODYNAMIC TEST FACILITIES

*Question.* If additional resources are made available, how could such resources be used to support the advanced hydrotest facility?

Answer. It is premature to apply additional resources to an advanced hydrotest facility. Significant preliminary design work has already been completed. Additional design activities should follow the technical and schedule requirements, which are not yet adequately understood. Any additional facility resources should be applied to the NNSA's maintenance and construction backlog.

#### LOS ALAMOS CONSTRUCTION ITEMS

*Question.* General Gordon or Dr. Beckner: Los Alamos has recently completed, or will complete this year, several construction projects that are coming in substantially under budget. I am referring to the CMR Upgrades Project, the Strategic Computing Complex, and the Nonproliferation and International Security Center. All told, I believe the projects will be over \$10 million under budget. Will Los Alamos be allowed to keep the "under-run" amount and apply to other pressing infrastructure projects at the lab?

Answer. NNSA has directed that these under-runs proposed for reprogramming to more pressing program needs at the laboratory such replacing contingency funding in the pit program and paying the closeout costs for the Accelerator Production of Tritium program.

#### LOS ALAMOS ADMINISTRATION BUILDING (A/K/A "SM-43")

*Question.* Dr. Beckner, on many visits to Los Alamos, I've noted the condition of its administration building. This building has had a long—almost 50 year—history of contributions to national security, but that long history has resulted in an obsolete building that is sadly in need of replacement.

It certainly is one of the buildings in our complex that does not represent an atmosphere even vaguely appropriate for a premier scientific facility. It represents a significant impediment to plans to entice new staff to consider location at Los Alamos to replace the many retiring scientists and technical staff.

The NNSA and the Laboratory were moving ahead with replacement of the building and "design-build" proposals were solicited and a winning team was identified. The work was poised for kick-off in fiscal year 2003, but the Department has recently decided to postpone the project. Will you re-evaluate the Department's decision to postpone work on SM-43 and consider including SM-43 within the infrastructure upgrade funds that I've worked to obtain in the last year?

Answer. All NNSA line-item construction projects (including SM-43) that are part of the Future Years Nuclear Security Plan (FYNSP) (fiscal year 2003–2007) were recently reviewed. The outcome of this evaluation was the development of an Integrated Construction Program Plan (ICPP) that fully supports line-item construction projects within the FYNSP. This plan fully supports the SM-43 project over a 2-year period (ending in fiscal year 2005) vice versa what was originally proposed as a 3-year project (ending in fiscal year 2005). Los Alamos, as well as the other seven NNSA sites will review the ICPP and will integrate it with the Facilities and Infrastructure Recapitalization Program (FIRP) and the Operations of Facilities programs in a Ten-Year Comprehensive Site Plans. We will continue to work with LANL to ensure that concerns with the SM-43 funding are properly addressed within the sites' overall priorities.

#### LOS ALAMOS NATIONAL LABORATORY FOUNDATION

*Question.* Dr. Beckner, Section 3136 of the National Defense Authorization Act for Fiscal Year 2002, which I sponsored, specifically authorized the Secretary to continue payments to the Los Alamos National Laboratory Foundation for fiscal year 2003.

That Foundation enables vital educational enrichment programs in the region surrounding the Laboratory in Los Alamos. It directly supports the Laboratory's ability to recruit and retain the scientific staff who certify our nuclear stockpile and are playing a vital role in homeland security and the war against terrorism.

The Laboratory has announced their intent to hire up to 1,000 new employees in the near future, those employees will be encouraged to consider the Laboratory by the quality of schools in the vicinity of the Laboratory. Please explain the Department's rationale for zeroing this support in fiscal year 2003?

Answer. Although further payments were authorized, no further funding was requested for the Northern New Mexico Educational Enrichment Foundation in the fiscal year 2003 President's Budget because the Department's commitment to endow the fund with \$25 million was completed in fiscal year 2002. However, based on the Department's latest analysis of the situation as described in our May 7, 2002 report to Congress, the Department plans to continue support for the Foundation after fiscal year 2003.

*Question.* Dr. Beckner, Section 3161 of last year's National Defense Authorization Act directed the Department to issue a report by March 1, 2002, on future requirements for support of educational programs associated with the Los Alamos National Laboratory Foundation and the Los Alamos Public schools.

As of today, March 18, that report has not been received by Congress. It is our understanding that a draft of that report is prepared and awaiting approval within the Department. Will you please expedite prompt release of this report?

*Answer.* The Office of Defense Programs will work with the other elements of the National Nuclear Security Administration and the Department to deliver this report to the Congress in mid May 2002. High quality schools in Los Alamos have always been considered a crucial factor in our ability to attract and retain world class scientists and engineers for the Stockpile Stewardship program. Continued congressional support for this activity is critical.

#### NONPROLIFERATION BUDGET—GENERAL

*Question.* General Gordon, I am pleased to see the broad and specific goals of your nonproliferation program receive strong support from last year's NSC review. Overall, I believe you have a good budget for fiscal year 2003. How would you characterize your progress in the Nuclear Nonproliferation Program over the life of the program?

*Answer.* The progress has been steadily increasing in both its rate and effectiveness. We have successfully overcome much of the mutual suspicion of our former Cold War rival and the cooperation is at an all-time high. This is reflected in the accelerating rate of both site and material upgrade completions. The high degree of cooperation is also reflected in the greater opportunities presented by Russian officials for material security, such as the presentation of new sites and the offer to work with the Strategic Rocket Forces.

*Question.* How many sites did you protect last year compared to previous years?

*Answer.* Last year, in fiscal year 2001, the MPC&A Program completed comprehensive upgrades at 7 sites in Russia, bringing the total number completed to 38. During the current fiscal year, the program plans to complete comprehensive upgrades at 5 more sites. The ambitious fiscal year 2003 Plan calls for the completion of comprehensive upgrades at an additional 12 sites, bringing the overall total number of sites completed to 55.

Another way to measure the progress is the percentage or proportion of Russian nuclear materials brought under the program's auspices. During the 3 year period 2001–2003, the percent of the approximately 600 metric tons of material secured under comprehensive upgrades will double, from 12 percent at the beginning of fiscal year 2001 to 23 percent at the end of fiscal year 2003. Also, the percent of the nearly 4,000 Navy warheads secured under comprehensive upgrades has risen from 0 percent at the beginning of fiscal year 2001 to approximately 74 percent secured by the end of fiscal year 2003.

*Question.* What, if anything is needed to ensure the success of this program?

*Answer.* Continued high-level support by the Administration and Congress is critical to ensure program success. The improvement in the relationship between the leaders of the two countries has helped to implement activities at the working level. Also, continued funding and support from Congress help us to maintain our current accelerated pace of completions and deepening trust with our counterparts in Russia.

#### MATERIALS PROTECTION IN RUSSIA

*Question.* Ambassador Brooks, the Secretary recently said that progress on the MPC&A tasks in Russia is 2 years ahead of schedule. That's excellent news—I'm a very strong proponent of this program. How has the program planning change recently?

*Answer.* Since the September 11 attacks, NNSA has taken aggressive steps to accelerate and expand its role in facilitating nuclear security cooperation. Last year NNSA estimated that the completion of comprehensive upgrades to the security at the 53 known weapons-usable nuclear materials sites in Russia would not take place until 2010. This time-frame has been shortened because of an access agreement signed in September of 2001 that utilized budgetary resources provided by supplemental appropriation. At this time, NNSA estimates that all 53 sites will be completed at least 2 years ahead of the 2010 completion estimate.

Russian naval sites have also received increased attention. NNSA estimated in 2001 that it would take until 2008 to complete comprehensive upgrades at 42 Russian naval sites storing nuclear warheads; NNSA has accelerated its efforts and the completion date is now 2006.

Another new initiative is a concerted effort to reduce the threat posed by a Radiological Dispersion Device (RDD) against the United States. The NNSA has started work with Russia, Uzbekistan and the IAEA to secure materials that could be used to develop and deliver an RDD. It is hoped that future cooperation will be expanded to include additional countries in regions of concern.

*Question.* Are the Russians fully on board with these new forecasts of progress and specifically have new agreements reduced past concerns on “access” issues to various facilities?

Answer. Yes, the Access Agreement signed in September of 2001 with MinAtom includes all MPC&A work at MinAtom’s civilian and weapons sites covering over 500Mt’s of nuclear materials. It allows up to 120 site visits per year by teams of up to six people drawn from an access list of 185 program personnel. At the outset of fiscal year 2002, work resumed under the MPC&A program at the three key MinAtom sites (VNIITF, VNIIEF, and Elektrostal). This work had been suspended indefinitely at the end of fiscal year 1999. In April 2002, MPC&A program representatives and MinAtom agreed to a list of mutually acceptable site-wide MPC&A upgrades at VNIITF (formerly known as Chelyabinsk-70) estimated to be worth approximately \$38 million. These upgrades include construction of a new central storage facility for nuclear material that will reduce the number of locations at the site where proliferations attractive nuclear material is stored. A similar agreement for VNIIEF (formerly Arzamas-16) is very close to completion. It identifies a suite of site-wide MPC&A upgrades valued at approximately \$44 million, including completion of a central storage facility. At Elektrostal, DOE teams have been given access to buildings where we were told 3 years ago we would never be allowed to visit. We have made confirmatory measurements of the nuclear material at the sites and have begun MPC&A upgrades.

#### MATERIALS PROTECTION IN RUSSIA

*Question.* Significant additional funds were provided in the current year for MPC&A. Have you been able to adjust the program to effectively utilize these increased funds?

Answer. Yes, additional resources provided by the fiscal year 2002 supplemental appropriation combined with the signing of the 2001 Access Agreement have bolstered the MPC&A program enabling it to aggressively shorten its completion target dates for securing Russian nuclear facilities and materials. As mentioned previously, comprehensive upgrades at Russia’s 53 known weapons-usable nuclear material facilities will be completed 3 years earlier than expected. The securing of Russia’s 40 naval sites with nuclear weapons will be completed 2 years ahead of schedule. Finally, as testament to the administrative handling of the program, over 90 percent of the program funds will be committed to projects by the year’s end.

*Question.* Russia has four serial production facilities with immense production capacity, which hold enormous quantities of weapons-usable materials. I understand that we do not have an MPC&A program at these facilities. What is being done to change this limitation?

Answer. For several years, MPC&A program management has been working with MinAtom at a very high level at the four serial production enterprises. In April 2002, MinAtom was presented with over \$35M worth of contracts to construct central storage facilities at the two largest serial production enterprises (SPE’s). Discussions continue on what would be unprecedented cooperation with Russia. Successful signing of these new contracts would open the door for expanded opportunities to finish securing the weapons-usable materials at the SPE’s.

#### MATERIALS PROTECTION CONTROL AND ACCOUNTING PROGRAM ISSUES AROUND THE WORLD

*Question.* Ambassador Brooks, I’ve championed the Materials Protection Control and Accounting (MPC&A) program as it’s been applied to Russia. Russia is certainly the largest source of nuclear materials which could become potential threats to our security. But the events of last September must heighten our concern with materials for any weapon of mass destruction anywhere in the world.

We need to look beyond MPC&A in Russia and ask how to best expand these efforts globally. I remember that in Russia, early progress was largely accomplished on a scientist-to-scientist basis through the so-called “lab-to-lab” approach. It was only after scientific ties were established that more formalized government-to-government approaches began to make some progress. Is the original “lab-to-lab” approach being revisited to encourage progress in some of the countries that may present threats?

Answer. The NNSA national laboratories have and will continue to play a critical role in carrying out the MPC&A Program's mission. The MPC&A Program is committed to using the most cost-effective methods, including expanded lab-to-lab engagements to accelerate the security of nuclear warheads and material.

*Question.* Could Congress provide new authorizations for the Department that would facilitate MPC&A progress on all materials, not just nuclear, and not just in Russia?

Answer. The NNSA's MPC&A program has, and will continue to, focus on securing nuclear materials considered to be at risk to illicit diversion and/or vulnerable to terrorists. Congressional authorization is required if the MPC&A program is to be expanded into these areas of emerging threats.

*Question.* Please provide me with specific suggestions on enhanced authorizations that would enable this progress.

Answer. The MPC&A is working aggressively to secure nuclear materials in Russia. A specific suggestion is to grant the authority for the MPC&A program to work cooperatively with countries throughout the world in order to prevent nuclear materials from being illicitly diverted or falling in the hands of terrorists.

#### RUSSIAN PLUTONIUM DISPOSITION PROGRAM

*Question.* Ambassador Brooks, I appreciate that the President and Secretary proposed funding for a robust U.S. plutonium disposition program utilizing MOX fuel in commercial reactors. As you know, progress on plutonium disposition must be coordinated between the United States and Russia.

The United States cannot be the only nation with a disposition program, especially when Russia has far more surplus plutonium than the United States. Without the full cooperation of the Russian government in finalizing their program, progress on this vital area is at risk in both nations.

In past years, the focus within Russia was on disposition of their plutonium via a MOX program—but in talks with Russian leaders, I'm aware that the Russians have minimal interest in this approach and will pursue it only if paid to do so. To date, attempts to get international cooperation on funding package to cover the \$2 billion Russian MOX program have not been successful. Is the Department actively discussing with the Russians other options for plutonium disposition that would be more in line with their national priorities, where they would be ready to invest significant amounts of their own funds?

Answer. Russia remains committed to the September 2000 Plutonium Management and Disposition Agreement (PMDA) (i.e., use of existing VVER-1000 light water reactors and the BN-600 fast reactor for plutonium disposition). While the Russians appear willing to modify some elements of the Russian plutonium disposition program in order to make it less costly and more sustainable, they are firm in the view that the existing PMDA should serve as the framework for plutonium disposition in the two countries. In this regard, representatives from the Departments of State and Energy have begun a series of meetings with senior officials of the Russian Ministries of Atomic Energy (MinAtom) and Foreign Affairs to discuss ways to improve the Russian program. By the fall of 2002, the Administration expects to have a much better definition of the details of Russian plutonium disposition and a much better appreciation of the costs of possible improvements or alternatives in the Russian program.

In addition to examining ways to make the Russian program more cost effective, the Department of State, working with the Department of Energy, has intensified efforts and meetings with G-7 to obtain additional international pledges. The Administration is discussing with other G-8 countries a "Global Partnership" initiative, wherein the United States will pledge \$10 billion in support of nonproliferation programs over the next 10 years, to be matched by a similar \$10 billion commitment by other G-8 members. The allocation of these funds among nonproliferation programs will be the subject of future discussions and negotiations.

#### RUSSIAN PLUTONIUM DISPOSITION PROGRAM

*Question.* Specifically, are the following alternatives to MOX being discussed?

- Use of existing Russian fast reactors
- Assistance in construction of another Russian fast reactor
- High temperature gas-cooled reactors
- Plutonium-thorium fuel combinations in existing VVER reactors.

Answer. No decisions or agreements exist at present concerning the employment of the BN-800 fast reactor for Russian plutonium disposition. In January 2002, DOE and MinAtom formed a joint U.S.-Russian working group to conduct a preliminary assessment of the costs that would be involved in employing a combination of

(BN-600 and BN-800) fast reactor units for Russian plutonium disposition. Results of preliminary cost assessment are expected in July. The United States has no plans to assist in the construction of another Russian fast reactor for implementing the Russian plutonium disposition program.

Russia is the early stages of researching the possible use of plutonium-thorium fuel in existing VVER reactors for the disposition of surplus plutonium beyond the 34 metric tons in the 2000 Agreement. In addition, Russia and the United States are researching gas reactors for use as a possible long-term option for of surplus Russian plutonium beyond the 34 metric tons. Both of these reactors are unrealistic for meeting the needs of the first 34 tons of the plutonium disposition program because they are more costly and dispose of plutonium more slowly than the existing MOX approach. The risks of failure or significant delay using these options are high because they depend on unproven, immature technologies.

The Department is also participating with MinAtom in an experts group for examining technologies associated with proliferation resistant fuel cycles. The joint U.S.-Russian experts group began work immediately after the May Presidential Summit and will report its findings to the Secretary of Energy and the Russian Minister.

#### DISPOSITION OF 2 TONS OF OUR PLUTONIUM

*Question.* Ambassador Brooks, in announcing the decision for disposition of our weapons-grade plutonium via MOX, the Department indicated that plans for the disposal of 2 tons of plutonium-bearing wastes were not final. There were suggestions that materials might be diluted to remove them control of safeguards and then to proceed with disposal in WIPP.

I've since been assured in writing by the Secretary that a range of alternative disposition paths will be examined for these materials and that they will not be shipped to WIPP. What is the status of studies of alternative pathways for that (2 tons of U.S. plutonium) material?

*Answer.* The Department is still evaluating a range of disposition alternatives for this material. Key employees involved in these studies were working on preparing for the recent litigation involving plutonium shipments to the Savannah River Site. Now that the lawsuit is near completion, efforts on evaluating a range of disposition alternatives for this material will resume.

#### RUSSIAN TRANSITION INITIATIVES

*Question.* Ambassador Brooks, on several occasions the Administration indicated its strong support for programs designed to employ scientists in the Former Soviet Union. The Initiatives for Proliferation Prevention (IPP) has enjoyed tremendous success, and the Nuclear Cities Initiative has tremendous potential to make progress in downsizing the former Soviet weapons complex. However, even though you propose a budget increase for nonproliferation overall, the budget request for these Russian Transition Initiatives drops from \$57 million to \$39 million. If you were provided additional resources in this area, would you be able to effectively use them in fiscal year 2003?

*Answer.* The potential of both RTI programs are determined by the level commitment; the more money invested in them, the more that they are able to do. With additional resources, NCI could accelerate many of its efforts, speeding the closure of Avangard, for example, while IPP could fund additional projects to meet U.S. industry demand in new technology areas.

#### ROLE ON NNSA LABS IN COUNTER-TERRORISM/HOMELAND SECURITY

*Question.* General Gordon, in your testimony you indicated you had created a working group to define what capabilities we can bring to bear on the problems at hand, and not just in the nuclear arena. NNSA has many capabilities in many areas that should be applied to fighting terrorism both at home and abroad. Will you elaborate on your goals and expectations in this area?

*Answer.* NNSA has world class science and technology resources and its goal is to focus those resources on the problem of homeland security and combating terrorism (CT). We have already drawn from our nuclear weapons R&D, test and manufacturing base in developing technologies that have made significant contributions, for example, to the detection of chemical and biological agents. Substantial efforts are also underway to understand and prioritize our domestic vulnerabilities and develop and implement the tools to mitigate them. We expect to continue these contributions whenever and wherever they are needed.

*Question.* Are the resources of DOE/NNSA complex being effectively and efficiently utilized in this arena?

Answer. Yes, but there is always room for improvement. A major effort is underway to strengthen coordination among various entities with CT responsibilities within the Department. Recently, the NNSA enterprise (i.e., the labs, production plants, Nevada Test Site, and Headquarters) are strengthening efforts to reach out to state and local agencies to understand better their particular needs in CT. In many cases there are near-term solutions being identified (e.g., providing data on R&D and nuclear weapons threats) and longer-term R&D programs that address more difficult problems (e.g., port security and the containerization problem).

*Question.* Have you considered a fund or pool of funds that could be utilized by the labs to work on combating terrorism for other agencies?

Answer. This year, I have undertaken an initiative to identify new R&D initiatives or acceleration of ongoing initiatives for application in the war against terrorism. An example of the use of this fund is R&D and the demonstration of a Radiological Detection Tracking System. This system has potential use by a number of agencies to combat terrorism. We have funded these within current authorities and funds available to NNSA.

#### ROLE ON NNSA LABS IN COUNTER-TERRORISM/HOMELAND SECURITY

*Question.* Is DOE/NNSA sufficiently represented in the multi-agency task forces and committees working on developing the appropriate response to terrorist threats?

Answer. The Office of Homeland Security (OHS) has created several interagency working groups to coordinate agency programs for countering terrorism. Several existing Office of Science and Technology Policy (OSTP) interagency working groups, initiated to coordinate R&D programs, have been incorporated into this effort. The NNSA is a full participant in these groups. For example, DOE/NNSA is a member of the OSTP/OHS R&D strategy group identifying research and technology needs to combat WMD terrorism. Members, in addition to DOE/NNSA, represent a broad cross section of the nation's research and technology agencies. NNSA, is also a member of the Technical Support Working Group, working with the Departments of Defense, State and others to conduct a research and development program for combating terrorism requirements, both nationally and internationally.

*Question.* What is the NNSA doing to make the resources of its laboratories more readily available to the Office of Homeland Security?

Answer. The scientific and technological resources, world-class scientists and facilities of the NNSA national laboratories are available to OHS and other Federal agencies conducting the war against terrorism through the reimbursable Work for Others (WFO) program. We presently have a working group, chartered by General Gordon, to explore ways that the WFO process can be strengthened to provide broader and more timely support to the war against terrorism. The group's efforts include review of present policies and procedures governing WFO and discussions with policy officials and program managers across the interagency on ways the laboratories can be made more readily available to assist them in CT and related missions. These are part of NNSA's efforts to strengthen its scientific and technical leadership and serve as the lead agency for science and technology for OHS.

*Question.* What additional funding will be needed to make this possible?

Answer. If the NNSA were to serve as the lead technical agency for the OHS, additional funding would be required to establish the infrastructure and hire additional staff to perform the expanded mission. The additional funds required to serve as lead technical agency would be based on the specific role that NNSA would perform (e.g., interagency coordination of S&T initiatives vs. management and conduct of S&T initiatives). Specific funding estimates are not yet available.

#### ROLE ON NNSA LABS IN COUNTER-TERRORISM/HOMELAND SECURITY

*Question.* Related to the previous question, what is being done to lower barriers to access of these capabilities by other agencies, notably DOD, through the work for others (WFO) process?

Answer. Immediately following the September 11 attacks, General Gordon called upon the national labs, plants and test site to respond immediately to requests for technical assistance. Emergency authorization was provided for this work that eased many WFO restrictions, especially regarding starting work before funds arrive from the requesting agency. Also the labs, plants, and Nevada Test Site provided technical experts and specialized equipment in response to several urgent requests including, for example, early warning of nuclear, chemical, or biological attack at key locations, support to New York City clean up efforts, support to FBI investigation of the anthrax letters, support to the Post Office and the Senate Hart building in connection with biological decontamination efforts, and many more.



DOE/NNSA is now promulgating new, streamlined WFO procedures to facilitate access by other agencies with antiterrorism responsibilities to the technical capabilities at the national labs/plants/test site. This includes establishing technical teams to work with agencies to help define problems, work towards solutions, and provide necessary technology and training. With regard to DOD, NNSA has recently signed an agreement with DTRA to carry out jointly the Model Cities program that will demonstrate improved surveillance and detection methods against the threat of biological terrorism in urban centers. NNSA and DOE Emergency response are working jointly with DOD and other Federal agencies across a broad front to upgrade and develop new capabilities to prevent, detect and respond to nuclear terrorist threats of all kinds-ranging from radiological dispersal devices at the low end of the threat spectrum to crude nuclear explosive devices (improvised nuclear weapons) at the high end.

#### ROLE ON NNSA LABS IN COUNTER-TERRORISM/HOMELAND SECURITY

*Question.* How can DOE/NNSA expand its nonproliferation and Russian programs to counter the emerging threat of nuclear and radiological devices? What about expansion to other countries and regions?

*Answer.* The DOE/NNSA is undertaking a number of initiatives to expand our efforts to counter these threats. First, we have worked to accelerate existing efforts to address vulnerabilities associated with nuclear material and expertise in the Russian Federation and the Newly Independent States (NIS). These efforts have resulted in greater access to sensitive facilities where vulnerabilities exist, and significant reductions in program implementation schedules. More nuclear facilities and border crossings are receiving security upgrades in parallel than ever before. We are investigating the possible expansion of our work to address national security threats posed by radiological dispersal devices or "dirty bombs" by assessing and prioritizing threats posed by various source materials in a range of locations. Pilot efforts to secure vulnerable materials are already underway.

Regarding other countries or regions, we are intensifying efforts to engage with countries outside the Former Soviet Union (FSU) where significant vulnerabilities associated with nuclear materials, expertise, or export controls exist. Nuclear security cooperation is being discussed when we believe a credible threat exists and diplomatic and legal issues do not prohibit dialogue with a potential recipient country. We are also intensifying our efforts to support International Atomic Energy Agency (IAEA) programs to train member states on nuclear material security concepts.

*Question.* NNSA's laboratories have played a key role in the investigation of the mail-based anthrax attacks. Do you see a growing role for the NNSA and its laboratories in this area of bio-terrorism prevention and response?

*Answer.* Yes, the NNSA laboratories played a key role in the anthrax attacks deriving from the R&D program structured and executed by NNSA. If NNSA had not been poised to respond in areas such as biological forensics, interior fate and transport modeling, and decontamination, the identification of and response to the mail-based attacks would have been more difficult. NNSA continues to develop, validate, demonstrate, and transfer much needed technologies and capabilities for civilian protection and defense, working with other agencies toward the ultimate goal of an integrated biological and chemical defense approach for urban environments. By working closely with the user community, especially the state and local governments, their needs are incorporated into the planning and execution of research projects. Sustained, stable funding greatly enhances our ability to achieve program goals focusing on the civilian population.

#### NATIONAL INFRASTRUCTURE SIMULATION AND ANALYSIS CENTER (NISAC)

*Question.* General Gordon, I would like to talk to you briefly about the NNSA's role in Homeland Security, particularly as it relates to the Department's leadership role in protecting our national energy infrastructure—such as pipelines, power plants, and transmission systems.

The Department's Office of Energy Security and Assistance provides the technical support, response and recovery for the United States critical energy infrastructure, by working to protect the Nation against severe energy supply disruptions.

One of the Government's best tools for this effort is the National Infrastructure Simulation and Analysis Center (NISAC) which utilizes the supercomputers at Sandia and Los Alamos National Laboratories to better understand the interdependence and vulnerabilities of critical infrastructure.

NISAC will prove very useful to the Department of Energy, but it also has many applications outside the purview of the Department. Governor Ridge's Office of Homeland Security has taken a great interest in using NISAC.

The development of NISAC has been supported by many agencies. In the past three years, I have worked to provide \$24.5 million for NISAC through the Department of Defense. The Administration has requested \$20 million for NISAC through the Department of Energy instead of the Department of Defense in fiscal year 2003. What role could you envision for NISAC if it were within the NNSA?

Answer. I support the President's proposal that the NISAC be managed within the Department of Energy. I am confident that under DOE's leadership, the NISAC will become a national asset that enhances both the economic and physical security of our nation. By placing NISAC under the direct control of the Secretary of Energy, the President has recognized that the analytical capabilities available in the DOE complex are critical to its success. The NISAC will be a strategic asset and the Department will manage it as such. Interagency and intergovernmental coordination for the development of fiscal year 2003 and outyear NISAC requirements is already underway. The DOE Office of Energy Assurance is working closely with the Sandia and Los Alamos National Laboratories to ensure scientific capabilities are properly aligned with the national security strategy. Additionally, the Department is closely coordinating with the Office of Homeland Security and the President's Critical Infrastructures Protection Board to develop a review process for NISAC requirements. The Department of Energy is the appropriate agency to provide long-term oversight and management of this critical project.

#### NATIONAL INFRASTRUCTURE SIMULATION AND ANALYSIS CENTER (NISAC)

*Question.* If NISAC is funded through the NNSA, how could you ensure that it is available to the Office of Homeland Security and other agencies involved in critical infrastructure protection?

Answer. The Department is developing a plan to ensure requirements developed for the NISAC are national, not departmental. The capabilities under development within the NISAC are much broader than the individual needs of any one agency. DOE understands the importance of detailed analysis of the interdependencies associated with critical infrastructure protection. The Secretary also supports the need for the Office of Homeland Security and other agencies to be partners in identifying what studies are required and in what priority order they must be completed. The Secretary of energy is committed to protecting the scientific capabilities resident within the DOE complex to do so. Understanding that not all agency needs will gain consensus as high priority in an interagency review process, the NISAC will also be able to provide analytical support to requesting agencies utilizing joint funding and Work for Others programs.

#### SECURITY COSTS

*Question.* General Gordon, the fiscal year 2003 budget request does not include funding to continue to current rate of security operations through-out the weapons complex. I believe it would take at least an additional \$65 million for fiscal year 2003. Why were these funds not included in the budget request?

Answer. The fiscal year 2003 budget was formulated before the September 11 attack occurred and resulting implications for fiscal year 2002 and beyond became known.

*Question.* Can we expect to see these funds requested in a future supplemental?

Answer. We continue to assess the safeguards and security posture of our complex in response to the evolving threat to our environment and we are prepared to rebalance our funding priorities as necessary to assure continued protection of our critical national assets.

#### NNSA'S NUCLEAR SYSTEMS INITIATIVE

*Question.* Admiral Bowman, the fiscal year 2003 NASA budget proposes a "nuclear systems initiative." This initiative will develop new radioisotope power systems for on-board electric power on future space platforms, and it will also conduct research and development on nuclear electric propulsion systems that would allow future space craft to speed throughout the outer reaches of the solar system.

NASA has proposed spending \$126 million in fiscal year 2003 and up to \$1 billion in the next 5 years. I understand the NASA Director has expressed an interest in collaborating with Naval Reactors in this effort. What is your view of this effort and the role for Naval Reactors?

Answer. Dr. Sean O'Keefe, NASA Administrator, has established a bold "nuclear systems initiative" to reach outer space more efficiently than today's technology would allow.

Naval Reactors does not have any ongoing work, nor do we have any budgeted work, for space nuclear propulsion. We have had discussions with NASA regarding

what issues would need to be addressed for us to be involved. These discussions have been very preliminary in nature. No agreements have been reached.

In discussions with high level officials at NASA and DOE, we explained that in the past, our work has been limited to Naval Nuclear Propulsion, and civilian power reactor programs as assigned. We expressed that we consider it inappropriate for NR to begin to design or build a space reactor unless given clear direction to do so by the White House or Congress. We have also discussed providing peer review of the effort as long as funding for this purpose is provided.

Naval Reactors is fully employed with our current workload. However, if there were a defined national need for a space nuclear program, we would undertake this project if assigned by proper authority and appropriately funded.

*Question.* Do you agree that the other NNSA labs with expertise in nuclear systems for space should play a strong role in this effort?

*Answer.* Any project of this magnitude would certainly require the expertise of a large number of organizations.

If reactor design or construction work is assigned to us, it would make sense to use the experience of the NNSA laboratory designers and infrastructure who have helped build our record of 50-plus years of operational success. Our involvement, if requested, should include maintaining the independence of both Naval Reactors Headquarters and our NNSA laboratories as provided in Executive Order 12344 and codified in two public laws.

#### SUBCOMMITTEE RECESS

Senator REID. The subcommittee stands recessed.

[Whereupon, at 11:20 a.m., Monday, March 18, the subcommittee was recessed, to reconvene subject to the call of the Chair.]



**ENERGY AND WATER DEVELOPMENT  
APPROPRIATIONS FOR FISCAL YEAR 2003**

**THURSDAY, APRIL 18, 2002**

U.S. SENATE,  
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,  
*Washington, DC.*

The subcommittee met at 10:05 a.m., in room SD-138, Dirksen Senate Office Building, Hon. Patty Murray presiding.

Present: Senators Murray, Domenici, Cochran, Bennett, and Craig.

**DEPARTMENT OF ENERGY**

**STATEMENT OF HON. JESSIE HILL ROBERSON, ASSISTANT SECRETARY, OFFICE OF ENVIRONMENTAL MANAGEMENT**

**ACCOMPANIED BY DAVID GARMAN, ASSISTANT SECRETARY, OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY**

**OPENING STATEMENT OF SENATOR PATTY MURRAY**

Senator MURRAY. The subcommittee will come to order. Senator Reid, chairman of this subcommittee, was unable to be here at the last minute this morning. He is presiding over the energy debate on the floor. We have two very, very critical votes coming up in about an hour and a half here and he was unable to make it. We will submit his testimony for the record, but he knows how critical these issues are. He has worked very, very hard on them, and we will submit his statement and his questions for the record and he gives all of you his apologies for not being here.

I would like to begin by thanking Chairman Reid and Senator Domenici for holding this hearing today and for scheduling it to accommodate those members who do have a vital interest in the environmental management program. The effort at the Hanford Nuclear Reservation and all of our national sites is not just about cleaning up nuclear wastes. To me it is about honoring our commitments to people and communities who have sacrificed over the years to ensure our safety.

During World War Two and the Cold War, the people of the Tri-Cities in Washington State produced the material that went into our strategic arms. We won those wars in part because of the sacrifices made in the Tri-Cities. One legacy of that sacrifice is the freedom that we enjoy today. But another legacy is the nuclear waste.

We have one of the most polluted sites in the world, the Hanford Nuclear Facility on the banks of the Columbia River. When it

comes to environmental management program, the Bush Administration has some real credibility problems. Before the President's first budget was released, the budget director assured me that, despite press reports, Hanford's budget would not be cut. When the budget finally emerged, we found out the Hanford was cut after all. This year, for the second year in a row, the President's budget shortchanges Hanford.

Equally disturbing are some of the recent management decisions made by the Department of Energy. DOE has failed to provide real assurances to the State of South Carolina. DOE is replacing a very successful site manager at Hanford. DOE is cutting the staff at the Office of River Protection, and DOE's actions have drawn a lawsuit by the Natural Resources Defense Council.

All of these decisions by the Bush Administration do not give me a lot of confidence that the Department of Energy is on the right track. I have to tell you that in my community and in other sites across the country these actions have created the perception that the administration is taking unilateral actions that pit sites against one another in a competition for funding.

You have the opportunity to reverse that perception by committing to work with the communities, the States, the regulators, to move the cleanup forward in a cooperative manner. I am not just talking about the Hanford site. We have Savannah River, Idaho, and others. It will not be acceptable to me or, I trust, this subcommittee to fail to meet Federal obligations at Hanford and the other sites.

I recognize the potential contained in the letter of intent recently signed between the State of Washington and the Department of Energy. However, it is going to take a lot of work and cooperation to make that intent a reality, and I'm not yet convinced that the administration is doing its part.

With the help of my colleagues on this panel and the Nuclear Waste Cleanup Caucus, I will continue to push the Federal Government to meet its Federal obligations at every site.

Senator Craig.

#### STATEMENT OF SENATOR LARRY E. CRAIG

Senator CRAIG. Madam Chairman, thank you very much. I am pleased that both Secretary Garman and Secretary Roberson are with us this morning. We are going to hear testimony on two programs that are awfully important to, I believe, DOE and the Nation and to the Idaho National Engineering and Environmental Laboratory in my State.

Now, I must tell you that I, along with the chairman, have been somewhat of a skeptic and a critic of DOE's accelerated cleanup proposal for EM. While we can embrace the Secretary's goals of accomplishing more cleanup and doing it faster, and I think we all do, I have looked the Secretary straight in the eye and said: This has to be real. It cannot be just a mechanism for cheapening up cleanup standards and compromising on the protection of the environment.

I must tell you that we all know the Secretary well enough to know that he looked me right back and said without question that there would be no compromises. He and I very early, on while he

was a nominee-talked of this long period of time in which we had spread out cleanup at these facilities and that if there was any way to shorten it and do it as well as we planned to do it and do it in less time, that we would be dealing in tomorrow's dollars and not the dollars of next year or next year or decades later. Very frankly, that made sense to me.

Cleanup acceleration cannot be a mechanism for DOE to walk away, though, from its commitments and obligations, and we know that. I believe the Secretary is a man of his word. He has assured me that his effort to reform and accelerate cleanup is a sincere one.

I have nothing against a new leadership team wanting to take a fresh look at the cleanup programs. In fact, I think sometimes we bureaucratize these things in a way sometimes causing folks to go back and look again and be shaken a bit by an effort that can produce the kind of productivity that we need to have at these facilities.

The EM program will take decades and cost many tens of billions of dollars. That is the reality that this country is committed to, and I think it deserves our best effort and our highest scrutiny.

I am also pleased that yesterday the Governor of Idaho has been able to announce a resolution to Idaho's longstanding dispute with DOE over the Pit 9 cleanup issue. Pit 9 has been a cloud on our horizon, your horizon, way too long, frustrating all of us. We now have, I believe, a workable path forward for demonstrating the cleanup at Pit 9.

Although Idaho and DOE can agree to disagree, and we have, on the legal interpretation of DOE's entire obligation for buried waste, we now have a way to break the logjam and move forward, and I think the Secretary and all of you, Secretary Roberson, you certainly demonstrated your commitment to doing that.

This resolution will also allow Idaho to engage in a very earnest effort with DOE to begin to discuss how Idaho's cleanup can be accelerated. Although I do not support DOE's request for the appropriations of \$800 million unallocated pot of money for acceleration, I do believe that the subcommittee should examine the results of DOE's accelerated cleanup discussion and try to factor the outcome of those proposals in the cleanup budget, which we will then appropriate for the sites.

Secretary Abraham and I have discussed this and we both desire to see the reform discussion move forward as soon as possible. Secretary Roberson, I look forward to you and your office working on this in the coming weeks so that we can be successful in Idaho. Hanford has already spoken, as the chairman said, to their direction in acceleration.

Assistant Secretary Garman, I recently sent you a letter and I understand you are exploring the opportunities to visit Idaho to see the capability of that site and what we think is a tremendous opportunity for our country. We have lots of resource and talent at the INEL and we believe that it can be channeled in the right direction to be a phenomenally productive effort for our country, for our future, and for our energy needs.

We thank you both for being here and look forward to your testimony.

Senator MURRAY. Thank you, Senator Craig.

We will now hear from Jessie Hill Roberson, Assistant Secretary of the Office of Environmental Management, and David Garman, Assistant Secretary, Office of Energy Efficiency and Renewable Energy. Ms. Roberson.

STATEMENT OF JESSIE HILL ROBERSON

Ms. ROBERSON. Thank you, Senator Murray and Senator Craig and for those members that show up while I am speaking. Thank you for having me here today.

I am here today to ask for your support of the Department's Environmental Management budget request. I am pleased to report to you that the transformation of the Environmental Management program has begun. DOE has already taken the first steps to change our focus from risk management to risk reduction and elimination, to shift our focus from process to product, and to instill in this program the kind of urgency necessary to clean up and close the nuclear legacy of the Cold War, to protect the environment, and secure the homeland.

We have already taken several steps to immediately implement proposals for reforming and revitalizing this program. We have deployed special teams to most of our sites to work with our field DOE, contractors, State and Federal regulators, and other stakeholders to develop accelerated cleanup plans.

We are taking actions to further augment the Nation's security through this consolidation of nuclear material at EM sites, a key recommendation of the top to bottom review. We are working in partnership with the National Nuclear Security Administration to ensure that our nuclear materials remain safe and secure. This accelerated effort will lead to more secure protection of our nuclear material inventory while reducing the cost of storage and protection at multiple sites.

DOE has also taken the initial steps to align our internal processes and management to enable a streamlined and more focused approach to cleanup. EM has begun reviewing our contracts to ensure that they are effectively meeting our cleanup and closure needs. We have also begun reviewing existing systems and, where necessary, developing new systems of managing our contracts to ensure effective government oversight.

The progress we have made so far is significant. It would not have been possible without the active support of the Members of this Subcommittee and I appreciate your support. As far as we have come to date, the unfinished work ahead of us is great. Most of the hardest work and the toughest challenges are still before us.

ENVIRONMENTAL MANagements FISCAL YEAR 2003 BUDGET REQUEST

The Environmental Management budget request for fiscal year 2003 contains key initiatives and tools we need to help us continue the work of transforming this program. Our budget request of \$6.7 billion is about the same amount as appropriated last year. However, if we can achieve agreements for accelerated cleanup at most of our DOE sites across the complex, we are prepared, the administration is prepared, to amend our request consistent with the funding needs of those agreements.



Our fiscal year 2003 request has two components, a base request of \$5.9 billion and a new Cleanup Reform account. This new account is proposed specifically to fund projects and activities at sites that achieve agreements with our States to enable accelerated cleanup.

Simply put, our goal is to achieve a safer environment sooner. To take those actions, we can base on information acquired from past experiences and past investments in science and technology and to position ourselves for future remediation opportunities.

I would like to make several points clear at the outset. We believe, first, that this account is critical to the success of our efforts. Second, it is our intent to look for more effective and efficient ways of achieving cleanup and risk reduction in the base budget request of \$5.9 billion, thus demonstrating more visible and tangible results for the entire budget request. Third, it is not our intent to get out of compliance with any of our regulatory agreements. This is not an assault on our cleanup agreements. These agreements are living documents with processes to enable improvement and revision to achieve our mutual goals. Fourth, DOE is not only looking at States, but even looking more so at ourselves. We cannot achieve the results we want unless we address our own business practices. Fifth, DOE is not seeking any new authority from Congress at this time to achieve our accelerated objectives. We believe we have adequate authority within the current statutory framework. If in the future we believe we need new authority from Congress to carry out reforms of this program, we will seek help at that time.

Members of this panel have appropriately demanded more of DOE—more accountability, more fiscal responsibility, and more tangible results. We are strongly aligned with your efforts to improve our work. The fiscal year 2003 budget request is based on a simple premise: The Congress, the States and the communities that host DOE sites all want accelerated risk reduction. This budget request will put into place a valuable set of tools and instruments we need to achieve that mutual goal.

#### PREPARED STATEMENT

I do not come before you today claiming that we have all the answers. In many respects, this is still a work in progress, and to get here we have benefited greatly from those who were here before us. Nonetheless, we do feel a sense of urgency that requires that we forge ahead in spite of some uncertainties. I am confident that we can, working together, be successful.

Thank you very much.  
[The statement follows:]

#### PREPARED STATEMENT OF JESSIE H. ROBERSON

Mr. Chairman, and Members of the Subcommittee, I appreciate this opportunity to appear before you to discuss the Department of Energy's Environmental Management (EM) program and its fiscal year 2003 budget request.

We meet today at an historic moment for the Environmental Management program. This is no ordinary year. This budget request does not come at an ordinary time. This Administration has just completed a comprehensive review of EM and has concluded that this program is badly in need of repair. For 10 years we have spent tens of billions of dollars but have failed to make commensurate progress towards cleanup and risk reduction. If present trends continue unchecked, we will squander taxpayer money and make only minimal progress towards cleanup and

risk reduction. This is unacceptable. This Administration is determined to make changes.

This budget represents the first step towards addressing the fundamental problems facing EM. DOE has analyzed what is wrong and has taken the first steps forward. To go further, we need the help and support of Congress. We need the help and support of states and our state and federal regulators. We need the help and support of stakeholders and communities throughout America. We can turn this program around and produce real progress towards cleanup, but only if we all work together towards our common goals.

The Department is requesting \$6.714 billion for the EM program for fiscal year 2003. This is approximately the same level as Congress appropriated for the program in fiscal year 2002. In a year when demands for Federal dollars are particularly high, this request demonstrates the Administration's commitment to cleaning up the contamination resulting from Cold War nuclear weapons production and to ensuring that our surplus nuclear materials are safe and secure to protect the Homeland.

The budget request before you begins to fundamentally change the way the cleanup is carried out. We have proposed structural changes in our request to enable us to begin these badly needed changes. The request provides "base funding" to ensure safety and security, and to support on-going cleanup activities at the sites. But it also includes a new and separate \$800 million EM Cleanup Reform account. These funds will be made available to those sites that can—in partnership with their regulators, their contractors and their communities—change their way of doing business to provide more tangible progress towards cleanup and risk reduction. If the vast majority of sites agree to the reforms we think are necessary, it is possible that the \$800 million may become over-subscribed. In this event, the Administration is prepared to support additional resources to complete reforms at remaining sites.

The reforms proposed in the fiscal year 2003 budget request do not fully meet my own—or the Secretary's—expectations of an effective and revitalized EM program. Rather, it is a transitional budget. It contains some elements of the changes we plan to put in place, but it is really only a first step in the transition toward a more risk-based and efficient cleanup program. Therefore, in my testimony, I would like to take a step back from the details of the request to discuss the current circumstances of the EM program, the conclusions of the recently completed program review, and key elements of my implementation strategy. I will then address the priorities used to formulate the fiscal year 2003 request and provide highlights of the critical work we plan to accomplish in fiscal year 2003.

#### LAYING THE GROUNDWORK FOR FUNDAMENTAL CHANGE

##### THE CHALLENGE BEFORE US

The EM program is responsible for cleaning up the environmental legacy of the nation's nuclear weapons program and government-sponsored nuclear energy research. The cleanup program is one of the largest and most diverse and technically complex environmental cleanup programs in the world. Responsible for the cleanup of 114 sites across the country, the EM program faces the challenge of:

- safely dispositioning large volumes of nuclear wastes, including over 340,000 cubic meters of high-level waste stored at the Hanford, Idaho, West Valley and Savannah River sites;
- safeguarding materials that could be used in nuclear weapons, including over two thousand tons of intensely radioactive spent nuclear fuel, some of which is corroding, and more than 18 metric tons of weapons-usable plutonium;
- deactivating and decommissioning several thousand contaminated facilities no longer needed to support the Department's mission; and
- remediating extensive surface and groundwater contamination.

The painful truth is that EM has not effectively managed this daunting task. Ironically, EM's own indicators would say we are doing well. We have met over 90 percent of our regulatory milestones, and our contractors routinely receive over 90 percent of their available fee. In large part, however, we are measuring process, not progress. This must change.

To illustrate the magnitude of the challenge, EM's own internal estimates of what it will cost to complete cleanup continue to grow. EM's most recent life-cycle cost estimate, based on current plans, is \$220 billion, an estimate that could easily increase to more than \$300 billion without breakthrough changes in the program. Additionally, only about one-third of the EM program budget today is going toward actual cleanup and risk reduction work. The remainder is spent on maintenance, fixed costs, and other activities required to support safety and security.

The schedule estimates from just a few years ago have also proven to be overly optimistic. Over just the past few years, the estimated closure or cleanup completion dates have slipped for numerous sites. Moreover, the three largest sites—Savannah River, Idaho National Engineering and Environmental Laboratory, and Hanford—have such long-term completion dates (2038, 2050, and 2070, respectively) that the estimates for cost and schedule are highly uncertain and subject to change.

While most of the risks at these contaminated sites do not pose an imminent threat to public health and the environment, the complacency and inaction of the status quo will eventually have startling consequences. DOE spends billions of dollars each year simply to keep these materials safe and secure. Each year we do not move aggressively to reduce and remove these risks, they become costlier to manage and maintain. On the present course, we face the real possibility that we will never meet our cleanup and closure goals.

While these outcomes are not acceptable, they are also not inevitable. This Administration believes firmly that reform of the complex is possible, as well as urgent. We have seen examples even under the current approach where an accelerated risk-based approach has yielded concrete results that have served the public interest in cleanup and closure. At Rocky Flats in Colorado, risk-based management approach, effective contracting strategies and an overall sense of urgency have produced real progress towards cleanup and closure. This site has worked hard and struggled to be at the point it is today. That same effort is needed throughout the DOE complex.

I believe with appropriate management and with your support, we can replicate these successes throughout the nation.

#### CONCLUSIONS OF THE TOP-TO-BOTTOM REVIEW

Last year, the Secretary of Energy told Congress that the status quo in the EM cleanup program was unacceptable. He directed me to conduct a comprehensive review of the cleanup program with the goal of quickly improving performance. The team I formed to conduct the review concluded that there are numerous structural and institutional problems that are driving EM's poor performance. The report also included several specific calls to action to remedy this situation. In the broadest sense, the report urged that the EM program transform its mission from managing risk to reducing and eliminating risk. The report was issued on February 4, 2002. I am moving out aggressively to evaluate and act on the recommendations of this report and work with Congress, the states, and stakeholders to develop mutually acceptable approaches.

The recommendations, and the problems they address, generally fall into four areas:

*Improve DOE's Contract Strateg and Management.*—The issue here is both our overall contracting strategy and how we manage contracts. The report concludes that EM's contracting approach is not always focused on accelerating risk reduction and applying innovative approaches to doing work. Effective contracting practices are essential to improve program performance. The EM Review concluded that the processes for contract acquisition, establishment of performance goals, funding allocation, and government oversight are managed as separate, informally related activities rather than as an integrated corporate business process. This results in performance standards that are inconsistently and ineffectively applied. The report recommends that EM:

- Improve the quality of the contract solicitation process to attract broader contractor participation.
- Require clarity in contracts with respect to work scope, regulatory requirements, and end points.
- Clearly identify the nature and extent of uncertainty and risks, and align the type of contract accordingly.
- Increase emphasis on real risk reduction by focusing fees on end points rather than intermediate milestones.
- Eliminate the use of subjective performance measures.

The report recommends that DOE undertake a review of all existing contracts for their alignment with these principles and revise or amend those contracts to improve this alignment. Our point here is not to criticize or penalize contractors. Obviously, they did what DOE asked for. But I do not believe that we asked for the right things, and we did not create contract vehicles that pushed them to perform. We must begin implementing more aggressive contracts—ones that genuinely challenge them to achieve and to shoulder more risk—while providing significant profit for truly outstanding performance. But, conversely, it means that mediocrity will reap no rewards.

*Move EM to an Accelerated, Risk-Based Cleanup Strategy.*—EM’s cleanup strategy is not based on a comprehensive, coherent, technically-supported risk prioritization. The framework, and in some cases, the interpretation of DOE Orders and requirements, environmental laws, regulations, and agreements have resulted in the diversion of resources to lower-risk activities and over-emphasis on process. To move towards a more risk-based approach:

- Cleanup work should be prioritized to achieve the greatest risk reduction at an accelerated rate.
- Realistic approaches to cleanup should be based on technical risk evaluation, anticipated future land uses, points of compliance, and points of evaluation.
- Cleanup agreements should be assessed for their contribution to reducing risk to workers, the public, and the environment.

The report recommends that DOE initiate an effort to review current DOE Orders and requirements as well as regulatory agreements, and commence discussions with states and other regulators with a view to achieving regulatory agreements that accelerate risk reduction based on technical risk evaluation. The issue here is not to avoid compliance with regulatory agreements. The issue here is that we need to work with states and regulators to ensure that these agreements truly match up with a risk-based approach. We are determined to begin this effort now.

*Align DOE’s Internal Processes to Support an Accelerated, Risk-Based Cleanup Approach.*—The review concluded that EM’s internal business processes are not structured to support accelerated risk reduction or to address its current challenge of uncontrolled cost and schedule growth. We must instill a sense of urgency in the system. If we are to accelerate the cleanup and reduce risk, we must transform EM’s processes and operations to reflect this urgency and time sensitivity. Some specific actions include:

- Improve work planning to increase the up-front understanding and planning of work and apply project management principles to all core work areas.
- Expand the application of Integrated Safety Management (ISM) to higher-level work planning, where decisions are made about what work is appropriate and desirable and breakthrough safety improvements may occur.
- Develop “Lessons Learned” at a corporate level to provide a frank description of significant project issues, with corporate lessons learned required for all EM managers.
- Apply DOE requirements in a manner consistent with the work at hand, clarifying requirements relevant to cleanup and streamlining the process for interpreting DOE Orders and requirements for more complex cleanup projects.
- Accelerate the closure of small sites. With relatively little additional investment, the risks at remaining small sites can be eliminated sooner, and the life-cycle costs reduced.

*Realign the EM program so its scope is consistent with an accelerated risk-based cleanup and closure mission.*—The current scope of the EM program includes activities that are not focused on or supportive of an accelerated, risk-based cleanup and closure mission. EM should redeploy, streamline, or cease activities not appropriate for accelerated cleanup and closure. Specifically, EM should:

- Accelerate the consolidation of activities that require safeguards and security infrastructure to enhance safety and security, reduce threats, reduce risk, and save money.
- Refocus the EM technology program to directly address the specific, near-term applied technology needs for cleanup and closure.
- Eliminate or transfer from EM those activities not directly supporting an accelerated, risk-based cleanup and closure program.

#### MAKING CHANGES ON A FAST TRACK

The review identified specific issues and recommendations that will allow us to move aggressively to change the EM program’s approach to its cleanup and closure mandate. Similarly, the sites have contributed their own site-specific strategies and proposals to refocus and accelerate their efforts. All the recommended changes are designed to focus the program on one primary result—reducing risk to public health, workers, and the environment on an accelerated basis.

We have already instituted some changes, and will continue to take action as soon as possible and practicable to bring about the changes that are needed. We have deployed special teams to most of our sites to work with DOE, our contractors, state and federal regulators, and other stakeholders to develop revised cleanup plans. I am very pleased that we signed a letter of intent with the Hanford site in Washington that will enable us to significantly accelerate our work there and achieve more risk reduction. We are engaged in similar discussions at the Savannah River,

Oak Ridge, and Brookhaven sites, and I expect to achieve similar results at these sites over the next few months.

Additionally, we are already acting to ensure our contracts align with and support our accelerated cleanup mission. We recently announced that a new contract will be competed and awarded for cleanup of the Mound Site in Ohio. The new contract, streamlined and focused on reducing risk, will emphasize completing cleanup safely and more quickly, with a goal of transferring the site to the community by 2006 or earlier.

Similarly, as the review makes clear, EM needs to get its own house in order to ensure its internal processes and policies support the urgency of its mission. As part of our human capital strategy, we have just completed a reassignment of 40 percent of the program's 70 Senior Executives in order to strengthen, streamline, and remove unnecessary layers from the leadership of the program. Our purpose is to better leverage the unique talents of these executives, force better integration between the field and headquarters on the challenges confronting the program, and to stimulate new thinking and creative solutions to the cleanup.

We are taking actions to further augment the nation's security through the consolidation of nuclear material at EM sites, a key recommendation of the Top-to-Bottom report. We are working in partnership with the National Nuclear Security Administration to ensure that our nuclear material is safe and secure. This accelerated effort will lead to more secure protection of our nuclear material inventory while reducing the expensive cost of storage and protection at multiple sites.

This is just a beginning. We will continue to work quickly to implement the recommendations of the Top-to-Bottom report.

#### THE FISCAL YEAR 2003 BUDGET REQUEST

A key element for implementing the review's recommendations is to ensure that the program's funding is properly aligned to support needed change. The fiscal year 2003 budget request is a first step towards achieving that alignment. It incorporates some new ways of doing business and includes a significant structural change designed to foster agreement on expedited, more risk-based cleanup approaches.

EM's fiscal year 2003 budget request of \$6.7 billion is essentially the same level as appropriated for fiscal year 2002. The budget request is composed of two parts: a base budget request and a new Environmental Management Cleanup Reform appropriation request of \$800 million to implement fundamental changes to the cleanup program.

#### CLEANUP REFORM APPROPRIATION

EM is requesting a new Cleanup Reform Appropriation that is critical to beginning implementation of the recommendations of the Top-to-Bottom Review. While the overall size of the request is consistent with past years, DOE is requesting from Congress new discretion in allocating this money among the sites, and for specific projects within sites. We believe that this approach is essential to meeting the common goal of states, taxpayers and DOE—accelerated cleanup and risk reduction. DOE realizes that we are asking a great deal from Congress with this request, and we are eager to work with you to accomplish this goal.

The Cleanup Reform Appropriation would in essence be a performance tool—a pool of funds available to those sites that both demonstrate their ability to realign to a more accelerated risk-based approach, and provide to DOE specific proposals consistent with this new approach that achieve greater risk reduction, faster.

We are now in the midst of reassessing and realigning our activities to enable a more risk-based, accelerated cleanup approach. It is our goal to develop agreements at each site on a specific set of changes and commitments by all parties that will reflect this new approach. I have no doubt that this process may often be difficult. Everyone will have to let go of certain things they favor in the broader public interest of achieving more risk reduction faster. Indeed, the Top-to-Bottom review concluded that every player in the cleanup business needs to make changes to enable a more effective cleanup strategy.

Once these strategic agreements are reached, we will develop specific plans that implement this new approach. These plans should be supported by the state and federal regulators, should align with a revised contract and regulatory strategy, and should reflect a risk-based accelerated approach. These plans might be new projects not previously in the sites' baselines. They might be modified, accelerated versions of existing projects. I am also open to supporting projects that already reflect an accelerated risk-based approach, but where additional funds can achieve even greater risk reduction at a lower life-cycle cost. Each project proposed for the cleanup fund would have a new cost savings and funding profile. Funds from the Cleanup Reform

Appropriation would then be made available to fund or supplement existing funding from the base budget for the project. The appropriate Congressional committees will be informed of the agreement and the commitment of funds from this appropriation. The funds identified with the acceleration will be merged with the funds in the parent appropriation (e.g., Closure, Site/Project Completion, Post-2006) of the old activity.

This new appropriation will provide the stimulus necessary to encourage our sites, our contractors, DOE headquarters and program elements, and state and federal regulators to quickly forge agreements to enable more effective cleanup approaches. An example of the candidate projects identified during the review for alternate strategies that should produce results quicker and with substantial life-cycle savings are high-level waste vitrification projects. The review identified alternative approaches to treating high-level waste that would limit vitrification to the high-risk component and pursue alternative treatment approaches for lower-risk components. These alternative approaches offer the potential of earlier true risk reduction and could save the taxpayers tens of billions of dollars.

In summary, this Cleanup Reform Appropriation provides EM with the tool we need to jump-start our reform agenda. It enables DOE, Congress, communities, regulators, and contractors to work together to achieve our common goal of accelerated cleanup and risk reduction. It also maintains for Congress the necessary oversight and checks and balances to ensure that this fund is managed prudently, and consistently with our common goals.

#### BASE BUDGET REQUEST

The base budget request would protect our workers, the public and the environment while continuing cleanup progress across the DOE complex. As I said earlier, this fiscal year 2003 budget is a transitional budget. It does not fully reflect the changes we have proposed and will be implementing throughout the DOE complex over the next several months. The progress towards cleanup and risk reduction reflected in this request does not meet either my, or the Secretary's, expectations for this program. But it does provide us with the set of tools we need to begin the process of improving EM's performance. In building the request, the Department applied the following principles and priorities:

*Protect human health and the environment.*—The budget request continues to place the highest priority on protecting the health and safety of workers and the public at all DOE sites. We expect outstanding safety performance as a matter of course. We demand this from our contractors and ourselves, and we will accept nothing less.

*Surveillance and maintenance.*—Surveillance, maintenance, and support activities needed to maintain waste, materials, facilities, and sites in a safe and stable condition are fully funded in the base budget. This funding maintains the sites in an operating and safe condition. Examples of these types of activities in the request include:

- Safe storage, configuration, and accountability of nuclear materials and spent nuclear fuel at sites such as the Idaho National Engineering and Environmental Laboratory (INEEL), the Savannah River Site in South Carolina, and the Hanford Site in Washington;
- Safe storage of high-level, mixed, and low-level waste, as well as management and disposal of hazardous and sanitary waste, across the DOE complex, including tank safety activities at the Hanford, INEEL, and Savannah River high level waste tank farms;
- Long-term stewardship at more than 35 sites where cleanup has been completed but where some contaminants still remain. In fiscal year 2003, this will include Weldon Spring in Missouri, which is expected to complete cleanup and transition to long-term stewardship by the end of fiscal year 2002;
- Maintaining the Portsmouth Gaseous Diffusion Plant in Ohio in cold standby, including uranium deposit removal;
- Surveillance and maintenance of more than 62,000 depleted uranium hexafluoride and other uranium cylinders located at gaseous diffusion plants in Kentucky, Ohio, and Tennessee;
- Surveillance and maintenance of facilities, including excess contaminated facilities pending deactivation and decontamination; Groundwater monitoring and continued operation of treatment systems;
- Essential landlord functions.

*Safeguards and security.*—This is first EM budget request since the events of September 11. Our nation is more aware than ever before of the critical need to maintain vigilance in our domestic security and to protect against terrorism. The EM

program is responsible for many tons of surplus nuclear material. The budget request provides funding at approximately the fiscal year 2002 appropriation, reflecting both increased and decreased safeguards and security needs. In particular, reduced requirements in Environmental Management Defense Facilities Closure Projects are commensurate with the planned removal of special nuclear materials from Fernald and Rocky Flats sites, and reflect completion of security upgrades in Miamisburg this year.

*Accelerated cleanup and closure of Rocky Flats Fernald and Mound.*—The request supports the work necessary to continue accelerated cleanup and closure of the Rocky Flats Environmental Technology Site in Colorado. The request maintains a focus on closure of the Fernald Environmental Management Project and the Mound Site in Ohio. Closing these sites will eliminate significant risk and financial liabilities that EM cannot afford to maintain. Our base budget request also funds supporting activities at sites such as the Savannah River Site and Oak Ridge in Tennessee that are critical to achieving closure of these three major sites.

At Rocky Flats, the fiscal year 2003 request keeps the site on track for closing in 2006. In fiscal year 2003, it supports:

- Eliminating the Security Protected Area. In fiscal year 2001, special nuclear material was consolidated into a single building, significantly reducing the size of the Protected Area. This both reduced security costs for the buildings being dismantled and improved productivity by reducing the time it takes work crews to gain access to these facilities. In fiscal year 2003, based on the current estimates for shipping nuclear material off-site, we will be able to eliminate the Protected Area entirely. Cost savings can then be shifted to active cleanup, rather than maintaining costly safeguards and security measures.
- Shipping 3,700 cubic meters of transuranic waste to WIPP, and 35,000 cubic meters of low-level waste and 3,600 cubic meters of low-level mixed waste for disposal, subject to receiver site availability;
- Completing shipments of plutonium metals and oxides off-site; and Continuing deactivation and decontamination (D&D) activities for Buildings 371, 707, 771, and 776/7, and associated remediation work.

At Fernald, the fiscal year 2003 request supports:

- Continuing remediation of the Silos;
- Shipping about 93,500 cubic meters of waste to a permitted off site commercial disposal facility; continuing packaging and on- or off-site disposition of mixed and low-level wastes; and placing 43,000 cubic meters of remediation waste in the on-site disposal facility; and
- Continuing D&D of the Pilot Plant Complex and Multicomplex, and initiating D&D of the Liquid Storage Complex.

At Miamisburg (Mound), we will continue efforts to cleanup contamination and transfer land to the community for economic development. We have already transferred 121 acres, or about 40 percent of the site, for this purpose. The fiscal year 2003 request supports:

- Continuing acceleration of site cleanup and transfer of site properties by completing “critical path” deactivation and decontamination activities in the Main Hill Tritium facilities (i.e., R, SW, and T Buildings);
- Completing site preparations and beginning excavation of thorium- and polonium-contaminated soil (i.e., Release Site 66), the largest contaminated soil excavation project at Mound; and
- Shipping over 19,000 cubic meters of contaminated soil and debris for off-site disposal.

*Increased Shipments to the Waste Isolation Pilot Plant (WIPP).*—The request maintains support for a significantly increased rate of shipments of transuranic waste to WIPP. The WIPP facility in New Mexico is critical to EM closure and completion goals at other sites. For example, WIPP is critical to the Department’s commitment to the State of Idaho to ship 3,100 cubic meters of transuranic waste out of the state by December 2002, and to meeting the schedule for closure of Rocky Flats. In fiscal year 2002, the Department provided an additional \$12 million to WIPP to increase by almost 50 percent the rate of shipments. The fiscal year 2003 request supports:

- Continued increased shipments of contact-handled transuranic waste; and
- Continued progress toward beginning shipments of remote-handled waste, including submission of regulatory documentation to the New Mexico and EPA regulators and facility upgrades and modifications needed for remote-handled disposal operations.

*Continuing Progress.*—EM will continue to make progress in completing cleanup projects in accordance with existing approaches and under existing agreements. The Department will continue efforts to clean up release sites; to treat, store and dispose of hazardous and radioactive waste; and to decontaminate and decommission facili-

ties at many sites. However, we expect to accelerate the pace of progress of many of these projects as we begin to implement the top-to-bottom review recommendations. For example, the request provides funding to:

At the Hanford site, continue construction of the Waste Treatment Plant to vitrify high level waste. By the end of fiscal year 2002, we will have begun construction of two of three major facilities, and completed 50 percent of the engineering and design for all three. Work in fiscal year 2003 will focus on continuing construction of the vitrification facility, starting construction of the pretreatment facility, and purchasing major equipment, as well as designing the feed delivery system.

At INEEL, begin operation of the Advanced Mixed Waste Treatment Facility, treat about 1,625 cubic meters of transuranic waste, and complete construction and begin operation of the CERCLA disposal facility for remediation waste, as well as continue operations to move spent nuclear fuel to safer storage.

At the Savannah River Site, continue stabilization of high-risk nuclear material solutions in the canyons; continue activities to suspend and deactivate F-canyon; complete construction work to stabilize and package plutonium for long-term storage, and the transfer of americium/curium solutions to the high level waste tanks for eventual vitrification.

At the Oak Ridge Reservation, complete major risk reduction remediation projects, including excavation, treatment, and off-site disposal of highly contaminated sediments from ORNL surface impoundments, and excavation of uranium contaminated soils from the Y-12 Boneyard/Burial site and disposal in the new on-site disposal cell. The request also continues D&D work at East Tennessee Technology Park, including completing the dismantlement of two of the three remaining cascade units in Building K-31.

At the Paducah Gaseous Diffusion Plant in Kentucky, complete high priority remedial actions, including cleanup of the North/South diversion ditch and continue scrap metal removal and groundwater actions, as well as characterization of high priority DOE Material Storage Areas.

At the Portsmouth Gaseous Diffusion Plant, complete high priority remediation projects, and continue groundwater remediation, storage yard removal, and disposal of mixed low level waste. At West Valley in New York, continue decontamination of spent fuel processing and storage facilities, and continue construction of the Remote-Handled Waste Facility that will be used to prepare transuranic and other high-activity waste for shipment and disposal. We will complete all vitrification processing operations and deactivation of vitrification facilities, including shutdown of the melter, by the end of fiscal year 2002.

At the Nevada Test Site, continue low-level waste operations in support of the DOE complex and priority remediation work, including modeling activities at the Underground Testing Area, and remediation of 13 industrial sites.

At Brookhaven National Laboratory in New York, continue high priority groundwater monitoring and remediation, and finalize and begin implementing the cleanup plan for the Peconic River.

*Focusing on Cleanup.*—This budget request is the first reflection of a key tenet that success for the EM program requires a laser-like focus on its core mission of cleanup and closure. If activities do not support that mission, then EM should not be doing them. This budget request begins to implement this tenet by shedding several activities traditionally funded by EM, but which are not essential to achieving the Department's cleanup goals. For example:

The request reflects a significant reduction in funding in headquarters-controlled and—managed accounts. Overall, funding for such headquarters-based programs and support services will be reduced to almost 50 percent of the fiscal year 2002 levels. While our request significantly reduces support services for headquarters-directed activities related to such programs as pollution prevention, hazardous worker training, and long-term stewardship, these functions will continue at some level as appropriate, but will be carried out by Federal employees rather than contractors.

The budget request also reflects major shifts in the structure of the EM technology program to focus efforts on specific, short-term applied technology needs for cleanup and closure. These changes are discussed below.

#### REFOCUSING SCIENCE AND TECHNOLOGY

EM's fiscal year 2003 request of \$92 million for science and technology is significantly less than the \$204.7 million appropriated in fiscal year 2002. This is the result of a dramatic shift in the program structure to ensure it is clearly focused on meeting cleanup and closure needs.

In parallel with the broader review of the EM program, we have also undertaken an in-house evaluation of EM's Science and Technology (S&T) Program. As a result



of this review, we concluded that an integrated technology program is an essential element for successful completion of the EM cleanup effort and for post-closure requirements. However, for the program to have maximum impact, it must be streamlined and highly focused on a limited number of critical, high-payback activities where real, measurable improvements can be gained versus a larger number of activities that offer only marginal improvement. It must be end-point and risk-driven to provide the necessary technical basis for future decision making.

Toward this end, we are reorienting the S&T program to focus on two primary areas: (1) direct technical assistance to closure sites to ensure they have the necessary technology and technical support to meet closure schedules, and (2) alternative approaches and step improvements to high-risk, high-cost baselines to ensure all possible alternatives have been evaluated and that workable alternatives are available and used as the cleanup progresses. EM will execute this new approach using streamlined management structures and processes.

As the first step, we are thoroughly reviewing ongoing activities to determine their applicability to the new areas. By June 30, 2002, we expect to have decisions on these activities and an operational plan for transitioning and managing S&T activities in fiscal year 2003 and beyond. We believe this realigned S&T program will better suit the Department's needs.

#### CONCLUSION

The changes that I envision are not changes on the margin. The reforms undertaken thus far are but a beginning, and must permeate the entirety of the scope and management of this program to create and sustain meaningful measurable success. They are a complete overhaul of the Department's environmental cleanup program that cannot afford to wait.

I believe we face an historic opportunity to refocus, reshape and transform this program. All of us, and all of our regulators and stakeholders throughout the country want the same things from this program: accelerated cleanup and risk reduction. Making the changes we propose will not be easy. It will involve painful changes in the way all of us do business. I believe we have no alternative. The status quo is not an option. Muddling through and hoping for something different later is not an option. We cannot wait for a future time in the hope that making these changes might be easier.

This is our moment. If we do not start to do what is needed now, we will have failed the taxpayers of today and the future generations of tomorrow.

This is a marathon, not a sprint. This is not a process that will be completed overnight, but neither can we afford to delay. Delay only leads to increased cost and lack of real risk reduction. Eventually, delay will turn festering high cost problems into immediate public health risks.

If we are ultimately to be successful, we need your help. I ask your support for the budget request before you. It is a critical first step to achieving our mutual goal of completing the cleanup of the nuclear weapons sites. I look forward to working with the Congress and others to achieve this goal.

Senator MURRAY. Thank you, Ms. Roberson.  
Mr. Garman.

#### STATEMENT OF DAVID GARMAN

Mr. GARMAN. Thank you for the opportunity to testify on the President's fiscal year 2003 budget request for the Office of Energy Efficiency and Renewable Energy. This is our first budget request since the release of the President's National Energy Plan, and for our Energy and Water Development Appropriations programs in fiscal year 2003 we are requesting a 5.6 percent increase over fiscal year 2002 comparable appropriations and a 47 percent increase compared with our fiscal year 2002 request.

But we are not merely seeking to spend more on these programs, we are seeking to achieve more from them. We have undertaken a strategic program review that has identified activities that should be expanded, refocused, or activities that require watch list scrutiny to ensure that they advance effectively. This review has driven many of the shifts you see in our fiscal year 2003 budget.

Second, as part of a pilot effort we have applied new evaluation criteria to our research and development programs in accordance with the President's management agenda.

Finally, we have been driven by a challenge issued to us by our Secretary, to take a bolder approach to our work and to leapfrog the status quo and pursue dramatic environmental benefits.

The lesson that we learned during our strategic program review along with the direction provided to us by Secretary Abraham and the President's management agenda, have also led me to propose a significant reorganization of our office to strengthen our focus on program management, to make our program and organization more responsive, to focus on results rather than process, and to link budget with performance. When our new organization is in place and fully functional, it will enhance our ability to ensure the most judicious use of the taxpayer dollars entrusted to our use.

With the time I have remaining, let me highlight some of the activities we are proposing. In the area of integrated biomass research and development, we are proposing a sharper focus on the program by unifying all biomass activities under one office and setting integrated priorities across all projects, including biofuels, biopower, and bio-based products.

In geothermal Research and Development, our program will focus primarily on exploration and drilling research, because better understanding of geothermal resources and improved analytical methods of exploration will enable industry to locate and characterize new geothermal fields with greater success and to lower costs through advanced drilling technologies.

Our hydrogen Research and Development activities are focused on hydrogen production, storage, and utilization technologies that can foster the transition to a hydrogen economy. The hydrogen program's Research and Development activities also strongly support the administration's recently announced Freedom Car initiative, to reduce or even end U.S. dependence on foreign oil by developing technologies that will ultimately result in vehicles requiring no oil and that emit no harmful pollutants.

Our hydropower Research and Development program focuses on making hydropower plants more compatible with aquatic life and other water resource users through fish-friendly turbines and reducing changes in the quality of dissolved gases in downstream water.

In our solar Research and Development program, we are seeking increases in the photovoltaic and integrated building technology lines. In our wind energy Research and Development program, we are shifting our focus to new and different turbine advances that will allow for competitive wind development in the more prevalent lower speed wind areas closer to population and load centers.

In our electric energy systems and storage activities, we propose to focus on high-temperature superconductivity and distributed energy systems.

#### PREPARED STATEMENT

Mr. Chairman, the President has offered a long-term energy strategy that promotes clean energy technologies. Our budget sub-

mission gives us the chance to play a major role in the Nation's energy future and to make a difference in the lives of our citizens.

This concludes my testimony and I would be pleased to respond to any questions, either today or in the future. Thank you.

[The statement follows:]

PREPARED STATEMENT OF DAVID GARMAN

INTRODUCTION

Mr. Chairman and members of the Subcommittee, I appreciate the opportunity to testify before you today on the President's fiscal year 2003 budget request for the Office of Energy Efficiency and Renewable Energy (EERE).

This budget request is our first since the release of the President's National Energy Policy (NEP)—a balanced, comprehensive strategy that recognizes the importance of energy efficiency and renewable energy. A majority of the 105 recommendations in the National Energy Policy document-54 to be exact-pertain to the importance of improving America's energy efficiency and expanding our use of clean, renewable energy sources. Some of these recommendations provide direction for EERE's programs.

EERE's budget request is split, as you know, between the Energy and Water Development and Interior Appropriations Bills. Our overall budget request for fiscal year 2003 is \$1.31 billion, up \$10.2 million over the amount appropriated last year. For our Energy and Water Development programs in fiscal year 2003, we request \$407.7 million, a 5.6 percent increase above fiscal year 2002 comparable appropriations of \$386.4 million, and a 47 percent increase compared with our fiscal year 2002 request of \$276.7 million.

However, more important than how much we propose to spend on these programs is the fact that we are working to achieve more from them. As we developed this budget we were driven by some very fundamental questions. For example, what public benefits do we expect to achieve with the expenditure of these taxpayer dollars? How can we better measure success in pursuit of those public benefits? How can we leverage federal dollars through partnerships with States, communities and the private sector to achieve greater success? We grappled with these questions in several ways:

First, in response to recommendations in the President's National Energy Policy, we undertook a Strategic Program Review to review historical performance of EERE programs, and propose appropriate funding for those that were performance-based and modeled as public-private partnerships. This extensive review was accompanied by a series of public meetings held across the country. Our review identified activities that should be expanded, activities that have come to the end of their useful lives and should be terminated, activities that should be refocused, and activities that require "watch list" scrutiny to ensure they advance effectively. This review has driven many of the shifts you will see in our fiscal year 2003 budget.

Second, we evaluated the results of an external, retrospective review by the National Academy of Sciences (NAS) designed to determine whether the benefits of our programs have justified the associated public expenditure. The NAS found that a number of our Research, Development and Demonstration (RD&D) programs have yielded significant economic and environmental benefits, new technological options, and important enhancements to engineering and scientific knowledge in a number of fields. The NAS also offered recommendations that will improve our methods for estimating program benefits. We have taken these recommendations seriously and are evaluating how to best implement them.

Third, as part of a pilot effort, we applied new evaluation criteria to our research and development programs in accordance with the President's Management Agenda. While only a pilot, the criteria helped us steer our R&D portfolio toward activities where there was a clear Federal role; a strong R&D plan; a competitive awards process; and a demonstration of results and potential for public benefit. We hope to improve the application of these criteria in the evaluation of our R&D portfolio as we move ahead.

Finally, we were driven by a challenge issued to us by Secretary Abraham to take a bolder approach to our work. Recognizing "our increasing dependence on energy from areas of the world that are periodically unstable," Secretary Abraham directed us to concentrate our efforts on programs that "revolutionize how we approach conservation and energy efficiency." He challenged us to "leapfrog the status quo and prepare for a future that, under any scenario, requires a revolution in how we find,

produce and deliver energy.” He challenged us to pursue “dramatic environmental benefits.”

Some of the lessons we learned during our Strategic Program Review, along with the direction that has been provided to us by Secretary Abraham and the President’s Management Agenda, have led me to propose a significant reorganization of EERE. Our Strategic Program Review told us that we needed to strengthen our focus on programs and program management. The President’s Management Agenda challenged us to flatten the organization to make it more responsive; to focus on results, not process; to link budget with performance; and end overlapping functions and inefficiencies. When our new organization is in place and fully functional, it will enhance our ability to ensure the most judicious use of the taxpayer dollars entrusted to us to achieve results.

#### FISCAL YEAR 2003 ENERGY AND WATER DEVELOPMENT BUDGET REQUEST

For fiscal year 2003, we request a \$21.3 million increase above fiscal year 2002 comparable appropriations. Mr. Chairman, I believe that the budget request I am presenting today will move us forward in meeting our program goals and those of the NEP to modernize our energy infrastructure, to increase the development and clean use of our Nation’s domestic energy supplies, and to improve the overall efficiency in the way our country uses energy. For example, some of our goals are:

- Biomass R&D will reduce the production cost of cellulose-based ethanol from about \$1.40 per gallon today to \$1.20 per gallon by 2005, and to \$1.07 per gallon by 2010.
- Hydrogen R&D will demonstrate a conversion technology that will lower the cost of large-quantity hydrogen production from natural gas, from \$3.75 per kilogram in 2000 to \$2.50 per kilogram in 2006.
- Wind Energy R&D activities will provide the technologies to reduce the cost of wind powered electricity generation in Class 4 wind areas (13 mph annual average) from 5.5 cents per kilowatt-hour in 2002 to 3 cents per kilowatt-hour by 2010.
- Distributed Energy Systems R&D activities will increase the share of new distributed energy electricity-generating capacity from 5 percent in 2000 to 7 percent in 2005.
- High Temperature Superconductivity R&D efforts will lead to the development of HTS wire capable of carrying 100 times the power of comparable copper wire—with zero electrical resistance—by 2007.

Mr. Chairman and members of the Subcommittee, I will now briefly discuss the portfolio of Renewable Energy Resources programs within the Office of Energy Efficiency and Renewable Energy.

#### INTEGRATED BIOMASS R&D

In fiscal year 2003, we are requesting \$108.9 million for this restructured activity. In the Energy and Water Appropriations, we request \$86 million, a decrease of \$2.5 million from fiscal year 2002 comparable appropriations, but an increase of \$4 million compared with our fiscal year 2002 request. The remaining \$22.9 million (i.e., Agriculture \$8.3 million; Forest Products \$1.0 million; and Crosscutting Combustion Gasification \$13.6) has been requested from Interior Appropriations.

Biomass is a priority for the Administration as reflected in the NEP. Frankly, Mr. Chairman, we have found that our biomass program has lacked focus in the past. In response, we have proposed unifying all biomass activities under one office and have worked to set integrated priorities across all projects including biofuels, biopower, and biobased products. Research opportunities and priorities were identified by using the draft industry-developed Biobased Products and Bioenergy vision and roadmap. The criteria used to choose new program direction include: activities requiring a strong government role; activities that can achieve a significant reduction in foreign oil dependence; activities that accelerate the biorefinery concept; and critical path activities to achieve key enabling technology goals. The result of this process is a portfolio that is balanced across three major areas: Gasification, Fuels and Chemicals, and Conversion and Processing. As with all our programs, we would like the R&D that we support through the Integrated Biomass program to be competitively awarded to the maximum extent possible.

We are driven by our vision of the widespread operation of an integrated industrial biorefinery and our goal to reduce America’s dependence on foreign oil. We already see the results of our efforts: we have closed dozens of projects since fiscal year 2001; we are de-emphasizing biomass co-firing with coal and lignin routes to ethanol, and we are moving away from our work on plant sciences and feedstock

production. Instead we are concentrating our overall funding on cellulosic ethanol, gasification, and biobased chemicals. Our fiscal year 2003 activities are:

- In Biopower Systems, we request \$33.0 million, a \$6.2 million decrease from fiscal year 2002 comparable appropriations (\$4.8 million below our fiscal year 2002 request), to support the following research and development activities:
  - Advanced gasification and biosynthesis gas technology suitable for application in power generation (both large-scale and distributed-energy systems), in an integrated biorefinery, and for the production of chemicals;
  - Biomass (forest and agricultural residues) gasification systems with capacities up to 1,000 dry tons per day at several locations to illustrate their applicability in locations with a variety of characteristics;
  - The development, field-testing, and optimization of the design of prototype integrated biomass gasification/fuel cell systems, and the establishment of their costs; and,
  - The implementation of demonstration facilities for biorefining with multiple outputs: power, fuels, chemicals and products.
- In Biofuels, we request \$53.0 million, a \$4.2 million increase from fiscal year 2002 comparable appropriations (\$8.8 million above our Fiscal Year 2002 request), to:
  - Demonstrate integrated enzymatic hydrolysis and fermentation of cellulosic feedstocks to fuel and chemicals.
  - Support the development of novel harvesting equipment design, storage and logistics for agriculture wastes reducing the feedstock cost for the production of fuels and chemicals.
  - Initiate validation of multiple use feedstocks for renewable diesel production.
  - Contribute to the implementation of demonstration facilities for biorefining with multiple outputs: fuels, power, chemicals and products.

#### GEOHERMAL

The Geothermal Technology Development Program works in partnership with U.S. industry to establish geothermal energy as an economically competitive contributor to the U.S. energy supply, capable of meeting a portion of the Nation's heat and power needs, especially in the West. The program is focusing primarily on exploration and drilling research because better understanding of geothermal resources and improved analytical methods of exploration will enable industry to locate and characterize new geothermal fields at greatly reduced risk.

- In fiscal year 2003, we request \$26.5 million for geothermal program activities, a decrease of \$799,000 from fiscal year 2002 comparable appropriations (\$12.6 million above our fiscal year 2002 request). At this funding level, our activities will include:
  - continuing core laboratory and university research to better understand complex geothermal processes and to develop technology to produce geothermal resources economically;
  - continuing development of Enhanced Geothermal Systems to double the amount of accessible and economically-viable geothermal resources in the West;
  - continuing research on enhanced detection and mapping efforts and advanced drilling technology to (1) expand our domestic geothermal resource base, (2) improve the success rate in exploratory drilling from 20 percent in 2000 to 40 percent by 2010, and (3) reduce the costs of drilling wells by 50 percent by 2008; and
  - continuing to reduce the costs of heat conversion and power systems.

#### HYDROGEN

The Hydrogen Program supports the research, development and validation of hydrogen production, storage, and utilization technologies that will foster the transition to a hydrogen economy. Hydrogen is a nearly ideal energy carrier. It can be oxidized in a fuel cell, combusted in a conventional engine, or simply burned. When used in this manner, the only by-product is water. Hydrogen can be produced from either fossil or renewable resources. As a transportable fuel, it has greater flexibility than electricity for vehicle and remote area use.

The Hydrogen Program works with industry to improve efficiency and lower the cost of technologies that produce hydrogen from natural gas and renewable energy resources. In addition, the program works with the national laboratories to reduce the cost of technologies that produce hydrogen directly from sunlight and water. Hydrogen can be used in stationary applications for residential, commercial and industrial fuel cells, as well as in fuel-cell powered vehicles. Development of this clean

energy carrier will lessen our dependence on imported fuels in both stationary and transportation applications. The Hydrogen Program's R&D activities also strongly support the Administration's recently-announced FreedomCAR Initiative, which, in the long run, will help to end U.S. dependence upon foreign oil by developing technologies that will ultimately result in vehicles requiring no oil, and that emit no harmful pollutants or greenhouse gases.

- In fiscal year 2003 we request \$39.9 million for the Hydrogen Program, an increase of \$10.7 million above fiscal year 2002 comparable appropriations (\$13 million above our fiscal year 2002 request). Activities will include:
  - Continuing to improve the efficiency and lower the cost of fossil-based and biomass-based hydrogen production processes to achieve \$12–\$15 per million Btu for pressurized hydrogen when reformers are mass-produced by 2010 (compared to today's price of \$18–\$24 per million Btu).
- Continuing development of other advanced reformer and refueling station components that can reduce the cost of hydrogen production by an additional 25 percent, to achieve \$9–\$12 per million BTU for pressurized hydrogen when reformers are mass-produced by 2015.
- Continuing to develop and demonstrate safe and cost-effective storage systems for use in stationary distributed electricity generation and vehicle applications in urban Clean Air Act non-attainment areas.

#### HYDROPOWER

In the case of hydropower, already an abundant and relatively inexpensive source of electricity, the program focuses on making hydropower plants more compatible with aquatic life and other water resource users through "fish-friendly" turbines and reducing changes in the quality of dissolved gases in downstream water. In addition, the Hydropower Program improves the technical, economic, and environmental performance of the Nation's abundant, in-place hydropower resources through collaborative research and development with industry and other Federal agencies.

- In fiscal year 2003, we request \$7.5 million for the Hydropower Program, an increase of \$2.5 million above fiscal year 2002 comparable appropriations and our fiscal year 2002 request. The request will accelerate the development of a commercially viable turbine technology capable of reducing the rate of fish mortality to 2 percent or lower by 2010. This is compared to turbine-passage mortalities of 5 to 10 percent for the best existing turbines and 30 percent or greater for some turbines. This environmentally-friendly turbine technology should also help reverse the decline in hydroelectric generation, our largest renewable energy resource.

#### SOLAR

The EERE Solar Energy Technologies Program supports a range of applications including on-site electricity generation, and thermal energy for space heating and hot water. A primary objective of the program is to compound the value of solar by putting it at the point of use, making it an integral part of super efficient, state-of-the-art residential and commercial buildings. Efforts to reduce building energy consumption through energy efficiency and to provide on-site renewable energy production could lead to attractive and affordable "zero-net-energy buildings" where all energy needs are met by renewable energy sources.

- In fiscal year 2003, we request \$87.6 million for the Solar Energy Technologies Program, a decrease of \$1.8 million from fiscal year 2002 comparable appropriations (\$38.3 million above our fiscal year 2002 request). Our fiscal year 2003 request includes: \$73.7 million, an increase of \$2.1 million, for Photovoltaics; \$12.0 million, an increase of \$7.3 million, for Solar Buildings; and \$1.9 million, a decrease of \$11.2 million, for Concentrating Solar Power. The fiscal year 2003 activities are as follows:
  - Photovoltaics research will focus on increasing domestic capacity by lowering the cost of delivered electricity and improving the efficiency of modules and systems. Fundamental research at universities will be increased to develop non-conventional, breakthrough technologies while both laboratory and university researchers work with industry on large volume, low cost manufacturing, including increased deposition rates, improved materials utilization and characterization techniques, and materials recycling.
  - The Solar Buildings request emphasizes developing the "zero-net-energy building" concept, a concept linking energy efficiency and renewable energy integration into building designs. Reducing the cost of solar water heating by using light-weight polymer materials to replace the heavy copper and glass materials used in today's collectors is also underway.

—The Concentrating Solar Power program will complete the evaluation of the 25 kW dish systems at the University of Nevada at Las Vegas and terminate all remaining activities. The decision to end these concentrating solar activities is based upon the results of the external Renewable Power Pathways review conducted by the National Research Council; the recently-completed EERE Strategic Performance Review; and the R&D Investment Criteria issued by the Office of Management and Budget.

#### WIND

Advanced wind turbines are currently providing cost-competitive power in high wind speed (Class 6) areas. As a result, the Wind Energy Systems Program is shifting its focus to new and different turbine advances that will allow for competitive wind development in the more prevalent or common lower wind speed (Class 4) areas. The Wind Energy Systems Program seeks to provide economic, environmental, and energy security benefits by expanding the domestic use of wind energy and by fostering a world-class wind energy industry.

—In fiscal year 2003, we request \$44.0 million for Wind Energy Systems activity, an increase of \$5.4M compared to fiscal year 2002 comparable appropriations (\$23.5 million above our fiscal year 2002 request). The program will:

—Accelerate the Low Wind Speed Technology (LWST) project that will produce cost effective wind technology for Class 4 wind resource areas, making wind energy more economically attractive in areas of the Nation closer to population and load centers. Such technology has the potential to expand the economically-accessible U.S. wind resources 20-fold.

—Increase its research into distributed wind systems. Distributed wind systems (typically small turbines sized less than 100 KW) provide a valuable alternative source of energy for a variety of applications, such as for farmers, homeowners, and in isolated villages. Smaller turbines also produce useful energy in lower speed wind resources, and thus are potentially cost-effective in more locations. Due to their low capital cost, distributed wind systems are also more available to individual landowners. The Program is funding research and development on distributed wind systems and applications through public/private partnerships following the successful model of utility-scale technology.

#### ELECTRIC ENERGY SYSTEMS AND STORAGE

The Electric Energy Systems and Storage program has two components: the High Temperature Superconductivity Program (HTS) and Distributed Energy Systems (DES). DES activities are key components of a larger Distributed Energy Resources (DER) Program to lead a national effort to develop a flexible, smart, and secure energy system by integrating clean, efficient, reliable, and affordable distributed energy technologies.

EERE's HTS and DER programs together are tackling the power-related issues confronting the Administration's goals of modernizing energy conservation and modernizing our energy infrastructure. The HTS Program seeks to reduce the electricity losses associated with moving electricity within largely urban areas, as well as improving the efficiency of large electric motors and generators. The DER Program is composed of five major activities, three of which are funded by Energy and Water Development appropriations: energy storage system research and integration; transmission reliability; and DER electric systems integration.

For fiscal year 2003, our Electric Energy Systems and Storage request of \$70.4 million, a decrease of \$249,000 below fiscal year 2002 comparable appropriations (\$18.7 million above our fiscal year 2002 request), will support the following activities:

—For the HTS program, we request \$47.8 million in fiscal year 2003, an increase of \$15.5 million above fiscal year 2002 comparable appropriations (\$11 million above our fiscal year 2002 request), to develop applications of superconducting materials to the electricity infrastructure. The lack of electrical resistance of HTS materials makes possible electrical power systems, super efficient generators, transformers, and transmission cables that reduce energy losses by half and allow equipment half the size of present electrical systems.

—At this level, we will complete final testing and evaluation for the prototype 100-MW, 3-phase, HTS cable installed in downtown Detroit. We will complete final testing and evaluation for the prototype reciprocating magnetic separator and the HTS-bearing, energy-storage flywheel and begin construction of new prototypes of generators, power cables, and other HTS systems under cost-shared projects with industrial consortia. The national laboratories and

industry will demonstrate the capability to reproducibly fabricate 10-meter lengths of Second Generation Wire that carry 50 amps of electricity and 1-meter lengths that carry 100 amps of electricity.

- The DES program includes three activities: (a) Energy Storage Research; (b) Transmission Reliability; and (c) Electric Systems Integration.
- The Energy Storage Research activity addresses important challenges to the delivery of electricity. As a peak shaving tool during times of transmission overload or during price peaks, storage allows more efficient allocation of energy resources without producing additional emissions. Storage has the potential of saving U.S. industry many billions of dollars in downtime costs by improving the customer's power quality. In fiscal year 2003, we request \$7.6 million for Energy Storage Research activities, a decrease of \$1.5 million from fiscal year 2002 comparable appropriations (\$0.7 million below our fiscal year 2002 request).
- The Transmission Reliability activity has developed and installed prototype voltage and frequency monitoring and visualization systems that allow transmission operators to immediately recognize and correct system problems. Other prototype satellite-synchronized reliability tools are being installed that afford operators a real-time view of system conditions, provide information for reliable operation of the grid, and for efficient operation of competitive electricity markets. In fiscal year 2003, we request \$7.7 million, a decrease of \$10.5 million from fiscal year 2002 comparable appropriations (\$3.2 million above our fiscal year 2002 request).
- The DER Electric Systems Integration (formerly Distributed Power) activity is developing standards and conducting tests and analyses for the interconnection and integration of distributed generation technologies at the customer site and into the electric distribution system. The activity is developing the microgrid concept to analyze the impact of high penetrations of distributed generation on the distribution system, and supporting removal of other technical, institutional, and regulatory barriers to full distributed generation technology deployment. In fiscal year 2003, we request \$7.2 million, a decrease of \$3.5 million from fiscal year 2002 comparable appropriations (\$2.7 million above our fiscal year 2002 request).

#### RENEWABLE SUPPORT AND IMPLEMENTATION

The Renewable Support and Implementation activity is comprised of five elements for which we request \$23.8 million, an increase of \$10.1 million above fiscal year 2002 comparable appropriations (\$14.3 million above our fiscal year 2002 request). These elements are:

The Departmental Energy Management Program (DEMP) targets services at DOE facilities to improve energy and water efficiency, promote renewable energy use, and manage utility costs in facilities and operations. In fiscal year 2003, we request \$3.0 million for DEMP activities, an increase of \$1.5 million above fiscal year 2002 comparable appropriations (\$2 million above our fiscal year 2002 request). The request will allow two to three renewable energy or other emerging energy technology projects to be funded. Wind, geothermal, biomass or solar projects will be evaluated and selected from applications submitted by DOE field offices.

The International Renewable Energy Program promotes the export of clean U.S. technologies that contribute to global environmental improvements in greenhouse gases and to local air and water pollution. In fiscal year 2003, we request \$6.5 million for international activities, an increase of \$3.6 million above fiscal year 2002 comparable appropriations (\$4 million above our fiscal year 2002 request). In fiscal year 2003, the \$3,660,000 increase is to support the Clean Energy Technology Exports (CETE) initiative. The CETE approach will initiate two types of international activities: industry-initiated export projects, and "showcase" projects that demonstrate the CETE vision of coordinated activities among the USG agencies with export responsibilities. Priority will be given to advancing the U.S. recommendations in the National Energy Policy. We anticipate major leveraging of these funds with those of other agencies and U.S. industry.

The Renewable Energy Production Incentive Program stimulates electricity production from renewable sources owned by States or smaller private sector groups. In fiscal year 2003, we request \$4.0 million, an increase of \$213,000 above fiscal year 2002 comparable appropriations (approximately equal to our fiscal year 2002 request).

- The Indian Renewable Energy Resources Program provides assistance to Native American Tribes and Tribal entities in assessing energy resources, comprehensive energy plan development, energy technology training, and project develop-



ment. In fiscal year 2003, we request \$8.3 million, an increase of \$5.5 million above fiscal year 2002 comparable appropriations (no funds requested in fiscal year 2002), to begin assisting Tribes in ways to use renewable energy technologies on Tribal lands. Funds will be awarded competitively.

The Renewable Program Support includes activities that promote the use of renewable technologies in under-served regions of the United States. In fiscal year 2003, we request \$2.0 million, a decrease of \$781,000 from fiscal year 2002 comparable appropriations (same as our fiscal year 2002 request).

#### NATIONAL RENEWABLE ENERGY LABORATORY (NREL)

The National Renewable Energy Laboratory (NREL) is the Nation's premier laboratory for renewable energy R&D. It also works to improve energy efficiency, advance related science and engineering, and facilitates technology commercialization. For 25 years, NREL research has focused on developing technologies that harness the energy in natural resources in order to provide consumers with clean, non-polluting energy alternatives to conventional fossil fuels. Since its inception, NREL's research has won 31 prestigious R&D 100 awards. In fiscal year 2003, we request \$4.2 million for operating expenses, an increase of \$130,000 above fiscal year 2002 comparable appropriations (same as our fiscal year 2002 request). This year we are also requesting \$800,000, the same as last year's appropriated level, to complete the design of a research laboratory and office space for a Science and Technology Facility at NREL.

#### PROGRAM DIRECTION

Program Direction funding provides Federal staffing resources as well as associated properties, equipment, supplies and materials for the Department's Renewable Energy programs. In fiscal year 2003, we request \$16.9 million, a decrease of \$2.6 million from fiscal year 2002 comparable appropriations (\$2.3 million below our fiscal year 2003 request).

#### CONCLUSION

Mr. Chairman, the President has challenged us by setting forth a long-term strategy that integrates energy, environment and economic policy. The Office of Energy Efficiency and Renewable Energy will continue to build on our successful technology research, development, demonstration and deployment activities to meet the recommendations of the National Energy Policy. Our budget submission gives us the chance to play a major role in this Nation's energy future and to make a difference in the lives of our citizens. We welcome this opportunity.

Senator MURRAY. Before we move to questions, we have several members who have joined us, including the ranking member, Senator Domenici. We will turn to them for opening statements and then we will go to questions. Senator Domenici.

#### STATEMENT OF SENATOR PETE V. DOMENICI

Senator DOMENICI. Thank you very much. I am just going to put my remarks in the record and proceed.

I welcome both of you here. We have a real job ahead of us. We will do our very best to come up with the right thing in the areas that you are going to be testifying on, and thank you for your diligence in trying to make these programs work.

Senator MURRAY. Senator Bennett, do you have an opening statement?

Senator BENNETT. No.

Senator MURRAY. Senator Cochran?

#### STATEMENT OF SENATOR THAD COCHRAN

Senator COCHRAN. Madam Chair, let me just join you in welcoming our witnesses this morning. This is an interesting area of research that these agencies and the Assistant Secretaries are responsible for overseeing. I know in our State, for example, we have

biomass projects for alternative fuels. We have a nuclear waste cleanup procedure that has been analyzed at Mississippi State University that shows great promise, and from what I hear in trying to keep up with these activities is that these are very important to our environmental interests, they are very important to our energy independence.

So I hope we will look very carefully at the funding levels to be sure that we have enough money in our budget for these ongoing projects that are showing great promise.

I am happy to be a part of this subcommittee's effort to review this budget request and we appreciate the cooperation and the diligent efforts of these Assistant Secretaries in that regard.

Senator MURRAY. Thank you very much, Senator.

Senator DOMENICI. Could I just respond? Thank you very much.

Senator Cochran, I just wanted to say, this subcommittee in terms of how many dollars it has to spend in the title energy and water, for some people it is rather difficult, what is this all about? But I can say your observation is absolutely true and that this subcommittee has an enormous diversity of jurisdiction that I for one am glad that you share with me. It does all of the nuclear weapons activity. Who would think that under the rubric or title of energy and water that you have the nuclear weaponry of the United States being funded and assured, and all the way down to solar energy—a rather exciting list of things we will be doing. Thanks for your observation.

#### OFFICE OF RIVER PROTECTION MANAGEMENT

Senator MURRAY. Thank you, Senator Domenici.

Ms. Roberson, I am going to begin with you. You decided to replace Harry Boston as site manager at the Office of River Protection. You took this action despite the fact that the State, the community, Senator Cantwell, Congressman Hastings, and myself appealed for Mr. Boston to be kept in place. Mr. Boston came to the ORP right after the meltdown of the BNFL privatization effort. He got the project back on track. He reestablished much-needed community confidence and he helped create a very important cooperative effort with the State and the Federal regulators.

The project right now is really at a critical juncture. We are 6 months away from groundbreaking. Why are you replacing Mr. Boston and why did you ignore all the interested parties who told you how important it was to keep him there?

Ms. ROBERSON. Senator Murray, I would like to say I believe that I did not ignore your request. The request that I got in conversation with the members was to delay that reassignment to ensure that we had a smooth transition supporting construction start of the project, which is exactly what we did.

I do believe that as the project goes into heavy construction, the Department has the opportunity to deploy an executive that has been through the same kind of project both in tank-farm operations and construction of a vitrification plant, and that we truly have an obligation to deploy those resources to ensure that the lessons we learned in that previous experience could be applied to where successful, to repeat our successes, and where it was not a success, know what to look for and do not repeat those mistakes.

So I believe for the health of the project it was important to ensure that the lessons we had learned were appropriately applied to the project at this critical point.

#### HANFORD COMMUNITY DISSENT

Senator MURRAY. Well, do you realize how much this decision to replace Mr. Boston has caused the community to question DOE's commitment to the project? We have an editorial from the Tri-City Herald January 25th edition and I will quote it: "Now, if Boston is leaving, the community is left to wonder about Energy Department motives in jeopardizing the Office's progress."

There is an article in this morning's Seattle Post-Intelligencer that says "But, as always with Hanford, there are no guarantees. Boston, a widely respected leader in the cleanup, is being transferred this summer by top DOE officials. Those same officials recently started backing away from promises to turn all of the waste to glass, fueling environmentalists' fears about the future of the 586 square mile reservation."

Do you realize how much community dissent there is over this?

Ms. ROBERSON. I spent quite a bit of time before this decision communicating with members of the community as well as our regulators. I believe that allowing a delay in that reassignment to support a smooth transition is the appropriate action to take, and that is what we did. We are not backing away from our commitment to the construction and operation of the vitrification plant. We think that our actions both in the budget and our actions on the ground demonstrate that.

#### EQUITABLE CONTRACTOR REQUIREMENTS

Senator MURRAY. Well, I understand that the contract with Bechtel and the Washington Group for construction of the waste treatment plant requires the companies to leave their senior managers in place for 2 years or face a fine of \$1 million. Now, DOE included that requirement because they understand that moving managers can really harm a project.

Harry Boston has been in place for 18 months. Why does DOE demand certain practices of its contractors, but it does not do the same for itself?

Ms. ROBERSON. Actually our demand of our contractors is the same demand of ourselves. What we asked our contractors to do was not to change out project managers without our agreement. But we fully expect them to consider the work to be done, the phase the work is in, and to ensure that they have the best available resource to carry it out.

Senator MURRAY. You did not consider Harry Boston to be a part of that?

Ms. ROBERSON. I am sorry, I do not understand.

Senator MURRAY. You said that you expect your managers to be able to carry out the project as designed. Do you believe now that you have a different mission than Harry Boston had in place?

Ms. ROBERSON. I believe going into construction is a different phase of the project and may require a different set of skills. We would expect our contractors to do exactly the same.

Senator MURRAY. You felt that Mr. Boston did not have those skills?

Ms. ROBERSON. I believe that the Department had at hand someone who had been through the experience and could and had demonstrated the capability, and that our best chances of success were to deploy our resources in that manner.

Senator MURRAY. Thank you very much.

Senator Domenici.

Senator DOMENICI. Who came first?

Senator MURRAY. Senator Bennett—well, Senator Craig was first.

#### HIGH LEVEL WASTE

Senator DOMENICI. Senator Craig.

Senator CRAIG. Thank you.

I think one of the frustrations we all have is demonstrated by this map, that shows that when we go to clean up Rocky Flats it is a matter of moving the waste to another site. Then we say one site is clean, but the other sites—well, we do not say they are dirtier because we like to think that we are storing it safely.

But I think that is symptomatic of a problem, a very big problem, a very real problem, is the way we handle high level wastes. Of course, we are struggling to try to get that under control. The Secretary has been forthright, as has the President, with Yucca Mountain, and we hope we can resolve that and go forward there for a high level waste repository.

I know that my ranking member and I have other thoughts about high level waste. At the same time, our thoughts are still appropriate today. When we open Yucca Mountain, it is full by definition of the waste that is already out there and its design capacity. So clearly we are going to have to move forward and look at other approaches toward handling high level waste and cleanup. That is going to be very, very critical, I think, for the future of nuclear energy, and we hope it has a future and we are working hard to make that happen.

#### IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY ACCELERATED CLEANUP

Secretary Roberson, now that the State of Idaho and DOE have entered into this settlement agreement on Pit 9 as I have talked about, that our governor and DOE announced yesterday, how do you and your discussions with the State progressing on the opportunities of accelerated cleanup at the INEEL work and fit this budget cycle?

Ms. ROBERSON. Senator Craig, as you are aware, we had initiated discussions on a proposed accelerated strategy with the State of Idaho and the regional EPA. With disposition of the dispute at hand, it really allows all the parties to focus all of their attention. I think we have a great base strategy to work from and I do not believe that we are behind. I believe we are in a position to secure an agreement that will be completed well ahead of the appropriations schedule.

## ACCELERATED CLEANUP EFFORTS

Senator CRAIG. Well, that is my next question, because, as we know, the clock is ticking on Congressional action on the Energy and Water bill, the appropriations work that this subcommittee is underway in doing. I guess my question is how are you factoring in the Congressional schedule in your discussions with DOE sites on accelerated cleanup?

Ms. ROBERSON. We are working very hard at every one of our sites to try to satisfy that schedule. I cannot confirm that we will be able to do it because it is very difficult for all parties, but we are committed to give our best effort to do so.

Senator CRAIG. Well, as you know, in absence of that and an unallocated pot of money for DOE accelerated cleanup, I think there is a great tendency here for us to move ahead, if you will, and lock into a bill dollars and cents for sites as it relates to EM. That will be our tendency. We want to guarantee that. I do not want a budget in Idaho reflective of a step back.

Last year this committee and the staff and Senators worked overtime getting more money and to accelerate the cleanup, not to step back from it. So the ability to get this done in sequence with the budget and the cycle is going to be awfully darned important for all of us.

Ms. ROBERSON. Our commitment is to definitely support that need.

Senator CRAIG. Thank you, Mr. Chairman.

Senator MURRAY. Senator Bennett.

## STATEMENT OF SENATOR ROBERT F. BENNETT

## TAILINGS AT THE ATLAS MOAB SITE

Senator BENNETT. Thank you, Madam Chairman.

Secretary Roberson, you and I have visited before about Moab and I wanted to get it into the record and therefore will go through some questions that we have already discussed off the record. For the record, this is tailings from a uranium mill which produced most of the uranium that was in America's weapons stockpile for many years. The Atlas Corporation that produced that has now gone bankrupt and DOE has taken title to the tailings pile and therefore the responsibility for deciding eventually what will be done.

When I first became a Senator and became aware of this, why, NRC recommended capping in place and said there was no health risk involved in doing that and that that was by far the cheapest and environmentally best thing to do, because moving the tailings involves some degree of disturbing them and in the disturbance they were afraid that some of the environmental impact of the tailings might get into the air in the form of dust.

Now the Utah officials have examined the impact downstream from the pollution—or the toxicity, is probably a better term—leaking into the Colorado River, and there is indication that it is endangering fish in the Colorado River and that long term the groundwater going into the river will produce significant problems.

So we are looking now at not capping it in place. We are looking at moving it.

Given that history, then, my first question is how do you intend to allocate the \$966,000 included in your budget request for this year with respect to the tailings at Moab?

Ms. ROBERSON. The activities that we perform are to continue. I am going to give you the very specifics of what is involved: to initiate groundwater cleanup along the banks of the Columbia River.

Senator BENNETT. In the Colorado River.

Ms. ROBERSON. Colorado River, I am sorry. We are doing it on the Columbia River, too.

Senator BENNETT. We would love to have the water from the Columbia River in Utah.

Ms. ROBERSON. Our fiscal year 2003 budget request supports groundwater cleanup along the Colorado River, continue air and water monitoring, and continue our efforts to control fugitive dust and storm water control.

As you are aware, the National Academy of Sciences is near the end of their review and has given us a status briefing. They are on schedule to complete their review in June. We believe that within 3 months of the release of the NAS report, we could make a final decision and start to design a remediation action.

#### COLORADO RIVER POLLUTION

Senator BENNETT. Do you think you have got enough money to expand the current focus on protecting endangered fish in the river? I have asked Chairman Reid and Ranking Member Domenici for \$4 million in this year, thinking that maybe \$966,000 is not enough for us to deal with the other pollutants that pose environmental and human health risk.

Ms. ROBERSON. Senator Bennett, in conjunction with our evaluation at the other sites, we really are seeking some insight from the National Academy of Sciences. If it appears that additional funding would be necessary to make sure that we are maintaining the site appropriately and proceeding appropriately with the remediation, then the Moab site will be included in our proposed allocation of the reform account money.

Senator BENNETT. When do you expect that evaluation to be available to us?

Ms. ROBERSON. The first of June.

Senator BENNETT. The first of June. So you and I can revisit this issue sometime in June?

Ms. ROBERSON. And we are hoping that the NAS can accelerate their schedule.

#### MOVING MOAB TAILINGS

Senator BENNETT. I do not want to put words in your mouth, but I take it from what you are saying that you are still open to the idea of moving it?

Ms. ROBERSON. There has been no decision made. We absolutely are open to the options that are on the table.

Senator BENNETT. And moving it sooner rather than later?

Ms. ROBERSON. Moving it is clearly an option, and if moving it is the necessary action we are certainly focused on accelerating our remediation.

Senator BENNETT. Thank you very much. I appreciate your attention to this, our past conversations about it, and your responses here today. Thank you.

Ms. ROBERSON. Thank you, sir.

Senator MURRAY. Senator Cochran.

#### DEPLOYMENT OF THE ADVANCED VITRIFICATION SYSTEM

Senator COCHRAN. Madam Chairman, thank you.

Secretary Roberson, I want to commend you and Secretary Abraham for the work you are doing to help develop less costly and faster-deployed procedures for nuclear waste cleanup. The fact that you are exploring alternative technologies to me is encouraging because of the estimates for cleaning up sites right now and how those costs continue to seem to spiral upward at an alarming rate.

My specific interest comes from my knowledge of the work that is being done at Mississippi State University at the DIAL Lab, the Diagnostic Instrumentation and Analysis Laboratory, that the Department of Energy helped create to explore these and other interests. Do you have specific plans for the deployment of the advanced vitrification system that is under review there?

Ms. ROBERSON. We certainly have a desire. We see an opportunity and, as you are probably aware, we are working with the sponsors on deployment of that technology. We hope to begin in 2003, and so we do have specific plans and we are trying to work out those details with them.

Senator COCHRAN. Does the budget request that is submitted before the committee now contain funding that would enable you to pay that?

Ms. ROBERSON. This will be funded from the science and technology budget and, as you are aware, we have been reviewing over the last month all of the technology investment. At the end of this month that team, which is a team from around the complex, will provide its assessment, but I have had the opportunity to sit with them and this technology does indeed provide a real opportunity and is going to be supported.

Senator COCHRAN. Thank you.

Madam Chairman, I have some additional questions with some more specificity about the nature of this research and why it appears to me to be very important, and I would ask that those questions could be just submitted for the record.

Senator MURRAY. Without objection.

Senator COCHRAN. Thank you very much.

Senator MURRAY. Senator Domenici.

#### ENVIRONMENTAL MANAGEMENT CLEANUP REFORM ACCOUNT

Senator DOMENICI. Thank you very much, Madam Chairman.

Let me say to both of you, I hope you have a good year. Obviously, in a number of areas that you have control over there will be some very serious disagreements, but fundamentally the biggest one that we are going to have on the funding levels has to do with the \$800 million that you have carved out, that you are holding there, saying that we are going to release it to sites to increase their money if they have entered into the kind of contracts that

will expedite the cleanup that they are supposed to do and also do it in a more timely manner.

Frankly, I am not sure that that will work, and I am sure that you are not sure it will work, either, because in the meantime we have to put appropriation bills out and we are going to have the Senators from all of the sovereign States that are affected. They are going to come before us and say that they should not be cut 25 percent because we are looking for a new system to make things better.

On the other hand, I am more than willing to acknowledge that you are on the right track. I do not think you will ever get it done with such a huge carveout, but I think we have to, sooner rather than later, find some way to modernize the agreements and to enter into better ones where we will get better results.

We are put, all of us that have sites, we are put in a position where we have become used to a certain portion of this budget that is cleanup money going to our States for the cleanup. It has almost become our cleanup, meaning the States and Congressmen who represent the area.

So that no one will have any misunderstanding about your reductions, you did not play any favorites. The sites that have been reduced percentagewise the most are in New Mexico, so for that I thank you very much. I have already expressed with our chairperson the notion that anybody that thinks we have a very good and friendly relationship going with the Department, they can just look at this one.

But I can assure you that we cannot live with the cuts that you put in the budget unless we did have a whole new system in place, and I am not sure by the time we have to mark this bill up that you are going to have that.

I wonder if we could have a question put to them that they would report to you and I on the progress being made so that we will know something before the appropriation time on where they are. I am assuming it would be to the Chairman, Chairman Reid, but I would put that to you, Madam Chairperson, that, let us set a date and give them that date.

#### ACCELERATED SCHEDULE PROGRESS REPORTING

Senator MURRAY. In terms of the contracts?

Senator DOMENICI. Let us ask them to report to us if they are having, making any progress.

Senator MURRAY. I think that is a good idea.

Ms. ROBERSON. I think that is a wonderful idea. I would be honored to do so.

Senator DOMENICI. Well, just so none of us get carried away, it is a wonderful idea, but the chances that you will get anything done that is really a big departure, that will save a lot of money, do not seem to me to be very—there is not a high probability that that will occur. But we would like to see what you are doing and whether you are achieving anything or not.

#### MODERNIZING CLEANUP CONTRACTS

Could you tell us as of now, you produced this budget with this kind of approach a few months ago. What has been happening?



Have you been having any success in modernizing any of these contracts, or is anybody thinking about changing the way they are going to do the work?

Ms. ROBERSON. Senator Domenici, I actually think we are making wonderful progress. Clearly, we will not achieve everything we wanted, but the thing that has been the most stark to me is the true sense of cooperation around each of the sites, every one of the sites. It is rewarding to sit across the table, as I have done at most of our sites and within the next 30 days will do at just about all of them, from our regulators and with interested stakeholders.

Everyone is in agreement with the goal. I recognize that there will be details that will be hard to work through. But if we can establish a path, which is our goal here, I think the opportunity for success is tremendous. If I may talk for a minute about our facilities in your State proper, at the Los Alamos National Lab, we have about 2,000 containers of transuranic (TRU) waste which we have been unable to figure out how to prioritize, bring to the top of our cleanup agreement, and disposition that material.

Working in conjunction with the facility, our local DOE, our regulators, and in that case with the NRC that regulates transportation, we believe we are definitely on the path to reach agreement to initiate movement of that material years in advance.

#### WASTE ISOLATION PILOT PLANT

Your other facility, the Waste Isolation Pilot Plant, obviously is a receiver site for many of the other sites and therefore we are looking at it in the context of how do we make sure it is equipped and staffed and funded to support the plans from the other sites around the complex.

I do believe we have a tremendous opportunity in front of us and, no, we will not get everything that we think should be gotten, but we will establish a path and I think that that is, quite frankly, a great achievement for all of us.

Senator DOMENICI. Secretary Roberson, let me talk about WIPP for a minute with you, Waste Isolation Pilot Project. Let me ask, have you been there?

Ms. ROBERSON. I have been there.

Senator DOMENICI. Just one time?

Ms. ROBERSON. I have been there one time.

Senator DOMENICI. That is enough. I just wanted to make sure you were not a big expert. I have only been there one time.

In any event, the proposal now being put forth by the Department of Energy is to expedite the filling of this repository, which would cut the time almost in half between now and when it will be filled versus how long it would be if we do not do anything. I gather the savings are in more than a few billions of dollars over time. Do you happen to have the number?

Ms. ROBERSON. No, sir, I do not have handy with me the estimated savings of that operation.

Senator DOMENICI. All right.

Ms. ROBERSON. But we can get that for you.

[The information follows:]

## COST SAVINGS FROM EXPEDITED FILLING OF WIPP REPOSITORY

The Department of Energy is proposing to expedite shipment of transuranic waste from the sites to the Waste Isolation Pilot Plant (WIPP) as part of the accelerated closure of sites in the weapons complex. This will be accomplished through the use of mobile vendors, pursuit of commercial rail to make shipments, as well as other initiatives, and would result in a ramp down in the WIPP operations sooner than anticipated. The potential cost savings associated with accelerated closure of WIPP is approximately \$8 billion, resulting from approximately a 50 percent reduction in life-cycle cost by completing its mission by 2016, instead of 2034.

## CARLSBAD COMMUNITY CONCERN

Senator DOMENICI. Would you? I think it is very important if we are going to be making any adjustments with reference to what happens to that community. You understand that the community of Carlsbad and the surrounding area has been about as helpful to the Department as any recipient State on anything that has to do with the Department. They actually are excited about WIPP and have been supporters, traveled all over the country and in New Mexico, to our legislature, cohesively from the area.

I believe it is very important, if we are going to come along now after they made all these arrangements and their city is going along, if we are going to cut the time in half, that we consider their economic vitality for the future. They expect to become a diverse economy and if we are going to all of a sudden switch gears and say you have got 15 years instead of 30 to get that done, then we have to work with them in some ways to protect their citizens in that regard.

I assume you would be the people that we would work with; is that correct?

ENVIRONMENTAL MANAGEMENT ACCELERATED CLEANUP REFORM  
ACCOUNT

Ms. ROBERSON. That is absolutely correct, sir.

Senator, may I comment further?

Senator DOMENICI. Please do.

Ms. ROBERSON. What we are attempting to do through this accelerated account is to establish a path and develop the ability to be flexible in acquiring and learning from experiences, and focusing our investigations to ensure that we are prepared to carry out the remediation. We have a baseline that you are holding us accountable to delivering, but there is other work scope that also must be dispositioned.

For instance, with the modernization of the weapons complex, additional facilities, materials, would come to the EM program at Oak Ridge. We are expecting to receive the FFTF facility at Hanford. There is additional work scope as the complex modernizes and moves ahead.

The EM program is not done. We simply try to establish some boundaries and some process for dispositioning the work at hand right now, recognizing that there is additional work to come. So their role is not over. But I would also say to you that they have certainly demonstrated their support of the mission and the Department. They have been a wonderful community to work with and the Department is prepared to work with you and the rest of the delegation and the community to support their needs as well.

## SECRETARIAL MEETING WITH NEW MEXICO DELEGATION

Senator DOMENICI. Do you happen to know whether the Secretary of Energy is going to be in Washington in the next couple of weeks? You would not happen to know about his itinerary? You do not have to. I just thought I might luck out.

Ms. ROBERSON. We can get back to you. I do not know. We think he will be here next week.

Senator DOMENICI. We will find out. Carlsbad, that delegation you spoke of is going to come to town.

Ms. ROBERSON. I am going to meet with them.

Senator DOMENICI. I have not made arrangements yet.

I am going to stop for a while and let the chairperson proceed and then I will come back with a few more.

## WASHINGTON STATE CONCERNS ABOUT ACCELERATED CLEANUP

Senator MURRAY. Thank you very much, Senator Domenici. I do think it is a good idea for Ms. Roberson to give us an update constantly on where these contracts are. The State of Washington has signed a letter of intent, but the Department of Ecology has already sent a letter that addresses some very serious concerns. I think they want to have opportunity and hope ahead of them, but they say it is simply too early to make definitive statements regarding their success, the number of years that may be cut from Hanford cleanup time line, or the amount of associated cost savings.

Likewise, most targets are not yet sufficiently fleshed out to enable a decision by Ecology on whether to support implementation. I think there is a number of serious concerns. They have a work plan due by May 1st and an August 1st deadline as well, and I think, just looking at the Department of Ecology's latest letter, addressed April 8th, I think we are a long way from satisfaction on this, a lot of questions left out there.

On behalf of Senator Reid, I do want to ask you a question, Ms. Roberson. It has been more than 2 months since announcing the cleanup reform initiative with the fiscal year 2003 budget request. Can you tell us, in that time has any State or regulatory agency agreed to waive legally binding cleanup agreements for a portion of the \$800 million fund?

Ms. ROBERSON. Not that I am aware of, and I am not aware that we have asked any State to do so.

## WORKFORCE REDUCTIONS AT THE OFFICE OF RIVER PROTECTION

Senator MURRAY. Let me go back to ask you about Washington State again. The waste treatment plant is the largest environmental cleanup project in the world. It is a one of a kind facility. It has tremendous technical challenges. The Federal Government is going to be investing billions of dollars into that plant.

You have recently directed a reduction in the work force at ORP from 129 employees down to 109. By comparison, Richland operations has over 300 employees for projects with a smaller budget. How do you justify to our communities cutting the work force at the Office of River Protection with this tremendous project ahead of us, with the tremendous amount of dollars that are being in-

vested, and the tremendous amount of work and progress that we expect to have?

Ms. ROBERSON. The staffing targets were established in the beginning of the fall of last year when we established staffing targets for all of our sites. In fact, the Richland office is over its target as well. In that time frame we have supported the sites with certain options to redeploy personnel. I have committed to work with them.

But there has been no unique action taken against ORP. That target was established in October of last year, and since that time the staffing level has gone up. I have agreed with. What I have told the field managers is, on an annual basis, we will reevaluate the appropriate targets for each of the sites, but we have to have constraints and we have to ensure that we are being diligent about those resources.

I have approved some of those hires at ORP even since that time. I have taken another reduction in headquarters to support that increase. I think I have tried to be fair and diligent in that process. But they are far from the only ones that have been given a challenge on their staff.

#### DOE COMMITMENT TO OFFICE OF RIVER PROTECTION

Senator MURRAY. This has contributed to a lot of the community concern about the Department of Energy's commitment to the Office of River Protection. As you know, I worked with all the other members of the Washington delegation to establish that Office of River Protection as a separate DOE project office. The reason that we did that was because the project was of such critical importance and such complexity that we really felt it warranted the need for an individual site manager who would give it his attention and who would report directly to headquarters. In fact, Congress reinforced that position by extending this separate designation at least through 2010.

Can you assure me this morning that the manager of ORP will continue to report directly to you and not to the manager of Richland operations?

Ms. ROBERSON. Yes, I can. I can assure you of that. There are no plans to change that.

Senator MURRAY. Absolutely?

Ms. ROBERSON. Absolutely.

#### ENVIRONMENTAL MANAGEMENT CLEANUP REFORM ACCOUNT

Senator MURRAY. Ms. Roberson, let me go again to you. DOE announced upon the signing of the letter of intent with Washington State that the administration supports an additional \$433 million above the President's request for Hanford. We have been told DOE's specific allocation of the \$433 million among the Office of River Protection and Richland operations would be decided by May 1st, when the draft work plan is released. Is this still your agency's intention?

Ms. ROBERSON. Yes, it is, Senator Murray.

Senator MURRAY. Will DOE be making a revised budget request for Hanford reflecting this agreement to allocate \$433 million more for Hanford?

Ms. ROBERSON. That is our intention, Senator Murray.

Senator MURRAY. When will we receive that?

Ms. ROBERSON. Our expectation is soon after May 1. We have a very close working relationship with the site and the regulators over the last few weeks and we actually think that tremendous progress has been made in the development of that performance agreement. Let me just say, I have not seen the State's letter. I am not surprised that they are cautious, as they should be.

The performance management plan primarily focuses on the actions that the Department is to take. So I believe that we can still press forward. Now, I know one of the concerns is why can we not just communicate what the distribution of that \$433 million is. That is primarily because there are certain work scopes with the integration of the Central Plateau that we have to understand whether it is going to be a part of ORP or of Richland.

For instance, there was some duplication of solid waste management activities. The management plan will provide us the opportunity to see what that path is and what activities fall where.

Another activity as an example is the disposition of the cesium-strontium capsules. That was in the ORP baseline for vitrification in the 2020 timeframe. With the revised strategy, that distribution of responsibility is likely to change. So we cannot be absolutely sure what will need to fall into the ORP baseline and what will fall into Richland baseline. That is the reason we say we need that performance plan to do that.

We believe we understand, the appropriate cost of the strategy. But the distribution of functional responsibilities still needs to be laid out.

Senator MURRAY. You have been highlighting your commitment to seek an additional \$300 million for the EM program if all of the cleanup agreements necessitate that. I should ask when, but how will the administration let us know what that support is?

Ms. ROBERSON. As best I understand—and I think I might ask to respond in writing so that our CFO, Bruce Carnes, can respond. [The information follows:]

#### CLEANUP REFORM INITIATIVE

If needed to complete required reforms at all sites, the Department expects to request additional appropriations of up to \$300 million for the Environmental Management Cleanup Reform Account. The Department believes we will have sufficient information during the fiscal year 2003 appropriations process to determine whether additional funds are required. If needed, a budget amendment would be an appropriate vehicle for this request.

#### ENVIRONMENTAL MANAGEMENT CLEANUP REFORM ACCOUNT

Senator MURRAY. Will we see it in the supplemental request?

Ms. ROBERSON. My understanding is it will come in the form of a supplemental or an amendment, but that is about the extent of what I can tell you. We would be glad to have him respond in writing or give you a call.

Senator MURRAY. I would just tell you, Chairman Reid is not here. Senator Domenici, the ranking member, is. My assumption is that we will get our marching orders from Senator Byrd and Senator Stevens fairly quickly to mark up. So hopefully we will see that sooner rather than later and understand what the impacts are going to be.

Ms. ROBERSON. Thank you.

Senator MURRAY. I have one other question, but, Senator Domenici, why do you not go ahead.

LOS ALAMOS LAND TRANSFERS

Senator DOMENICI. I am going to submit about eight or ten questions in writing and just take one of them with you. Secretary Roberson, this is regarding Los Alamos and in particular regarding the land transfer to San Ildefonso Pueblo. I hope you can find that so we can talk here on the record. The Secretary of Energy is required to transfer lands in Los Alamos and Santa Fe Counties—New Mexico, that is—that are in excess to the Department's needs. This has been a very long process and very frustrating for this Senator, because it was supposed to take a couple of years and it has taken 5 or 6. It was supposed to be a lot of land that, if you look at the maps, we no longer needed, were just sitting out there. It turned out there was a use for much of it. Much of it was not environmentally usable.

But we are down to getting some things done. The land transfer is intended to meet the responsibilities of the Department to provide land suitable for economic development so that the county could expand its tax base, diversify its basic economic base. We were hoping that this would get done years ago, but now we are down to the point where we have to get it done.

Do you know its status and what is holding it up? Will we be able to transfer this land soon so we can at least have a few people believing that we are going to get them the excess land for them to use? Can you report to us on the, please?

Ms. ROBERSON. Actually, the status that I have before me is that current planning is to transfer a total of 4,045 acres, but I believe about 2,000 of those we are trying to transfer in 2002, I believe 1900 in 2003, and the sequencing that we are doing is to ensure that we are doing the environmental clearance on that land before transfer.

The confirmation I have is that we will meet the schedule specified in Public Law 105-119, but I do not have more details.

Senator DOMENICI. All right. You have to get yourself a little more current on it, but I just want to proceed and do not want to take any more time. I just want you to know that this is very, very important to this Senator. I get very frustrated when we commit to people and then the Department finds things that they should have found before that make it not possible to live up to what you are saying, said to your constituents.

This is an important one and all of the land transfers that are pending there are under a specific proposal that has been adopted a few years ago, are going to come into fruition, and I want you to know that I do not want them to go to the bottom of the pile and not come back up unless I call, and I will not call unless somebody calls me, and you know what happens, we are 4 years into something.

So in that regard, I would appreciate your assistance.

## HIGH TEMPERATURE SUPERCONDUCTIVITY

We have a high-temperature superconductivity center. Mr. Garman, during the past 2 years I have been very interested in the Department's effort to accelerate the development and application of high-temperature superconducting technologies through the joint efforts of Oak Ridge and Los Alamos. I believe that you have requested about \$9 million to continue the work in 2003. Could you provide us with an update of this effort and describe the types of commercial potential that exists, and in order to achieve commercial success what level of investment should be made in Research and Development, over what period of time?

No, I do not expect you to necessarily do that now, but perhaps you can just tell me a little bit about this project and get those answers for the record.

Mr. GARMAN. Sure, I will provide an extensive answer for the record. But I would say that high-temperature superconducting wiring is a breakthrough in technology. We are in the middle of a demonstration project in Detroit now that shows great promise, particularly in constrained areas, carrying more and more power, longer and longer distances, at more reasonable costs. We are very excited about the work that is done at Los Alamos and Oak Ridge on the high-temperature superconducting wire. We will give you a map.

[The information follows:]

## HIGH TEMPERATURE SUPERCONDUCTIVITY

The Accelerated Coated Conductor project was initiated to assure continue U.S. leadership in the development of High Temperature Superconducting (HTS) wire for electric power applications. This project was designed to accelerate the development, commercialization, and application of high temperature superconductors through joint efforts among DOE laboratories, American industry, and universities. Based on their technological advances in HTS coated conductor development, Los Alamos and Oak Ridge National Laboratories lead this effort by making available state-of-the-art equipment and expert scientists to work cooperatively with U.S. industry developing fabrication techniques that lead to commercial manufacturing. This public-private partnership provides equipment, facilities, and technical expertise to accelerate industry R&D.

The new equipment has been installed and scientists and engineers from the HTS companies have started using the facilities at the Los Alamos and Oak Ridge National Laboratories. Approximately \$9 million of the fiscal year 2003 budget request will fund this cooperative research and development. Collaboration with industry also involves the design, development, and testing of pre-commercial prototype equipment in 50-50 cost shared Cooperative Agreements to ultimately apply the coated conductors in power applications such as transmission lines, generators, transformers, and fault current limiters. Five companies have committed to using these advanced facilities: American Superconductor, 3-M Corporation, IGC-SuperPower, DuPont, and MicroCoating Technologies. Several other companies have indicated interest in using the facilities and have opened discussions with the laboratories.

Approximately \$9 million of the fiscal year 2003 budget request will specifically support this project and an additional \$30 million will be needed to completion in fiscal year 2007 when industrial pilot plants are expected to have grown into mature manufacturing lines. Five companies have committed to using these advanced facilities at the national laboratories, and some initial work has already begun.

## FUEL CELL RESEARCH AT LOS ALAMOS

Senator DOMENICI. Fine. Then I will just quickly move to the Fuel Cell National Resource Center at Los Alamos. That comes under you also. Will you please for the record comment on your

work in this area and elaborate on the future role of this center and Los Alamos in this area?

Mr. GARMAN. Yes, sir. The work that is done at Los Alamos on the proton exchange membrane fuel cell is very important to us, particularly in the context of the administration's initiative on the Freedom Car project. PEM fuel cells tend to be lightweight, lower temperature than some other types of fuel cells. The work that has been done at Los Alamos to date has been very important in reducing the cost of the fuel cell stack, mainly through reduction in the platinum catalyst needed in the membrane.

This is extremely important work. The best people in the program that we have are working at Los Alamos and we foresee a continued relationship with Los Alamos and an expansion of that effort in keeping with our initiative in the Freedom Car program.

Senator DOMENICI. Thank you very much.

I have no further questions. We will submit them in writing. I want to thank you for your courtesies this morning and pledge to you, working with Senator Reid, we will try to expedite our bill and try to prove our case to our Senators that have to do the allocating that we need more than a few hundred million plus-up in the accounts here. But that is not their problem. It is above their grade, I think.

Senator MURRAY. Thank you, Senator Domenici, and thank you for your support on these issues over the 10 years I worked with you on this committee as well.

Senator DOMENICI. You are welcome.

#### HAMMER TRAINING FACILITY REDUCTION

Senator MURRAY. Ms. Roberson, let me go back to you again. The administration budget zeroes out funding for HAMMER, the training facility at Hanford. That facility has trained over 150,000 Hanford and non-Hanford students since 1997. Managers and workers at the site tell us that HAMMER is responsible for the increased safety record and in fact since 1997 HAMMER has directly contributed to over three million safe work hours and about a quarter of a million hours of safe training.

Since HAMMER has contributed to this significant safety record, why has DOE proposed to eliminate it?

Ms. ROBERSON. Senator Murray, I had the opportunity to speak with our site manager at Richland, Keith Klein, as well as some of the workers on this topic. What I have advised Keith Klein is that the Department does indeed support the contribution that HAMMER has made to the preparedness and training of our workers, and I communicated that to representatives from our union, who benefit from that for the Department.

I know that they are in discussions as to how that facility's contribution integrates in support of our accelerated cleanup, because the demands on it may be greater even as a result of that.

Senator MURRAY. Correct.

Ms. ROBERSON. They are discussing the budget and how that is to be integrated with the allocation of funding. I cannot tell you the specifics of that, but I know that those deliberations are ongoing.

Senator MURRAY. But you have zeroed it out in your budget, HAMMER?



Ms. ROBERSON. Because it needs to. Its value really has to be integrated with the cleanup plan. I believe that case can be made and is being made.

Senator MURRAY. So you expect to take the money out of cleanup funds?

Ms. ROBERSON. Well, it would have to be funded from the budget. The training of the employees at that facility, what they are doing is looking at the cost-benefit of some other training avenue. They have convinced me that this is the most efficient way to acquire those training services, and so we pay for training out of the budget one way or the other. Their recommendation is to support that training at HAMMER.

Senator MURRAY. Out of the cleanup budget?

Ms. ROBERSON. We would, with our distribution of funding, we would recommend a budget for HAMMER as a result of that, yes.

Senator MURRAY. I understand workers from across the complex are training at Hanford. Is your budget proposing to eliminate training at HAMMER for all of the non-Hanford workers as well?

Ms. ROBERSON. I am not aware of where the other workers are from. I have not been approached by the workers from other sites nor the site management, that there is an issue or concern. My understanding is that what the Department has done in the past is to support the training needs through Hanford and that is the way that I propose we go forward. So no, I have not considered that and I have not been approached with a proposal.

Senator MURRAY. Well, as you alluded to, the operation of the waste treatment plant is going to take a lot of training to operate that. I will tell you, labor and the community again are gravely concerned that a lack of funding will really limit the training and will really prevent full operation of that waste plant.

Have you considered the inability to train enough workers to affect the facility's operation with the cut of the HAMMER funding?

Ms. ROBERSON. As I said, what I have asked Keith Klein and Harry Boston to do is to, based on their evaluation at the site of the training needs for employees and new employees integrate those training needs, which the Department will pay for one way or the other, into the needs of that facility and the timing. They have a responsibility to provide that recommendation.

Senator MURRAY. Well, I will have some further questions about that, but I will work with the committee and submit them.

#### TANK WASTE AT HANFORD

Let me go to one final question for myself. Ms. Roberson, statements by you and others at the DOE have suggested a desire to vitrify less tank waste and to leave some of the waste in the tanks permanently. I have to tell you that has raised a lot of concerns again in my State, because it is contrary to the requirements of the tri-party agreement. In fact, the Washington State Department of Ecology sent a letter to DOE noting that State and Federal regulators do not agree with some of the assumptions in the draft accelerated cleanup plan.

Will you commit your agency to working with the State and Federal regulators to reach consensus on all the issues which would require actions contrary to the tri-party agreement?

Ms. ROBERSON. Absolutely. There is no other way for us to do it. It is an agreement and we have to work together. We are absolutely committed to do so.

#### ADDITIONAL COMMITTEE QUESTIONS

Senator MURRAY. I appreciate that. Again, I will just tell you that a lot of the actions have raised a lot of concerns among the community, as I have described throughout my questioning here, and I think it is very important that DOE understands the high level of concern about the commitment from DOE to ongoing efforts at Hanford.

I do want to submit for the record a question from Senator Hollings regarding the South Carolina budget. He has some real concerns about that. I will submit that question to you.

Mr. Garman, I did not mean to ignore you this morning. I do have some questions I will submit for the record for both of you. Senator Reid would like to keep the record open for a week for other members' questions as well.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

#### QUESTIONS SUBMITTED BY SENATOR PATTY MURRAY

##### LISTING OF SITE MANAGERS

*Question.* Ms. Roberson, please provide me with a list of all site managers in the complex and how long (to the month) they have been in their current positions.

*Answer.* The following is a list of the current site managers in the Environmental Management complex and the length of time they have served as of May 2002:

Dr. Ines Triay, Manager, Carlsbad Field Office—3 years this month  
Vacant, Manager, Idaho Operations Office  
Vacant, Ohio Field Office

Keith Klein, Manager Richland Operations Office—3 years this month

Dr. Harry Boston, Manager, Office of River Protection—2 years 5 months

Barbara Mazurowski, Manager, Rocky Flats Field Office—1 year 11 months

Greg Rudy, Manager, Savannah River Operations Office—4 years this month

However, DOE has announced the following management changes:

Greg Rudy, will move to the National Nuclear Security Administration in Washington, D.C. and Charles Hansen, Deputy Manager of the Savannah River Operations Office, will become the Acting Manager.

Eugene Schmitt, Acting Deputy Assistant Secretary for the Office of Policy, Planning, and Budget at EM Headquarters in Washington, D.C. will replace Barbara Mazurowski as Manager of the Rocky Flats Field Office.

Roy Schepens, currently at the Savannah River Site will replace Harry Boston as the Office of River Protection Site Manager.

##### RIVER CORRIDOR CLOSURE PROJECT

*Question.* Ms. Roberson, the Department recently released a final RFP to select a contractor for the River Corridor Closure Project at Hanford. How is this solicitation consistent with the views expressed in last year's DOE contractor readiness report that the Department should expand competition by attracting interest from a broader base of contractors?

*Answer.* In the report, "Analysis of the DOE Contractor Base" (January 2001), the authors recommended various actions that DOE should take to improve contractor responsiveness to Requests for Proposals (RFP). One of the recommendations was to promote competition and high quality contractor performance by (1) providing an emphasis on performance-based contracting; (2) giving greater clarity and details in the scope of work; (3) providing more background information and documents to potential offerors; and (4) making sure that the draft comment period is adequate and comments are fully considered.

This was incorporated into the River Corridor Solicitation by (1) making the contract a cost-plus-incentive-fee contract, where the amount of fee earned is directly

related to the performance and cost of that performance; (2) refining the scope of work to ensure that it contains only those areas that are well understood and documented; (3) providing on the website all the available documents for the use of potential offerors; and (4) providing a comment period of 27 days for the draft RFP. In addition, three separate site tours were held, one for a general overview of the Hanford Site and two for specific areas or facilities requested by the potential offerors.

Another recommendation expressed in the report was to reward high quality contractor performance by (1) allowing contractors to earn market fees commensurate with performance and level of risk and liability assumed; and (2) sustaining or even strengthening the aspect of DOE competition policy that encourages up to 5-year extensions for strongly performing companies.

This was incorporated into the River Corridor Solicitation by (1) making the maximum allowable fee attainable by an extremely successful contractor 15 percent of proposed target cost with a minimum fee of 2.5 percent.; and (2) placing an option into the contract which provides for a large increase in scope for a highly successful performer. With the exercise of the option, the contract performance period would be increased by at least 5 years.

The other recommendations pertained to monitoring of the marketplace and/or the administration of contracts after award. Insofar as the acquisition was concerned, these recommendations were addressed by holding one-on-one meetings with prospective offerors on two occasions prior to release of the final RFP. The Source Evaluation Board Chairman and Contracting Officer conducted telephone solicitations with qualified companies not normally performing on DOE contract activity to expand the pool of prospective offerors. It appears at this time that this particular action was successful.

*Question.* You do agree that the contractor selected for the River Corridor Closure Project should to the extent possible, subcontract with local companies in the Tri-Cities?

*Answer.* Since this is a cost-plus-incentive-fee type of contract, the selected contractor will be incentivized to place subcontracts which respond to competitive solicitations at the lowest cost. Companies closest to the area of performance will have an advantage due to lower transit and mobilization/demobilization costs. In addition, a small business plan and socioeconomic goals are to be incorporated into the contract. The contract itself will penalize the contractor if there is any non-compliance with the plan and goals. Finally, the contractor is also required to have a mentor/protege program in place during contract performance. Because of the number of qualified small businesses in the local area, it is reasonable to expect that a fair percentage of the selected small businesses will be Tri-Cities companies.

#### LOW-LEVEL WASTE

*Question.* Ms. Roberson, last year in the fiscal year 2002 Energy and Water Appropriations Conference Report, the Committee directed your office to prepare a report on the life-cycle costs for the disposal of low-level radioactive waste at DOE and commercial disposal facilities. What is the status of that report? What are the major findings of that report?

*Answer.* The cost study is in final Departmental review, and is expected to be delivered to Congress this summer. As a result of doing this analysis, we have drawn five major conclusions concerning our management of DOE low-level radioactive waste.

- Generator site pre-disposal costs offer the greatest opportunity for cost savings. All DOE decisions for choosing low-level waste disposal locations should be based upon the full “cradle to grave” cost of managing the specific waste stream, not just the fee charged by the disposal facility or the cost of disposal facility operations.
- On-site DOE disposal cells for cleanup waste are cost effective.
- Commercial facilities offer the lowest disposal cost for some DOE waste.
- DOE disposal sites offer services not available commercially.
- Comparison of disposal alternatives must consider more than just disposal fees. The DOE practice of charging a “fee” that does not include capital costs and costs for closure and long-term stewardship does not unfairly favor DOE disposal sites as long as the “cradle to grave” cost for managing a waste stream is considered in making disposal site selections.

#### LOW-LEVEL WASTE

*Question.* Ms. Roberson, what is your office doing to make it easier for sites to choose the least expensive disposal option of low-level radioactive wastes? Do you

believe that the DOE's preference for the use of DOE disposal facilities should be changed to allow sites to use the most cost-effective option, whether that option is a DOE or commercial facility? If so, what is your office doing in this regard? What guidance does Headquarters plan to provide to its field offices to ensure that they are aware of the findings of your report and that they implement the most cost-effective options for the disposal of low level wastes?

Answer. We have prepared a report that is in final Departmental review on the life-cycle costs for disposal of low-level radioactive waste at DOE and commercial disposal facilities. The report was prepared in response to the report accompanying the Energy and Water Development Appropriations Act of 2002. One of the findings of that study is that commercial facilities offer the lowest disposal cost for some DOE waste. To facilitate our sites' use of licensed commercial disposal facilities, we are considering changing our radioactive waste management directive to remove the requirement that sites seek an exemption to use non-DOE disposal facilities. Subsequent guidance may be issued to clarify implementation of this policy change.

#### LIFE-CYCLE COSTS OF DISPOSAL

*Question.* Ms. Roberson, DOE's PEIS indicates that low-level waste and mixed low-level waste from off-site sources will be shipped to the Nevada Test Site and Hanford for disposal. Some have raised concerns that Hanford and the Site may be subsidizing DOE's disposal of these wastes unless the Department requires that generator sites pay the full amount of the life-cycle costs for disposal. If such wastes were to be disposed at Hanford, what are you planning to do to ensure that off-site generators pay the life-cycle costs of disposal at Hanford, so that Hanford does not subsidize those costs from its budget?

Answer. The Department is not really subsidizing any waste disposal costs at Hanford since the disposal site and the generator sites are all Federal Government entities. DOE's situation is different from private industry where the generator organization and the disposal organization are different. The disposal organization would charge the generator organization the full cost of disposal to maximize its profit. In turn, the generator organization would have the incentive to reduce the amount of waste generated in order to maximize its profit. There is no profit incentive for DOE. DOE implements other incentives (e.g., transportation, packaging, and waste minimization requirements) that have successfully minimized the amount and hazards of waste generated.

Life cycle disposal costs include the costs for surveillance and monitoring many years after the disposal site has stopped receiving waste and has been closed. Individual generator sites would need to pay today for activities that will occur well after they have stopped disposing of waste at the disposal site. (Indeed, some generator sites would need to pay today for activities that would occur well after they are cleaned up, closed, and are no longer part of DOE). If individual generators were required to bear these costs, long-term carryover of congressional appropriations would be required.

The Department recognizes that the DOE practice of charging "fee" that does not include capital costs and costs for closure and long-term stewardship may unfairly favor selection of DOE disposal sites when DOE waste generators are evaluating the cost-effectiveness of various disposal options. To address this, we are developing guidance that will require generators to consider the "cradle to grave" cost for managing a waste stream when making disposal site selections.

#### INNOVATIVE TECHNOLOGIES

*Question.* Ms. Roberson, DOE officials have stated that the Department intends to provide extraordinary incentives to contractors that can provide exceptional technology in order to achieve its goal of accelerated environmental cleanup. Specifically, does the Department intend to utilize private sector technologies that have been developed through the use of their own capital by entering into contracts that will offer a portion of measured savings enabled by the privately developed technology as compensation for taking the risk to bring the technology to market? Further, will DOE develop a related procurement policy and model, if so when might this policy and model be brought forward?

Answer. Accelerating the cleanup inherently involves two potentially conflicting objectives: 1) provide the highest confidence in estimating the cost and schedule to complete the cleanup, which will typically require the use of currently available technologies; and 2) implement accelerated schedules and reduced costs, which will typically require the use of innovative technologies that need additional development.

The Department is reinforcing the incentive structure of contracts to ensure there are sufficient incentives for contractors to accept the risk of utilizing an innovative technology, but at the same time meeting cleanup commitments. The Department is reviewing current contracts to determine if changes are necessary.

RENEWABLE ENERGY PRODUCTION INCENTIVE (REPI)

*Question.* Mr. Garman, it's my understanding that the Renewable Energy Production Incentive (REPI) was created in the Energy Policy Act of 1992 to help communities served by municipal electric utilities and rural electric cooperatives (combined representing 25 percent of the industry nationwide) invest in renewable energy projects. My state of Washington has over 100 years of experience with public power systems, and they currently serve 3.2 million residential consumers—or over 50 percent of the population. The REPI program represents the recognition that these not-for-profit electric utilities cannot utilize the production tax credits for renewable energy made available to private entities, including for-profit utilities. If the goal is to increase the use of renewable energy in this country—as I believe it is—then not-for-profit electric utilities need the same types of Federal incentives that Congress has provided to private entities through the tax code. Otherwise, we're telling 50 percent of the people in my home state and 25 percent of the people in this nation that their communities aren't worth the Federal investment.

What is the current backlog of projects awaiting funding through the Renewable Energy Production Incentive (REPI) program? What was the backlog in 2001?

*Answer.* The current backlog of projects awaiting funding is in the table below. The Department interprets "current backlog" to mean REPI Tier II projects that have unpaid electricity production as of December of the previous year. The current backlog is from the last year of production (i.e., fiscal year 2001) as well as from years prior to the fiscal year 2001 year of electricity production.

CURRENT REPI TIER II UNPAID BACKLOG

[Dollars in Millions]

Facility State	Owner/Utility Name	Fiscal year 2002 Backlog (kWh)	Fiscal year 2002 Backlog
AZ	Salt River Project .....	1,815,029	\$31,712
CA	Central Valley Financing Authority, (SMUD) .....	164,285,585	2,870,422
CA	City of Glendale .....	261,279,986	4,565,123
CA	County of Sacramento, Waste Management & Recycling Division .....	111,516,895	1,948,440
CA	Monterey Regional Waste Management District .....	66,461,485	1,161,225
CA	Sonoma County Dept of Transportation and Public Works .....	84,892,518	1,483,255
CA	The Regents of University of California c/o UCLA Energy Services .....	96,118,603	1,679,399
FL	Jacksonville Electric Authority .....	34,402,619	601,088
NC	Catawba County .....	13,283,325	232,088
OR	Emerald Peoples' Utility District .....	40,084,778	700,367
OR	Pacific Northwest Generation Coop .....	68,011,141	1,188,301
PA	Lycoming County Resource Management Services .....	31,968,825	558,564
SC	Santee Cooper .....	857,097	14,975
WA	Public Utility District #1, Klickitat County .....	122,620,940	2,142,452
WA	Public Utility District No. 1 Snohomish County .....	795,445,504	13,898,143
WI	County of Dane, Dept of Public Works .....	45,623,828	797,146
Totals for Tier II, fiscal year 2002 .....		1,938,668,160	33,872,701

The backlog for 2001 is given in the table below:

YEAR 2001 REPI TIER II UNPAID BACKLOG

[Dollars in Millions]

Facility State	Owner/Utility Name	Fiscal year 2001 Backlog (kWh)	Fiscal year 2001 Backlog
CA	Central Valley Financing Authority, (SMUD) .....	128,028,921	\$2,182,385
CA	City of Glendale .....	205,182,974	3,497,556
CA	County of Sacramento, Waste Management & Recycling Division .....	50,323,004	857,808
CA	Monterey Regional Waste Management District .....	51,034,909	869,943
CA	Sonoma County Dept of Transportation and Public Works .....	65,490,372	1,116,351
CA	The Regents of University of California c/o UCLA Energy Services .....	74,348,165	1,267,341

## YEAR 2001 REPI TIER II UNPAID BACKLOG—Continued

[Dollars in Millions]

Facility State	Owner/Utility Name	Fiscal year 2001 Backlog (kWh)	Fiscal year 2001 Backlog
FL	Jacksonville Electric Authority .....	27,129,131	462,444
OR	Emerald Peoples' Utility District .....	33,631,952	573,291
OR	Pacific Northwest Generation Coop .....	53,558,651	912,963
PA	Lycoming County Resource Management Services .....	25,219,272	429,889
WA	Public Utility District #1, Klickitat County .....	73,170,039	1,247,259
WA	Public Utility District No. 1 Snohomish County .....	631,458,266	10,763,859
WI	County of Dane, Dept of Public Works .....	33,687,669	574,241
Totals for Tier II, fiscal year 2001 .....		1,452,263,327	24,755,330

## RENEWABLE ENERGY PRODUCTION INCENTIVE (REPI)

*Question.* What has the Administration requested for the program in the last 5 fiscal years?

*Answer.* The budget requests for REPI in the last 5 fiscal years are:

—Fiscal year 1998—\$4.0 M

—Fiscal year 1999—\$4.0 M

—fiscal year 2000—\$1.5M

—Fiscal year 2001—\$4.0 M

—Fiscal year 2002—\$3.991M

*Question.* Given that the demand for REPI funding has increased pretty significantly, even in the past year, why has the Administration again requested \$4 million for fiscal year 2003 for the program?

*Answer.* There are several reasons why the Department did not request a greater amount for REPI:

First, the annual REPI budget request is determined after careful consideration and balancing of the many research, development, and deployment priorities within EERE and the Department.

Second, fully funding REPI would not be fair to some categories of private entities and private utilities. REPI was originally conceived to provide public utilities with similar benefits as the tax incentives given to private utilities. The majority of applications to REPI are for electricity from landfill gas projects, but landfill gas projects, if privately owned, do not have a tax credit comparable to the REPI incentive payment (although the President has proposed such a tax credit in the fiscal year 2003 budget).

Currently, publicly-owned, landfill gas projects are eligible for REPI payments, but only as lower-priority Tier II projects that receive funds only after funds are exhausted for Tier I projects. Tier I technologies are those that would be eligible for tax credits if privately owned, and include solar, wind, geothermal, and closed-loop biomass technologies.

The REPI budget request is sufficient to cover expected qualified electricity from projects using Tier I technologies that could, if privately-owned, get tax credits. Requesting REPI funds of \$13.4 million (at an estimated inflation-adjusted fiscal year 2003 payment rate of 1.71 cents/kwh) to cover all the possible qualified energy generated in fiscal year 2002 would mean that the Federal Government provides a significant incentive to projects, mostly landfill gas, that would not qualify for tax credits if privately-owned. Such an action would give an advantage to public entities over private entities.

Finally, while acknowledging that REPI does provide some level of incentive, the Department recognizes the uncertainty about the full incentive value of REI due to the reliance on annual appropriations, particularly compared to tax credits. DOE is exploring options for improving this situation.

*Question.* Municipal electric utilities and rural electric cooperatives represent 25 percent of the electric utility industry combined. Given both the national energy policy's and the climate change initiative's emphasis on increasing tax credits for renewable energy for the remaining 75 percent of the industry, why not a similar commitment—in the form of an increased REPI program—from the Administration for the mostly small and rural communities served by public power systems and rural electric cooperatives? In the Administration's recently-released climate change initiative there is a 10-year, \$7.1 billion commitment of tax incentives to "spur investments in renewable energy and landfill gas conversion." Municipal electric utilities are uniquely suited to proceed with landfill-gas-to-energy projects in particular and

could substantially help the Administration achieve its worthwhile objectives if some of the costs were mitigated through REPI.

*Answer.* The Administration's priorities for renewable energy are set out in the National Energy Policy, the President's fiscal year 2003 Budget Request and the President's Global Climate Initiative. These priorities, when implemented, will improve the cost and performance of renewable energy technologies for the benefit of, and use by, all communities, whether small or large, urban or rural, and served by private, public, or cooperative utilities.

*Question.* It's my understanding that, since its inception, REPI projects have received about \$25 million total. Do you know how much money the for-profit utilities have received in production tax credits during that same time (since 1992)? My point is not to discount the worthiness of the production tax credits—they've obviously been beneficial to the nation—but to highlight the disparity.

*Answer.* The Department does not keep these data nor does it have knowledge of the amount of tax expenditures on production tax credits given to for-profit utilities since 1992. The raw data upon which such an analysis could be done are kept by both the Department of the Treasury and by Congress' Joint Tax Committee. The Department of Energy has contacted the Department of the Treasury seeking the requested information. The Department of Energy was informed that the answer is not readily retrievable from the raw data, and thus that the Department of the Treasury could not provide the requested information at this time.

#### QUESTIONS SUBMITTED BY SENATOR BYRON L. DORGAN

##### MOUND CLOSURE SAVINGS AND COSTS

*Question.* In February, you announced that the Department would compete the Mound contract over 2 years before the current contract expires. We understand that the Mound cleanup is on pace to finish by the end of 2005, well before the 2006 closure date and may be the first site to close in the Defense Facilities Closure Projects account. What additional savings and progress do you expect to achieve by competing this contract? What termination costs are you expected to pay the current cleanup contractor and what additional funds will be required to pay these costs and when will you request them?

*Answer.* The Department has decided to re-compete the Mound contract to capitalize on the advanced that have been made in the area of contract strategy for closure sites since the award of the current contract in 1997. EM plans to utilize a more incentivized contract structure at the Mound site that will be mutually beneficial to the contractor and to DOE. In addition, the current contract ends in 2004 and has no options to extend. In order to reach closure, either a competition would need to be pursued at that time, or a sole source extension would be required. Few firms would be willing to invest in a competition at that stage of closure. The Department believes that a competition at this stage will provide the maximum opportunity for the receipt of innovative approaches from industry.

Competition normally produces greater innovation and cost efficiency than sole source negotiation. EM anticipates that will be the case for the Mound solicitation. We will not know the cost savings and productivity improvements that may be realized, but we are working to develop a Request for Proposals that provides more flexibility and incentives for cost savings and accelerated progress than the current contract structure does.

It is difficult to estimate the cost of changing to the new contract. If the incumbent contractor, which has stated its intention to compete for the contract, wins the award, the current contract may be modified, and a termination action would not be necessary. In this case, the cost of transition to a new contract should be minimal. If a new contractor wins the award, the incumbent contractor will present a termination-for-convenience proposal, and the government will audit it and negotiate a fair and equitable settlement.

##### DECISION TO COMPETE MOUND CONTRACT

*Question.* We understand that your own independent review of the current Mound project baseline determined it to be on track for closure before the end of 2006 and one of the best in the DOE. How is your decision to compete the contract consistent with the fact that the Mound project baseline is on track and one of the best in the DOE?

*Answer.* The internal DOE review, which has not been made available publicly because of ongoing procurement, concluded that the proposed baseline had the potential to meet the 2006 closure data. Technical risk-assumption, and funding issues

remained to be negotiated, and such discussions never took place because of the decision to compete. Accordingly, it is not possible to say that baseline progress is "on track for closure before the end of 2006."

EM officials have not made and are not aware of the statement that the Mound project baseline "is on of the best in the DOE," and therefore, we cannot comment on that statement except to say that we anticipate receiving a strong, fully validatable baseline through the competitive process.

The Department's decision to compete the contract is consistent with its commitment to congress to close the Mound site by or before 2006, to adhere to the tenets of the Competition in Contracting Act (CICA), to have a contract that will be in existence until the Mound site is remediated and transitioned to the community, and to provide the types of incentives that will motivate the successful contractor to accelerate the project to the greatest extent possible, consistent with DOE health and safety standards.

#### CONTRACT TERMINATION FOR CONVENIENCE

*Question.* We understand that the government has broad rights to terminate contracts for convenience, but isn't this decision a significant increase in those rights and have implications for procurement policy?

*Answer.* The rights of the government to terminate a contract for convenience are well established in government procurement law. The standard applied for a decision to terminate for convenience is that the termination must be in the best interest of the government. The decision to terminate the Mound contract is within the established standard because it offers an opportunity to accelerate the schedule for closure of the Mound site at a reduced cost. In addition, it provides an opportunity to maximize application of innovative approaches from industry and capitalize on advances at other Departmental cleanup sites. The Department, the general public, and the contractor all benefit from a strategy designed to reduce risks, apply innovative approaches, and provide incentives to motivate the contractor to safely achieve the critical cleanup mission at an established target cost.

The decision to terminate the Mound contract was based solely on facts specifically related to that contract. It does not alter the rights currently available to the Government for contract termination or reflect any changes in Departmental procurement policy.

#### CONTRACT COMPETITION

*Question.* Has the Office of Management and Budget, including the Office of Federal Procurement Policy, reviewed the decision to compete the Mound contract and, if so, what have they advised the Department?

*Answer.* The Office of Management and Budget, including the Office of Federal Procurement Policy, has not conducted a formal review of the decision to compete the Mound contract; therefore, they have not provided advice to the Department concerning the decision to compete the contract.

As a general rule, however, the Office of Federal Procurement Policy has strongly endorsed competition, and has made Competitive Sourcing a top priority. The competitive sourcing initiative strives to create a market-based government that is not afraid of competition, innovation, and choice. Although the competitive sourcing initiative is related to public-private competition, the Department believes that the significant improvements in performance and cost savings projected through public-private competition will also be realized in competing work to improve cleanup schedules and capitalize on positive experiences to accelerate schedules and reduce costs. It is the firm conviction of the Department that the anticipated cost savings and accelerated completion of cleanup at the Mound site will more than offset the minimal disruption and potential costs associated with competing the contract.

#### DOE'S GOALS FOR OUR NATION'S ENERGY FUTURE

*Question.* Last year during this hearing, I asked about DOE's plans for efficiency, renewables, and overall goals for 10, 20 and 50 years from now. I was not given any real answer. Nor have I been given an answer since that time. Do you have any idea whether DOE, and the EERE Office in particular, are developing short, medium, and long term goals to better determine our nation's energy future? If so, what are these plans? If not, why haven't any plans been developed?

*Answer.* The Office of Energy Efficiency and Renewable Energy (EERE) is currently preparing a Strategic Plan that will address important energy-related challenges and opportunities facing our country. This plan identifies the goals and strategies EERE will pursue in the years ahead to address these programs. In developing this plan, EERE is paying greater attention to long-term impacts, specifically using



a longer time horizon, extending from 1973 through to 2050. The plan will address quantitative results for the next 30 years and will look ahead 50 years at structured energy markets. The Strategic Plan is explicitly tied to the vision and recommendations of the National Energy Plan, containing a sharper delineation of EERE's role and objectives.

#### EERE REORGANIZATION

*Question.* What is involved with your recently announced reorganization? For example, you mention that your reorganization is going to make the Office of Energy Efficiency and Renewable Energy (EERE) more efficient, but how is it more efficient if you will have the same number of staff as before? Isn't this about rearranging staff? If you are not eliminating any positions in this process, how will this save money or improve efficiency? Have you met with stakeholders/businesses about your reorganization plans? What do they think of your plans?

*Answer.* The EERE reorganization directly responds to the President's Management Agenda by proposing to eliminate the current 5 sector stovepipe organizations, several management layers, place greater emphasis on the 11 programs and program management, and improve our business practices. The new business model accomplishes all this by realigning staff resources into two business units each directed by an Deputy Assistant Secretary. The Deputy Assistant Secretary for Technology Development oversees the 11 programs while the Deputy Assistant Secretary for Business Administration oversees three business management units. By realigning staff resources into these two business units, EERE will realize efficiency gains by placing greater emphasis on project, contract, and acquisition management and leaner administrative/support functions, with fewer layers of management. The business model is based on the following principle: make the 11 Programs the center piece of the EERE organization and develop strong business services to support the programs and the program managers. Our goal is not to eliminate personnel positions. By developing an integrated corporate management system, used throughout the EERE organization, we will achieve economies of scale and process efficiencies in our project management and business management processes.

The EERE stakeholder/business community has been briefed on our proposed reorganization. The general reaction has been favorable with most of the business/stakeholder community expressing a willingness to work with the EERE structure.

*Question.* Your reorganization would reduce the number of Deputy Assistant Secretaries from 5 to 2, one for Technology Development and one for Business Administration. Each of these Deputy Assistant Secretaries would have 11 Program Offices reporting directly to them. Are you confident that these two individuals will be able to manage such a broad scope of responsibility? What steps would you take if a log-jam occurs?

*Answer.* Under the proposed EERE reorganization, the Deputy Assistant Secretary for Technology Development oversees the 11 programs and the Deputy Assistant Secretary for Business Administration oversees 3 corporate business units. The selection of the two Deputy Assistant Secretaries was made after extensive interviews by Assistant Secretary Garman of all 14 Senior Executive Service (SES) members in the EERE organization. He is confident that his selections have the broad range of experience and capability to manage this new structure. Fundamental to making the proposed organization effective is to select the best, give them direction, not micro-manage their efforts, and trust their judgements. Similarly, the creation of the Board of Directors affords the Assistant Secretary the opportunity to tap the extensive knowledge and skill base of the senior career executives who compose the Board.

#### EXPANDING EERE'S INTERNATIONAL EFFORTS

*Question.* In your Strategic Program Review you call for an expansion of EERE's international efforts. In the Review document you cite that "current investments in this area are extremely modest" and go on to recommend that "R&D support is needed to develop energy supply and service applications appropriate to developing countries—applications for use in buildings, industry, power, transport, agriculture, education, health and in particular, that can generate income for the user-building on U.S. renewable energy and energy efficiency technologies." I couldn't agree with you more that we need to expand EERE's international activities. But don't you need to expand EERE's international activities. But don't you need to do much more than just "R&D support"? What additional plans do you have to expand EERE's international efforts?

*Answer.* The fiscal year 2003 Budget Request is responsive to the language in the fiscal year 2002 Conference Report: "The conferees expect the Department to work

with the Department of Commerce, the U.S. Agency for International Development, and other relevant agencies to complete, and begin implementation of a 5-year plan to open and expand export markets for U.S. clean energy technologies. The conferees urge the Administration to include adequate funding for this initiative in the fiscal year 2003 budget submission.”

The Department proposes an increase of \$3,660,000 for the International Renewable Energy program. The requested \$3,660,000 increase is to support the Clean Energy Technology Exports (CETE) initiative. The 5 year plan has been drafted, is currently in agency concurrence, and is expected to be submitted to Congress within the next few weeks. The CETE approach will be to initiate two types of international activities: support for industry-initiated export projects and “showcase” projects that demonstrate the CETE vision of coordinated activities among the USG agencies with export responsibilities. Priority will be given to advancing the U.S. recommendations in the National Energy Policy. We anticipate major leveraging of these funds with those of other agencies and U.S. industry.

The remaining \$2,840,000 under the \$6.5 million request will be used to support the energy efficiency and renewable energy provisions of existing DOE and U.S. Government bilateral and multilateral agreements. The most important of these agreements include the North American Energy Working Group (NAEWG) with Mexico and Canada, the Asia Pacific Economic Cooperation (APEC), and new Science and Technology agreements with Italy and Japan. Since September 11, these agreements have been expanded in scope to include the role that diversified energy resources can play in increasing national security.

#### TRANSMISSION

*Question.* Why is the electric system and storage account only level funded with last year, given the importance of improving the transmission situation in this country?

*Answer.* The fiscal year 2002 funding request of \$70M for electric energy systems and storage account is actually higher than last year given that some congressionally directed activities are expected to end in fiscal year 2002. Closure of these specific projects will provide additional funding to advance superconducting technologies in support of the transmission situation in the U.S. Additionally, the Department has recently released the National Transmission Grid Study that contacts 51 specific recommendations to modernize the Nation’s electric transmission systems.

The following activities initiated in fiscal year 20002 and proposed for fiscal year 2003 funding support recommendations in the study: model assessment and development to designate grid bottlenecks; development and implementation of grid metrics for reliability and market monitoring; and identification of tools, analysis methods, and data to perform future bottleneck assessments.

*Question.* What is the Department doing to increase transmission availability so we can develop more renewable energy, particularly wind energy, in the Dakotas and other States?

*Answer.* The Department’s Office of Distributed Energy and Electric Reliability is conducting research and development (R&D) aimed at upgrading the capacity of existing transmission corridors without building new lines. Research includes the development of advanced transmission technologies, such as advanced overhead composite conductors, superconducting transmission and distribution cables, superconducting transformers, superconducting flywheel storage systems and other advanced energy storage systems. Additionally, the Department is developing real time monitoring and control systems that will improve the response of the transmission system.

The Department is performing high-current testing on an advanced aluminum composite core conductor at Oak Ridge National Laboratory in partnership with 3M, and will install and evaluate this conductor on a major transmission line in North Dakota this year. This conductor can replace the conventional conductors on existing corridors with no changes to the towers or foundations, and carries two to three times the load of the conventional conductors. This capability increases overall transmission capacity, and allows the system to reliably accommodate wind farms loads under peak output conditions.

Additionally, the Department just completed and released the National Transmission Grid Study that supports full competition, and identifies bottlenecks, and technologies for a modern grid system. The study contains 51 specific recommendations including the use of distributed generation to relieve bottlenecks, and other advanced technologies, including high voltage direct current (HVDC) lines that are

attractive in the Dakotas for moving power long distances into the Western U.S. system that requires a DC tie.

#### GREEN TAG PROGRAM

*Question.* What is the latest update on the Green Tags program?

*Answer.* DOE's Federal Energy Management Program provides technical assistance to Federal agencies to help them meet the renewable portfolio standard of Executive order 13123. Our guidance and technical assistance activities encourage agencies to purchase green power and use Green Tags to meet or help others meet their renewable energy goals. The Green Tags program is an important market mechanism to help individual Federal markets and facilities meet the standard with maximum flexibility. The renewable energy purchase program, including green tags, is a very important mechanism to help Federal agencies meet the renewable energy goals of Executive Order 13123.

The latest update on Green Tags involves the Department's leadership by example in the purchase of renewable energy. The Secretary recently signed DOE Order 430.2 on utility and energy management. That Order establishes a Department wide goal of purchasing three percent of the electricity used by DOE's facilities from renewable resources by 2005 and seven percent by 2010, exceeding the Executive Order goal.

Additionally at this year's DOE Earth day ceremony, DOE announced its plan to purchase of 17 percent of the DOE Headquarters Complex's electricity at competitive prices from renewable resources and the Secretary challenged DOE sites to find cost effective and creative ways of meeting their renewable energy goals.

#### BIOMASS

*Question.* There is a growing interest in this country in the value of biomass as a renewable energy source. This would be especially valuable to areas with high agricultural use such as my State of North Dakota. What does your Department plan to do to research and develop the use of biomass, and what funding have you requested for such efforts?

*Answer.* With the support of the President and the guidance of the National Energy Policy, DOE's overall Biomass Program is working to increase national energy security and protect the environment by developing a domestic, renewable energy supply. The technologies that we are developing will significantly benefit the environment and rural economies by providing new energy sources, reducing emissions, and building new markets for America's farmers. We are also working to improve our national security by developing alternative fuels from agricultural wastes to reduce our dependence on foreign oil.

DOE is working to maintain its leadership role in the promotion of biobased fuels, power and products by integrating its biomass programs to ensure that they are aligned with the goals outlined in the President's National Energy Policy. We have identified the industrial biorefinery as the most promising strategy to utilize fuels, power, and industrial products for the establishment of a sustainable renewable energy industry. Thus far, our Integrated Biomass Program has helped move two new biomass-based product technologies toward commercialization and lowered the estimated production cost of cellulase enzymes by 50 percent. Our goals for the future include sustaining our efforts to reduce the cost of cellulase enzymes to 5 to 10 cents per gallon of ethanol produced to achieve a five-fold increase in the market share for chemicals and materials produced from biomass.

#### WIND RESOURCE DATA AND MAPPING

*Question.* Money is needed for mapping wind resources to better refine wind resource data. What is the Department doing to fund and promote such efforts?

*Answer.* The Department's Wind Energy Program is supporting activities to develop, verify, and improve the quality of wind resource information in the form of maps and data. This effort would substantially build on information developed in the mid-1980's using limited data, technology, and practices. The Department's support of advanced modeling techniques, new tools (such as Geographic Information Systems and more powerful computer systems), and new data sets (such as digital terrain data at 1 square kilometer or better resolution) are leading to more accurate estimates of the wind resource than were previously possible. These new wind maps are instrumental in helping state and local officials, project developers, utilities and landowners identify suitable wind sites for more detailed evaluation.

The Department's mapping effort is focused on developing wind resource information at the state level and is being conducted in concert with state officials and provide industry. This arrangement has lead to a more robust effort that meets end-

user needs, allows for cost-sharing from state and other organizations, and helps build a wind resource assessment infrastructure at the state level. The Department has also undertaken regional development of wind resource information, particularly in contiguous states, such as wind mapping projects for the Northwest, Southwest, and Mid-Atlantic regions of the U.S. This allows for further leveraging of resources and builds regional support for exploring wind energy development.

The Department is confident that U.S. wind resource mapping activities can be appropriately supported within the Wind Energy Systems program funding levels requested in the President's fiscal year 2003 Budget Request.

#### TRIBAL ENERGY PROGRAMS

*Question.* The DOE has requested funds this year for the Tribal Energy Program. What efforts will the DOE take to work with tribes to develop renewable systems? What further opportunities are there to develop Federal use of renewable energy?

*Answer.* Under the Tribal Energy Program, the Department will offer workshops and educational activities to build the capacity within the Tribes to make informed energy decisions. The program will work with other Federal agencies to collaborate in efforts mutually beneficial to the Tribes and to assure that duplication of efforts is avoided. The program will issue a competitive solicitation for both renewable energy project feasibility studies and implementation projects on Tribal lands. Being mindful that Tribes are at differing stages on an energy developmental spectrum, the program will offer: (1) assistance in investigating and formulating specific potential renewable energy projects through feasibility study funding; (2) assistance for technology validation projects; and (3) assistance in assessing Tribal renewable energy resources and identifying the options available to utilize those resources.

#### DEVELOPMENT OF FEDERAL USE OF RENEWABLE ENERGY

*Question.* What steps are being taken by the Administration to develop Federal renewable use in general?

*Answer.* The Administration has activities underway to both increase access to the renewable resources that can be found on Federal lands as well as increase Federal sector use of renewable energy. The Administration's National Energy Policy, issued in May 2001, recommended that Federal agencies examine ways to increase renewable energy production on Federal lands. In response, the Departments of Interior, Energy, Agriculture and Defense created an interagency task force to examine potential renewable resources, as well as enhance the processes related to renewable energy project development. The Department of Energy (DOE) will support other Federal agencies by providing technical expertise to efforts to revise Federal land use plans, as well as develop more accurate renewable energy resource assessments.

The Administration also continues to encourage Federal use of renewable energy at the over 500,000 domestic and international Federal facilities. DOE issued guidance to Federal agencies on May 15, 2000, directing Federal agencies to obtain 2.5 percent of their electricity use from renewable resources by 2005. DOE's Federal Energy Management Program (FEMP) provides technical assistance and limited financial support for renewable energy projects at federal facilities; develops financial mechanisms to support renewable purchases; provide technical training sessions for facilities managers; and supports agency purchases of renewable generated power. In addition, as DOE leads the Federal Government by example, Secretary Abraham has directed DOE to purchase 3 percent of its electricity from renewable resources by 2005, and 7.5 percent by 2010.

As an example of the Administration's commitment to developing Federal renewable energy use, on April 22, 2002, Secretary Abraham announced the largest ever purchase of electricity generated from renewable energy for DOE headquarters facilities in Washington, D.C. and Germantown, MD.

As a result, roughly 17 percent of DOE Headquarters electricity needs will be met by renewable resources. This green power purchase will allow the DOE headquarters to become a partner in the Environmental Protection Agency's Green Power Partnership, a voluntary program that encourages public and private organizations to purchase renewable power.

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#### QUESTIONS SUBMITTED BY SENATOR JEAN CARNAHAN

##### WELDON SPRING SITE

*Question.* What historic missions did the Atomic Energy Commission perform at the Weldon Spring Site in Missouri?

Answer. The Atomic Energy Commission (AEC) performed operations relating to the assay of uranium ore concentrates shipped to the site from mines and mills in western states. This assay was to determine uranium concentration within the ore concentrates to establish payment for the mines and mills. After assay, some portions of the ore concentrates were shipped to other AEC facilities and remaining portions were processed on site by conversion from ore concentrates to pure uranium metal ingots. These ingots received some machining and were subsequently shipped off site to other AEC facilities for further processing. Also performed were process research and development for the conversion of ore concentrates to metal for both uranium, and to a limited extent, for natural thorium ores. In addition, the AEC performed waste disposal functions for both process wastes from the site and for disposal of the wastes from dismantling the Mallinkrodt Destrahan Street facilities in St. Louis, Missouri.

*Question.* What historic missions did other DOE-predecessor agencies perform at the Weldon Spring Site in Missouri?

Answer. Following closure of the facility and while the site was in a caretaker mode, the Energy Research and Development Agency performed site surveillance, monitoring and maintenance activities.

*Question.* Were the historic missions at the Weldon Spring Site related to defense atomic energy activities or non-defense activities? If so, explain why site cleanup and long-term stewardship is funded from the Department's non-defense budget account.

Answer. The activities at the Weldon Spring Site were early steps in the uranium processing cycle, one step after the milling process used at Uranium Mill Tailings Remediation Action Project sites. Uranium metal product from the site went into many elements of the Atomic Energy Commission's mission, including reactor fuel and weapons material. Because the site was inactive from 1966 onward, the Department's remedial effort, which began in the 1980's, placed the Weldon Spring Site in the non-defense segment of work.

#### GRAND JUNCTION SITE

*Question.* Is there any reason why the long-term surveillance and maintenance of the Grand Junction site cannot be funded using the defense EM account given the Department's January 2001 report to Congress on long-term stewardship indicating that most sites requiring such maintenance should fall under defense-funded sites?

Answer. The funding source has traditionally been non-defense, but other alternatives could be considered.

#### WELDON SPRING SITE

*Question.* Your fiscal year 2003 budget request indicates two apparently contradictory statements regarding the Weldon Spring Site in Missouri:

*Statement 1.*— "Project complete; long-term stewardship activities transfer to Idaho/Grand Junction beginning in fiscal year 2003."

*Statement 1.*—"The post remediation activities require long-term surveillance and maintenance, and may also require long-term treatment of groundwater if decided by the final site groundwater Record of Decision."

Which statement is correct: Is the project "complete" or is "long-term treatment of groundwater" still required? Please fully explain the accurate status of the project including any resolution on whether "long-term treatment of groundwater" will be required.

Answer. Both statements are correct. However, long-term stewardship may be a component of the groundwater remedy that has yet to be decided for the Weldon Spring Site. All anticipated field construction activities will be complete as of September 2002, and the site cleanup is, therefore, at the appropriate point for entry into the long-term stewardship phase of the project. The numerous studies and remedial efforts for groundwater indicate that monitoring will be the appropriate remedy, and DOE's budget planning reflects that technical view. This does not preclude a different technical decision regarding groundwater remediation, which could require other remediation efforts. In that case, the Department would make the appropriate budget adjustment, as has been done at other locations.

*Question.* Explain why the Department has not yet proposed follow-up groundwater work such as containment, cleanup studies, and continued observation as part of a post-closure long-term stewardship plan?

Answer. Groundwater has been monitored at this site since 1986. Several focused studies of groundwater contamination were done in the 1990s. This led to a proposed plan and draft record of decision for groundwater which was presented to the U.S. Environmental Protection Agency and the State. It called for active remedi-

ation of one contaminant, trichloroethene (TCE), and long-term monitoring of the remaining contaminants. The State objected, and DOE agreed to conduct additional studies in addition to the active remediation of TCE. As a result, an additional study of the aquifer to address State concerns and an interim record of decision for treatment of TCE were approved. The results of the study of the aquifer are being analyzed. Data from the treatment performance will be added to the results of the study of the aquifer, and at that time a proposed plan and record of decision regarding the long-term program for groundwater will be re-issued. Whatever the decision is, it will be incorporated into the long-term stewardship plan. Until the decision is reached, DOE will continue to implement the existing annual site environmental monitoring plan to ensure that no interruption in groundwater monitoring occurs.

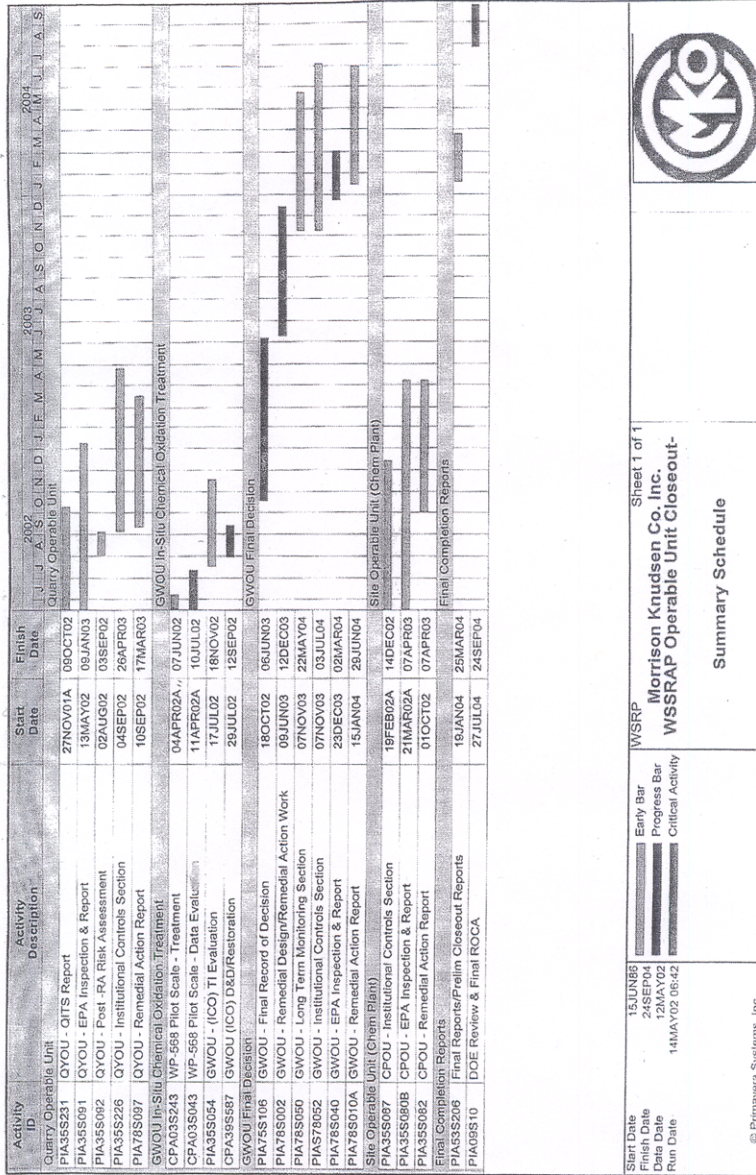
*Question.* The Grand Junction office is experienced in completing surface cleanup and conducting follow-up groundwater work as part of a long-term surveillance and maintenance program. The Department indicated that the Weldon Spring Site would be transferred to the Grand Junction Site yet provided no funds for that additional work. What is the purpose of making such a transfer without providing the funding the office needs to perform follow-up groundwater work?

*Answer.* The fiscal year 2003 budget request includes funds for Grand Junction to assume responsibility for long-term stewardship activities, including surveillance and maintenance at the Weldon Spring Site. There are carryover funds from fiscal year 2002 being given to Grand Junction to supplement the request.

#### CERCLA CLOSEOUT DOCUMENT MATRIX

*Question.* Please provide a copy and a summary description of the "CERCLA Closeout Document Matrix" and any and all documentation that provides a reliable technical schedule pertaining to the cleanup and closure of the Weldon Spring Site including the expected date of completion.

*Answer.* The attached Weldon Spring Site Remedial Action Project summary schedule is provided below.



WSRP  
 Morrison Knudsen Co. Inc.  
 WSSRAP Operable Unit Closeout-  
 Summary Schedule

Start Date: 15JUN88  
 Run Date: 14MAY02 09:42  
 Legend:  
 Early Bar  
 Progress Bar  
 Critical Activity

## PREDICTED 2002 CLOSURE DATE DOCUMENTS

*Question.* The fiscal year 2003 budget request indicates a predicted 2002 closure date; when will the Project Closeout Report and the final sections of your ground-water operable unit and institutional control plans be submitted? If these documents predict a closure date later than the 2002 date in the fiscal year 2003 budget, when does the Department anticipate submitting an amended budget request with accurate information?

*Answer.* The referenced documentation is scheduled to be completed in fiscal year 2004. All CERCLA closeout documentation done in fiscal year 2003 and fiscal year 2004 will be funded by fiscal year 2002 Weldon Spring Site Remedial Action Project carryover funds. No amended budget request is necessary.

## SITE CLOSURE DATES

*Question.* Please list any and all other project closures dates in the budget request that are incorrect, based on information that the Department and available at the time the budget request was submitted to Congress.

*Answer.* All site completion and project completion dates contained in the fiscal year 2003 budget request were based on current cleanup plans. As you are aware, EM has developed an aggressive plan of action to change how the EM program approaches its cleanup mission. The EM program is now focusing on one primary result B reducing risk to public health, workers, and the environment on an accelerated basis. Since submittal of the fiscal year 2003 request, EM has made significant progress in defining the risk reduction and accelerated cleanup strategies at each of its sites. Once negotiations with regulators are completed and detailed site performance plans are finalized, EM will develop integrated project baseline for each site, which will be used to manage its cleanup activities. New site and project completion dates will be developed from these baselines.

## MARCH 1999 FUSRAP MOU BETWEEN DOE AND USACE

*Question.* In March 1999, the Department signed a Memorandum of Understanding with the U.S. Army Corps of Engineers (USACE) delineating administration and execution responsibilities for the Formerly Utilized Sites Remedial Action Program (FUSRAP). DOE's more recent Top-to-Bottom Review indicates "EM should develop a strategy for transferring lands that are not owned by DOE or associated with DOE missions but for which it is slated to perform long-term stewardship to other governmental agencies with land management missions." Why DOE still planning to take back sites from the Corps after cleanup while simultaneously planning to transfer other sites to other agencies for long-term stewardship?

*Answer.* The Department is coordinating with other Federal agencies in an effort to identify options for the efficient and effective long-term management of contaminated sites. This is an issue facing multiple Federal agencies. In the particular case of FUSRAP sites, most are on land that is privately owned. While the Department has long-term stewardship responsibility for these sites, the responsibility will, in the majority of cases, be limited to record keeping and information management.

The land at four of the Federally-owned FUSRAP sites is under the administrative jurisdiction of the Department of Energy. Another Federally-owned site proposed for cleanup under FUSRAP, where the Atomic Energy Commission previously did work, is under the administrative jurisdiction of the Department of Defense. Under the Memorandum of Understanding, once the Corps completes the remediation effort, the responsibility for managing these Federally-owned lands and for post-closure care reverts back to DOE. This arrangement is consistent with the direction provided in the Energy and Water Development Appropriations Act of fiscal year 2000. For those Federally-owned sites currently under the administrative jurisdiction of DOE, we are working with the Corps to identify options for future use that would allow their transfer from the Federal Government.

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 QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

## HYDROGEN AND FUEL CELL DEMONSTRATION ACTIVITIES

*Question.* What are the Department of Energy's ((DOE's) major hydrogen and/or fuel cell demonstration activities proposed for fiscal year 2003? Given that the University of Hawaii was designated as a Center of Excellence in Hydrogen Research and Education by the DOE, is Hawaii being considered as a location for these demonstration activities—especially as they relate to renewable energy resources?



Answer. The Hydrogen Program (funded by Energy and Water Development Appropriations) intends to continue support jointly with the Office of Transportation Technologies (funded by Interior Appropriations) for several activities that were awarded through competitive solicitations. These include the demonstration of a power park that co-produces hydrogen and electricity for an industrial complex, several residential power parks that demonstrate hydrogen production and use with advanced storage systems and fuel cells, and electrolysis systems that produce more than 10,000 standard cubic feet per day of hydrogen from water to fuel hydrogen vehicles.

The University of Hawaii is being supported with DOE funds through a competitive solicitation to conduct research and development in the area of photoelectrochemical hydrogen production and alanate hydrogen storage systems in fiscal year 2002. Additionally, in fiscal year 2002, the Department of Business, Economic Development and Tourism was awarded a cooperative agreement to develop a Hydrogen Power Park on the Big Island. This award was a 50:50 cost share and directed toward using renewable energy resources, and fuel cells/engines for power production. Our fiscal year 2003 request includes the second increment for the Hydrogen Power Park.

#### FREEDOMCAR UNIVERSITY RESEARCH PROGRAMS

*Question.* The DOE has announced plans to replace the Partnership for a New Generation Vehicle (PNGV) with the FreedomCAR partnership. How much of the FreedomCAR budget will be for university research programs?

Answer. Historically about 3 percent of the Department's automotive research budget has funded university R&D. FreedomCAR activities will continue this trend. With FreedomCAR's emphasis on longer-range, high-risk technologies, and with a focus on individual component research, there will likely be increased opportunities for universities to participate in the coming years. In addition, we have efforts designed to make the entire program more accessible to universities. The CARAT (Cooperative Automotive Research for Advanced Technologies) program is restricted to universities and small businesses. The GATE (Graduate Automotive Technology Education) program provides assistance to graduate institutions to set up interdisciplinary curricula related to advanced vehicle development and provides support for a limited number of graduate students. We also have had solicitations restricted to university participation. One such effort (a university consortium) is focused on basic research into one type of advanced combustion that may solve some of the emissions problems that are a current barrier to using internal combustion engines. Under the current budget request just these three examples (CARAT, GATE, and the consortium) would total about \$2.5 million.

#### PRIORITY OF HYDROGEN AS AN ALTERNATE ENERGY SOURCE

*Question.* Given the DOE's commitment to hydrogen and fuel cell technologies in the FreedomCAR, what is the Department's priority of hydrogen as an alternative energy source with respect to the 2003 budget request?

Answer. Much of the Department's ongoing transportation fuel cell technology activities (which total \$50,000,000 in the fiscal year 2003 budget request) focus on hydrogen as an alternative energy resource. To emphasize hydrogen-related work, the Department's fiscal year 2003 budget request for Fuel Cell R&D and Fuel Processor/Storage increased by \$2,800,000 or approximately 13 percent from the amount appropriated in fiscal year 2002. This increase would fund research into on-board hydrogen storage and associated off-board hydrogen fuel processing, purification, storage, and dispensing technologies. In addition, Field Evaluations, a new program element requesting \$3,000,000, was added to conduct field evaluations of hydrogen fuel cell vehicles and associated hydrogen fuel technologies. In addition, the Components program element is requesting a 16 percent increase for R&D efforts that include research into air compression technologies necessary for hydrogen fuel cell vehicles. FreedomCAR also includes a portion of the hydrogen program funded by the Energy and Water Development appropriation; that program request for fiscal year 2003 is over 50 percent higher than the fiscal year 2002 appropriation.

#### FUEL CELL TESTING STANDARDS

*Question.* Are there testing standards promulgated by the DOE or National Institute of Standards and Technology (NIST) regarding fuel cells to ensure that claims of energy production and efficiency by demonstration or pilot programs can be verified?

Answer. The Society of Automotive Engineers (SAE), through its Fuel Cell Standards Committee, is developing the necessary fuel cell vehicle testing standards for

on-board energy production and efficiency. The Committee's working groups are developing testing standards for fuel cell power system performance, reliability, fuel economy, emissions, and safety. In addition, SAE is working to coordinate and integrate its fuel cell testing standards work with those of international standards organizations. The Department participates in these SAE activities through representation in the working groups.

The Department is also developing testing standards to evaluate and validate technologies in the area of on-board hydrogen storage. This activity includes developing test protocols, procedures, and baseline testing of low pressure hydrogen storage materials and systems including metal hydrides, chemical hydrides, and carbon-based approaches.

#### ENERGY SECURITY AND ASSURANCE

*Question.* The Department is requesting a 683 percent increase in energy security and assurance. How will this increase be spent?

*Answer.* In November of 2001, the Department of Energy's Office of Emergency Operations undertook the responsibility to include the protection of the National Energy Infrastructure as part of our core mission. We began an immediate and intensive outreach program to ascertain what had been done to protect the energy infrastructure and to identify what activities the Department needed to undertake to assist industry, as well as state and local governments. The energy infrastructure is comprised of 157,810 miles of transmission lines, 5000 power plants generating a capacity of 800,000 Megawatts, two million miles of oil pipelines, refineries, ports, storage facilities, and a natural gas distribution system moving 23 trillion cubic feet of natural gas in additional pipelines. The Department and the Federal Government have a tremendous amount of unique capabilities to offer and we have instituted a program to make those capabilities available through training, exercises and staff assistance. We have carried this message to the energy sector through a variety of methods, including:

As of today, teams have visited 42 states to identify what specific Energy Security and Assurance needs exist and put in place plans to support each state. The remaining states will be visited by the mid-April. With this initial outreach effort complete, the Office of Energy Assurance will develop a long-term state engagement plan that will ensure active communications and support for each state, as well as regional and national strategies.

*Industry Vulnerability Survey Assistance.*—We have begun an initial assessment of the 25 top critical energy assets throughout the country to provide a baseline analysis on the security of the energy infrastructure at a cost of \$1.8M. Fourteen sites have been completed to date and the remainder will be complete by the end of March. In addition, the Department is conducting cyber vulnerability analyses of energy facilities to ensure the SCADA systems are protected. A total of 174 critical energy assets have been identified, conducting vulnerability assessments on all of them will require \$12.5M.

*Development of National Security Standards.*—We are in the process of developing national security standards/guidelines that will assist industry in developing security plans and procedures to better protect the national energy infrastructure. These standards are being developed cooperatively with industry and our interagency partners and will establish a baseline for developing national training standards for industry personnel.

*Technology Development and Sharing.*—We conducted a technology expo in Washington, D.C. that allowed industry and government representatives to view first hand the technologies available in the national laboratories at a cost of \$71,000.

*Training Support and Outreach.*—Utilizing the expertise of the DOE Emergency Operations Training Academy, we have conducted a review of training already available within the Federal system that would be beneficial to industry and we are in the process of providing specialized training in weapons of mass destruction preparedness and response. Two sets of customized weapons of mass destruction emergency response interactive-training CDs are being distributed to states this week. We have completed the development of a Vulnerability Assessment two-day course, which has been made available through distance learning and we are in the process of completing a detailed five-day course that will be available to states and industry later this month. The interactive CDs cost \$496,000 and the two-day course cost \$6,000.

All of these initiatives were undertaken because we saw an urgent need to help safeguard the energy infrastructure. We have absorbed the costs of these Energy Assurance activities within our existing funding although, to continue these aggressive efforts at this accelerated rate, we have requested fiscal year 2002 supplemental

funding. The initiatives detailed above are the beginning of a long overdue program to share the resources of the Federal Government and lead the way to a more secure and assured energy infrastructure. We require the budget increase to continue these and similar activities.

*Question.* How will the Department assure the energy supply of an isolated state like Hawaii not be disrupted or made unaffordable by terrorist attacks?

*Answer.* The Federal Government cannot assure that the energy supply of any state is not disrupted by a terrorist attack. What we can do is what we began in the wake of the September 11 attacks. That is to reach out to the State and local governments and the energy industry and listen to their answer when we ask "What do you need? How can we help?" We will have visited every one of the fifty states by mid-April. We do not go with the typical Federal Government message to tell them what we're going to do and what they must do to help us. Instead, we ask them where they need help and then we figure out how to do that.

They are telling us they need training. We have responded by customizing three sets of interactive training CDs—two in emergency response to a weapon of mass destruction attack, and one on how to search a vehicle for a bomb. It is impossible to protect every electric pole, every substation, every wire so, which ones must be protected? We have developed a Vulnerability Assessment two-day course, which has been made available through distance learning and we are in the process of completing a detailed five-day course that will be available to states and industry later this month. This training and the associated training aids, shows them the many facets of physical and cyber vulnerabilities. While we are conducting baseline assessments of the nation's most critical energy infrastructure nodes, the training institutionalizes the skills to allow state, local and industry officials to assess their own entire infrastructure. All of this training is being provided at no cost.

We are sharing the technical resources of the Department through mapping capabilities of their energy infrastructure and we are making our plume modeling technology available through the Internet so that, in the event of an attack, local officials can make the very time critical decisions needed to minimize exposure. We hosted a technology exposition in February, and we plan to host another next year, that showcased technologies developed by the National Laboratories that may be of benefit the energy infrastructure.

In our role as the energy sector lead, we are in the perfect position to work across all energy industries and facilitate development of national security standards/guidelines that will assist industry in developing security plans and procedures to better protect the national energy infrastructure. These standards are being developed cooperatively with industry and our interagency partners and will establish a baseline for developing national training standards for industry personnel.

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#### QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

##### ADVANCED VITRIFICATION SYSTEM (AVS)

*Question.* I commend you and the Secretary for your efforts to put the clean-up campaign on a less costly and faster track. I am very pleased with the leadership that you and the Secretary have shown, and I encourage you to keep moving in this direction. I also understand that DOE has had success with the development of the Advanced Vitrification System, which has the potential to lower the cost of waste cleanup, and that you have a plan to deploy this system. What are your plans for deployment of the Advanced Vitrification System?

*Answer.* Last year, an independent panel performed a review of Advanced Vitrification System (AVS)-produced waste from bench-scale tests on DOE-provided waste surrogate to determine the system's ability to produce a borosilicate glass form that fully complies with the Waste Acceptance Product Specifications (WAPS). The panel determined that the AVS-produced product did not satisfy two of the six WAPS.

In fiscal year 2002, the Department requested the developer of AVS, Radioactive Isolation Consortium (RIC), Inc., to prepare a Work Plan for completion of the third stage (of seven that a developing technology must successfully complete) and the design, construction and operation of a pilot-scale facility for bench-scale "hot" tests. RIC is currently performing tests to satisfy the remaining two WAPS and addressing technical issues associated with its Work Plan. Once results from the newest tests are analyzed and an acceptable Work Plan has been developed, decisions on future plans for AVS can be made.

*Question.* What is the status of DOE's obligation of the \$4 million provided in fiscal year 2002 for development of Advanced Vitrification System and how much of the \$4 million appropriated for fiscal year 2001 has been obligated?

*Answer.* In the report accompanying the fiscal year 2001 Energy and Water Development Appropriations Act, Congress provided up to \$4 million to continue evaluation, development and demonstration of the Advanced Vitrification System (AVS) upon successful completion of supplemental testing. Approximately \$464 thousand was provided to the Radioactive Isolation Consortium (RIC), Inc., during fiscal year 2001 as the Department reviewed the analysis of tests performed on DOE-provided surrogate wastes during fiscal year 2002. An independent team determined that the resulting AVS product did not satisfy two of six Waste Acceptance Product Specifications (WAPS).

As of May 2002, approximately \$2.7 million has been provided to RIC. The remaining funds for the project, a total of \$4.0 million, will be available for obligation in July 2002. RIC is continuing bench-scale tests to establish whether AVS, using Hanford waste simulant, can produce borosilicate glass waste forms that fully comply with all six of the WAPS.

To date, at the direction of Congress, the Department has invested over \$7 million in the phased testing of AVS.

*Question.* How much additional funding will you need to implement and expedite your plans for AVS?

*Answer.* We believe any continued work on the Advanced Vitrification System (AVS) should be contingent upon successful completion of each stage of a series of phased tests. It is the Office of Environmental Management's policy to support full-scale work only after a project has successfully completed Stage 5 (of seven stages an emerging technology must complete). AVS has not yet fully completed Stage 3, and current efforts are focused on additional bench-scale tests to determine if an AVS product can successfully meet all six Waste Acceptance Product Specifications (WAPS), two of which an independent review team found were not met during fiscal year 2000 tests. Until results from the newest tests are analyzed and demonstrate that the AVS product can meet the remaining WAPS, it would be premature to develop future plans for AVS.

*Question.* The Administration's budget summary says, "The current cost estimate for cleaning up this set of 53 sites is \$220 billion, an increase of 50 percent in just 3 years. As of 2001, DOE has completed 14 of those 53 sites." Previous DOE testimony to the Committee has stated that the AVS appeared to be the only system that would work at Idaho National Engineering and Environmental Laboratory (INEEL) and the AVS single-use feature was also supported by the National Academy of Sciences as a solution for INEEL. Are you considering the potential savings of deploying the Advanced Vitrification System for applications to a broader array of wastes at sites in addition to Hanford?

*Answer.* The Advanced Vitrification System's (AVS) applicability to a wider array of wastes is not being examined at this time. AVS has not yet been developed to the point that it is considered a deployable technology, as it is still in the early research and development phases. Currently, work on AVS is focused on whether the system can produce a borosilicate glass waste form that satisfies six Waste Acceptance Product Specifications for the repository, while also reducing the volume of waste produced. The current target of this research is a Hanford tank waste simulant.

AVS is not the only system that could work at the INEEL. Joule-heated melters that are currently available could meet INEEL requirements. While the 1999 National Academy of Sciences' report, "Alternative High Level Waste Treatments at the Idaho National Engineering and Environmental Laboratory," did identify single-use melters as one option that could have a potential advantage for some of the wastes at INEEL, AVS was not specifically mentioned in the report.

*Question.* Does AVS' ability to vitrify waste without a great deal of pretreatment offer the potential for its use as the next generation vitrification system at Savannah River whenever the current melter system is spent?

*Answer.* The Department is certainly interested in technologies that reduce the amount of treatment and separation required in order to stabilize high-level waste. For the high-level waste at the Savannah River Site, the Department is considering options which can cost-effectively process the waste and meet both safety and production requirements. While the Advanced Vitrification System (AVS) has certain attributes which appear to be effective in the processing of high-level waste, there are two additional Waste Acceptance Product Specifications which still need to be met in order for AVS to be a viable option.

\$800 MILLION FUNDING ALLOCATION

*Question.* I applaud the Administration for its efforts to reduce future costs and at the same time speed-up the cleanup program. Obviously, you will need flexibility in the budget to accomplish it. I understand, the budget request for fiscal year 2003 includes "\$800 million in a new 'reserve' fund to implement fundamental program changes, with the expectation that the proposed reforms will improve cleanup efficiency by completing construction projects within baselines, reducing the cost of waste treatment and disposal, and integrating cleanup strategies across different sites." How would you allocate this funding?

*Answer.* The \$800 million request for the EM Cleanup Reform account is intended to provide a pool of funds to support accelerated risk-reduction cleanup strategies that have been agreed to by state and Federal regulators. We will allocate funds to those sites that demonstrate their ability to re-align to a more accelerated risk-based approach, and develop specific performance plans that lay out actions, schedules and funding requirements consistent with this new approach. Funds would be made available to sites to support these plans once agreements have been reached with appropriate state and Federal officials.

ADVANCED VITRIFICATION SYSTEM (AVS)

*Question.* How would you feel about using a portion to expand the use of alternative technology, such as the Advanced Vitrification System for plutonium, mixed wastes, and other contaminated wastes at all of the DOE sites?

*Answer.* Funds from the Environmental Management Cleanup Reform account are intended to support sites' accelerated cleanup approaches to achieve more risk reduction and accelerate cleanup with technologies that are currently available. Science and technology projects such as the Advanced Vitrification System are not likely candidates for allocations from this account since by definition they require some period for technology development. Rather, such activities should be funded in the EM Science and Technology budget.

*Question.* Given the rising costs and delays that have plagued the cleanup program, wouldn't you agree, Madam Secretary, that DOE should introduce alternative technology as quickly as possible to help reduce costs and speed up the cleanup program?

*Answer.* Absolutely. We believe that any innovative technology that has been proven to be an improvement over existing available methods or to provide a cleanup solution that did not previously exist should be deployed in cleanup operations as quickly as possible. This would allow the Department to meet EM's cleanup goals as quickly, safely, and efficiently as possible.

CONCLUSION OF HEARINGS

Senator MURRAY. With that, I will recess subject to the call of the chair.

[Whereupon, at 11:15 a.m., Thursday, April 18, the hearings were concluded, and the subcommittee was recessed, to reconvene subject to the call of the Chair.]



## ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 2003

U.S. SENATE,  
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,  
*Washington, DC.*

### NONDEPARTMENTAL WITNESSES

[CLERK'S NOTE.—At the direction of the subcommittee chairman, the following statements received by the subcommittee are made part of the hearing record on the Fiscal Year 2003 Energy and Water Development Appropriations Act.]

#### ENERGY PROGRAMS

##### PREPARED STATEMENT OF THE NUCLEAR WASTE STRATEGY COALITION

On behalf of the Nuclear Waste Coalition Strategy (NWSC), I commend your efforts with regard to the Department of Energy's (DOE) fiscal year 2003 budget request to include the nuclear waste disposal program.

As testimony for the record, the NWSC strongly supports increasing the DOE's budget request for \$527 million for the civilian nuclear waste disposal program. The \$527 million requested by the DOE is the minimum required to keep the nuclear waste disposal program on track. The amount approved in the fiscal year 2002 budget for nuclear waste disposal (\$375 million) was lower than the Administration's request of \$445 million. It was the 50 consecutive year that the DOE's budget for nuclear waste disposal was reduced by Congress. These years of cutbacks have caused the DOE to fall behind on their scheduled milestones. The continued lack of vigorous funding by the U.S. Congress for the nuclear waste disposal program is unacceptable to the NWSC.

The fact is that while the nation's ratepayers continue to pay annually more than \$1 billion into the Nuclear Waste Fund (NWF), the U.S. Congress has appropriated less than half of this amount in recent years. Since 1983, the nation's ratepayers have paid more than \$19 billion, including interest, into the NWF for the DOE to obtain a license, construct, operate and monitor a repository for commercial and military high-level nuclear waste, beginning in 1998. The DOE has spent more than 20 years extensively studying the geology, hydrology, chemistry and climate of Yucca Mountain. Since 1987, the DOE has spent approximately \$8 billion to characterize a repository at Yucca Mountain. Studies undertaken clearly demonstrate that the science and technical evaluations support the Yucca Mountain site as the nation's permanent repository. Should Congress pass a resolution to designate the Yucca Mountain site as a repository, the Nuclear Waste Policy Act clearly mandates the DOE to continue with its scientific studies to conduct a multistep process for identifying and licensing the repository and transportation systems.

However, unless Congress allocates essential funds from the NWF, the program's schedule—which is already 12 years behind schedule—will continue to slip. In fact, due to the lack of sufficient funding, the DOE's timeline to begin accepting spent nuclear fuel and high-level waste at the repository by 2010 may already be in jeopardy. The licensing application process has already slipped to 2004, and the award of the initial Phase A transportation planning activities may slip from the middle of 2003 to 2004.

We believe it is particularly important—in light of the September 11 terrorists' attacks—that requested funds be made available to initiate planning in fiscal year 2003 to expedite the DOE's near-term actions to prepare for fuel acceptance. These

actions should include funding directed to development of transportation-related infrastructure and contingency planning, which will ultimately be needed to remove spent nuclear fuel and resolution of outstanding fuel acceptance issues.

Again, the NWSC strongly urges members of Congress to appropriate the \$527 million as requested by the DOE. Hopefully, the beleaguered civilian nuclear waste disposal program will proceed forward as envisaged by lawmakers in the 1982 Nuclear Waste Policy Act.

The Coalition is comprised of state regulators, state attorneys general, nuclear electric utilities and associate members working together to hold the Federal government accountable for its contractual and statutory obligations to remove spent nuclear fuel from power plants across the nation to interim storage and eventually to a permanent repository. The NWSC is made up of participants from 44 organizations in 25 states.

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PREPARED STATEMENT OF THE SOLAR ENERGY INDUSTRIES ASSOCIATION

Mr. Chairman, Members of the Committee, on behalf of the Solar Energy Industries Association (SEIA), the national trade organization representing the photovoltaics and solar thermal manufacturers, component suppliers, and national distributors, I appreciate the opportunity to submit testimony on solar energy programs sponsored by the Federal Government. In large part due to the Department of Energy's stewardship over the solar program, the industry is growing at a blistering pace—with growth over the past decade exceeding 20 percent annually. SEIA is thankful to this Committee for its support for the solar program. Continued support is more important now than ever. As the Director of the National Renewable Energy Laboratory (NREL), Admiral Richard Truly, remarked at the National Press Club on March 14th, "Renewable energy technologies offer the nation powerful tools for enhancing homeland security. . . . More broadly, the growing energy contributions made by wind, biomass, geothermal and solar can be especially useful in helping offset our nation's reliance on foreign energy sources, thereby bolstering U.S. energy security."

The demand for clean energy in the United States and around the world must rival the demand for any product on Earth. A recent Newsweek poll found an extraordinary 84 percent of Americans nationwide favor increased funding for the development of solar and wind power. These poll results have been echoed in the ballot booth. Last November, 73 percent of San Francisco voters approved a plan to issue \$100 million in municipal-revenue bonds to fund solar on public buildings. U.S. government support for renewables is tame compared to Germany, Japan, and other countries. The question is which country will implement the policies to take advantage of the seemingly unlimited, booming market for renewables. The United States already has lost most of the wind turbine industry as well as its lead in PV production. In addition to a generously funded, well-managed Research Development and Deployment program, tax incentives and national net metering and interconnection standards are essential for a vibrant U.S. solar industry.

Given the charter of this Committee, I will focus my remarks on RD & D. SEIA respectfully requests \$100 million for the photovoltaics (PV) program, \$25 million for concentrating solar power (CSP), and \$12 million for Solar Buildings. This funding level is necessary to accelerate the technological advances of this energy source, which would increase our national security, add value to the electricity grid, provide high technology jobs, and improve our environment.

The request also reflects that although Congress appropriated \$95 million for solar in fiscal year 2002, after funding reductions and earmarks are accounted for, the available funding is considerably less. In other words, the solar program got cut last year. The SEIA request reflects that peer reviews conducted in 2001 determined that the solar programs at DOE are expertly managed and achieving important national objectives such as cost reduction and improvement in technology.

We are pleased that the Administration proposed a budget that boosts funding for the photovoltaics program and launches a thoughtful and aggressive campaign to promote Zero Net Energy Buildings. I commend the Assistant Secretary of Energy Efficiency and Renewable Energy, David Garman, for his commitment to the solar program and for his commitment to reduce bureaucracy at the Department to improve the effectiveness of all of the programs under his purview. The strong Administration endorsement of the Zero Energy Buildings program in the fiscal year 2003 Budget is particularly exciting, because this program spans the range of solar technologies. However, we are, of course, disappointed that the Administration once again proposes a close-out budget for the CSP program. This closeout budget is inconsistent with the congressional directive to the Administration to prepare a report



to Congress as to how best to deploy 1000 MW of troughs, dishes, and power towers, in the Southwest—an initiative that the Western Governors Association supports. (Governors Jane Hull of Arizona, Kenny Guinn of Nevada, and Gary Johnson of New Mexico, all signed their names to the WGA letter.) And the budget undermines the impressive international interest in deploying these technologies.

Additionally, the funding priorities within the PV program will need some readjustment. The focus on basic research is important, but it is the cost-shared programs that keep a solar manufacturing base in this country. Increased emphasis also needs to be placed on the systems and reliability accounts to maximize system performance.

I would first note that the PV program as a whole is the jewel of the EE/RE office. The 2001 Peer Review of the DOE Photovoltaic Program concluded that:

“In terms of the program’s relevance to national needs, the panelists found that the PV program’s work was outstanding across all activities. . . . In summary, it is the panel’s considered opinion that the PV program is doing an extremely effective job of setting priorities, balancing allocation of available resources, recognizing and addressing critical problems and barriers to progress and commercialization, and supporting the quality of work required to achieve its goals. . . . The panel notes that the consistently high rankings assigned in this evaluation are very unusual, and they are also very deliberated. . . . The panel believes this to be a truly outstanding element of the Department of Energy’s programs.”

The cost-shared DOE programs, such as PVMat, Thin Films Partnership, and Building Integrated PV (BiPV) keep solar manufacturing in the United States. In fact, many states including, California, Virginia, Maryland, Delaware, Florida, Arizona, New Jersey, Ohio, Michigan, Pennsylvania, and Massachusetts, manufacture solar. The industry already employs some 20,000 workers. If the PV industry continues to grow at an annualized basis of 20 percent as it has for the past decade, the number of workers employed in the solar industry will soon rival the glass and other more mature industries.

These programs also are highly effective. All of these programs are cost-shared research and enjoy exceptionally high remarks from the independent peer review team. The PVMat program has cut the cost of manufacturing solar modules in half. A record in efficiency in electricity produced by solar cells made from cadmium telluride used to manufacture thin film panels was achieved last year. And the Administration’s fiscal year 2003 Congressional Budget Document recognizes the value of BiPV, finding that: “Building integrated photovoltaics is an exciting and rapidly growing solar application in which solar panels serve the dual purpose of replacing conventional building materials and generating electricity. . . . By offering more than one functionality, BiPV systems will help cross the profit threshold that holds the key to significant growth in distributed, grid-connected electricity markets.”

In fiscal year 2002, Congress earmarked \$18,500,000 for the Thin Films Partnership. SEIA requests that number for fiscal year 2003. For PVMat [Advanced Manufacturing R & D] we request at a minimum the fiscal year 2001 funding level of \$11 million. And for BiPV, SEIA supports at least a \$2 million allocation.

The three programs mentioned above succeed in the most important metrics of success: (1) cost reduction; (2) efficiency improvement; and (3) job creation in the United States.

SEIA continues to support and urges full funding for Senator Frank Murkowski’s innovative Residential Renewable Energy Grant program, which would offset a portion of the cost of renewable energy systems. Consumer rebate programs have been a leading engine for growth in the states and the Federal Government should look to replicate this effort in appropriate areas (i.e., solar systems on Federal land, etc.).

The systems and reliability account should be restored to fiscal year 2001 levels. The Administration’s emphasis on the most promising research in this area is not funded at an adequate level to cover all of the necessary inverter and balance-of-systems work.

Cost-shared research programs and effective consumer incentive initiatives are essential elements to keep solar jobs in America. Another important item is consumer education. SEIA supports the Administration’s request to continue funding for the Solar Solutions project. The Solar Electric Power Association (SEPA) has been working with DOE on this initiative to determine the next stage of creating market demand for photovoltaic energy systems and to showcase successful projects. The initiative recognizes the role of key players, including electric energy service providers and utilities, which continue to be a catalyst for successful community-based solar deployment.

SEIA also requests that funds be included for an initiative to boost the supply of solar-grade silicon. Over 90 percent of solar modules are produced with silicon.

Solar cell manufacturing growth (up 38 percent this year) has outpaced the supply of affordable silicon. A meeting organized earlier this month—comprised of the companies that manufacture the vast majority of PV in this country—identified the severity of this roadblock to growth. Without an effective response, the potential growth of the industry will be compromised. This is a barrier that needs to be immediately addressed. Once a world leader, the U.S. has been continuously losing market share over the past 5 years. Developing a strong silicon feedstock program in the U.S. can help turn that trend around.

With respect to CSP, we believe that Congress should restore the proposed cuts to the funding for this program and instruct DOE to use its energies to make the 1000 MW Southwest Initiative a reality. The Senate will soon pass a tax bill that includes solar in the Production Tax Credit, which will improve the economics of this effort. According to RDI Consulting, the solar resource in the Southwest is the most abundant renewable resource available. As Western governors grapple with how to produce clean energy for a rapidly expanding population and states adopt Renewable Portfolio Standards, the attractiveness of CSP increases. Let's not forget that this is a proven technology. Some 354 MW of CSP continues to produce, clean, affordable, and reliable energy in California. Even an evaluation of the Administration's own budget document demonstrates the promise and performance of CSP technologies:

*Distributed Power System Development.*—"Because these systems are efficient (29.4 percent solar-to-electric conversion) and can be hybridized with other fuels (e.g., natural gas, hydrogen) they show great potential as a cost-competitive clean source of distributed power."

*Dispatchable Power System Development.*—"Large-scale CSP technologies have been operating successfully in the California desert for 15 years. Over this time the cost of these systems has decreased by a factor of 3, and at 12–14 cents/kWh they are currently the least expensive source of solar electricity. Recent technology advancements such as molten-salt thermal storage, low-cost receiver tubes, and concentrators has revitalized the CSP industry and placed them in position to play a major role in near-term green power opportunities, both domestically and overseas, as costs are projected to drop into the 6–8 cents/kWh range. In fiscal year 2001 a new solar trough receiver was identified as being able to reduce the overall system cost by 20 percent."

As to Solar Buildings, again, SEIA applauds the Administration's vision in this area. For solar to play more of a role in our energy mix, the distributed technologies need to get on the rooftops. The potential is incredible. Donald Osborn, Superintendent for Renewable Generation at SMUD, estimated that if every new home in California placed a 2.2 kW array on its roof, it would displace a dirtier 500 MW power plant. SEIA also endorses the Administration's emphasis on low-cost, polymer-based solar water heaters to cut the cost of solar water heating by 50 percent to an equivalent of 4 cents kWh by 2004. Solar thermal could play a significant role in meeting the energy needs of the United States. Israel displaces 6 percent of its electricity with solar hot water heaters—an amount three times the level of non-hydro renewables in the United States.

With some modifications to the Administration's budget, this Committee would greatly help the U.S. solar industry grow and prosper.

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PREPARED STATEMENT OF THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING

*Issue.*—The Department of Energy (DOE) is the Nation's leading sponsor of research in the physical sciences, second in computer science and mathematics, and third in engineering. The research funded by DOE underpins the Department's missions in energy, environment, and national security. It advances energy-related basic science, and provides unique user facilities for the U.S. scientific and engineering communities. This research is critical to sustaining and enhancing our national and homeland security, energy supply, economy, quality of life, and educational growth. DOE also provides a significant portion of the Federal R&D funding supporting scientists and engineers at our universities. These researchers and their students—the next generation of scientists and engineers—are conducting long-term, peer-reviewed basic research that is tackling present problems and preparing for future challenges.

*Position SPIE.*—The International Society for Optical Engineering—urges Congress to strengthen the Nation's investment in DOE's Office of Science (OS) programs and facilities by providing an increase of at least \$300 million, for a minimum budget of \$3.580 billion for fiscal year 2003. Setting aside funds for efforts requiring one-time funding in fiscal year 2002, the Administration's budget for DOE

proposes only a 5 percent boost for OS—an inadequate increase to meet U.S. priorities in national defense, energy security, and environmental quality.

SPIE appreciates and supports the Administration's plan to significantly increase funding for the National Nuclear Security Administration (NNSA), which maintains and enhances the safety, reliability, and performance of the U.S. nuclear weapon stockpile to meet national security requirements. However, SPIE is concerned about the significant funding reduction planned for the High Energy Density Physics Campaign. This Campaign is essential for certification of the life extension of our weapons stockpile and contributes to the science and engineering that enables NNSA to utilize experiments, simulations, and surveillance information in place of underground nuclear testing to make science-based judgments for stewardship. SPIE urges Congress to bolster funding for this extremely important program.

*Rationale.*—DOE's Office of Science is one of the primary government sponsors of basic research in the United States and leads the Nation in supporting the physical sciences and engineering. OS funding supports world-class, peer-reviewed and competitively selected research in areas of national priority as well as the construction and operation of major scientific user facilities (such as high intensity X-ray sources and massively parallel computer centers) for the Nation's scientists and engineers. Annually, more than 18,000 of our Nation's researchers conduct research at OS user facilities. Unfortunately, these facilities will continue to operate at approximately 75 percent of the optimally available hours without a funding increase, thus limiting the Nation's scientific and engineering communities in scheduling experiments that require consistent operating or long lead times, or present a narrow window of opportunity for collecting data.

The results of research conducted by the Office of Science's Biological and Environmental Research (BER) and Basic Energy Sciences (BES) programs greatly impact the public and the entire Nation. Developing the knowledge necessary to understand and mitigate the adverse health and environmental consequences of energy production, BER contributions include new medical diagnostic and therapeutic tools for disease diagnosis and treatment, non-invasive medical imaging, and biomedical engineering. The goal of BER's Medical Applications and Measurement Science program—to deliver relevant scientific knowledge that will lead to innovative diagnostic and treatment technologies for human health—is vital to recognizing and responding to bioterrorism.

The BES program is a principal sponsor of fundamental research for the Nation in the areas of materials, science and engineering, chemistry, geosciences, and bioscience as related to energy. BES applications include solar conversion, batteries and fuel cells, and solar photo-conversion processes. With funding priorities such as the design of the next-generation Linac Coherent Light Source, and improved instrumentation of the Neutron and X-ray scattering facilities, BES provides the knowledge to support the President's National Energy Plan for improving the quality of life for all Americans.

As the details of the fiscal year 2003 DOE budget are discussed, SPIE recommends that Congress increase funding for DOE's Office of Science and the High Energy Density Physics Campaign beyond the amount requested by the Administration. Funding for these programs is an investment that will enable the Nation's scientific and engineering communities to discover and develop the technologies of tomorrow.

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#### PREPARED STATEMENT OF THE SOUTHERN STATES ENERGY BOARD

The Southern States Energy Board (SSEB) is pleased to provide testimony for the record to the Senate Appropriations Subcommittee on Energy and Water Development as it considers fiscal year 2003 funding for the U.S. Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy (EERE), and specifically related to the biomass/biofuels fiscal year 2003 budget request.

*Request.*—SSEB governors recommend that the Congress appropriate \$5,000,000 to the DOE Regional Biomass Energy Program (RBEP) and direct that the Southern States Energy Board receive \$2,000,000 of that appropriation to conduct a regional governors biobased products and bioenergy economic development initiative in the southern region.

This line item, which would continue an appropriation that has appeared in every Federal budget since fiscal year 1983, is for the purpose of promoting economic development by fostering the use of biobased products and bioenergy, and takes advantage of and sustains existing networks and infrastructure developed throughout the Nation by the regional governor organizations.

*Purpose.*—The regional governors biobased products and bioenergy economic development initiative (the “Initiative”) will coordinate State policies, programs and activities at the regional level and provide a logical structure for the Federal Government to interface with individual States. Through interstate coordination and cooperation, the Initiative will improve efficiency by reducing activities that overlap with other States and by sharing resources between states and the Federal Government through coordinated, collaborative efforts. Critical to sustaining a “new economy” in the Southern States and elsewhere in the Nation, the Initiative will take advantage of and sustain existing biobased product and bioenergy networks and infrastructure previously developed by the regional governor organizations.

*Benefits.*—The economic benefits of RBEP are striking: the Federal investment of \$68.5 Million over the life of the program has had an estimated impact of some \$720 Million, with Federal dollars leveraging State and private sources in the \$2–\$4 range. By cost sharing projects and activities with the public and private sector, the economic benefit translates into a cost share equal to \$29 Million, making the value of the total benefits in excess of \$43.9 Million over this 6-year period.

Beyond the potential economic development benefits, participating States gain the opportunity to strengthen and integrate the work of energy, agriculture, forestry, environmental and other State agencies. Where issues are the same among several States, strategies can be developed to address these issues without regard to State borders. Examples include the development of similar legislative actions, working with the private sector with multi-state locations, and multi-state training and outreach to economize resources.

*The National Energy Policy.*—Energy independence is a critical element in the President’s Energy Policy and can be significantly enhanced by developing viable domestic alternative energy sources. This is precisely the purpose of the RBEP, a goal that over 20 years has been successfully promoted through this modest appropriation.

The Administration’s performance-based focus is to achieve the greatest possible return on each taxpayer dollar. The National Energy Policy recommends funding R&D programs that are “performance-based and modeled as public-private partnerships” and recognizes unique regional energy concerns. The President expressly encourages working with regional governors organizations to determine how to better serve the needs of diverse areas of the country.

The RBEP relies on interstate coordination on a regional level to accomplish its goals. Through an intricate and long-standing network of the public and private sectors, the RBEP provides extensive technical and policy expertise necessary for identifying strategies that have multi-state and multi-discipline applications. The five regional programs with State agency participation offer a well-connected national network of expertise for serving regional, State and local needs.

Even though RBEP represents a model program for return on each taxpayer dollar through public-private partnerships and is an integral component to the DOE’s justification for the fiscal year 2003 budget request, the fiscal year 2003 Energy Efficiency and Renewable Energy budget request paradoxically eliminates funding for the RBEP.

*History.*—The Regional Biomass Energy Program was created by Congress in 1983 under the Energy and Water Development Appropriations bills Public Law 97–88 and Public Law 98–50. The enabling legislation instructed DOE to design its national program to work with States on a regional basis, taking into account regional biomass resources and energy needs. Today, there are five regional programs, working with representatives in all 50 States, Puerto Rico and the Virgin Islands, and hosted primarily by regional governors organizations (Southern States Energy Board, Coalition of Northeastern Governors and the Council of Great Lakes Governors).

From fiscal year 1983-fiscal year 1996, the budget for this program averaged \$3.9 Million per year. Beginning in 1997, the program was transferred to the Office of Fuels Development (OFD), with the understanding that it would receive funding from both OFD and the Office of Hydropower and Biopower Technologies. Since 1997, the RBEP base program has received approximately \$14.9 Million in DOE funding.

*Southeastern Regional Biomass Energy Program.*—Among the most valuable aspects of the RBEP are the host organizations and the program managers. Their combined experience related to biomass technologies and policies is recognized nationally. Because of their long-term association with the States, RBEP host organizations and program managers are trusted resources that States rely upon for advice and assistance.

The Southern States have participated in this strategy through the Southeastern Regional Biomass Energy Program (SERBEP), which has provided over \$5.8 Million

in project funds since 1992 with a cost-share over \$21 Million by leveraging State and private funding for technology development. The SSEB has created awareness and support for bioenergy/biobased products in the executive and legislative branches of State government, improved the effectiveness of SERBEP activities, provided more formal interaction between the States, and improved policy development and coordination in particular.

From 1983 through 1998, the SERBEP was operated by the Tennessee Valley Authority. Then, in 1999, as an interstate compact with enabling legislation in each member state, SSEB was selected as the “host organization” for the SERBEP and received funding through a 5-year cooperative agreement. Because SSEB covers 16 States, Puerto Rico and the U.S. Virgin Islands, with the governor and a member of the House and Senate from each member State, roughly one-third of the governors and their legislatures in the United States are actively involved in bioenergy-related activities through SSEB.

Projects are selected through a competitive solicitation that undergoes a peer review evaluation process. Major beneficiaries are universities and small businesses, which have the greatest potential for job creation, and rural organizations, where jobs are most desperately needed. Grants to States under this program provide seed investment and venture capital at the “grass roots level” to small businesses, entrepreneurs, universities and State and local governments. The investment promotes technology development, deployment and transfer while creating jobs, strengthening the economy and contributing to homeland security.

*Energy Policy in the South.*—In September 2001, the SSEB and the Southern Governors’ Association addressed energy policy and adopted Energy Policy in the South—Integrating Energy, Environment and Economic Development: A Balanced and Comprehensive Approach that is in concert with the President’s National Energy Plan. It was presented to Vice President Cheney at the 2001 Annual Meeting of the Southern Governors Association and the SSEB.

The cornerstone of this report is the need for a stable, reliable and secure energy supply. The five key principles highlighted in the document are as follows:

- Ensure diversity of domestic energy resources to achieve energy and economic stability;
- Address supply to enable market stability and ensure energy reliability;
- Increase conservation and improve efficiency to minimize environmental impact and foster demand response;
- Expand and strengthen infrastructure capacity; and
- Advance R&D and use clean energy technologies and systems.

The Southern Governors recognize that in order to maintain the world’s strongest economy and protect national security coupled with a clean environment, States must support and develop policies and technologies that enable a diversity of domestic energy resources to be utilized throughout the region. SERBEP is a prime example of the call upon the Congress by the Southern Governors to provide adequate funding and incentives for further development of clean and efficient technologies and systems to provide an effective approach to increasing domestic energy supplies.

In the Energy Policy in the South, the Southern Governors recommend that States should develop programs and policies that will foster a regional market in the Southern States for biofuels and bioenergy. In addition, the Southern Governors recommend increased funding for the regional biomass energy program in order to foster economic development of bioenergy and biofuel projects in the Southern States.

*Conclusion.*—The “zeroing out” of the RBEP greatly diminishes the states’ ability to participate in the development of biomass energy markets—just as the Federal energy policy seeks to encourage diverse energy sources. By eliminating access to the states’ expertise, knowledge and experience with biomass resources and markets, DOE will remain as the primary public sector participant in the development of policy and markets.

Now that DOE is reorganizing the Office of Energy Efficiency and Renewable Energy and integrating all bioenergy activities, SSEB, the regional governor organization for energy and environment in the South, and the other regional governor organizations are uniquely positioned to implement a “regional governors biobased products and bioenergy economic development initiative.” The Initiative will both support the goals of EERE and complement the National Biobased Products and Bioenergy Initiative.

SSEB and the other regional governor organizations hosting regional biomass energy programs are critical partners of DOE for achieving the Renewable Energy Resources program’s three EE principal strategies of: (1) improving energy technologies and practices through R&D; (2) formulating policies and standards; and (3)

facilitating private sector deployment of advanced energy technologies and practices into their target markets.

We urge the Congress to restore this modest but vital appropriation to protect the Federal Government's 20-year investment in RBEP, and to continue the promotion of the strong Federal interest in viable and growing biobased products and bioenergy. Restoration of the appropriation for RBEP places the Federal focus where it belongs: with the states and not on energy alone, but rather the broad application of biobased products and bioenergy to create economic development in America's next century.

ECONOMIC AND ENVIRONMENTAL IMPACTS OF RBEP PROJECTS FUNDED THROUGH THE STATES

*AL.*—In Alabama, for example, the RBEP is providing over \$39,000 to Pro-Gen Power to assist them in the planning for installation of a 20 million gallons per year of ethanol plant in Alabama by 2003. Pro-Gen also contributed over \$39,000 to the study. The installation of this facility will provide 150 construction jobs over a 12-month period and 60 ongoing jobs for plant operations, plus indirect jobs. The plant will produce the equivalent of 194,789 barrels-of-oil and reduce carbon dioxide Greenhouse Gas emissions by over 146,000 tons per year. This ethanol will either be used in Alabama to reduce gasoline imports or the ethanol will be exported from the state, either way providing beneficial cash flows to the State.

*KY.*—In Kentucky, for example, the RBEP provided \$25,000 (fiscal year 2000 funds) and technical assistance to the Kentucky Division of Energy and the Paducah/McCracken County Joint Sewer Agency to assess the feasibility of recovering methane gas from their wastewater treatment plant and using this gas to provide energy to operate the plant. The County also provided \$128,000 toward the study. Based on the results of the SERBEP funded study, the project is now being implemented and will be operational by early June 2002. In full operation, the project is projected to save the County over \$49,000 per year in electrical costs, and provide energy equivalent to 1,402 barrels of oil per year.

*MS.*—In Mississippi, for example, the RBEP provided \$32,000 to the Mississippi Energy Office and Alcorn State University to assist them in establishing an ethanol production industry in the State. These partners also provided in \$16,600 in cost sharing for the project. Just utilizing the 2.8 million tons of wood waste generated in Mississippi per year could create 280 million gallons of ethanol with a value of \$336 million, while reducing gasoline imports into the State by 280 million gallons. Benchmark studies by the State of Minnesota project that ethanol production of 100 million gallons per year would result in about 2,400 new jobs, an annual payroll of about \$60 million, and an overall impact on the State economy in excess of \$200 million.

*MO.*—In Missouri, for example, the RBEP provided \$110 to the University of Missouri and the Missouri Energy Center to develop computerized decision tools to allow rural electric cooperatives to inexpensively determine the feasibility of incorporating biopower technologies into their electricity generation mix. The University of Missouri contributed an additional \$30,000 to the project and the National Rural Electric Cooperative Association contributed \$70,000. Encouraging electric cooperatives to use bioenergy is important, as the cooperatives are owned the members of the communities they serve, and the economic impact from producing and using biomass for energy stays in the local (rural) community.

*SC.*—In South Carolina, for example, the RBEP provided \$49,500 and technical assistance to the South Carolina Energy Office to assist Linpac Paper perform a feasibility study on using biomass resources to substitute for natural gas in their operations. Linpac and others provided \$96,000 in cost sharing for the project. Linpac Paper, a recycling paper company located in Cowpens, South Carolina, is now proceeding with implementation of systems to allow them to generate a significant part of their natural gas needs from biomass resources. The study found over 342,000 tons of waste biomass resources available in the State, including animal manures. In addition to providing an environmentally acceptable method of waste disposal for various biomass residues, a facility to dispose of half of this waste would have a \$38 million investment, produce 4–5 MW of power, insulate Linpac Paper from natural gas price increases and interruptions, and reduce economic drain from purchasing natural gas from outside the State.

*WV.*—In West Virginia, for example, the RBEP provided \$80,000 to the West Virginia Energy Efficiency Program and West Virginia University to develop a new process to convert poultry litter into a valuable, renewable transportation fuel. The RBEP seed money enabled the technology developers to obtain \$318,000 in cost sharing, including over \$30,000 from a private industry fabricator in West Virginia,

who plans on marketing the technology throughout the United States. In addition to preventing poultry litter and other waste from polluting surface and ground-water, the potential value-add to poultry litter in West Virginia alone is over \$6 million per year, producing over 2 billion barrels-of-oil equivalent energy per year, and reducing carbon dioxide Greenhouse Gas emissions by over 146,000 tons per year. Like many SERBEP sponsored projects, in spite of its preliminary successes and potential benefits, the only source of Federal funding received for the project was from SERBEP, and this funding was crucial to the initiation of the project.

TX.—(Covered by the Western Regional Biomass Energy Program hosted by the Nebraska Energy Office) In Texas, the Western Regional Biomass Energy Program (WRBEP) provided \$57,040 to Texas Engineering Experiment Station. In College Station, TX evaluate selected aspects and the economics of the utilization of feed lot cow manure as a coal/manure blend for boiler burners. This recently completed project did laboratory work that demonstrated that manure can be mixed with coal and reduces the NO<sub>x</sub> emissions. Another project was completed at West Texas A&M University by Dr. David B. Parker. This project explored the anaerobic digestion of cattle manure in controlled landfill cells. Dr. Parker did laboratory studies and field demonstrations. The Western states have massive quantities of animal manure in feed lots and in confined animal facilities. These animal feeding operations have considerable environmental problems in dealing with their animal wastes. These WRBEP funded project in Texas and other States help find positive energy alternatives for dealing with animal waste products.

Funds of \$10,000 went to Dr. Max Schauck with Baylor University at Aviation Sciences Department in Waco, TX to help support an International Aviation Conference on Alternative Aviation Fuels. Using support from WRBEP and other sources Dr. Schauck has done lead work on getting ethanol certified by the FAA as a clean burning aviation fuel. WRBEP is supporting other projects in other States to certify aviation fuels. A WRBEP funded project in South Dakota is using a Texas Skyways, a nationally know aviation company to the engine modification work and testing under a subcontract under a \$44,997 WRBEP grant.

Funds were provided to the University of Texas at Austin and the University of Texas at El Paso to participate in the 2000 Ethanol Vehicle Competition. In these contests University students compete nationally to improve a production vehicle to run more effectively on E-85. Texas won first place in this competition.

WRBEP has provided over \$92,000 in funding to Mr. Joe D. Craig of Cratech, Inc. located near Tahokia, TX. With WRBEP funding support Cratech has developed a state of the art computer controlled biomass gasification unit. The unit is nearly market ready. The unit can gasify rice hulls, wood chips, cotton gin trash and other waste materials. The combustible gas generated by this unit is then used to run a turbine to generate electricity. Rice hulls and cotton gin trash are available in large quantities in Texas and other Southern States and create expensive disposal problems for agricultural producers. This technology can turn a waste material into an effective asset. The technology is sized to fit the needs of small to medium manufacturers with one megawatt of power production as its goal. \$23,963 in funds was provided to the Texas Renewable Energy Industries Associations, Inc. for a workshop series which included: Texas Clean Transportation Seminar 99, The Renewable Fuels Solution, Building and Industry and Infrastructure, Seminar, 4/26/99, Austin, TX; Seminar on Integrating Environmental and Energy Technologies for Large-Scale Swine Operations, 6/9/99, Etter, TX; Landfill Gas Opportunities for Municipalities, 7/20/99, San Antonio, TX. These workshops helped alert Texans to biomass energy opportunities.

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PREPARED STATEMENT OF PLUG POWER, INC.

Plug Power urges the Senate Energy and Water Appropriations Subcommittee to approve \$42 million for the Hydrogen Research and Development Program in the Office of Power Technologies at the U.S. Department of Energy (DOE.)

My name is Dr. Roger Saillant, President and Chief Executive Officer of Plug Power, Inc., a developer of on-site energy generating systems utilizing proton exchange membrane ("PEM") fuel cells for stationary power applications. I am particularly pleased about the opportunity to comment on the DOE Budget. Plug Power, our Latham, NY-based company was founded in 1997, as a joint venture of DTE Energy Company and Mechanical Technology Incorporated. Plug Power's fuel cell systems for residential and small commercial stationary applications are expected to be sold globally through a joint venture with the General Electric Company, one of the world's leading suppliers of power generation technology and energy services.

Plug Power is very enthusiastic about the attention being paid to the impact of fuel cell technology on energy transformation and the interest level in Washington. I believe that we as a nation currently have an opportunity to make a great difference to our economy, to our world position, and to the environment. As an auto company executive veteran of 30 years experience, who participated in the auto emission, safety, and fuel economy improvements, I see parallels in the magnitude of the challenges and the scope of the outcomes. First, the auto company transition costs were enormous but were forced by regulation. Currently, the fuel cell industry in partnership with the U.S. Government is trying to facilitate fuel cell based energy transformation improvements through R&D and buy-down incentives at a significant dollar cost. Second, this upcoming change in our energy situation is related to worldwide problems of natural resource depletion rates and global environmental degradation. Thus, the United States must be a technological leader in the emergence of this economic opportunity. And third, going from a centralized distribution model to a mosaic of centralized and distributed generation based on fossil fuels, wind, biomass, solar, and nuclear will require inspired leadership from our government over an extended period of time.

Development of a hydrogen economy is vital for our society's economic well being. For years, we have relied on central station energy generation and transportation derived from finite natural resources and have thereby both depleted those resources and degraded environmental quality. A hydrogen infrastructure that supports both stationary and transportation fuel cells is the bridge to an energy system that values our "natural capital" and moves towards a sustainable energy economy. Many states are already starting to embrace development of a hydrogen infrastructure.

#### STATIONARY FUEL CELL DESCRIPTION

A stationary fuel cell is an on-site power generation system that electrochemically combines hydrogen with oxygen in the air to form electricity. The hydrogen fuel can be obtained from readily available fuels, such as natural gas or propane, or in the longer term from renewable sources. It can also be generated by electrolyzing water with low-cost off-peak electricity, or with electricity obtained from renewable sources such as solar, wind, or biomass. Fuel cell systems, whether for the residential, commercial or institutional markets, produce not only electricity, but also heat that can be captured and beneficially utilized in these applications (combined heat and power (CHP)). This makes such fuel cell systems highly efficient as well as environmentally friendly. This is in stark contrast to central power plants where generally the heat is not captured or utilized. The heart of the stationary PEM fuel cell system is the stack, which is comprised of the same technology as is used in most fuel cell vehicle applications.

#### STATIONARY FUEL CELL BENEFITS

Our traditional central generation model for supply of power in the United States is failing to meet the needs of a growing economy with increasing demand for high-quality power. There are weaknesses in power generation, transmission and distribution infrastructure that can best be met with the new paradigm of distributed generation: placing the generating assets on site, where both the thermal and electric energy is needed. Fuel cells will be an important technology component in our nation's distributed generation portfolio.

When fueled by hydrogen from a renewable energy source such as solar, wind, or hydropower, or if the fuel source is bio-fuel like ethanol from plant wastes, CO<sub>2</sub> emissions are net zero.

Fuel cells can provide highly reliable electricity. Some studies estimate that power quality and reliability issues cost our economy as much as \$150 billion per year in lost materials and productivity alone (source: Bear Stearns, April 2000 Distributed Energy, p. 8).

Fuel cells require hydrogen and oxygen to react chemically and produce electricity (and heat) and can therefore use any hydrogen rich fuel, or direct hydrogen. This allows fuel cell products to be "customized" for customers' available fuel. It also provides the option of renewably generated hydrogen for a fully renewable and zero emissions energy system.

Because fuel cells provide electricity at the site of consumption, they reduce the load on the existing transmission and distribution system. Siting the fuel cells at the point of consumption also avoids the line losses (up to 15 percent) inherent in moving electricity and provides an alternative to costly and unattractive traditional power lines.



Because fuel cells make both electric and thermal energy where it is needed, the heat can be recaptured in combined heat and power applications to attain combined efficiencies of over 80 percent.

#### HYDROGEN AND FUEL CELL RESEARCH AND DEVELOPMENT NEEDS

Our company is participating in the Department of Energy road-mapping process for the hydrogen program. It is becoming increasingly clear that, eventually, renewably generated hydrogen running fuel cell systems, will provide much of the electricity that this country requires. While the Department has fuel cell R&D programs in Fossil Energy as well as in the Transportation budget, the hydrogen program is the glue that holds all of these activities together.

The Department requested a significant increase for hydrogen, from \$29 million in 2002 to a request of \$39 million in 2003 and we at Plug Power believe such an increase is well justified. Way back in March of last year we provided information about moving to a hydrogen economy to the Secretary and to the White House Task Force on Energy. We were pleased to see this interest reflected in the National Energy Plan and in the budget request.

Of particular interest to Plug Power Inc. is the increased emphasis on hydrogen storage technologies, distributed and remote power validations, and infrastructure validation. Our company is working with rural communities on hydrogen-based fuel cell systems used for back up and peak power. The use of hydrogen, converted from existing electricity and stored until needed, can reduce the need for less environmentally friendly generation and can save money on investment in new electric infrastructure. Additionally, Plug Power is exploring some potential hydrogen refueling scenarios that would feed both stationary, power generation fuel cells as well as automotive fuel cell systems. In fact, we met recently with personnel at the White House about hydrogen infrastructure options and a means to move as quickly as possible to a widespread national infrastructure akin to that of the natural gas pipeline industry.

#### NEED FOR GOVERNMENT R&D AND SYSTEMS INTEGRATION

We have heard repeatedly over the past several months about a large industry wide research and development effort for fuel cells and about a hydrogen economy, and frankly, we at Plug Power are thrilled to hear it. We feel that there is a vital role for the U.S. Government, and specifically the Department of Energy, to work with industry on pre-competitive research and on development of a robust hydrogen infrastructure.

Pre-competitive research is tough for industry. Further, development of a national hydrogen infrastructure will require significant government participation. As with Rural Electrification after World War II, a widespread infrastructure for hydrogen will be a difficult and costly challenge. DOE, as an unbiased participant, must do the work now to develop the various options and pathways to such a hydrogen future. The roadmapping process is a good start, but the participants have already identified hundreds of millions of dollars worth of research and development that must take place. We have the opportunity in this country to lead the world in fuel cell and hydrogen technology development and deployment, but it will take all of us working collectively, with private sector dollars being stimulated by government commitment.

This sort of cooperative effort is not something a competitive industry will readily undertake. Rather, the government has to take the lead in bringing us all together, ensuring that no one's rights are infringed upon, similar to the Semetech approach used in Austin in the late 80's. I feel very strongly that there are "leapfrog" technologies that will help all of us, while helping the United States become a global technology leader in this field. We need to work together, with the DOE taking the lead because without this private-public partnership, the U.S. industry will fail to develop and will allow another country to win the race to lead this industry.

We urge this Subcommittee to approve a Budget of \$42 M for the Hydrogen Research and Development Program in the Office of Power Technologies. We would urge that any increase above the President's request, reflect the infrastructure and distributed/remote power emphasis we discussed earlier.

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#### PREPARED STATEMENT OF THE AMERICAN CHEMICAL SOCIETY

The American Chemical Society (ACS) would like to thank Chairman Harry Reid and Ranking Member Pete V. Domenici for the opportunity to submit testimony for

the record on the Energy and Water Development Appropriations bill for fiscal year 2003.

As you may know, ACS is a non-profit scientific and educational organization, chartered by Congress, representing more than 163,000 individual chemical scientists and engineers. The world's largest scientific society, ACS advances the chemical enterprise, increases public understanding of chemistry, and brings its expertise to bear on state and national matters.

Advances in science and engineering have produced more than half of our nation's economic growth in the last 50 years. Each field of science contributes to our diversity of strengths and capabilities and has given us the flexibility to apply science in unexpected ways. Together, science and engineering and the highly trained people who work in these fields remain the most important factor in the productivity increases responsible for economic growth and rising living standards, economists agree. Increased attention to national security and counter-terrorism activities and the bipartisan commitment to double the budget of the National Institutes of Health over five years led to record investments in federal research and development (R&D) in fiscal year 2002. Nevertheless, the R&D investment in some federal agencies is still inadequate for them to achieve their missions. Opportunities to perform high-quality research, recruit U.S. students to science and engineering fields, and fully utilize world-class federally supported research facilities are being missed. U.S. intellectual leadership and competitive position in the global economy almost certainly will erode in the long term as a result. For fiscal year 2003, Congress and the administration will be challenged by the costs of the war on terrorism, budget deficits, and an uncertain economic outlook. As these challenges are confronted, strength in science should remain a key national objective.

#### *DOE Budget Recommendations*

The Office of Science helps DOE foster a secure and reliable energy system that is environmentally and economically sustainable, responsibly steward the Nation's nuclear weapons, clean up DOE facilities, and support continued U.S. leadership in science and technology. By supporting people, research, and world-class science and engineering facilities, the Office of Science expands the frontiers of science in areas critical to DOE's missions and builds the nation's scientific infrastructure. It is the nation's largest supporter of research in the physical sciences.

The Society is disappointed with the flat funding request for this vital Office. Consistent investments in four areas are critical to the Office of Science's success—workforce, basic energy research, physical infrastructure, and developing the next generation of scientific tools. To meet these challenges, ACS strongly supports funding the Office of Science at \$3.5 billion in fiscal year 2003, an increase of \$300 million or 10 percent over fiscal year 2002. The additional funds should be targeted to increase the number of grants and improve research infrastructure.

Within the Office of Science, ACS is particularly supportive of the Basic Energy Sciences and Biological and Environmental Research programs. The Basic Energy Sciences (BES) program funds an array of long-term basic research to improve energy production and use and reduce the environmental impact of those activities. In addition, the BES program manages almost all of DOE's scientific user-facilities. The Biological and Environmental Research (BER) program advances fundamental understanding in fields such as waste processing, bioremediation, and atmospheric chemistry to better understand potential long-term health and environmental effects of energy production and use, and identify opportunities to prevent pollution. Progress in these fields also is needed to develop and advance new, effective, and efficient processes for the remediation and restoration of DOE weapons production sites. ACS supports a strong role for DOE in federal efforts to understand and address global climate change. The Society applauds the \$3 million request for DOE's participation in the new Climate Change Research Initiative.

ACS recommends that a majority of the proposed \$300 million increase be invested to advance basic energy research in core programs and in initiatives such as nanotechnology. DOE is the primary source of federal support for a variety of scientific areas such as catalysis, carbon cycle research, photovoltaics, combustion, corrosion, fission engineering, plasma science, nuclear imaging, and advanced computer science that are essential to our nation's energy security and economic performance. Currently, DOE must decline many highly rated grant proposals. These are lost opportunities for significant discoveries. Inadequate investment in any research field constricts the supply of trained people who are able to apply research and develop new advances. The steady decrease in degrees awarded at both undergraduate and graduate levels in these areas therefore threatens the future capabilities of U.S. industry, universities, and government.

ACS applauds the Administration for proposing to invest an additional \$40 million to increase operating time at DOE research facilities and provide new instrumentation. Each year, over 15,000 scientists and students from academia, industry and government—many funded by agencies other than DOE—conduct cutting-edge experiments at the national laboratories and user facilities that DOE manages. Additional funding would allow more operating time, upgrades, instrumentation, and technical support. DOE also must look toward the future by funding R&D for and conceptual design of the next generation of user facilities and equipment to ensure the long-term competitiveness of the U.S. research enterprise. Because both people and equipment are needed to perform an experiment, additional funding for user-facilities should not come at the expense of research grants. For example, some facilities are underutilized because support has declined for investigators that use them. More complete utilization of DOE's facilities would increase the return on investment made in their construction and maximize their scientific contributions and educational value.

Outside of the Office of Science, ACS is supportive of DOE's Energy Efficiency and Renewable Energy and Fossil Energy programs. These programs have definite environmental, economical, and intellectual benefits. The National Academies estimated that the total net realized economic benefits associated with the Energy Efficiency programs it reviewed were approximately \$30 Billion (valued in 1999 dollars), substantially exceeding the roughly \$7 Billion (1999 dollars) expenditure made by the government over the 22-year life of the programs. The Academies estimated that the realized economic benefits associated with the Fossil Energy programs amounted to nearly \$11 Billion (1999 dollars) over the same 22-year period. Continuing investment in these programs will build on the advances made by the Office of Science programs and strengthen America's traditional and alternative energy sources. However, a December 2001 General Accounting Office report concluded that DOE's poorly integrated missions have created significant organizational challenges, and that the Department has not yet found an effective organizational structure that integrates the different operating styles and requirements of its diverse missions. These challenges have to be overcome in order to improve coordination between the applied and basic research programs at DOE. Better coordination between the applied research programs and the Office of Science would leverage advances in all these programs.

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PREPARED STATEMENT OF SOUTHEASTERN FEDERAL POWER CUSTOMERS, INC.

Mr. Chairman and Members of the Subcommittee: As Chairman of the Southeastern Federal Power Customers' ("SeFPC" or "Customers") Operation and Maintenance Committee, I hereby submit the following testimony on the Administration's fiscal year 2003 Budget Request for the Army Corps of Engineers' ("Corps") South Atlantic Division ("SAD") and the Great Lakes and Ohio River Division ("LRD") on behalf of the SeFPC.

The SeFPC represents approximately 238 rural electric cooperatives and municipal electric systems that provide electricity to some 5.8 million customers in the states of Alabama, Georgia, Mississippi, Kentucky, North Carolina, South Carolina, Florida, Virginia, West Virginia, and Illinois. As the Committee is aware, the Corps is responsible for operating and maintaining hydropower generating facilities at federal multipurpose water projects pursuant to the Federal Power Marketing Program. The energy and capacity of these projects in the southeast are marketed by the Department of Energy's Southeastern Power Administration ("SEPA"). SEPA supplies as much as 30 percent of the capacity and 10 percent of the energy needs of individual SeFPC members. In certain cases, it is the members of the SeFPC who purchase power directly from SEPA under the Federal Power Marketing Program; in other cases, it is their member distribution systems that are the purchasers of federally generated hydropower.

Importantly, the Federal Power Marketing Program was designed by Congress to be self-supporting—it is one of the few programs that literally pays for itself. Pursuant to the Federal Power Marketing Program, electric consumers, like the SeFPC members, are responsible for repaying (with interest) the federal taxpayer investment of the hydropower production component in the Corps' multi-purpose projects. Currently, the rates charged by SEPA to preference customers such as the SeFPC's members include the hydropower portion of the costs for future operation and maintenance ("O&M") and renewals and replacement ("R&R") activities at these facilities. In turn, these revenues are deposited in the Federal Treasury and are used to reimburse Congressionally-appropriated funds for O&M and R&R expenses at the

Corps' hydropower facilities. To date, preference customers have paid in SEPA rates over \$125 million in excess of the amounts spent on O&M and R&R.

The Administration's fiscal year 2003 Budget Request proposes to alter this funding arrangement. Modeled after the Bonneville Power Administration's ("BPA") financial schematic, the Budget calls for the direct funding of routine hydropower O&M for the three other Federal Power Marketing Administrations, including SEPA, that sell power generated at Corps' facilities. This dramatic shift in policy necessarily raises a number of questions. However, we will await the Administration's legislative proposal before addressing this issue. We do, though, have several issues of concern based on the preliminary description of this change that is set forth in the Administration's Budget Request:

- It is the SeFPC's understanding that the direct O&M funding for the Corps would be assigned specifically for hydropower, thus prohibiting any reprogramming of the funds. While disallowing the reprogramming of hydropower monies is a positive step, the SeFPC believes that some level of Congressional oversight of the Corps' activities would be appropriate.
- As drafted, the proposal fails to provide for any customer involvement. Instead, the O&M decisions are made exclusively by the Corps and the relevant PMA. The SeFPC notes that preference customers are in an ideal position to provide advice on prioritizing among the backlog of Corps' projects, as is currently done via the Southeast Alliance. The SeFPC would welcome the opportunity to continue to participate in the selection process.
- The SeFPC questions how this financial scheme would be funded initially. The BPA has operated under a direct funding arrangement since 1999 and now has a revolving fund for these expenses. In contrast, preference customers may be obligated to advance the O&M money to the Corps and pay O&M costs in SEPA rates. The Customers, then, will experience a double hit. And, as noted above, the Customers have already paid \$125 million for O&M and R&R that has not been used for that purpose.
- The contemplated funding procedure may place an undue accounting and administrative burden on the Customers.

The Administration's general O&M funding request represents a 4.3 percent reduction from the prior year. As noted previously, 5.8 million SeFPC customers rely on the economic power produced in the Corps' SAD and LRD divisions. Any shortfall in hydropower funding means that the Corps will not be able to perform necessary O&M work at the aging federal hydropower projects, thus placing the long-term reliability of the southeastern facilities in jeopardy. If a generating facility becomes inoperable as a result of this neglect, SEPA will have to purchase market-priced replacement power—the cost of which it will seek to recover through future rate increases. Despite having repaid, with interest, the federal investment incurred to construct these projects through SEPA rates, the Customers and their consumers could be forced to incur an over-charge simply because this account was not adequately funded.

In conclusion, a number of details should be worked out before such a marked departure from the current standard operating practice of the Federal Power Marketing Program in the southeastern United States is undertaken—particularly where the change does not involve Congressional oversight. Additionally, Congress should ensure sufficient funding for the Corps' ongoing O&M costs. For too long, customers such as the SeFPC members have been paying for O&M work in SEPA funds without receiving the corresponding Congressional appropriations. Any alteration in the Corps' O&M funding process should correct this costly discrepancy.

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PREPARED STATEMENT OF THE UNIVERSITY OF ROCHESTER

*Summary and Requested Action*

The inertial confinement fusion (ICF) program is a key element in the Department of Energy's (DOE) Stockpile Stewardship Program (SSP) authorized by Public Law 103-160 to "establish a stewardship program to ensure the preservation of the core intellectual and technical competencies of the United States in nuclear weapons." The OMEGA laser at the University of Rochester (UR) is the principal laser research facility for UR and the three National laboratories (Los Alamos, Sandia, and Livermore) for purposes of ICF and SSP experiments. The Laboratory for Laser Energetics (LLE) is the only facility that also trains significant numbers of graduate students in inertial fusion. The OMEGA laser, the highest-power ultraviolet fusion laser in the world, is the principal laser facility for SSP activities for DOE in fiscal year 2003 and will be for a number of years to come. The Secretary of Energy Advisory Board (SEAB) National Ignition Facility Laser System Task Force Report noted

the importance of continuing scientific contact with “. . . the laser-based research at the University of Rochester.”

LLE (since 1970) is the only ICF program that has been jointly supported by the Federal government, State government, industry, utilities, and a university. LLE makes fundamental scientific contributions to the National program. The Laboratory transfers technology to the public and private sectors through the training of graduate students and interactions with industry and other Federal laboratories. The Laboratory serves as a National Laser Users' Facility benefiting scientists throughout the country.

LLE's primary ICF mission is to validate the direct-drive option for ICF, including ignition and gain on the National Ignition Facility (NIF). In addition, DOE proclaimed that OMEGA is also needed to meet mission-critical requirements for the indirect-drive ignition plan developed by DOE for the NIF, and to conduct experiments to support the SSP mission, including some that are classified, in collaboration with the National laboratories.

OMEGA is the only operating facility that can demonstrate the scientific potential of direct drive to provide a modest- to high-gain energy option for the Nation. For fiscal year 2003, we are also requesting funds to add an extended performance capability (EP) on the OMEGA facility and funds necessary to develop petawatt technologies. The preconceptual design of this extended facility was completed in fiscal year 2002. A 500-trillion watt capability will add substantial utility to the existing OMEGA facility, enhance our capability to perform SSP experiments, test high-gain concepts, and provide a premier high-intensity laser-interaction facility in the U.S. Additional capabilities on OMEGA are required to support the SSP and high-energy-density physics programs due to current over subscription of OMEGA and future over subscription of the NIF. Concomitantly, since the cost per shot on OMEGA is considerably less than that on the NIF and the repetition rate is higher by a factor of 4 or greater, many relevant experiments can use OMEGA at a significant cost savings to the program. Since the OMEGA facility will be the only large laser implosion facility for NNSA in the U.S. until at least 2008, it is vital to keep its capabilities current to support the National program.

To provide the support for program deliverables and the operation and extension of OMEGA (for both ICF experiments and SSP experiments), and to maintain the training programs at Rochester, a total authorization and appropriation of \$54,200,000 for the University of Rochester for fiscal year 2003 is required. This amount includes \$15,000,000 for the OMEGA extended performance capability and \$3,000,000 for petawatt technology development.

#### *Background*

Thermonuclear fusion is the process by which nuclei of low atomic weights, such as hydrogen, combine to form higher atomic weight nuclei such as helium. In this process some of the mass of the original nuclei is lost and transformed to energy in the form of high-energy particles. Energy from fusion reactions is the most basic form of energy in the universe. Our sun and other stars produce energy by thermonuclear fusion reactions occurring in their interior. Fusion is also the process that provides the vast destructive power of thermonuclear weapons.

To initiate fusion reactions, the fuel must be heated to tens of millions of degrees. In ICF the heating and compression of fusion fuel occur by the action of intense laser or particle beams. There are two approaches to ICF, direct and indirect drive. Indirect drive involves the conversion of beam energy to x-rays to compress a fuel capsule in an enclosure called a hohlraum. Direct drive involves the direct irradiation of a spherical fuel capsule by energy from a laser and is generally more efficient energetically than indirect drive. In either approach, if very extreme density and temperature conditions are produced, it is possible to produce many times more energy in these fusion reactions than the energy provided by the drivers.

#### *The OMEGA Extended Performance (EP) Facility at UR/LLE*

The University of Rochester's Laboratory for Laser Energetics (UR/LLE) is the lead laboratory for direct-drive inertial confinement fusion (ICF) and is the location of the OMEGA laser facility. OMEGA is currently one of two facilities available to conduct high-energy-density physics (HEDP) experiments in support of the Nation's Stockpile Stewardship Program (SSP). OMEGA and the National Ignition Facility (NIF) are designed to support SSP by performing planar-target and spherical-implosion experiments at irradiation intensities of  $10^{15}$  to  $10^{16}$  Watts/cm<sup>2</sup>. At these intensities, a highly compressed core of deuterium-tritium fuel can be assembled that, with the full energy of NIF, will achieve ignition.

Existing laser technology also allows high-energy laser systems with significantly higher laser intensities, up to  $10^{20}$  Watts/cm<sup>2</sup>, to be built. With success in the

petawatt technology program these intensities can be increased by a factor of ten. The availability of such lasers would be very beneficial to the stockpile stewardship and fusion energy programs. They also have many exciting basic science applications. The establishment of a National high-intensity laser-matter interaction program would significantly enhance the ability to attract and retain the scientific expertise required for the United States' nuclear weapons program in the future.

The UR/LLE proposes to put in place a high-intensity, high-energy laser facility with a peak power initially of  $5 \times 10^{14}$  Watts that could achieve irradiation intensities up to  $10^{20}$  Watts/cm<sup>2</sup> using existing technology. Given success of the National petawatt initiative to advance technology, the peak power and irradiation intensities could be increased by a factor of ten. This facility would then significantly benefit SSP through the ability to produce intense photon, proton, and electron beams for radiography and by conducting HEDP experiments to test advanced computer codes relevant to nuclear weapons, basic science, and astrophysics. Additionally, the availability of a short-pulse backlighter source would significantly advance ignition physics. Such a facility could test the "fast ignitor" concept to increase the gain of an ICF target. Should this concept prove viable, it would support SSP as well as the inertial fusion energy program.

This extended performance capability on OMEGA is required in support of SSP and HEDP programs. Concomitantly, with the delay of the NIF this added capability will contribute substantially to the critical need to recruit and retain graduate students, postdoctoral associates, university faculty members, and National laboratory scientists in areas of National need.

Locating a high-intensity, high-energy facility at UR/LLE offers several advantages. Most importantly, since OMEGA is the only facility capable of assembling a highly compressed deuterium-tritium core from a cryogenic target, it is the only location at which a fully diagnosed, integrated "fast ignitor" experiment could be conducted. Other advantages include: (1) operating synergies with OMEGA will reduce operating costs, (2) UR/LLE has an established scientific user base, and (3) UR/LLE has a proven track record of delivering similar-sized projects on time and on budget and of operating and maintaining large-scale laser systems.

The construction time line and cost for this extended capability is as follows:

[In millions]

	Fiscal Year—			
	2003	2004	2005	2006
Design & Long Lead Procurement .....	\$15	.....	.....	.....
Procurement and Assembly .....	.....	\$25	\$25	.....
Integration & Commissioning .....	.....	.....	.....	\$13

PREPARED STATEMENT OF THE AMERICAN WIND ENERGY ASSOCIATION

COMMITMENT TO R&D A CRUCIAL FACTOR IN ACHIEVING WIND ENERGY MARKET POTENTIAL

U.S. WIND ENERGY INDUSTRY COMING OFF MOST SUCCESSFUL YEAR IN HISTORY WITH NEARLY \$2 BILLION IN ECONOMIC ACTIVITY

MORE EMPHASIS NEEDED ON SMALL WIND SYSTEMS USED TO POWER HOMES, FARMS AND SMALL BUSINESSES

The American Wind Energy Association<sup>1</sup> (AWEA) appreciates this opportunity to provide testimony for the record on the Department of Energy's Fiscal 2003 wind energy program budget before the House Appropriations Subcommittee on Energy and Water Development. AWEA's testimony addresses the following:

*Request for the Department of Energy Wind Program: \$55 million*

AWEA requests a funding level of \$55 million for the wind energy program at the Department of Energy (DOE) to support wind energy development at the national, state, and local levels. Working in conjunction with the U.S. wind industry, power producers, suppliers, industrial consumers and residential users, DOE provides important technical support, guidance, information, and limited cost-shared funding

<sup>1</sup>The American Wind Energy Association, or AWEA, was formed in 1974. The organization represents virtually every facet of the wind industry, including turbine and component manufacturers, project developers, utilities, academicians, and interested individuals.

for efforts to explore and develop wind energy resources. Moreover, the research and development (R&D) program at DOE is helping to support advanced wind energy research that is attracting support from major industrial companies. AWEA's fiscal year 2003 budget testimony is focused on two areas within the wind program:

*Utility-Scale Wind Development*

This cost-shared DOE/industry partnership program has proven to be successful and with modest annual appropriations has been helpful in significantly lowering the cost of wind power. In fact, over the past twenty years, the cost has been reduced by over 80 percent. The program is aimed at further driving down the cost of wind power to a level fully competitive with traditional fuel technologies. An important emphasis is on developing wind turbines capable of operating in areas with lower wind speeds. This would expand wind development potential by 20 times as well as allow the placement of turbines closer to existing transmission lines. In addition to lowering the cost of wind power, R&D support is necessary for enhanced wind site forecasting and power systems integration.

*Small Wind Systems*

More emphasis on DOE's small wind turbine program (machines rated at 100 kilowatts or below) will help achieve greater cost reductions and increase the availability of this energy option for homes, farms, schools, and businesses.

*Overview*

On the heels of its most successful year in history, the U.S. wind industry is poised for significant growth. However, important challenges lay ahead. For its part, the wind industry continues to work to drive down the cost of wind-generated electricity, thereby enhancing the competitiveness of the product to electricity providers.

AWEA appreciates the support the subcommittee has provided to the DOE wind program. Last year, the subcommittee significantly raised the funding level for the program above the fiscal year 2002 request of the Administration. The Administration's fiscal year 2003 Congressional Budget request of \$44 million for the wind program more closely reflects the view of Congress and that of the wind industry.

The wind energy program at the Department of Energy has a strong history of success. Over the last twenty years, the cost of wind energy has dropped by more than 80 percent, to a level that is close to competitive with traditional energy technologies. Cost shared industry/government research and development activities at DOE and the National Renewable Energy Laboratory (NREL) have played an important role in this achievement. Programs such as Wind Powering America have been educating interested parties across the country on the benefits of wind power.

Continued investment at DOE in domestic energy alternatives like wind power will allow the industry to keep driving down costs and improving the efficiency of new wind turbines. Wind energy holds the greatest potential of all non-hydro renewables to contribute to our energy needs over the next decade.

Wind energy is positioned to be an important part of the nation's energy mix. Wind can be an important component in protecting against volatile electricity rates. The costs of a wind plant are primarily up-front capital costs, thus the price for electricity is stable over the life of the plant because the fuel, the wind, is free.

Investing in domestic, inexhaustible renewable energy technologies strengthens our national security, provides rural economic development, spurs new high-tech jobs, and helps protect the environment. There are no downsides to investing in wind and other renewables.

Finally, we want to stress the importance of the wind energy Production Tax Credit (PTC), which provides a 1.5-cent per kilowatt-hour credit for electricity produced (the credit is currently 1.7 cents adjusted for inflation). A 2-year extension of this tax credit was approved with bipartisan support in March 2002 and signed into law by the President. The wind industry is seeking a full 5-year extension of the credit, in order to provide for more certainty and stability for the industry. Legislation calling for a 5-year PTC extension has attracted strong bipartisan support in both the House and Senate and is included in comprehensive energy policy legislation.

*Utility-Scale Wind Development*

The U.S. wind industry achieved unprecedented success in 2001, installing a record amount of new generation across 16 states. The final tally of 1,695 megawatts (MW), equal to \$1.7 billion of economic investment, lifted the wind industry's total generating capacity by approximately 66 percent over the previous year. Current installed capacity nationwide is now 4,261 MW across 26 states, or enough power to serve about 1 million average U.S. households.

By mid-2003, installed wind energy capacity in the United States is expected to be upward of 5,000 MW. The states of Texas, Minnesota, Oregon, Wyoming and Iowa account for most of the new wind energy development. Texas alone accounted for over 900 MW of new development in 2001.

In 2002, development is planned in a number of states, including West Virginia, California, Montana, Iowa and Pennsylvania. This new development will help spur rural economic development through new construction and manufacturing jobs, lease income for landowners, and local and county tax payments.

Cost shared research and development programs at DOE have played a key role in the development of wind energy. There is important work to be done, however, to continue the momentum the industry has built. For instance, the current generation of wind turbines have successfully lowered the cost at the best wind sites (Class 5 & 6). However, in order for wind to reach its full potential, the industry must penetrate areas with moderate wind speeds (Class 3 & 4). Tapping such areas, which are often closer to necessary transmission lines, could increase the amount of wind development by a factor of 20.

*Small Wind Systems (100 kW and below)*

AWEA believes a greater emphasis on small wind turbine research and development is needed as the demand for these turbines continues to grow. Distributed generation with small customer-sited power plants has great potential for reducing energy costs, promoting competition in the marketplace, and strengthening the nation's electrical supply network.

AWEA recognizes that some progress has been made at DOE in the small wind turbine program. However, it is vital that additional resources be dedicated to programs that will help make small wind turbines cost-competitive for homeowners. DOE has significant programs for technology development and deployment of other distributed energy technologies, but programs for small wind have received little attention despite the fact that small wind systems arguably have a greater market potential.

The high up-front costs of small wind systems make it very difficult for this technology to gain wide acceptance in the domestic market. This would change if DOE had the resources to work with America's small wind manufacturers to achieve cost reductions similar to those achieved by the large, utility-scale wind industry. In some states like California, that provide a state rebate for purchasers, small wind turbine manufacturers have experienced a surge in sales, demonstrating the public support for cost-effective small wind turbines.

AWEA requests that a Small Wind Turbine Initiative (SWTI) be developed at the Department of Energy. Such an initiative would reduce the costs of small wind systems for homes, farms, and small businesses by promoting deployment leading to higher production volumes, reducing market barriers, and improving the technology. SWTI aims to make small wind turbines cost effective for an estimated 6–10 million potential rural residential users over the next twenty years.

*Additional Funding Request: Renewable Energy Production Incentive (REPI):  
\$8 million*

AWEA also advocates for additional funding for the Renewable Energy Production Incentive (REPI) program as a separate item within the Renewable Energy budget. Year-to-year uncertainty regarding funding levels for the Renewable Energy Production Incentive (REPI) plays havoc with the long-term planning needs of running a municipally owned utility. Due to insufficient funds for the program, full payments for eligible projects have not been made for a number of years. For this reason, AWEA suggests the Congress work with the Department of Energy to develop long-range alternatives to annual funding of this program.

The REPI program, authorized by the Energy Policy Act of 1992, encourages municipally owned utilities to invest in renewable energy technologies including wind energy systems. REPI permits Department of Energy to make direct payments to publicly and cooperatively owned utilities at the rate of 1.5 cents per kilowatt-hour for electricity generated from wind, solar, geothermal, and biomass projects. Because wind energy projects require a two to three year lead-time for permitting and construction, it is very important that stable and predictable funding be provided.

*Conclusion*

Continued investments in wind energy R&D are delivering value for taxpayers by developing another domestic energy source that strengthens our national security, provides rural economic development, spurs new high-tech jobs, and helps protect the environment.

While the wind industry is coming off a record year in 2001 in terms of new generation capacity installed, continued Department of Energy wind energy R&D is



vital to growing this domestic power source. The current debates in Congress regarding energy policy have brought to light the important role wind and other renewable energy technologies, both utility-scale and small-scale, can play in our nation's energy strategy.

AWEA appreciates the opportunity to provide this testimony to the Subcommittee. We would be pleased to answer any questions that may arise. Thank you.

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PREPARED STATEMENT OF THE AMERICAN SOCIETY FOR MICROBIOLOGY

The American Society for Microbiology (ASM), the largest single life science organization in the world, with more than 42,000 members, appreciates the opportunity to provide written testimony on the fiscal year 2003 budget for the Department of Energy (DOE) science programs.

The ASM represents scientists working in academic, medical, governmental and industrial institutions worldwide. Microbiological research is focused on human health and the environment and is directly related to DOE programs involving microbial genomics, climate change, bioremediation and basic biological processes important to energy sciences.

The scientific enterprise has benefited enormously from the investments in the basic sciences made by the DOE Office of Science. The DOE Office of Science is the nation's primary supporter of the physical sciences and is an essential partner in the areas of biological and environmental science research as well as in mathematics, computing, and engineering. Furthermore, the Office of Science supports a unique system of programs based on large-scale, specialized user facilities that bring together working teams of scientists focused on such challenges as: global warming, genomic sequencing, and energy research. The Office of Science is also an invaluable contributor to the scientific programs of the National Institutes of Health (NIH) and the National Science Foundation (NSF) and supports peer-reviewed, basic research in DOE-relevant areas of science in universities and colleges across the United States. These cross-disciplinary programs contribute enormously to the knowledge base and training of the next generation of scientists while providing worldwide scientific cooperation in physics, chemistry, biology, environmental science, mathematics, and advanced computational sciences.

The Office of Science will play an increasingly important role in the Administration's goal of U.S. energy independence in this decade. Many DOE scientific research programs share the common goal of producing and conserving energy in environmentally responsible ways. Programs include basic research projects in microbiology, as well as, extensive development of biotechnological systems to produce alternative fuels and chemicals, to recover and improve the refinement process of fossil fuels, to remediate environmental problems, and to reduce wastes and pollution.

The Administration's proposed budget for fiscal year 2003 requests \$22 billion for the DOE overall, an increase of \$600 million or 2.7 percent and \$3.3 billion for the Office of Science, an increase of \$4 million over fiscal year 2002. The ASM would like to submit the following comments and recommendations for funding levels for research in the Biological and Environmental Research (BER) and Basic Energy Sciences (BES) programs for fiscal year 2003.

*Microbial Genomics Program (MGP)*

The DOE is the lead agency supporting the genomic sequencing of non-pathogenic microbes. This sequenced information provides clues into how we can design biotechnological processes that will function in extreme conditions and potentially solve pressing national priorities, such as, biosecurity, global warming, and energy production. The Administration has requested \$11 million for fiscal year 2003, which is essentially flat with fiscal year 2002. In view of the tremendous potential of microbial genomic sequencing, the ASM recommends that Congress provide \$15 million for fiscal year 2003. DOE's role in this science frontier needs to be expanded.

Since microbes power the planet's carbon and nitrogen cycles, clean up our wastes, and make important transformations of energy, they are an important source of biotechnology products, and are extremely valuable for advancing our knowledge of the non-medical microbial world. Knowing the complete DNA sequence of a microbe provides important keys to the biological capabilities of the organism and is the first step in developing strategies to more efficiently detect, counteract, use, or reengineer that microbe to address an assortment of national issues. The DOE has completed the DNA sequencing of more than 50 microbes with potential uses in energy, waste cleanup, and carbon sequestration. For instance, the recently sequenced *Deinococcus radiodurans*, a bacterium that is extremely resistant to radiation. *Deinococcus radiodurans* could potentially be used in hazardous waste clean

up at DOE energy facilities that previously relied upon expensive decontamination processes.

The ASM applauds DOE's leadership in recognizing this important need in science and endorses expansion of its microbial genome sequencing efforts, particularly in using DNA sequencing to learn more about the functions and roles of the 99 percent of the microbial world that cannot yet be grown in culture.

#### *Genomes To Life Program*

Our world is filled with microorganisms that have evolved on Earth over 3.8 billion years and, as suggested by their diversity and range of adaptation, have long ago solved many of the nation's energy and environmental problems (i.e., energy transformation and carbon sequestration). A deeper, genetically based understanding of these organisms, culminating in computational models of their function, can be used to predict and even modify their functions to address energy needs, biothreat reduction, and toxic waste cleanup. The Genomes to Life program is on the cutting edge of biology. The ASM strongly supports the Administration's funding of the program at \$36.7 million for fiscal year 2003, an increase of \$15 million over fiscal year 2002.

The Genomes to Life program and others are just beginning to demonstrate the potential applications of microorganisms for energy, medicine, agriculture, environmental, and national security needs. This research will potentially offer new biotechnology solutions to these challenges and those of tomorrow. Underlying the potential applications of biotechnology for clean energy, mitigating climate change, and environmental cleanup is the need for a solid understanding of the functions, behaviors and interactions of every biological part (the genes and proteins) of a microorganism. If we are to improve the productivity of forests, bioremediation agents, biomass crops and agricultural systems, it is imperative to understand how these biological machines work. This will require a staggering amount of expertise across the sciences, new computational capabilities, new tools, and new interdisciplinary approaches to genomics research.

The ASM applauds the bold vision of the Genomes to Life program and notes that this represents the kind of interdisciplinary science that DOE has done successfully in the past, making use of advanced technologies, specialized facilities, teams of scientists, and computational power. The ASM also sees this program as the basis for an expanded effort to understand more broadly how genomic information can be used to understand life at the cellular level and urges Congress to fully support this exciting program.

#### *Climate Change Research*

The ASM is pleased to see the Administration's support of Climate Change Research continue in its fiscal year 2003 budget. The ASM endorses the President's proposed \$137 million budget, a 7 percent increase over fiscal year 2002. The Society is also supportive of the proposed \$13.9 million budget for the Ecological Processes section for fiscal year 2003, a \$1.5 million increase over fiscal year 2002.

The Climate Change Research subprogram seeks to apply the latest scientific knowledge (i.e., genomic, new computational methods) to the potential effects of greenhouse gas and aerosol emissions on the climate and the environment. This program is DOE's contribution to the interagency U.S. Global Change Research Program proposed by President Bush in 1989 and codified by Congress in the Global Change Research Act of 1990 (Public Law 101-106). This program is vital if science is to advance its understanding of the radiation balance between the surface of the Earth and the uppermost portions of the atmosphere and how this will affect the planet's climate and ecosystems.

The Ecological Processes portion of the subprogram is focused on understanding and simulating the effects of climate and atmospheric changes on the biological structure and functioning of planetary ecosystems. Research will also identify potential feedbacks from changes in the climate and atmospheric composition. This research is critical if we are to better understand the changes occurring in our ecosystems from increasing levels of atmospheric pollutants.

The ASM urges Congress to support this important research within the Office of Science budget. The Climate Change Research subprogram is a key component in developing more accurate climate modeling and ecosystem data, and promises to yield new technologies to address future climate shifts.

#### *Basic Energy Science*

The Administration's requested funding for the Office of Basic Energy Sciences (BES) is \$1.02 billion for fiscal year 2003. This funding level is a \$20 million increase over fiscal year 2002. This program is a principal sponsor of fundamental research for the nation in the areas of materials sciences, chemistry, geosciences, and

biosciences as it relates to energy. Program initiatives include microbiological and plant sciences focused on harvesting and converting energy from sunlight into energy feedstock such as cellulose and other products of photosynthesis, as well as how those chemicals may be further converted into energy rich molecules such as methane, hydrogen and ethanol. Alternative and renewable energy sources will remain of strategic importance in the nation's energy portfolio, and DOE is well positioned to advance basic research in this area. The advances in genomic technologies have given this research area a tremendous new resource for advancing the Agency's bioenergy goals.

#### *Bioremediation*

The MGP's research into bioremediative microorganisms' complements the research supported by the DOE's Natural and Accelerated Bioremediation Program (NABIR) and other DOE bioremediation research initiatives. The Administration's proposed budget for the NABIR program is \$24.7 million, a \$2.6 million increase over fiscal year 2002. The ASM supports the Administration's request for bioremediation research. However, the ASM believes that greater benefits will be achieved if the NABIR program is increased to \$30 million, which is more consistent with the original \$40 million plan for the program.

Bioremediation scientists are searching for cost-effective technologies to improve current remediation methods to clean up DOE's contaminated sites. This research has the potential to lead to new discoveries into reliable methods of bioremediation of metals and radionuclides in soils and groundwater. The NABIR program supports the basic research that is needed to understand this technology to more reliably develop the practical applications for cost-effective cleanup of pollutants at DOE sites. The ASM strongly recommends that additional funding be allocated to balance the program elements and pollutants studied as originally envisioned when the NABIR Program was designed.

#### *New Technologies and Unique Facilities*

New technologies and advanced instrumentation derived from DOE's expertise in the physical sciences and engineering have become increasingly valuable to biologists. The beam lines and other advanced technologies for determining molecular structures of cell components are at the heart of current advances to understand cell function and have practical applications for new drug design. DOE advances in high throughput, low cost DNA sequencing; protein mass spectrometry, cell imaging and computational analyses of biological molecules and processes are other unique contributions of DOE to the nation's biological research enterprise. Furthermore, DOE has unique field research facilities for environmental research important to understanding biogeochemical cycles, global change and cost-effective environmental restoration. In short, DOE's ability to conduct large-scale science projects and draw on its unique capabilities in physics, computation and engineering is critical for future biological research.

The ASM strongly supports the basic science agenda across the scientific disciplines and encourages Congress to maintain its commitment to the Department of Energy research programs to maintain U.S. leadership in science and technology.

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## PREPARED STATEMENT OF THE BUSINESS COUNCIL FOR SUSTAINABLE ENERGY

### INTRODUCTION

The Business Council for Sustainable Energy offers testimony on the role it foresees for the Department of Energy's (DOE) renewable and distributed energy research, development, demonstration and deployment programs.

The Council was formed one decade ago by businesses and industry trade associations sharing a commitment to achieve our nation's economic, environmental and national security goals through the rapid deployment of clean and efficient natural gas, energy efficiency and renewable energy technologies. Our members range in size from Fortune 500 enterprises to small entrepreneurial companies, to national and international trade associations.

We thank the Committee for its exceptional work crafting the fiscal year 2002 appropriations bill and generally compliment the Administration for its fiscal year 2003 proposals. The trend is for the most part positive and it is critical that it continue so that American energy security will be put under the control of American technology and taken out of the hands of potentially unreliable international energy suppliers.

## A FEDERAL COMMITMENT TO ENERGY IS CRITICAL

Although circumstances now appear radically different from those of a year ago, we are in fundamentally the same situation from an energy security perspective; the reality has only become that much more stark. While blackouts and price swings have abated, our revived economy may prompt their return. Furthermore, the events of September 11 renewed attention on energy security in a way that was completely unimaginable. The importance of energy security, due to our domestic and international vulnerabilities, now claims great interest.

## FEDERAL PROGRAMS TO PROMOTE RENEWABLE RESOURCES

The Council has long recognized that the market, not the U.S. government, makes energy supply choices. Unfortunately, foreign governments are in a position to make energy supply choices for us, and the reality is that energy technology and infrastructure cannot be developed overnight. Like our military, in order to have an option available when the need arises, we may only count on those resources we had the foresight to prepare ahead of time. The ability to have a secure, affordable and clean supply of energy to drive our economy comes from a sustained commitment by industry and the federal government to research, develop and deploy appropriate technologies. Countless risks arise all throughout this process, most of which are borne by industry; however, there are points at which governmental support is most appropriate, effective and critical.

## SOLAR ENERGY

We are pleased that the Administration has become aware, as this Committee already knew, of the promise of solar technologies. That comports with the attitude of the American public, where recent nationwide media polls found 84 to 91 percent of respondents favor increased funding for solar power development.

It's critical for the cost-shared programs to receive adequate funding. The Administration, with the exception of concentrating solar power, has made great progress in the last year in its recognition of the value of solar energy programs and for that it deserves accolades.

*Concentrating Solar Power*

The one disappointing aspect of the Administration's solar energy budget proposal is its continued failure to see the promise of concentrating solar power technology. CSP received a strong peer review and Congressional direction in the fiscal year 2002 energy and water appropriations bill to produce a report on how 1,000 MW of CSP in the Southwest received support from Governors Jane Dee Hull of Arizona, Kenny C. Guinn of Nevada, and Gary E. Johnson of New Mexico on behalf of the Western Governors Association.

To effectively support this program, we recommend a \$25 million appropriation, with half of that amount being devoted to support the 1,000 MW initiative in the Southwest.

*Photovoltaics*

This technology utilizes silicon to convert sunlight directly into electricity. Vigorous research has cut costs in half since 1995. On the horizon is the potential to halve costs yet again, making photovoltaic-produced electricity competitive with other distributed electricity generation options in the U.S.

We request a total of \$100 million for photovoltaic programs, including at least \$11 million for the PVMat program (Advanced Manufacturing R&D), \$2 million for BiPV, and \$18.5 million for Thin Films.

*The Zero Energy Building Initiative*

The Administration endorsement of the Zero Energy Buildings program in this budget is particularly exciting and something the Council strongly supports because this program spans a range of solar and energy efficiency technologies including integrated solar thermal and solar absorption cooling systems, photovoltaics, fuel cells and smart inverters and controls. The ZEB program is a multifaceted technology integration effort to create buildings that generate as much energy as they consume. The seeds to a longterm solution to our nation's energy and environmental challenges are germinating in this dynamic research program. We request \$15 million for this program.

## WIND

Utility-scale wind energy reported its single best year of growth in 2001, which saw just short of 1,700 MW of new capacity installed. This doubles the previous

record year of 1999. The success of this industry is a testament to industry and government working together. Research continues to create more efficient and economical turbines, increasing output in the best wind locations and opening up other regions to wind power production. What was once a day long trip to see is now a scant two-hour drive from the Capitol, where one can witness wind turbines generating electricity along the Pennsylvania Turnpike in Somerset County.

Wind energy technology continues to advance, soon to make wind capable of providing cost-competitive electricity in more than the five percent of potential sites where it is competitive today. To do so, federal support is critical. For overall wind energy programs, the Council is asking for \$55 million in funding.

Demand for small wind turbines also continue to grow. Companies like Bergey Windpower, a Council member and manufacturer of small wind systems serving the distributed generation market for rural homes and facilities, are still working overtime to satisfy orders from electricity-starved regions. These distributed generation systems have great potential to reduce energy costs, promote competition and strengthen the electrical grid.

DOE has significant programs for many technologies but not for small wind. A Small Wind Turbine Initiative (SWTI) would reduce the costs of small wind systems for homes, farms, and small businesses by promoting deployment that would lead to higher production volumes, reducing market barriers and improving the technology. SWTI aims to make small wind turbines cost-effective for an estimated six million to ten million potential rural residential users, opening a potential market of thousands of megawatts that could make small wind a major contributor to our domestic energy supply.

#### GEOHERMAL ENERGY

The Council supports federal programs directed at taking advantage of geothermal resources. California today receives six percent of its electricity from geothermal resources and the western United States could realize nearly 20,000 megawatts of electrical and thermal energy using enhanced geothermal technology. That would represent a tripling of today's output, and would satisfy the needs of 18 million residents. The Council requests an increase to \$45 million in geothermal funding in fiscal year 2003.

#### HYDROGEN

The Council supports federal hydrogen programs and the inclusion of alkaline fuel cells in the hydrogen program.

#### DISTRIBUTED ENERGY RESOURCES

Reliable, on-site generated power continues to increase in its importance as more and more manufacturing processes and information technologies become dependent upon a continuous supply of high-quality power. Whether energy is produced by microturbines, reciprocating engines, fuel cells or other gas-fueled systems or by renewable energy technologies, challenges to widespread deployment remain. Some of these technologies need further refinement, while all need federal intervention in the development of interconnect standards to gain access to the electricity grid. Also, many of these technologies benefit from integration into energy delivery systems, a challenge not undertaken within individual technology development programs. In essence, despite the pull from the marketplace, the federal role remains strong.

The DER program is significantly under-funded. The Office of Power Technologies receives nearly ten solicitation applications for every award it makes. While more manufacturers are entering the market, significant RD&D requirements abound. DER provides the opportunity for more efficient use of waste heat to achieve total system efficiency levels as high as 80 percent. Further, the higher efficiency of DER systems inherently leads to lower emissions since they typically use cleaner feed-stock fuels than many central power plants.

The national economy is inextricably linked to information and electronically sensitive computer systems that require uninterrupted power that the 50+ year old electric grid is increasingly challenged to serve. Many utilities are now exploring the utilization of DER to reduce the strain on congested transmission systems. On-site DER systems are especially important for high-tech and mission-critical facilities as they offer dramatic power quality and reliability increases. Mission-critical systems, be it in high-tech, healthcare, manufacturing or government facilities, are enhanced by DER.

We are very supportive of the modest \$7.5 million proposal for proton membrane exchange fuel cell program within the Office of Power Technologies. We highlight

the need for these resources to be concentrated toward the research needs to develop a robust and reliable power generation unit.

Collectively, tremendous work remains in the areas of system development, advanced batteries, smart controls and sensors, power quality and reliability, storage, and interconnection. DOE has studied the technical, regulatory, market and institutional barriers to widespread utilization of DER, is working in partnership with industry to advance the state of the art of these technologies and is working to promote commercial acceptance.

#### RENEWABLE ENERGY PRODUCTION INCENTIVE

We respectfully request that the program be funded at a level that at least approaches that needed to cover currently authorized expenditure, approximately \$40 million. The \$4 million Administration request for fiscal year 2003 will for the first time not even fully fund the tier 1 projects, solar and wind. That means that it would not cover any of the tier 2 renewable energy projects such as a county landfill gas-to-energy project. Last year, these tier 2 projects received less than 10 percent of the amount that a plain reading of Title XII, section 1212 of the Energy Policy Act of 1992 clearly intends.

Municipally owned utilities like the Sacramento Municipal Utility District, Los Angeles Department of Water and Public Works and others read the words in Section 1212 as they pondered the economics of important public energy projects. Full funding of REPI in fiscal year 2003 will begin a rebuilding of confidence and stability in federal incentives for responsible, local, renewable energy projects.

#### INTERNATIONAL ACTIVITIES

Finally, the Council supports federal programs designed to help open international markets for renewable energy technologies. Competition in rapidly growing developing country markets is intense; U.S. renewables manufacturers face the dual obstacles of competition from conventional energy sources and foreign renewables manufacturers often buoyed by government assistance.

Our participation in international markets is more critical than ever. Over two billion people in the world lack a reliable supply of electricity. Growth in developing nations will take their energy use levels above that of the industrialized nations within two decades, with an anticipated expenditure of \$4 trillion to \$5 trillion. Traditionally, most "new" environmentally friendly and efficient technologies are not the first choice of decision-makers in these markets. With encouragement and bureaucratic streamlining, however, U.S. clean energy exports could easily double in less than five years, resulting in up to \$5 billion in export revenues and 100,000 new American jobs.

The Council is extremely supportive of funding for international energy programs and urges that funding not come at the expense of existing research, development and deployment programs. Beyond the benefit to U.S. exports, these technologies can help ensure international economic and political stability and enhance our national security by meeting the profound needs of these countries.

#### CONCLUSION

A variety of energy options is needed to create energy security and ensure our economic and environmental integrity. With a full slate of choices, choices in part aided by research and development supported by the Department of Energy, the marketplace will be able to select the most appropriate solutions to meet specific needs, take American energy security out of the hands of overseas suppliers of questionable reliability and reduce our domestic infrastructure vulnerabilities.

The Council strongly urges the Congress to continue its support of federal research, development, demonstration and deployment programs for renewable and distributed energy technologies. By adopting a robust budget, Congress can demonstrate its genuine commitment to the nation throughout this critical time.

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#### PREPARED STATEMENT OF THE UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH

On behalf of the University Corporation for Atmospheric Research (UCAR) and the university community involved in weather and climate research and related education, training and support activities, I submit this written testimony for the record of the Senate Committee on Appropriations, Subcommittee on Energy and Water Development.

UCAR is a consortium of 66 universities that manage and operate the National Center for Atmospheric Research (NCAR) and additional programs that support and extend the country's scientific research and education capabilities. The UCAR mission is to support, enhance, and extend the capabilities of the university community, nationally and internationally; to understand the behavior of the atmosphere and related systems and the global environment; and to foster the transfer of knowledge and technology for the betterment of life on earth. In addition to its member universities, UCAR has formal relationships with approximately 100 additional undergraduate and graduate schools including several historically black and minority-serving institutions, and 40 international universities and laboratories. UCAR is supported by the National Science Foundation (NSF) and other federal agencies including the Department of Energy (DOE).

#### DOE OFFICE OF SCIENCE

DOE is the fourth largest supporter of basic research in the federal government. The programs and national user facilities of the agency's Office of Science are vital to the nation's basic research investment across all disciplines in the natural and physical sciences. These yield both short-term benefits and future advances in environmental research, basic computing and physics research, energy supply, homeland security, and educational growth. For fiscal year 2003, UCAR joins the Association of American Universities and the Energy Sciences Coalition in urging the Committee to support an increase of 9.1 percent, or \$300 million, for DOE's Office of Science, for a total of \$3.58 billion.

Within the Office of Science, the Biological and Environmental Research (BER) program develops the knowledge necessary to identify, understand, and anticipate the potential health and environmental consequences of energy production and use. These are issues that are absolutely critical to our country's well-being and security, yet the program's request is down 11.6 percent from the fiscal year 2002 enacted level of \$570.3 million. I urge the Committee, in following the recommendation made above for the Office of Science, to increase BER's allocation by 9.1 percent, for a total of \$622.2 million. I would like to comment on the following programs within DOE's Office of Science that are of particular importance to the work of the atmospheric sciences community:

#### BIOLOGICAL AND ENVIRONMENTAL RESEARCH (BER) CLIMATE CHANGE RESEARCH SUBPROGRAM

Critical to our nation's health, well-being, and security is BER's responsibility to develop the knowledge needed to understand and anticipate the long-term environmental consequences of energy production, development and use; and to develop creative solutions to related environmental challenges including climate change. Much of the funding for this research is provided to the country's universities and laboratories through a peer-reviewed, competitive process that ensures the highest possible caliber of work. BER's Climate Change Research subprogram (previously the Environmental Processes subprogram) will contribute to the reduction and resolution of key uncertainties. I urge the Committee to support at least the Climate Change Research Subprogram request of \$137.9 million, a 7.0 percent increase over the fiscal year 2002 budget.

The subprogram's following components are of great importance in DOE's contribution to the multi-agency U.S. Global Change Research Program:

##### *Climate Modeling*

BER's Climate Modeling effort, within the subprogram's Climate and Hydrology program, improves the capacity to produce long-term climate change scenarios for climate change research and assessment purposes. Some of the remaining mysteries of climate change prediction include the roles played by clouds, evaporation, precipitation, and surface energy exchange, all of which are addressed by the Climate Modeling program. This work is of great importance to our understanding of the manner in which climate change, natural or otherwise, affects specific areas of the country with ramifications to local environmental and economic systems. The proposed funding of \$27.2 million for Climate Modeling in fiscal year 2003 reflects flat funding and is insufficient to cover inflation, much less make the advances that are necessary and possible. I urge the Committee to appropriate an amount of at least \$29.0 million, a 7.0 percent increase, for Climate Modeling within BER.

##### *Atmospheric Radiation Measurement (ARM) Program*

ARM, funded within the subprogram's Climate and Hydrology program, contributes to determining the role of clouds in climate change and addresses the interaction of solar energy with water vapor and aerosols as they affect the atmospheric

radiative balance that drives the climate system. ARM data are critical to the improvement of General Circulation Models (GCMs), which simulate the global atmosphere and enable us to understand and predict changes in global and regional temperature and precipitation patterns that result from both anthropogenic and natural influences. ARM supports the work of many university principal investigators and makes possible interactions and collaborative work with DOE National Laboratories and scientists at NASA, NOAA, and DOD. To facilitate the transfer of ARM research to premier modeling centers, the ARM program supports scientific “Fellows” at the National Center for Atmospheric Research, NOAA and a European center. Requested fiscal year 2003 funding for ARM Research is \$13.3 million, exactly the same amount as the fiscal year 2002 level. The request for ARM Infrastructure to support the three ARM sites and instrumentation is \$31.4 million, a much-needed 14 percent increase. I urge the Committee to increase the level for ARM Research to \$14.3 million, or a 7.0 percent increase, and to support the \$31.4 million request for ARM Infrastructure.

#### *Atmospheric Chemistry and Carbon Cycle*

BER’s Atmospheric Chemistry and Carbon Cycle programs support research at university, DOE, and non-DOE laboratories across the country to provide information on the atmospheric environment that is critical for long-range energy planning. DOE’s carbon cycle research explores movement of carbon on a global scale and is key to understanding the sources and sinks of carbon both in terrestrial and ocean systems. The agencies of DOE, NOAA, NSF, and EPA have a coordinated strategy to work toward completing our knowledge of the carbon cycle. One of the especially important aspects of the DOE carbon cycle program is its support of long-term measurement sites and data holdings that are used by climate change researchers around the world. Proposed overall funding for this critical work appears to receive \$37.7 million, an 8.9 percent increase over fiscal year 2002. However, essentially all of this increase comes from the addition of the Administration’s Climate Change Research Initiative mentioned below. This means that the request for Atmospheric Chemistry and Carbon Cycle is flat. I urge the Committee to support a real increase of at least 7 percent for Atmospheric Chemistry and Carbon Cycle for a total of \$39.9 million.

#### *Climate Change Research Initiative (CCRI)*

In fiscal year 2003, the Administration will institute the CCRI as part of a new interagency effort, the DOE portion of which is to be funded within BER’s Atmospheric Chemistry and Carbon Cycle program. CCRI deliverables will be targeted at information of strategic use to policy-makers, such as more reliable predictions of what the future climate would be under different greenhouse forcing scenarios and how much climate and land use changes will affect natural sources and sinks of carbon. DOE will participate in one of the specific research areas: understanding the North American Carbon Cycle (with NOAA, NSF, and USDA), which is identified as a priority need in the interagency Carbon Cycle Science Plan. I urge the Committee to support the establishment of the Climate Change Research Initiative, to enable to the fullest extent possible CCRI enhancement of and collaboration with USGCRP research, and to support the Initiative’s needed growth in years to come in order to provide continuous knowledge and guidance that contributes to the nation’s security and well-being.

#### *Human Interactions—Global Change Education*

BER’s Global Change Education program performs a great service for the atmospheric sciences community by joining with the NSF and other agencies to support students involved in the UCAR-managed program, Significant Opportunities in Atmospheric Research and Science (SOARS). SOARS, recipient of one of this year’s Presidential Award for Excellence in Science, Math, and Engineering Mentoring, is a four-year graduate and undergraduate program for students pursuing careers in the atmospheric and related sciences. In its relatively short history, SOARS has already increased the number of under-represented students in this scientific area by a significant percentage. I would like the Committee to be aware that BER’s Climate Change Research program is contributing to the SOARS effort to ensure that tomorrow’s scientific workforce reflects the diversity of our citizenry and provides opportunity to all students.

#### ADVANCED SCIENTIFIC COMPUTING RESEARCH (ASCR)

DOE’s ASCR provides advances in computer science and the development of specialized software tools that are necessary to research the major scientific question being addressed by the Office of Science. ASCR’s continued progress is of particular



importance to atmospheric scientists involved with complex climate model development, research that takes enormous amounts of computing power. By their very nature, problems dealing with the interaction of the earth's systems and global climate change cannot be solved by traditional laboratory approaches. Of particular importance to the U.S. National Assessment effort in global change is ASCR's critical contribution to the multi-agency effort to develop the Coupled Parallel Climate Model (PCM) and its successor, the Community Climate System Model (version 2.0). I urge the Committee to support the request of \$169.6 million, an 8 percent increase, for ASCR in fiscal year 2003.

On behalf of UCAR and the atmospheric sciences research community, I want to thank the Committee for the important work you do for U.S. scientific research. We appreciate your attention to the recommendations of our community concerning the fiscal year 2003 budget of the Department of Energy.

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## WATER PROGRAMS

### PREPARED STATEMENT OF THE SANTA CLARA VALLEY WATER DISTRICT, SAN JOSE, CALIFORNIA

#### GUADALUPE RIVER PROJECT

*Background.*—The Guadalupe River is a major waterway flowing through a highly developed area of San Jose, in Santa Clara County, California. A major flood would damage homes and businesses in the heart of Silicon Valley. Historically, the river has flooded downtown San Jose and the community of Alviso. According to the U.S. Army Corps of Engineers (Corps) 2000 Final General Reevaluation & Environmental Report for Proposed Project Modifications, estimated damages from a 1 percent flood in the urban center of San Jose are over \$575 million. The Guadalupe River overflowed in February 1986, January 1995, and March 1995, damaging homes and businesses in the St. John and Pleasant Street areas of downtown San Jose. In March 1995, heavy rains resulted in breakouts along the river that flooded approximately 300 homes and business.

*Project Synopsis.*—In 1971, the local community requested that the Corps reactivate its earlier study. Since 1972, substantial technical and financial assistance have been provided by the local community through the Santa Clara Valley Water District in an effort to accelerate the project's completion. To date, more than \$85.8 million in local funds have been spent on planning, design, land purchases, and construction in the Corps' project reach.

The Guadalupe River Project received authorization for construction under the Water Resources Development Act of 1986; the General Design Memorandum was completed in 1992, the local cooperative agreement was executed in March 1992, the General Design Memorandum was revised in 1993, construction of the first phase of the project was completed in August 1994, construction of the second phase was completed in August 1996. Project construction was temporarily halted due to environmental concerns.

To achieve a successful, long-term resolution to the issues of flood protection, environmental mitigation, avoidance of environmental impacts, and project maintenance costs, a multi-agency "Guadalupe Flood Control Project Collaborative" was created in 1997. A key outcome of the collaborative process was the signing of the Dispute Resolution Memorandum in 1998, which resolved major mitigation issues and allowed the project to proceed. A joint General Reevaluation Report & Environmental Report was developed to address project modifications and the environmental effects for public review. Response to public comments was documented in the final report which was approved by Brigadier General John Griffin, Corps Director of Civil Works, on November 16, 2001. General Griffin also signed the Record of Decision. Completion of the last phase of flood protection construction is estimated in 2004 and is dependent on timely federal funding.

*Fiscal Year 2002 Funding.*—\$8 million was appropriated in fiscal year 2002 to continue Guadalupe River Project construction.

*Fiscal Year 2003 Funding Recommendation.*—Based upon the need to continue construction to provide critical flood protection for downtown San Jose and the community of Alviso, it is requested that the Congressional Committee support an appropriation add-on of \$15 million, in addition to the \$5 million in the Administration's fiscal year 2003 budget, for a total of \$20 million to continue construction of the final phase of the Guadalupe River Flood Protection Project.

## LLAGAS CREEK PROJECT

*Background.*—The Llagas Creek Watershed is located in southern Santa Clara County, California, serving the communities of Gilroy, Morgan Hill and San Martin. Historically, Llagas Creek has flooded in 1937, 1955, 1958, 1962, 1963, 1969, 1982, 1986, 1996, 1997, and 1998. The 1997 and 1998 floods damaged many homes, businesses, and a recreational vehicle park located in areas of Morgan Hill and San Martin. These are areas where flood protection is proposed. Overall, the proposed project will protect the floodplain from a 1 percent flood affecting more than 1,100 residential buildings, 500 commercial buildings, and 1,300 acres of agricultural land.

*Project Synopsis.*—Under authority of the Watershed Protection and Flood Prevention Act (Public Law 566), the Natural Resources Conservation Service completed an economic feasibility study in 1982 for constructing flood damage reduction facilities on Llagas Creek. The Natural Resources Conservation Service completed construction of the last segment of the channel for Lower Llagas Creek in 1994, providing protection to the project area in Gilroy. The U.S. Army Corps of Engineers (Corps) is currently updating the 1982 environmental assessment work and the engineering design for the project areas in Morgan Hill and San Martin. The engineering design is being updated to protect and improve creek water quality and to preserve and enhance the creek's habitat, fish, and wildlife while satisfying current environmental and regulatory requirements. Significant issues include the presence of additional endangered species including the red-legged frog and steelhead, listing of the area as probable critical habitat for steelhead, and more extensive riparian habitat than were considered in 1982.

Until 1996, the Llagas Creek Project was funded through the traditional Public Law 566 federal project funding agreement with the Natural Resources Conservation Service paying for channel improvements and the District paying local costs including utility relocation, bridge construction, and right of way acquisition. Due to the steady decrease in annual appropriations for the Public Law 566 construction program since 1990, the Llagas Creek Project has not received adequate funding from U.S. Department of Agriculture to complete the Public Law 566 project. To remedy this situation, the District worked with congressional representatives to transfer the construction authority from the Department of Agriculture to the Corps under the Water Resources Development Act of 1999 (Section 501). Since the transfer of responsibility to the Corps, the District has been working the Corps to complete the project.

*Fiscal Year 2002 Funding.*—\$500,000 was appropriated in fiscal year 2002 for the Llagas Creek Flood Protection Project for planning and design.

*Fiscal Year 2003 Funding Recommendation.*—Based upon the high risk of flood damage from Llagas Creek, it is requested that the Congressional Committee support an appropriation add-on of \$650,000, in addition to the \$225,000 in the Administration's fiscal year 2003 budget, for a total of \$875,000 for planning and environmental updates for the Llagas Creek Project.

## COYOTE CREEK WATERSHED STUDY

*Background.*—Coyote Creek drains Santa Clara County's largest watershed, an area of more than 320 square miles encompassing most of the eastern foothills, the City of Milpitas, and portions of the Cities of San Jose and Morgan Hill. It flows northward from Anderson Reservoir through more than 40 miles of rural and heavily urbanized areas and empties into south San Francisco Bay.

Prior to construction of Coyote and Anderson Reservoirs, flooding occurred in 1903, 1906, 1909, 1911, 1917, 1922, 1923, 1926, 1927, 1930 and 1931. Since 1950, the operation of the reservoirs has reduced the magnitude of flooding, although flooding is still a threat and did cause damages in 1982, 1983, 1986, 1995, and 1997. Significant areas of older homes in downtown San Jose and some major transportation corridors remain susceptible to extensive flooding. The federally-supported lower Coyote Creek Project (San Francisco Bay to Montague Expressway) which was completed in 1996 did protect homes and businesses from storms which generated record runoff in the northern parts of San Jose and Milpitas.

The proposed Reconnaissance Study would evaluate the reaches upstream of the completed federal flood protection works on lower Coyote Creek.

*Objective of Study.*—The objectives of the Reconnaissance Study are to investigate flood damages within the Coyote Creek Watershed; to identify potential alternatives for alleviating those damages which also minimize impacts on fishery and wildlife resources, provide opportunities for ecosystem restoration, provide for recreational opportunities; and to determine whether there is a Federal interest to proceed into the Feasibility Study Phase.

*Study Authorization.*—The existing study authority is the 1941 Guadalupe River and Adjacent Streams authorization. This authorization is limited in scope to flood protection issues only. Congressional representatives are currently pursuing an updated study resolution to authorize a multipurpose study of the watershed.

*Fiscal Year 2002 Funding.*—No federal funding was received in fiscal year 2002.

*Fiscal Year 2003 Funding Recommendation.*—It is requested that the Congressional Committee support an appropriation add-on of \$100,000 to initiate a multipurpose Reconnaissance Study within the Coyote Creek Watershed.

SAN JOSE AREA WATER RECLAMATION AND REUSE PROGRAM (SOUTH BAY WATER RECYCLING PROGRAM)

*Background.*—The San Jose Area Water Reclamation and Reuse Program, also known as the South Bay Water Recycling Program, will allow the City of San Jose and its tributary agencies of the San Jose/Santa Clara Water Pollution Control Plant to protect endangered species habitat, meet receiving water quality standards, supplement Santa Clara County water supplies, and comply with a mandate from the U.S. Environmental Protection Agency and the California Water Resources Control Board to reduce wastewater discharges into San Francisco Bay.

The Santa Clara Valley Water District (District) collaborated with the City of San Jose to build the first phase of the recycled water system by providing financial support and technical assistance, as well as coordination with local water retailers. The design, construction, construction administration, and inspection of the program's transmission pipeline and Milpitas 1A Pipeline was performed by the District under contract to the City of San Jose.

*Status.*—The City of San Jose is the program sponsor for Phase 1, consisting of almost 60 miles of transmission and distribution pipelines, pump stations, and reservoirs. Completed at a cost of \$140 million, Phase 1 began partial operation in October 1997. Peak operation occurred in August 2000 with actual deliveries of 10 million gallons per day of recycled water. The system now serves over 300 customers and delivers over 6,000 acre-feet of recycled water per year.

Phase 2 is now underway. In June 2001, San Jose approved an \$82.5 million expansion of the program. The expansion includes additional pipeline extensions into the cities of Santa Clara and Milpitas, a major pipeline extension into Coyote Valley in south San Jose, and reliability improvements of added reservoirs and pump stations. The District and the City of San Jose executed an agreement in February 2002 to cost share on the pipeline into Coyote Valley and discuss a long-term partnership agreement on the entire system. Phase 2's near-term objective is to increase deliveries by the year 2010 to 15,000 acre-feet per year.

*Funding.*—In 1992, Public Law 102-575 authorized the Bureau of Reclamation to work with the City of San Jose and the District to plan, design, and build demonstration and permanent facilities for reclaiming and reusing water in the San Jose metropolitan service area. The City of San Jose reached an agreement with the Bureau of Reclamation to cover 25 percent of Phase 1's costs, or approximately \$35 million; however, federal appropriations have not reached the authorized amount. To date, the program has received \$23 million of the \$35 million authorization.

*Fiscal Year 2002 Funding.*—\$4 million was appropriated in fiscal year 2002 for project construction.

*Fiscal Year 2003 Funding Recommendation.*—It is requested that the Congressional Committee support an appropriation add-on of \$8 million, in addition to the \$2 million in the Administration's fiscal year 2003 budget, for a total of \$10 million to fund the Phase 2 study and work.

UPPER GUADALUPE RIVER PROJECT

*Background.*—The Guadalupe River is one of two major waterways flowing through a highly urbanized area of Santa Clara County, California, the heart of Silicon Valley. Historically, the river has flooded the central district and southern areas of San Jose. According to U.S. Army Corps of Engineers (Corps) 1998 feasibility study, severe flooding in the upper Guadalupe River's densely populated residential floodplain south of Interstate 280 would result from a 100-year flooding event and potentially cause \$280 million in damages.

The probability of a large flood occurring before implementation of flood prevention measures is high. The upper Guadalupe River overflowed in March 1982, January 1983, February 1986, January 1995, March 1995, and February 1998, causing damage to several residences and businesses in the Alma Avenue and Willow Street areas. The 1995 floods in January and March, as well as in February 1998, closed Highway 87 and the parallel light-rail line, a major commute artery.

*Project Synopsis.*—In 1971, the Santa Clara Valley Water District (District) requested the Corps to reactivate its earlier study. From 1971 to 1980, the Corps established the economic feasibility and federal interest in the Guadalupe River only between Interstate 880 and Interstate 280. Following the 1982 and 1983 floods, the District requested that the Corps reopen its study of the upper Guadalupe River upstream of Interstate 280. The Corps completed a reconnaissance study in November 1989, which established an economically justifiable solution for flood protection in this reach. The report recommended proceeding to the feasibility study phase, which began in 1990. In January 1997, the Corps determined that the National Economic Development Plan would be a 2 percent or 50-year level of flood protection rather than the 1 percent or 100-year level. The District strongly emphasized overriding the National Economic Development Plan determination, providing compelling reasons for using the higher 1 percent or 100-year level of protection. In 1998, the Acting Secretary of the Army did not concur to change the basis of cost sharing from the 50-year National Economic Development Plan to the locally preferred 100-year plan, resulting in a project that will provide less flood protection, and therefore, be unable to reduce flood insurance requirements and reimbursements, as well as eliminate recreational benefits and increase environmental impacts. Based on Congressional delegation requests, the Assistant Secretary of the Army directed the Corps to revise the Chief's Report to reflect more significant federal responsibility. The Corps feasibility study determined the cost of the locally preferred 100-year plan is \$153 million and the Corps National Economic Development Plan 50-year plan is \$98 million. The District has requested that the costs of providing 50-year and 100-year flood protection be analyzed again during the preconstruction engineering design phase for the determination of the National Economic Development Plan. In a memorandum for the Assistant Secretary of the Army, dated October 12, 2000, Major General Hans A. Van Winkle, Deputy Commander for Civil Works, made a similar recommendation. The federal cost share has yet to be determined. The project was approved for construction by the Water Resources Development Act of 1999 (Section 101).

*Fiscal Year 2002 Funding.*—\$300,000 was appropriated in fiscal year 2002 for the Upper Guadalupe River Project to continue preconstruction engineering and design.

*Fiscal Year 2003 Funding Recommendation.*—Based upon the high risk of flood damage from the upper Guadalupe River and the need to complete preconstruction engineering and design, it is requested that the Congressional Committee support an appropriation add-on of \$2 million in fiscal year 2003 to complete preconstruction engineering and design for the Upper Guadalupe River Flood Protection Project.

#### UPPER PENITENCIA CREEK PROJECT

*Background.*—The Upper Penitencia Creek Watershed is located in northeast Santa Clara County, California, near the southern end of the San Francisco Bay. In the last two decades, the creek has flooded in 1980, 1982, 1983, 1986, 1995, and 1998. The January 1995 flood damaged a commercial nursery, a condominium complex, and a business park. The February 1998 flood also damaged many homes, businesses, and surface streets.

The proposed project on Upper Penitencia Creek, from the Coyote Creek confluence to Dorel Drive, will protect portions of the cities of San Jose and Milpitas. The floodplain is completely urbanized; undeveloped land is limited to a few scattered agricultural parcels and a corridor along Upper Penitencia Creek. Based on the U.S. Army Corps of Engineers' (Corps) 1995 reconnaissance report, 4,300 buildings in the cities of San Jose and Milpitas are located in the flood prone area, 1,900 of which will have water entering the first floor. The estimated damages from a 1 percent or 100-year flood exceed \$121 million.

*Study Synopsis.*—Under authority of the Watershed Protection and Flood Prevention Act (Public Law 83-566), the Natural Resources Conservation Service completed an economic feasibility study (watershed plan) for constructing flood damage reduction facilities on Upper Penitencia Creek. Following the 1990 U.S. Department of Agriculture Farm Bill, the Natural Resources Conservation Service watershed plan stalled due to the very high ratio of potential urban development flood damage compared to agricultural damage in the project area.

In January 1993 the Santa Clara Valley Water District (District) requested the Corps proceed with a reconnaissance study in the 1994 fiscal year while the Natural Resources Conservation Service plan was on hold. Funds were appropriated by Congress for fiscal year 1995 and the Corps started the reconnaissance study in October 1994. The reconnaissance report was completed in July 1995, with the recommendation to proceed with the feasibility study phase. The feasibility study, initiated in February 1998, is scheduled for completion in 2003.

*Advance Construction.*—To accelerate project implementation, the District submitted a Section 104 application to the Corps for advance approval to construct a portion of the project. Approval of the Section 104 application was awarded in December 2000. The advance construction is for a 2,500-foot long section of bypass channel between Coyote Creek and King Road. The District plans to begin construction on this portion of the project in 2002.

*Fiscal Year 2002 Funding.*—\$400,000 was appropriated in fiscal year 2002 for the Upper Penitencia Creek Flood Protection Project for project investigation.

*Fiscal Year 2003 Funding Recommendation.*—Based upon the high risk of flood damage from Upper Penitencia Creek and the need to proceed with the feasibility study, it is requested that the Congressional Committee support the \$559,000 in the Administration's fiscal year 2003 budget for the Upper Penitencia Creek Flood Protection Project.

#### COYOTE/BERRYESSA CREEK PROJECT, BERRYESSA CREEK PROJECT ELEMENT

*Background.*—The Berryessa Creek Watershed is located in northeast Santa Clara County, California, near the southern end of the San Francisco Bay. A major tributary of Coyote Creek, Berryessa Creek drains a large area in the City of Milpitas and a portion of San Jose. The Berryessa Watershed is 22 square miles.

On average, Berryessa Creek floods once every four years. The most recent flood in 1998 resulted in significant damage to homes and automobiles. The proposed project on Berryessa Creek, from Calaveras Boulevard to Old Piedmont Road, will protect portions of the Cities of San Jose and Milpitas. The flood plain is largely urbanized with a mix of residential and commercial development. Based on the U.S. Army Corps of Engineers (Corps) 1993 draft General Design Memorandum, a 1 percent or 100-year flood could potentially result in damages of \$52 million with depths of up to three feet.

*Study Synopsis.*—In January 1981, the Santa Clara Valley Water District (District) applied for federal assistance for flood protection projects under Section 205 of the 1948 Flood Control Act. The Water Resources Development Act of 1990 authorized construction on the Berryessa Creek Flood Protection Project as part of a combined Coyote Creek/Berryessa Creek Project to protect portions of the Cities of Milpitas and San Jose.

The Coyote Creek element of the project was completed in 1996. The Berryessa Creek Project element proposed in the Corps' 1987 feasibility report consisted primarily of a trapezoidal concrete lining. The Corps and the District are preparing a General Reevaluation Report which involves reformulating a project which is more acceptable to the local community and more environmentally sensitive. Project features will include setback levees and floodwalls to preserve sensitive areas (minimizing the use of concrete), appropriate aquatic and riparian habitat restoration and fish passage, and sediment control structures to limit turbidity and protect water quality. The project will also accommodate the City of Milpitas' adopted trail master plan. Estimated total costs of the General Reevaluation Report work are \$3.8 million, and should be completed in the winter of 2003.

*Fiscal Year 2002 Funding.*—\$750,000 was appropriated in fiscal year 2002 for the Coyote/Berryessa Creek Flood Protection Project to continue the General Reevaluation Report and environmental documents update.

*Fiscal Year 2003 Funding Recommendation.*—Based on the continuing threat of significant flood damage from Berryessa Creek and the need to continue with the General Reevaluation Report, it is requested that the Congressional Committee support an appropriation add-on of \$1 million for the Berryessa Creek Flood Protection Project element of the Coyote/Berryessa Creek Project.

#### SAN FRANCISQUITO CREEK WATERSHED PROJECT

*Background.*—San Francisquito Creek forms the boundary between Santa Clara and San Mateo counties, California and separates the cities of Palo Alto from East Palo Alto and Menlo Park. San Francisquito Creek is one of the last continuous riparian corridors on the San Francisco Peninsula and home to one of the last remaining viable steelhead trout runs. The creek flows through five cities and two counties, from Searsville Lake above Stanford University to the San Francisco Bay near Palo Alto Airport. It is a highly valued resource by these communities. Area between El Camino Real and the bay is subject to flooding during a 1 percent flood and has a flooding frequency of approximately once in 15 years. Over \$155 million in damages could occur in Santa Clara and San Mateo counties from a 1 percent flood, affecting 4,850 homes and businesses, according to the 1998 Reconnaissance Investigation Report done by San Francisquito Creek Watershed Council, a local stakeholder group.

*Flooding History.*—Overflowed seven times since 1910 with record flooding in February 1998. Flooded significant areas of Palo Alto in December 1955, inundating about 1,200 acres of commercial and residential property and about 70 acres of agricultural land. April 1958 storms caused a levee failure downstream of Highway 101, flooding Palo Alto Airport, the city landfill, and the golf course up to four feet deep. Overflowed in 1982 near Alpine Road, at University Avenue, and downstream of Highway 101, causing extensive damage to private and public property. Overflowed at numerous locations on February 3, 1998, causing severe, record consequences with more than \$28 million in damages, based on a March 1999 U.S. Army Corps of Engineers (Corps) Survey Report. More than 1,100 homes were flooded in Palo Alto, 500 people were evacuated in East Palo Alto, and the major commute and transportation artery, Highway 101, was closed.

*Status.*—Active citizenry anxious to avoid a repeat of February 1998 flood. Since 1955, numerous floodplain management studies have been commissioned by the Corps, the Santa Clara Valley Water District (District), Stanford University, and the San Mateo County Flood Control District. Grassroots, consensus-based Watershed Council has productively united local and state agencies with citizens, flood victims, developers, and environmental activists. The cities of Palo Alto, East Palo Alto, Menlo Park, San Mateo County and the District have established a Joint Powers Authority to coordinate creek maintenance issues, to develop a solution to flooding and to address other creek-related issues. The Joint Powers Authority Board has initiated Congressional involvement to authorize a Corps reconnaissance study. Should federal interest be demonstrated by the reconnaissance study, the next step would be a cost-shared feasibility study. The feasibility study would require six to seven years work and cost \$5–6 million. Study elements will include an investigation to define flooding, erosion and other stream needs within the project area; an analysis of alternative solutions; a public participation program followed by preparation of an Engineer's Report; and an Environmental Impact Report. Flood protection alternatives for the San Francisquito Creek project might include raising the levees downstream of Highway 101, storage of flows upstream, channel diversions such as detention basins or auxiliary channels, or instream improvements that increase the capacity of the channel through the urban area. The riparian habitat and urban setting of San Francisquito Creek offer unique opportunities for a multi-objective project which could enhance habitat, improve water quality, and provide for recreational use.

*Fiscal Year 2002 Funding.*—No federal funding was received in fiscal year 2002.

*Fiscal Year 2003 Funding Recommendation.*—It is requested that the Congressional Committee support an appropriation add-on of \$100,000 in fiscal year 2003 to conduct a Reconnaissance Study of the San Francisquito Creek Watershed.

#### COYOTE CREEK AT ROCK SPRINGS PROJECT

*Background.*—Coyote Creek flows through the cities of Milpitas and San Jose. The Rock Springs neighborhood is upstream of the recently completed, federally-supported flood protection works on Coyote Creek. The neighborhood suffered severe damages to approximately 25 apartment buildings in January 1997 when Coyote Creek flooded in the vicinity of the low-income Rock Springs neighborhood. This event was estimated to be a 15-year event. The neighborhood was almost flooded again in February 1998, when Coyote Creek in the vicinity of the neighborhood was within a foot of overtopping its banks.

*Status.*—In February 1999, the Santa Clara Valley Water District (District) initiated discussions with U.S. Army Corps of Engineers (Corps) for a Section 205 study to reduce flood damage in Rock Springs neighborhood. A cost-sharing agreement for the Section 205 Small Projects Program \$1.16 million three-year feasibility study was signed by the Corps and the District on January 4, 2000. Funding is a 50/50 cost share. Preliminary alternatives consist of a levee or floodwall.

#### *Project Timeline.*—

—District requested federal assistance from Corps under Section 205—Feb 1999

—Feasibility cost sharing agreement signed—Jan 2000

—Public Scoping Meeting—May 2001

—Draft Feasibility Report/Environmental Impact Statement—Nov 2002

—Final Detailed Project Report/Environmental Impact Statement—Apr 2003.

*Fiscal Year 2002 Funding.*—\$200,000 was received in the fiscal year 2002 Section 205 appropriation.

*Fiscal Year 2003 Funding Recommendation.*—Based upon the need to continue the feasibility study to provide critical flood protection for the low-income Rock Springs Neighborhood, it is requested that the Congressional Committee support an

earmark of \$100,000 within the Section 205 Small Flood Protection Projects Program.

PAJARO RIVER WATERSHED STUDY

*Background.*—Pajaro River flows into the Pacific Ocean at Monterey Bay, about 75 miles south of San Francisco. The drainage area encompasses 1,300 square miles in Santa Clara, San Benito, Monterey, and Santa Cruz counties. Potential flood damage reduction solutions will require cooperation between four counties and four water/flood management districts. There is critical habitat for endangered wildlife and fisheries throughout the basin. Six separate flood events have occurred on the Pajaro River in the past half century. Severe property damage in Monterey and Santa Cruz counties resulted from floods in 1995, 1997, and 1998. Recent flood events have resulted in litigation claims for damages approaching \$50 million. \$20 Million in U.S. Army Corps of Engineers (Corps) flood fight funds have been expended in recent years.

*Status.*—Two separate Corps activities are taking place in the watershed. The first activity is a Corps reconnaissance study authorized by a House Resolution in May 1996 to address the need for flood protection and water quality improvements, ecosystem restoration, and other related issues. The second activity is a General Revaluation Report initiated in response to claims by Santa Cruz and Monterey Counties that the 13 mile levee project constructed in 1949 through agricultural areas and the city of Watsonville is deficient. The reconnaissance study on the entire watershed has been initiated by the San Francisco District of the Corps and will be complete in fiscal year 2002. Watershed Stakeholders are working cooperatively to support the Corps' reconnaissance study, which will provide information to help reach an understanding and agreement about the background and facts of the watershed situation.

*Local Flood Prevention Authority.*—Legislation passed by the State of California (Assembly Bill 807) in 1999 titled "The Pajaro River Watershed Flood Prevention Authority Act" mandated that a Flood Prevention Authority be formed by June 30, 2000. The purpose of the Flood Prevention Authority is "to provide the leadership necessary to . . . ensure the human, economic, and environmental resources of the watershed are preserved, protected, and enhanced in terms of watershed management and flood protection." The Flood Prevention Authority was formed in July 2000 and consists of representatives from the Counties of Monterey, San Benito, Santa Clara, and Santa Cruz, Zone 7 Flood Control District, Monterey County Water Resources Agency, San Benito County Water District, and the Santa Clara Valley Water District. The Flood Prevention Authority Board sent a letter of intent to cost share a feasibility study of the Pajaro River Watershed to the Corps in September 2001.

*Fiscal Year 2002 Funding.*—\$50,000 was authorized in fiscal year 2002 for the Pajaro Watershed Reconnaissance Study. In addition, \$1 million was authorized for continuation of the General Revaluation Report.

*Fiscal Year 2003 Funding Recommendation.*—It is requested that the Congressional Committee support the Administration's fiscal year 2003 budget of \$100,000 for the Pajaro River Watershed Study. It is also requested that the committee support \$275,000 for continuation of the General Revaluation Report in Santa Cruz and Monterey Counties.

CALFED BAY-DELTA PROGRAM

*Background.*—In an average year, half of Santa Clara County's water supply is imported from the San Francisco Bay/Sacramento-San Joaquin Delta estuary (Bay-Delta) watersheds through three water projects: The State Water Project, the federal Central Valley Project, and San Francisco's Hetch Hetchy Project. In conjunction with locally-developed water, this water supply supports 1.7 million residents in Santa Clara County and the most important high-tech center in the world. In average to wet years, there is enough water to meet the county's long-term needs. In dry years, however, the county could face a water supply shortage of as much as 100,000 acre-feet per year, or roughly 20 percent of the expected demand. In addition to shortages due to hydrologic variations, the county's imported supplies have been reduced due to regulatory restrictions placed on the operation of the state and federal water projects.

There are also water quality problems associated with using Bay-Delta water as a drinking water supply. Organic materials and pollutants discharged into the Delta, together with salt water mixing in from San Francisco Bay, have the potential to create disinfection by-products that are carcinogenic and pose reproductive health concerns.

Santa Clara County's imported supplies are also vulnerable to extended outages due to catastrophic failures such as major earthquakes and flooding. As demonstrated by the 1997 flooding in Central Valley, the levee systems can fail and the water quality at the water project intakes in the Delta can be degraded to such an extent that the projects cannot pump from the Delta.

*Project Synopsis.*—The CALFED Bay-Delta Program is an unprecedented, cooperative effort among federal, state, and local agencies to restore the Bay-Delta. With input from urban, agricultural, environmental, fishing, and business interests, and the general public, CALFED is developing a comprehensive, long-term plan to address ecosystem and water management issues in the Bay-Delta.

Restoring the Bay-Delta ecosystem is important not only because of its significance as an environmental resource, but also because failing to do so will stall efforts to improve water supply reliability and water quality for millions of Californians and the state's \$700 billion economy and job base.

The June 2000 Framework for Action and the August 2000 Record of Decision/Certification contain a balanced package of actions to restore ecosystem health, improve water supply reliability and water quality. It is critical that federal funding be provided to implement these actions in the coming years.

*Fiscal Year 2002 Funding.*—\$30 million was appropriated for the CALFED Bay-Delta Program in the final fiscal year 2002 appropriations legislation.

*Fiscal Year 2003 Funding Recommendation.*—It is requested that the Committee support an appropriation add-on of \$35 million, in addition to the \$25 million in the Administration's fiscal year 2003 budget, for a total of \$50 million for the CALFED Program.

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PREPARED STATEMENT OF THE NAPA COUNTY FLOOD CONTROL AND WATER  
CONSERVATION DISTRICT

NAPA RIVER FLOOD CONTROL PROJECT

*Background*

The Napa River is the main waterway into which all tributaries on the Napa Valley flow. The river reaches its highest flow and the main point of concentration of storm water in the heart of the downtown city of Napa. The original town of Napa was established at the head of the navigable Napa River channel in 1848 as its only port for transportation and commerce until the railroad extended from Benicia to Napa in 1902.

The project is located in the city and county of Napa, California. The population in the city of Napa, approximately, 67,000 in 1994, is expected to exceed 77,000 this year. Excluding public facilities, the present value of damageable property within the project flood plain is well over \$500 million. The Napa River Basin, comprising 426 square miles, ranging from tidal marshes to mountainous terrain, is subject to severe winter storms and frequent flooding. In the lower reaches of the river, flood conditions are aggravated by high tides and local runoff. Floods in the Napa area have occurred in 1955, 1958, 1963, 1965, 1986 (flood of record), 1995, and 1997. In 1998, the river rose just above flood stage on three occasions, but subsided before major property damage occurred.

Over the years, the community has expressed a strong desire for increased flood management. Since 1962, twenty-seven major floods have struck the Valley region, exacting a heavy toll in loss of life and property. The flood on 1986, for example, killed three people and caused more than \$100 million in damage. The town of Napa is particularly vulnerable to floods: during a typical 100-year flood, more than 325,000 gallons of water flow through the downtown river area per second, with the potential of inundating 2 million square feet of businesses and offices and nearly 3,000 homes.

Flood damage in downtown Napa has recurred in January 1993, January and March 1995, January 1997, and February 1998, resulting in disaster declarations and Damage Survey Reports filed with FEMA, reaffirming the urgent need to implement the cost-effective project. In March 1995 and January of 1997, additional flood disasters occurred.

Damages throughout Napa County totaled about \$85 million from the January and March 1995 floods. The floods resulted in 27 businesses and 843 residences damaged countrywide. Almost all of the damages from the 1986, 1995, and 1997 floods were within the project area.

Locally developed flood measures currently in place provide minimal protection and include levees, floodwalls, pump stations, upstream reservoirs, restrictive flood plain management ordinances, and designated flood evacuation zones. Vast areas of



flood plain are restricted to agricultural and open space uses, precluding development that would be damaged by flooding. These local measures still leave most of the city of Napa vulnerable to frequent damaging floods. Congress has authorized a flood control project since 1944, but due to expense, lack of public consensus on the design and concern about environment impacts, a project had never been realized. The most recent Corps of Engineers project plan consisted of a deepening and channelization project. In mid-1995, federal and state resource agencies reviewed the plan and gave notice to the Corps that this plan had significant regulatory hurdles to face.

#### *Approved Plan—Project Overview*

In an effort to identify a meaningful and successful plan, a new approach emerged that looked at flood control from a broader, more comprehensive perspective. Citizens for Napa River Flood Management was formed, bringing together a diverse group of local engineers, architects, aquatic ecologists, business and agricultural leasers, environmentalists, government officials, homeowners and renters and numerous community organizations.

Through a series of public meetings and intensive debate over every aspect of Napa's flooding problems, the Citizens for Napa River Flood Management crafted a flood management plan offering a range of benefits for the entire Napa region. The Corps of Engineers served as a partner and a resource for the group, helping to evaluate their approach to flood management. The final plan produced by the Citizens for Napa River Flood Management was successfully evaluated through the research, experience and state-of-the-art simulation tools developed by the Corps and numerous international experts in the field of hydrology and other related disciplines. The success of this collaboration serves as a model for the nation.

Acknowledging the river's natural state, the project utilizes a set of living river strategies that minimize the disruption and alteration of the river habitat, and maximizes the opportunities for environmental restoration and enhancement throughout the watershed. This strategy replaces the former project and now entails flood plain acquisition and restoration of a geomorphically stable river channel, replacement of bridges and environmentally sensitive stream bank treatment in the urban reaches of the city of Napa.

The Corps has developed the revised plan, which provides 100-year protection, with the assistance of the community and its consultants into the Supplemental General Design Memorandum (SGDM) and its accompanying draft Environmental Impact Statement/Environmental Impact Report (SEIS/EIR). These reports were released for public comment in December of 1997 and underwent final review by Corps Headquarters. Construction of the project began two years ago.

The coalition plan now memorialized in the Corps final documents includes the following engineered components: lowering of old dikes, marsh plain and flood plain terraces, oxbow dry bypass, Napa Creek flood plain terrace, upstream and downstream dry culverts along Napa Creek, new dikes, levees and flood walls, bank stabilization, pump stations and detention facilities, and bridge replacements. The benefits of the plan include reducing or elimination of loss of life, property damage, cleanup costs, community disruption due to unemployment and lost business revenue, and the need for flood insurance. The plan will protect access to businesses, public services, and create opportunities for recreation and downtown development, boosting year-round tourism. In fact, the project has created an economic renaissance in Napa with new investment, schools and housing coming into a livable community on a living river. As a key feature, the plan will improve water quality, create urban wetlands and enhance wildlife habitats.

The plan will protect over 7,000 people and over 3,000 residential/commercial units from the 100-year flood event on the Napa River and its main tributary, the Napa Creek, and the project has a positive benefit-to-cost ratio under the Corps calculation. One billion in damages will be saved over the useful life of the project. The Napa County Flood Control District is meeting its local cost-sharing responsibilities for the project. A countywide sales tax, along with a number of other funding options, was approved four years ago by a two-thirds majority of the county's voters for the local share. Napa is California's highest repetitive loss community. This plan is demonstrative of the disaster resistant community initiative, as well, as the sustainable development initiatives of FEMA and EPA.

#### *Project Synopsis*

##### *Fiscal Year 2002 Funding*

The 2002 appropriations bill included \$7,000,000 to continue construction of the project. The funding was sought for demolition of buildings and fixtures on 24 parcels that have been acquired by the non-federal sponsor, relocation of the Napa Val-

ley Wine Train rail line for an approximate 3 mile distance, as well as relocation of the attenuate buildings serving this public utility, construction of marsh and flood plain terraces for an approximate 3 mile distance. Included in this amount is the reimbursement to the non-federal sponsor for expenditures in excess of 45 percent of the total project costs to date.

*Necessary Fiscal Year 2003 Funding*

Funding for the Napa River Project during 2003 in the amount of \$15,000,000 is needed to continue construction of the project. These funds will be used to accomplish the following tasks:

- Complete HTRW remediation along the east side of the river;
- Initiate and complete the Contract 1B excavation work in Kennedy Park;
- Initiate Contract 2East excavation work on the east side of river from Imola to the Bypass;
- Continue engineering and design on future contracts;
- Accomplish Construction Management on contract underway;
- Initiate reimbursement of local sponsor with funds not required for the above.

Included in this amount is the reimbursement to the non-federal sponsor for expenditures in excess of 45 percent of the total project costs to date. By the end of June, 2002 the non-federal sponsor will have expended \$93,000,000.

NAPA VALLEY WATERSHED MANAGEMENT

*Background*

Napa Valley watershed faces many challenges and stresses to its environmental health and flood management abilities. From a healthy river point of view, the Napa River has been on a recovery path since its low point in the 1960's, when the last of the native salmon were taken from the system by severe water pollution and habitat destruction. Steelhead trout have survived as a remnant population of two hundred that is presently in need of higher quality and more extensive spawning areas for recovery to a significant population. Beginning populations of fall run Chinook salmon have taken up residence in the watershed in those few areas available for spawning. While the chemical and wastewater pollution of earlier years has been effectively dealt with, excess sediment is still a critical stress on the salmon population, as it is to the spawning and rearing areas of the river in the estuarine zone upstream of San Pablo Bay, populated by delta smelt, splittail, green sturgeon and striped bass.

The U.S. EPA and Region II Water Quality Control Board have prioritized the River as an impaired water body because of the sediment production. The excess sediment generated in the watershed suffocates spawning areas, reduces the stream's flood-carrying ability, fills deep pools, increases turbidity in the stream and estuary, carries with it nutrients that bring significant algae blooms during the summer and fall, and changes the morphological balance of the streams and river toward more unstable conditions.

Over time, both private and public diversions and levees have been constructed in a chaotic way. The accumulated encroachment has constrained the river and its riparian corridor to approximately one third of its optimum morphological width for much of its length. The Napa Valley has also been extensively drained in the last century, eliminating nearly all of the sloughs and extensive wetlands that once covered the valley floor. Combined with increasing agricultural and urban development, the narrowed channel and loss of wetlands has greatly changed the river and its major tributaries, limiting its flood management capabilities. The river now regularly scours extensively on both bed and banks generating large amounts of sediment that settle in the lower river and estuary, only to be stirred and moved by the tides during the dry season. Loss of tidal wetlands in the lower river due to 70 years of dike construction has resulted in a much smaller area to disperse sediment, exacerbating losses in all types of riverine and estuarine-related complex habitats in the system.

In an effort to address these conditions and to develop local tools for improving natural resource management, the Corps and the Napa County Flood Control and Water Conservation District is currently developing a Napa Valley Watershed Management Plan (WMP) which would identify problems and opportunities for implementing environmentally and economically beneficial restoration in the Napa Valley watershed providing ecosystem benefits, such as flood reduction, erosion control, sedimentation management, and pollution abatement. The plan, which is the feasibility study the District is requesting funds for, would include the identification, review, refinement, and prioritization of restoration and flood protection opportunities with an emphasis on restoration of the watershed's ecosystem (e.g.: important plant

communities, healthy fish and wildlife populations, rare and endangered habitats and species and wildlife and riparian habitats). The development of the plan would be an iterative process, providing technical planning, and design assistance to local entities to foster restoration of watershed ecosystem.

The purpose would be to complete the WMP by providing technical, planning, and design assistance to the non-Federal interests for carrying out watershed management, restoration and development on the Napa River and its tributaries from Soscol Ridge, located approximately 5 miles south of the city of Napa, to Mt. St. Helena, the northern most reach of the Napa River watershed, California. The watershed plan would look at the upper Napa Valley watershed including Napa, Yountville, St. Helena, Calistoga, and the unincorporated areas of Napa County north of Soscol Ridge. A management program incorporating flood protection and environmental restoration would be developed as a result of the watershed plan.

To address the above mentioned and other local, regional, and national watershed concerns, the Napa County Board of Supervisors appointed a Napa County Watershed Task Force (WTF) to identify community based and supported solutions. The WTF submitted their recommendation for further action to the Napa County Board of Supervisors. Preliminary watershed analysis is being completed with an understanding that additional scientific and technical decisions and solutions would be incorporated into the Napa Valley watershed plan.

The U.S. Army Corps of Engineers, San Francisco District (Corps) and the Napa County Flood Control and Water Conservation District (NCFCD) developed the Napa Valley Watershed Project Management Plan with input from the Napa County Planning Department (NCPD), Napa County Up-Valley Cities, Napa County Watershed Task Force (WTF), Napa County Resource Conservation District (RCD), Regional Water Quality Control Board (RWQCB), the San Francisco Estuary Institute (SFEI), and other regional and local stakeholders. Coordination of a local and regional restoration programs would be critical in the planning process to provide a watershed management plan that identifies the best management practices for the watershed and supports potential spin off projects to be implemented independently of the WMP. The regional monitoring and assessment strategy being developed by regional interests will be a component in the development of the feasibility report. The monitoring and assessment strategy incorporates different indicators, classifications, and potential pilot projects to provide benchmarks for future restoration activities.

In an effort to identify problems and opportunities for implementing beneficial restoration in the Napa Valley Watershed, the Napa County Flood Control District is seeking that the Napa Valley Watershed Management Study be continued by the Corps of Engineers. The authority for this study is the Northern California Streams Study Authority stemming from the Rivers and Harbors Act of 1962, Public Law 87-874. Specifically, the Napa County Flood Control District is working closely with the Corps in the feasibility report in examining the watershed management needs, including flood control, environmental restoration, erosion control, storm water retention, storm water runoff management, water conservation and supply, wetlands restoration, sediment management and pollution abatement in the Napa Valley, including the communities of Napa, Yountville, St. Helena, Calistoga and the incorporated areas of Napa County.

#### *Project Synopsis*

##### *Fiscal Year 2002 Budget Funding*

The fiscal year 2002 appropriations bill included \$250,000 to continue the Napa Valley Watershed Management Study.

##### *Necessary Fiscal Year 2003 Funding*

Funding for the Napa Valley Watershed Management Study during fiscal year 2003 in the amount of \$250,000 is needed to have the Corps of Engineers continue the feasibility study to examine watershed management needs.

#### MILLIKEN-SARCO-TULOY CREEKS GROUNDWATER BASIN STUDY

##### *Background*

The groundwater basin underlying the unincorporated area east of the City of Napa is in overdraft. This area is referred to as the Milliken-Sarco-Tulocay groundwater basin, or MST. The Board of Supervisors enacted a Groundwater Conservation Ordinance in an effort to limit all new and permitted users in the MST area to a very restrictive amount of groundwater until such time as a recharge project can be implemented to reverse the declining water table. The Napa County Flood Control District also took action by contracting with the United States Geological

Survey (USGS) to perform an update to their 1977 study of the MST groundwater basin. This study will determine the extent of the problem, the recharge characteristics, the inter-basin communication capabilities, the solutions that are likely to succeed and the groundwater budget for the area. The three year USGS study has been underway for a year and early results confirm that the groundwater basin is in decline and is in need of serious recharge efforts.

There is a sense of urgency in establishing a recharge program to address this decline in water inventory available to the residents and businesses within the basin. A number of potential solutions have been identified and must be further assessed to ascertain their viability in solving the groundwater problems existent in the basin.

Possible solutions include the following:

—*Recharge enhancement at the infiltration galleries.*—The 1977 USGS study revealed that 95 percent of the recharge of the groundwater basin occurred at 23 isolated locations along the creeks and tributaries, generally where the arable soils meet the foothills. Enhancing recharge in these areas may have a dramatic impact on the overall water balance equation for the basin. The USGS work will give a general analysis of this possible solution, but a reconnaissance level evaluation must be done to evaluate cost effectiveness.

—*Importing recycled water.*—Recycled water will soon be available at the south end of this basin. Great opportunities exist for recycled water usage within the south and middle sections of the basin, especially at an existing golf course located in the middle section. Benefit would be gained by substituting recycled water for pumped groundwater, thereby leaving groundwater for others in the area. Substituted water could be used by this golf course and nearby agriculture.

—*Importing surplus groundwater from another basin.*—A unique opportunity exists to import surplus groundwater from a construction project into the north basin. The project at hand is a depressed underpass, that gets into the local groundwater table (not the MST basin), results in year round pumping, and creates a year round surplus that would be available for substitution for groundwater within the MST basin (which is located about 3 miles east of the project site.) The most likely user is a golf course located in the north basin.

—*Other possible solutions include.*—Construction of very small local reservoirs to enhance recharge; Construction of small reservoirs to provide water for agriculture; and, Importing treated water, which, in addition to political problems, would involve finding other imported water to make the treating and delivering agency whole.

Additionally, there are likely many more possibilities, all of which need to be identified, developed, and evaluated. All of these possibilities need to be studied at the reconnaissance level to determine their feasibility.

At the heart of this reconnaissance level evaluation must be the environmental analysis. As an example, the property owners constructing reservoirs have impacted the ecology of the area, which results in lessening the sustaining flows to the Napa River. Another example is the continuous decline in the groundwater table, which results not only in the one time expenditure of effort, materials and energy to drill deeper wells, but more tragically, in the ongoing expenditure of energy associated with pumping from deeper depths.

Following directly on the environmental benefits within the groundwater basin itself are the other benefits flowing from bringing the basin into balance. USGS staff believes that the basin, if in balance and in its naturally recovered condition, will actually return to its original state of flowing to the Napa River. This would provide tremendous benefit, not only to Milliken, Sarco, and Tulocay Creeks, in the local setting, but also to the Napa River, both by stream flow and by underground flow. Additional water into the Napa River system during protracted portions of the year would greatly restore and enhance the local watershed ecosystem.

Action is needed. The sooner steps are taken to identify and address the problem, the smaller the cost of implementing solution measures.

#### *Request*

In an effort to identify problems and opportunities for implementing solutions in the MST groundwater basin, Napa County Flood Control District is seeking to have the Corps initiate a reconnaissance study to evaluate all prospective water sources that could alleviate the widespread water quantity problems and identify and implement engineering measures to restore ecological recovery of the MST groundwater basin and associated groundwater infiltration and recharge in the Napa River watershed. Such measures could include conjunctive use; recharge enhancement and importing recycled and potable water.

*Necessary Fiscal Year 2003 Funding*

Funding for the Napa Groundwater Recharge Study during fiscal year 2003 in the amount of \$100,000 is needed to have the Corps initiate the reconnaissance study to examine groundwater needs in the basin.

## NAPA RIVER DREDGED MATERIAL RECYCLE FACILITY

*Background*

The Napa County Flood Control and Water Conservation District (District) and the Corps of Engineers (Corps) are currently constructing the Napa River Flood Protection Project which provides not only the public safety and economic benefits of flood protection but also provides large-scale environmental restoration of wetlands, tidal marshes and upland wildlife habitat. A main feature of the Flood Project, in addition to the restoration element is the maintenance of a minimal low flow/navigation channel which retains the historic central channel and removes levees and other man-made structures to accomplish hydraulic efficiency as a natural, largely self-maintaining river.

At present, the Corps is responsible for maintaining the Napa River navigation channel from the Mare Island Causeway to the Third Street Bridge in downtown Napa. Upon completion of the Napa River Flood Protection Project (scheduled for 2005), the Corps will continue to be responsible for maintenance of the Napa River navigation channel from Mare Island Causeway to Kennedy Park and the Corps will share responsibility for maintenance of the Napa River navigation/low flow flood conveyance channel from Kennedy Park to Third Street Bridge with the District. The maintenance of the Napa River channel consists primarily of periodic removal of the accumulated sediments by dredging to maintain a minimum width and depth in the central river channel adequate to provide safe navigation and sufficient flood flow conveyance. The most recent dredging project was completed over a 3-year cycle from 1997 through 1999. As a result of that project and the subsequent closure of the District's main disposal site at Kennedy Park, additional disposal capacity is needed to dispose of and recycle for beneficial use a projected 1,500,000 cubic yards of sediment over the next 50 years.

The Napa River Dredged Material Recycle Facility is envisioned not only as a permanent disposal site, but also as a material-handling facility, including an off-loading terminal with facilities to handle pump-out for hydraulic slurried material as well as off-loading from barges and other surface vessels. A secure, bermed dewatering facility with capacity for stockpiling, dewatering and treating up to 1.5 million cubic yards of solids and 20 acre feet of tailwater would be used for temporary storage pending re-location to final use sites. It is noted that the subject land parcel has 1,300+ frontage feet of direct access to the railroad which connects to SPRR's Western Division line at Suisun and the Coast Division line at Schellville. The facility will therefore be a potential source of trans-shipping from rail to barge for other off-site beneficial uses.

*Project Description*

The Napa River dredged material facility is located within the San Pablo Bay watershed and adjacent to the California Department of Fish and Game's 8,000 acre Napa Marsh preserve. The Project area is approximately 219 acres and has been used as a salt production site. The project will fulfill the long-term dredged material management plans of the District.

*Request*

In an effort to meet the long-term dredged material management plans of the District for the Napa River, the District is seeking to have the Corps initiate the assessment for the dredged material handling and disposal site to replace the 2 existing disposal sites which have been filled and closed. Phased implementation of the project includes: project design including environmental assessments, cooperation agreements, land purchase, relocations and construction of containment structures, water control structures, off-loading and docking facilities and securing all necessary permits.

*Necessary Fiscal Year 2003 Funding*

Funding for the Napa River Dredged Material Recycle Facility during fiscal year 2003 in the amount of \$300,000 is needed under the Corps' Operation and Maintenance Program to have the Corps conduct an initial assessment, including an environmental assessment and alternatives analysis of the facility.

PREPARED STATEMENT OF THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER  
CONSERVATION DISTRICT

MURRIETA CREEK FLOOD CONTROL PROJECT

Murrieta Creek poses a severe flood threat to the cities of Murrieta and Temecula. Over \$10 million in damages was experienced in the two cities as a result of Murrieta Creek flooding in 1993. The 1997 Energy and Water Appropriations Act dedicated \$100,000 to conducting a Reconnaissance Study of watershed management in the Santa Margarita Watershed "including flood control, environmental restoration, stormwater retention, water conservation and supply, and related purposes". The study effort was initiated in April 1997 and completed the following December. The Reconnaissance Study identified a Federal interest in flood control on the Murrieta sub-basin, and recommended moving forward with a detailed feasibility study for a flood control project on Murrieta Creek.

Efforts on the Feasibility Study began in April 1998, and were completed in September 2000. The Feasibility Study Report recommends the implementation of Alternative 6, the Locally Preferred Plan (LPP) for flood control, environmental restoration, and recreation. The LPP is endorsed by the Cities of Temecula and Murrieta, and by the community as a whole.

H.R. 5483, the Energy and Water Appropriations Act of 2000 included specific language authorizing the Corps to construct "the locally preferred plan for flood control, environmental restoration and recreation described as Alternative 6, based on the Murrieta Creek Feasibility Report and Environmental Impact Statement dated September 2000."

After finalizing the necessary cost sharing agreement in February 2001, the Corps initiated the detailed engineering design necessary to develop construction plans and specifications for a Murrieta Creek Project utilizing an fiscal year 2001 appropriation of \$750,000. The project received an additional appropriation of \$1,000,000 for engineering design efforts in fiscal year 2002. Those funds were utilized to develop design-level topographic mapping for over 4 miles of the project, to complete all necessary geotechnical work, and to begin the preparation of construction drawings for the initial phase of construction. The District now respectfully requests that the Committee support an fiscal year 2003 appropriation of \$750,000 so that the Corps may further its efforts on the Preconstruction Engineering and Design phase of the Project.

The Murrieta Creek Flood Control Project is being designed, and will be constructed in four distinct phases. Phases one and two include channel improvements through the City of Temecula. Phase three involves the construction of the 240-acre detention basin, including the 160+ acre restoration site and recreational facilities. Phase four of the project will include channel improvements through the City of Murrieta.

The Corps is confident that in fiscal year 2003, its engineering design effort will be completed for the downstream reach of the project through Old Town Temecula, and that phase one of the project will be ready for construction. Equestrian, bicycle, and hiking trails as well as a continuous habitat corridor for wildlife are components of this and every phase of the project.

The District, therefore, respectfully requests the Committee's support of a \$2,000,000 appropriation in fiscal year 2003 so that the Corps may initiate a construction start on the much awaited Murrieta Creek Flood Control, Environmental Restoration, and Recreation Project.

SANTA ANA RIVER—MAINSTEM

The Water Resources Development Act of 1986 (Public Law 99-662) authorized the Santa Ana River-All River project that includes improvements and various mitigation features as set forth in the Chief of Engineers' Report to the Secretary of the Army. The Boards of Supervisors of Orange, Riverside, and San Bernardino Counties continue to support this critical project as stated in past resolutions to Congress.

The three local sponsors and the Corps signed the Local Cooperation Agreement (LCA) in December 1989. The first of five construction contracts started on the Seven Oaks Dam feature in the spring of 1990 and the dam was officially completed on November 15, 1999. A dedication ceremony was held on January 7, 2000. Significant construction has been completed on the lower Santa Ana River Channel and on the San Timoteo Creek Channel. Construction activities on Oak Street Drain and the Mill Creek Levee have been completed.

For fiscal year 2003, an appropriation of \$9.5 million is necessary to initiate construction activities on several features within "Reach 9" of the Santa Ana River im-

mediately downstream of Prado Dam. This segment of the Santa Ana River project is the last to receive flood protection improvements. The streambed existing today in a relatively natural state, would receive only localized levee and slope revetment treatment to protect existing development along its southerly bank. Approximately \$3.5 of the total \$9.5 million appropriation requested for Reach 9 would fund environmental mitigation measures necessitated by the Corps construction activities.

The completion of landscaping activities on Reaches 4 and 8 of the Santa Ana River Channel would require a \$3 million appropriation. The removal of accumulated sediment within an already completed section of the Santa Ana River Channel near its outlet to the Pacific Ocean will necessitate a fiscal year 2003 appropriation of \$3 million. This dredging work is necessary before project turnover to the Local Sponsors for operation and maintenance.

Construction activities on phase 3b of San Timoteo Creek Channel, a Mainstem feature located within San Bernardino County, would be completed given an additional \$16 million appropriation.

The Prado Dam feature of the Santa Ana River Mainstem project is in need of several major upgrades in order that it mitigate the potential impacts of a 100-year storm. The Corps is now ready to initiate modifications to the dam embankment and outlet works including the emergency spillway. All of the engineering design for the dam is now complete. An fiscal year 2003 appropriation of \$26.5 million would allow the Corps to proceed directly into construction on Prado Dam's outlet works and embankment, and would fund all necessary environmental mitigation measures.

We, therefore, respectfully request that the Committee support an overall \$58 million appropriation of Federal funding for fiscal year 2003 for the Santa Ana River Mainstem project including Prado Dam.

SAN JACINTO & SANTA MARGARITA RIVER WATERSHEDS SPECIAL AREA MANAGEMENT  
PLANS

The County of Riverside recognizes the interdependence between the region's future transportation, habitat, open space, and land-use/housing needs. In 1999, work was initiated on Riverside County's Integrated Planning program (RCIP) to determine how best to balance these factors. The plan will create regional conservation and development plans that protect entire communities of native plants and animals while streamlining the process for compatible economic development in other areas. The major elements of the plan include water resource identification, multi-species planning, land use, and transportation.

In order to achieve a balance between aquatic resource protection and economic development, the Corps is developing what are termed Special Area Management Plans (SAMP) for both the San Jacinto and Santa Margarita Watersheds. This comprehensive planning effort will be used to assist Federal, State and local agencies with their decision making and permitting authority to protect, restore, and enhance aquatic resources while accommodating various types of development activities. The Santa Margarita and San Jacinto watersheds include such resources as woodlands, wetlands, freshwater marshes, vernal pools, streams, lakes and rivers.

The final product of the SAMP will be the establishment of an abbreviated or expedited regulatory permit by the Corps under Section 404 of the Clean Water Act. The Corps' effort includes facilitating meetings between all potential watershed partners, and the integration of the joint study effort with the planning efforts of the balance of the RCIP project.

The \$500,000 Federal appropriation received for fiscal year 2001 allowed the Corps to initiate work on this three year, \$6.5 million SAMP effort. The \$2 million appropriation received in fiscal year 2002 allowed the Corps to make significant progress on a "landscape level aquatic resource delineation", and to initiate a functional assessment to determine the value of waters and wetlands.

Further funding is now needed to complete the SAMP effort. We, therefore, respectfully request that the Committee support a combined \$2,000,000 appropriation of Federal funding for fiscal year 2003 for the Corps to continue its work on the Special Area Management Plans for the San Jacinto and Santa Margarita River Watersheds.

BOARD OF SUPERVISORS—RIVERSIDE COUNTY FLOOD CONTROL AND WATER  
CONSERVATION DISTRICT

RESOLUTION NO. F2002-06 SUPPORTING FEDERAL APPROPRIATIONS FOR FLOOD CONTROL  
PROJECTS FOR FISCAL YEAR 2003

WHEREAS, the United States House of Representatives Committee on Appropriations, Sub-Committee on Energy and Water Development, and the United States

Senate Committee on Appropriations, Sub-Committee on Energy and Water Development are holding hearings to consider appropriations for Flood Control and Reclamation Projects for Fiscal Year 2003 and have requested written testimony to be submitted to the committees prior to March 31, 2002; and

WHEREAS, the Riverside County Flood Control and Water Conservation District supports the continuation of design efforts, and initiation of construction for a critical flood control project on Murrieta Creek; the furtherance of construction activities on the Santa Ana River Mainstem project; the initiation of construction activities at Prado Dam; and the continuation of Corps efforts in developing Special Area Management Plans for the San Jacinto and Santa Margarita River Watersheds; now, therefore,

BE IT RESOLVED by the Board of Supervisors of the Riverside County Flood Control and Water Conservation District in regular session assembled on March 5, 2002, that they support appropriations by Congress for Fiscal Year 2003 for the following projects:

*U.S. Army Corps of Engineers*

Murrieta Creek:	
Preconstruction Engineering & Design .....	\$750,000
Construction—General .....	2,000,000
Santa Ana River Mainstem: Construction—General .....	31,500,000
Prado Dam: Construction—General .....	26,500,000
San Jacinto & Santa Margarita River Watersheds (Riverside County) Special Area Management Plans (SAMP) .....	2,000,000

BE IT FURTHER RESOLVED that the General Manager-Chief Engineer is directed to distribute certified copies of this resolution to the Secretary of the Army, Members of the House of Representatives Committee on Appropriations and Sub-Committee on Energy and Water Development, the Senate Committee on Appropriations and Sub-Committee on Energy and Water Development, the Senate Committee on Appropriations and Sub-Committee on Energy and Water Development, and the District's Congressional Delegation—Senators Dianne Feinstein and Barbara Boxer, Congressman Ken Calvert and Darrell Issa, and Congresswoman Mary Bono.

ROLL CALL:  
 Ayes: Buster, Venable and Mullen  
 Noes: None  
 Absent: Tavaglione and Wilson

PREPARED STATEMENT OF THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

On behalf of the Metropolitan Water Reclamation District of Greater Chicago (District), I want to thank the Subcommittee for this opportunity to present our priorities for fiscal year 2003 and, at the same time, express our appreciation for your support of the District's projects in the years past. The District is the local sponsor for three Corps of Engineers priority projects of the Chicagoland Underflow Plan: the O'Hare, McCook and Thornton Reservoirs. We are requesting the Subcommittee's full support for McCook and Thornton Reservoirs, as the O'Hare Reservoir has been completed. Specifically, we request the Subcommittee to include a total of \$30,000,000 in construction funding for the McCook and Thornton Reservoir projects in the bill. The following text outlines these projects and the need for the requested funding. Also, attached is a booklet indicating the benefits of the project, the municipalities in our area which benefit from these projects, and the need for the requested funding. The booklet reviews the history of the issues involved, including newspaper articles and pertinent data from the U.S. Army Corps of Engineers (Corps) and the Illinois State Water Survey.

*The Chicagoland Underflow Plan*

The Chicagoland Underflow Plan (CUP) consists of three reservoirs: the O'Hare, McCook and Thornton Reservoirs. These reservoirs are a part of the Tunnel and Reservoir Plan (TARP). The O'Hare Reservoir Project was fully authorized for construction in the Water Resources Development Act of 1986 (Public Law 99-662) and completed by the Corps in fiscal year 1999. This reservoir is connected to the existing O'Hare segment of the TARP. Adopted in 1972, TARP was the result of a multi-agency effort, which included officials of the State of Illinois, County of Cook, City of Chicago, and the District.



TARP was designed to address the overwhelming water pollution and flooding problems of the Chicagoland combined sewer areas. These problems stem from the fact that the capacity of the area's waterways has been overburdened over the years and has become woefully inadequate in both hydraulic and assimilative capacities. These waterways are no longer able to carry away the combined sewer overflow (CSO) discharges nor are they able to assimilate the pollution associated with these discharges. Severe basement flooding and polluted waterways (including Lake Michigan, which is the source of drinking water for millions of people) is the inevitable result. We point with pride to the fact that TARP was found to be the most cost-effective and socially and environmentally acceptable way for reducing these flooding and water pollution problems. Experience to date has reinforced such findings with respect to economics and efficiency.

The TARP plan calls for the construction of the new "underground rivers" beneath the area's waterways. The "underground rivers" are tunnels up to 35 feet in diameter and 350 feet below the surface. To provide an outlet for these tunnels, reservoirs will be constructed at the end of the tunnel system. Approximately 101.5 miles of tunnels have been constructed or are under construction at a total cost of \$2.4 billion and are operational. The tunnels capture the majority of the pollution load by capturing all of the small storms and the first flush of the large storms. Another 16 miles of tunnels costing \$399 million need to be completed. The completed O'Hare Reservoir provides 343 million gallons of storage. This Reservoir has a service area of 13.7 miles and provides flood relief to 21,000 homes in Arlington Heights, Des Plaines and Mount Prospect. Thornton and McCook Reservoirs have not been built yet, so significant areas remain unprotected. Without these outlets, the local drainage has nowhere to go when large storms hit the area.

Since its inception, TARP has not only abated flooding and pollution in the Chicagoland area, but has helped to preserve the integrity of Lake Michigan. In the years prior to TARP, a major storm in the area would cause local sewers and interceptors to surcharge resulting in CSO spills into the Chicagoland waterways and during major storms into Lake Michigan, the source of drinking water for the region. Since these waterways have a limited capacity, major storms have caused them to reach dangerously high levels resulting in massive sewer backups into basements and causing multi-million dollar damage to property.

Since implementation of TARP, 1.1 billion gallons of CSOs have been captured by TARP, that otherwise would have reached waterways. Area waterways are once again abundant with many species of aquatic life and the riverfront has been reclaimed as a natural resource for recreation and development. Closure of Lake Michigan beaches due to pollution has become a rarity. After the completion of both phases of TARP, 99 percent of the CSO pollution will be eliminated. The elimination of CSOs will reduce the quantity of discretionary dilution water needed to keep the area waterways fresh. This water can be used instead for increasing the drinking water allocation for communities in Cook, Lake, Will and DuPage counties that are now on a waiting list to receive such water. Specifically, since 1977, these counties received an additional 162 million gallons of Lake Michigan water per day, partially as a result of the reduction in the District's discretionary diversion since 1980. Additional allotments of Lake Michigan water will be made to these communities, as more water becomes available from reduced discretionary diversion.

With new allocations of lake water, more than 20 communities that previously did not get lake water are in the process of building, or have already built, water mains to accommodate their new source of drinking water. The new source of drinking water will be a substitute for the poorer quality well water previously used by these communities. Partly due to TARP, it is estimated by IDOT that between 1981 and 2020, 283 million gallons per day of Lake Michigan water would be added to domestic consumption. This translates into approximately 2 million additional people that would be able to enjoy Lake Michigan water. This new source of water supply will not only benefit its immediate receivers but will also result in an economic stimulus to the entire Chicagoland area by providing a reliable source of good quality water supply.

#### *The McCook and Thornton Reservoirs*

The McCook and Thornton Reservoirs of the Chicagoland Underflow Plan (CUP) were fully authorized for construction in the Water Resources Development Act of 1988 (Public Law 100-676). These CUP reservoirs, as previously discussed, are a part of TARP, a flood protection plan that is designed to reduce basement flooding due to combined sewer back-ups and inadequate hydraulic capacity of the urban waterways.

These reservoirs will provide a storage capacity of 15 billion gallons and will provide annual benefits of \$104 million. The total potential annual benefits of these

projects are approximately twice as much as their total annual cost. The District, as the local sponsor, has acquired the land necessary for these projects, and will meet its cost sharing obligations under Public Law 99-662.

These projects are a very sound investment with a high rate of return. They will enhance the quality of life, safety and the peace of mind of the residents of this region. The State of Illinois has endorsed these projects and has urged their implementation. In professional circles, these projects are hailed for their farsightedness, innovation, and benefits.

Based on two successive Presidentially-declared flood disasters in our area in 1986 and again in 1987, and dramatic flooding in the last several years, we believe the probability of this type of flood emergency occurring before implementation of the critical flood prevention measure is quite high. As the public agency for the greater Chicagoland area responsible for water pollution control, and as our past sponsorship for flood control projects, we have an obligation to protect the health and safety of our citizens. We are asking your support in helping us achieve this necessary and important goal of construction completion.

We have been very pleased that over the years the Subcommittee has seen fit to include critical levels of funds for these important projects. We were delighted to see the \$17,000,000 in construction funds included in the Energy and Water Development Appropriations bill for fiscal year 2002. However, it is important that we receive a total of \$30,000,000 in construction funds in fiscal year 2003 to maintain the commitment and accelerate these projects. This funding is critical to continue the construction of the McCook Reservoir on schedule, in particular, to complete construction of the slurry wall, distribution tunnels, and pumps and motors to accelerate the design of the Thornton Reservoir. The community has waited long enough for protection and we need these funds now to move the project in construction. We respectfully request your consideration of our request.

#### *Summary*

Our most significant recent flooding occurred on February 20, 1997, when almost four inches of rain fell on the greater Chicagoland area. Due to the frozen ground, almost all of the rainfall entered our combined sewers, causing sewerage back-ups throughout the area. When the existing TARP tunnels filled with approximately 1.2 billion gallons of sewage and runoff, the only remaining outlets for the sewers were our waterways. Between 9:00 p.m. and 3:00 a.m., the Chicago and Calumet Rivers rose six feet. For the first time since 1981 we had to open the locks at all three of the waterway control points; these include Wilmette, downtown Chicago, and Calumet. Approximately 4.2 billion gallons of combined sewage and stormwater had to be released directly into Lake Michigan.

Given our large regional jurisdiction and the severity of flooding in our area, the Corps was compelled to develop a plan that would complete the uniqueness of TARP and be large enough to accommodate the area we serve. With a combined sewer area of 375 square miles, consisting of the city of Chicago and 51 contiguous suburbs, there are 550,000 homes within our jurisdiction, which are subject to flooding at any time. The annual damages sustained exceed \$150 million. If TARP, including the CUP Reservoirs were in place, these damages could be eliminated. We must consider the safety and peace of mind of the two million people who are affected as well as the disaster relief funds that will be saved when these projects are in place. As the public agency in the greater Chicagoland area responsible for water pollution control, and as the regional sponsor for flood control, we have an obligation to protect the health and safety of our citizens. We are asking your support in helping us achieve this necessary and important goal. It is absolutely critical that the Corps' work, which has been proceeding for a number of years, now proceeds on schedule through construction.

Therefore, we urgently request that a total of \$30,000,000 in construction funds be made available in the fiscal year 2003 Energy and Water Development Appropriations Act to continue construction of the McCook and Thornton Reservoir Projects.

Again, we thank the Subcommittee for its support of this important project over the years and we thank you in advance for your consideration of our request this year.

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#### PREPARED STATEMENT OF THE WEST TENNESSEE TRIBUTARIES ASSOCIATION

Good morning. My name is M.V. Williams. I serve as President of the West Tennessee Tributaries Association and appear before you today representing the Mis-

Mississippi Valley Flood Control Association. It is my privilege to serve as Chairman of the Executive Committee for the Association.

The Executive Committee is vested with the management and direction of the Association in accordance with the policies adopted by the Association. I and the other nine members of the Executive Committee are elected for a one year term by the members from our respective states, two each from Louisiana, Mississippi and Arkansas and one each from Tennessee, Kentucky, Illinois and Missouri. Each of us are the head of our respective organization be it levee board, drainage district, state agency or municipality. We serve without pay but are rewarded with the knowledge that we are serving for the benefit of our friends and neighbors in the Mississippi River Valley.

Our Association was first organized in 1922 and we have been coming to Washington to meet with our elected representatives for over 60 years. As always we appreciate this opportunity.

Today we in this great nation are faced with a war against terror, one that we must win. The Congress is faced with the almost insurmountable problem of how best to fund this war and at the same time provide for the necessary appropriations to protect, preserve and make the necessary improvements and enlargements to the infrastructure that is of such great importance to the continued growth and prosperity of our nation.

To not do both is unthinkable.

We as an Association and as patriotic citizens realize what a tremendous problem you are faced with. For that reason, after long consideration and lengthy discussion we have arrived at the barest amount we consider necessary to continue with necessary and vital on-going construction work and to do the minimum amount of maintenance work that is necessary to prevent further deterioration of the federal investment already made to our flood control and navigation work.

We must also continue the work of restoring and protecting our natural environment.

We have seen what happens to countries, even world-powers, when they do not make the required improvements to their infrastructures and properly maintain what they have in place. We cannot afford this to happen to us anymore than we can allow terrorists from the axis of evil to dictate to us and to destroy our hard-won freedoms that we enjoy.

For these reasons we are firmly convinced that the minimum amount of appropriations required in fiscal year 2003 for the Mississippi River and Tributaries Project is \$391,000,000. I have attached a sheet to my statement that reflects our request in more detail.

This amount will not allow for new construction work that is so vitally needed nor will it allow for investigations to begin that will lead to reports to the Congress for consideration of additional work that will be required to improve the safety and well-being of the citizens of the great Mississippi River Valley and to allow the entire country to benefit from the many bounties of our rich and fertile valley.

We very reluctantly do not request funds in a sufficient amount to accomplish these things but we as individuals and collectively as an Association come before you today with the hope that the Congress in its inherent wisdom will consider the wonderful investment for the country's future that appropriations for the Mississippi River and Tributaries has always been. The return in benefits for each dollar invested is properly larger than any other appropriation made by the Congress.

At times such as those we now face, we must not forget the important role the Mississippi River and its tributaries have played in national defense. The worth of the waterways system to move military equipment has been proven over and over again.

The Administration's Budget for the Corps of Engineers' Civil Works Program reflects a trend that is disturbing to us. The budget that has been submitted to this body indicates strongly a move to change the Corps of Engineers from the premier engineering and construction agency of the entire world to one concerned principally with the maintenance of work already in place. We are totally in agreement that maintenance is vital and must be done expeditiously but the design and construction work performed by the Corps of Engineers must continue if our Nation is to remain strong and the world leader.

The speakers to follow me will be more specific in their statements, so speaking for the entire Mississippi Valley Flood Control Association I wish to thank you for this opportunity to appear before you today and special thanks for your kind attention and actions this group has taken in the past to assist us with our problems and concerns.

*Mississippi Valley Flood Control Association—Fiscal Year 2003 Civil Works  
Requested Budget, Mississippi River and Tributaries Appropriations*

<i>PROJECT AND STATE</i>	<i>MVFCA REQUEST</i>
<b>SURVEYS, CONTINUATION OF PLANNING AND ENGINEERING &amp; ADVANCE ENGINEERING &amp; DESIGN:</b>	
Memphis Metro Area, TN & MS .....	\$25,000
Germantown, TN .....	345,000
Wolf River, Memphis, TN .....	123,000
Millington, TN .....	150,000
Coldwater Basin Below Arkansas .....	180,000
Alexandria, LA to the Gulf of Mexico .....	420,000
Morganza, LA to the Gulf of Mexico .....	2,880,000
Donaldsonville, LA to Gulf of Mexico .....	780,000
Spring Bayou, LA .....	505,000
Collection & Study of Basic Data .....	600,000
SUBTOTAL—SURVEYS, CONTINUATION OF PLANNING & ENGINEERING & ADVANCE ENGINEERING & DESIGN .....	<b>6,008,000</b>
<b>CONSTRUCTION:</b>	
St. John's Bayou-New Madrid Floodway, MO .....	5,020,000
Eight Mile Creek, AR .....	1,960,000
Helena & Vicinity, AR .....	1,360,000
Grand Prairie Region, AR .....	12,200,000
West Tennessee Tributaries, TN .....	100,000
Nonconna Creek, TN .....	1,995,000
Reelfoot Lake, TN .....	710,000
St. Francis Basin, MO & AR .....	4,270,000
Yazoo Basin, MS .....	46,300,000
Atchafalaya Basin, LA .....	28,210,000
Atchafalaya Basin Floodway .....	10,000,000
MS Delta Region, LA .....	3,500,000
Horn Lake Creek, MS .....	509,000
MS & LA Estaurine Area, MS & LA .....	25,000
Louisiana State Penitentiary, LA .....	2,449,000
Channel Improvements, IL, KY, MO, AR, TN, MS & LA .....	39,140,000
Mississippi River Levees, IL, KY, MO, AR, TN, MS & LA .....	50,285,000
SUBTOTAL—CONSTRUCTION .....	208,033,000
SUBTOTAL—MAINTENANCE .....	200,837,000
SUBTOTAL—MISSISSIPPI RIVER & TRIBUTARIES .....	414,878,000
LESS REDUCTION FOR SAVINGS & SLIPPAGE .....	-30,878,000
TOTAL—MISSISSIPPI RIVER & TRIBUTARIES .....	384,000,000
FULL FUNDING FOR FEDERAL RETIREE COSTS .....	7,000,000
GRAND TOTAL—MISSISSIPPI RIVER & TRIBUTARIES ...	<b>391,000,000</b>

PREPARED STATEMENT OF THE EASTERN MUNICIPAL WATER DISTRICT

The Eastern Municipal Water District respectfully requests your support for inclusion of \$5 million in the fiscal year 2003 Energy and Water Appropriations bill for the District's "Water Supply Desalination Infrastructure South Perris Project" as well as for inclusion in the same bill, \$4 million for the District's "Regional Water Related Infrastructure Project".

The South Perris project was authorized in the 106th Congress for design and construction as part of the U.S. Army Corps of Engineers' Water Resources management Act projects, that were included in H.R. 4577, Section 108, Subsection (d), item number 52 for the amount of \$25,000,000. The Regional Water Related Infrastructure project was authorized for preliminary engineering, feasibility studies and environmental documentation as part of H.R. 4577, Section 108, Subsection (a), item number 24.

These two projects are important components to the overall plan of the District to address increasing needs as a result of concerns over the future availability of imported water supplies from Northern California and the Colorado River. I have attached fact sheets and maps for each of these projects.

In addition, we would strongly request that you support efforts to increase the overall budget of the Bureau of Reclamation. The Bureau's Budget has been cut 36 percent from fiscal year 1991 to fiscal year 2000. This is the primary Federal agency that we have relied upon in the past for funding our infrastructure needs and would like to use to fund future authorizations. We know the Bureau of Reclamation has a \$5 billion backlog of work. That work, as well as any new authorizations in this congress will not be addressed in a timely manner if the Bureau continues to be cut and underfunded. We support the western water industry's campaign to increase the Bureau's Water and Related Resources Budget from its present \$762 million by another \$115 million in fiscal year 2003 as part of the goal to have the Water and Related Resources Budget at \$1 billion by fiscal year 2005.

On behalf of the Board of Directors of Eastern Municipal Water District and the General Manager, I want to thank you for your consideration of our request for assistance.

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PREPARED STATEMENT OF THE LOUISIANA GOVERNOR'S TASK FORCE ON MARITIME  
INDUSTRY

LOWER MISSISSIPPI RIVER AND CONNECTING WATERWAYS, THE J. BENNETT JOHNSTON  
WATERWAY AND THE CALCASIEU RIVER WATERWAY

*Mississippi River Ship Channel, Gulf to Baton Rouge, LA.*—Recommend the Corps be funded \$200,000 (Construction General) to perform required work on the salt-water intrusion mitigation plan and complete design studies for potential phase III 55-foot channel.

*Mississippi River, Baton Rouge to the Gulf, Maintenance Dredging.*—The President's fiscal year 2003 Budget is \$57,482,000 under O&M General. Recommend that the Corps be funded \$66,162,000 to repair and construct channel training structures.

*Mississippi River Gulf Outlet (MRGO), LA., Maintenance Dredging.*—The President's fiscal year 2003 Budget is \$13,061,000 under O&M General. Recommend that the Corps be funded \$16,351,000 for maintenance dredging and bank stabilization.

*Inner Harbor Navigation Canal (IHNC) Lock, LA.*—The President's fiscal year 2003 Budget is \$9,000,000 in Construction General funds. Recommend that the Corps be funded \$30,000,000 to continue construction and mitigation for the IHNC Lock replacement.

*Mississippi River Outlets at Venice, LA.*—The President's fiscal year 2003 Budget is \$80,000 under O&M General. Recommend that the Corps be funded \$2,755,000 to perform critical maintenance dredging.

*Bayou Sorrel Lock, LA.*—The President's fiscal year 2003 Budget is \$110,000 under General Investigation Studies. Recommend that the Corps be funded \$500,000 to advance pre-engineering design for the replacement of Bayou Sorrel Lock on the Gulf Intracoastal Waterway (GIWW), Morgan City-to-Port Allen alternate route.

*Gulf Intracoastal Waterway, LA and TX.*—The President's fiscal year 2003 Budget is \$19,129,000 under O&M General. Recommend that the Corps be funded \$27,464,000 to perform critical maintenance at the navigation locks.

*Calcasieu Lock, LA.*—The President's fiscal year 2003 Budget is \$150,000 in GI funds. Recommend that the Corps be funded \$800,000 to advance the feasibility phase of the study to replace Calcasieu Lock on the GIWW.

*Calcasieu River and Pass, LA.*—The President's fiscal year 2003 Budget is \$15,852,000 under O&M General. Recommend that the Corps be funded \$21,352,000 to construct revetment at Devil's Elbow.

*MRGO Reevaluation Study, LA.*—The President's fiscal year 2003 Budget has no funding for this study. Recommend that the Corps be funded \$1,711,000 (Construction General). Funds are needed to complete a study to determine the advisability of maintaining the 36-foot depth of the MRGO.

*J. Bennett Johnston Waterway, Mississippi River to Shreveport, LA.*—The President's fiscal year 2003 Budget is \$11,016,000 (Construction General) and \$7,297,000 (O&M General). Recommend that the Corps be funded \$29,000,000 (Construction General) and \$16,764,000 (O&M, General) to complete work already underway.

As Chairman of the Louisiana Governors Task Force on Maritime Industry, I hereby submit testimony to the Senate Subcommittee on Energy and Water Devel-

opment on behalf of the ports on the lower Mississippi River, the J. Bennett Johnston Waterway and the Calcasieu River waterway and the maritime interests related thereto of the State of Louisiana relative to Congressional appropriations for fiscal year 2003.

The U.S. Army Corps of Engineers reports that in 2000 a total of 434.1 million tons of foreign and domestic waterborne commerce moved through the consolidated deepwater ports of Louisiana situated on the lower Mississippi River between Baton Rouge and the Gulf of Mexico. Deepening of this 232-mile stretch of the River to 45 feet has been a major factor in tonnage growth at these ports. Due in large part to the efforts of Congress and the New Orleans District of the Corps, Louisiana's ports and the domestic markets they serve can compete more productively and effectively in the global marketplace. Ninety-one percent of America's foreign merchandise trade by volume (two-thirds by value) moves in ships, and 21.3 percent of the nation's foreign waterborne commerce passes through Louisiana's ports. Given the role foreign trade plays in sustaining our nation's growth, maintaining the levels of productivity and competitiveness of Louisiana's ports is essential to our economic well-being.

In terms of transportation services and global access, Louisiana ports enjoy a distinct competitive advantage. Hundreds of barge lines accommodate America's waterborne commerce on the lower Mississippi River. The high level of barge traffic on the river is indicated by the passage of more than 229,000 barges through the Port of New Orleans annually. In 2000, 2,336 ocean-going vessels operated by more than 100 steamship lines serving U.S. trade with more than 150 countries called at the Port of New Orleans. The Port's trading partners include: Latin America (40.5 percent); Asia (26.6 percent); Europe (21.6 percent); Africa (9.4 percent) and North America (1.8 percent). During the same year, more than 6,014 vessels called at Louisiana's lower Mississippi River deepwater ports.

The foreign markets of Louisiana's lower Mississippi River ports are worldwide; however, their primary domestic market is mid-America. This heartland region currently produces 60 percent of the nation's agricultural products, one-half of all of its manufactured goods and 90 percent of its machinery and transportation equipment.

The considerable transportation assets of Louisiana's lower Mississippi River ports enable mid-America's farms and industries to play a vital role in the international commerce of this nation. In 2000, the regions ports and port facilities handled 238.6 million tons of foreign waterborne commerce. Valued at \$43.8 billion, this cargo accounted for 18.7 percent of the nation's international waterborne trade and 26.1 percent of all U.S. exports. Bulk cargo, primarily consisting of tremendous grain and animal feed exports and petroleum imports, made up 89.5 percent of this volume. Approximately 50.2 million tons of grain from 17 states, representing 56.3 percent of all U.S. grain exports, accessed the world market via the 10 grain elevators and midstream transfer capabilities on the lower Mississippi River. This same port complex received 97.8 million short tons of petroleum and petroleum products, 17.1 percent of U.S. waterborne imports of petroleum products.

In 2000, public and private facilities located within the jurisdiction of the Board of Commissioners of the Port of New Orleans, the fourth largest port in the United States, handled a total of 90.8 million tons of international and domestic cargo. International general cargo totaled 12.2 million tons. Although statistically dwarfed by bulk cargo volumes, the movement of general cargo is of special significance to the local economy because it produces greater benefits. On a per ton basis, general cargo generates spending within the community more than three times higher than bulk cargo. Major general cargo commodities handled at the Port include: iron and steel products; coffee; forest products; copper; aluminum products; and natural rubber.

Fostering the continued growth of lower Mississippi River ports is necessary to maintain the competitiveness of our nation's exports in the global marketplace and, consequently, the health of the nation's economy. Assuring deep water access to ports has been a priority of our trading partners around the world. Moreover, an evolving maritime industry seeking greater economies of scale continues to support construction of larger vessels with increased draft requirements. Because it facilitated the provision of deepwater port access, passage of the Water Resources Development Act of 1986, played a most significant role in assuring the competitiveness of ports on the lower Mississippi river and throughout the United States.

By December 1994, the Corps completed dredging of the 45-foot channel from the Gulf of Mexico to Baton Rouge, LA (Mile 233 AHP). Mitigation features associated with the first phase of the channel deepening project in the vicinity of Southwest Pass of the river, accomplished in 1988, are nearing completion. We urge the continued funding for this work in fiscal year 2003 to complete construction of improve-

ments to the Belle Chasse water treatment plant. This will complete the approximate \$15 million in payments to the State of Louisiana for construction of a pipeline and pumping stations to deliver potable fresh water to communities affected by salt-water intrusion. We further urge that the Corps be provided funding to proceed with design studies for Phase III, which will allow deepening of the river to the 55-foot authorized depth.

Along with the Port of New Orleans, the Port of South Louisiana, the nation's largest port with 217.8 million tons of foreign and domestic cargo in 2000, and the Port of Baton Rouge, the nation's ninth largest port with 65.6 million tons of foreign and domestic cargo in 2000, and other lower Mississippi River ports are dependent upon timely and adequate dredging of Southwest Pass to provide deep draft access to the Gulf of Mexico. The President's fiscal year 2003 Budget is \$57,482,000 under O&M General. We, however, strongly recommend that the Corps be funded \$66,162,000 to repair and construct foreshore dikes, lateral dikes and jetties.

Maintenance of adequate depths and channel widths in the Mississippi River Gulf Outlet Channel (MRGO) is also of great concern. This channel provides deep draft access to the Port of New Orleans principal container terminals and generates an annual economic impact of nearly \$800 million. In 2000, 469 general cargo vessels calling on the MRGO Tidewater facilities accounted for 30.1 percent of the general cargo tonnage handled over public facilities at the Port of New Orleans and 74.3 percent of Louisiana's containerized cargo.

Because of the MRGO's demonstrated vulnerability to coastal storm activity, annual channel maintenance dredging and bank stabilization are essential to assure unimpeded vessel operations. In 1998, heavy shoaling related to Hurricane Georges resulted in the imposition of a draft restriction from the project depth of 36 feet to 25 feet. The President's fiscal year 2003 Budget is \$13,061,000 under O&M General. We, however, strongly recommend that the Corps be funded \$16,351,000 for maintenance dredging and bank stabilization.

We recognize the need for the Corps to evaluate the feasibility of continuing the maintenance of a deep draft channel in the MRGO because of increased maintenance costs and environmental impacts. Any thoughts of not maintaining a deep draft channel in the MRGO must be preceded with the completion of another deep draft access (IHNC Lock) to the many businesses serviced by the MRGO, even though the Port of New Orleans is planning to relocate the container terminals to the Mississippi River. The President's fiscal year 2003 Budget has no funding for this study. We, however, strongly recommend that the Corps be funded \$1,711,000 to complete this study.

The Inner Harbor Navigation Canal (IHNC) Lock is a critical link in the U.S. Inland Waterway System as well as the Gulf Intracoastal Waterway (GIWW), and provides a connection between the Port of New Orleans Mississippi River and IHNC terminals. In 1998, the Corps approved a plan for replacement of this obsolete facility. The Corps estimates that the lock replacement project will have a cost-benefit ratio of 2.1 to one and will provide \$110 million annually in transportation cost savings. In addition to minimizing adverse impacts to adjacent neighborhoods, the project includes a \$37 million Community Impact Mitigation Program. The President's fiscal year 2003 Budget of \$9,000,000 for the IHNC Lock Replacement will pay for engineering and design work, construction, and the mitigation program, all on a delayed basis. We, therefore, strongly recommend that the Corps be funded \$30,000,000 to complete demolition on the east side, and advance engineering and design, levee contracts, and mitigation measures.

Operation and maintenance of the Mississippi River Outlets at Venice, La. are essential to providing safe offshore support access to energy-related industries. In 2000, these channels accommodated cargo movements exceeding 3.1 million tons. In addition to routine traffic, Baptiste Collette Bayou is used by shallow draft vessels as an alternate route between the MRGO, GIWW and the Mississippi River. The President's fiscal year 2003 Budget is \$80,000 under O&M General. We, however, strongly recommend that the Corps be funded \$2,755,000 to perform critical maintenance dredging.

More than 77.9 million tons of cargo transverse the GIWW in the New Orleans District annually. The President's fiscal year 2003 Budget is \$19,129,000 under O&M General. We, however, strongly recommend that the Corps be funded \$27,464,000 to perform critical maintenance at the navigation locks.

The President's fiscal year 2003 Budget for the Bayou Sorrel Lock, LA project is \$110,000 in GI funds. To assure the efficient flow of commerce on the GIWW, we urge that the Corps be funded \$500,000 to advance the completion of the pre-engineering design for replacement of the Bayou Sorrel Lock, Morgan City-to-Port Allen alternate route. We further recommend that the Corps be funded \$800,000 in GI

funds to advance the completion of the feasibility phase of the study to replace Calcasieu Lock on the GIWW by three years.

The Port of Lake Charles, Louisiana, is served by the Calcasieu River, which often does not meet project depth and width requirements. This Port is one of Louisiana's major deep-water ports, benefitting the economy of the state and the nation. In 2000, the Port handled 33.8 million tons of import cargo and 15.8 million tons of export cargo. The Port and private facilities along this waterway provide thousands of jobs for the Lake Charles area. In 2000, 1,127 ships and 7,586 barges used the Calcasieu River waterway. The Port area's growth and continued success depends on the provision of a reliable and safe channel at full project dimensions. The President's fiscal year 2003 Budget is \$15,852,000 under O&M General. We, however, strongly recommend that the Corps be funded \$21,352,000 to construct revetment at Devil's Elbow.

One additional project warrants consideration. The J. Bennett Johnston Waterway, Mississippi River to Shreveport, La. Project provides 236 miles of navigation improvements, 225 miles of channel stabilization works and various recreational facilities. Project completion will stimulate economic growth along the Red River Basin and increase cargo flows through the deep draft ports on the lower Mississippi River. The President's fiscal year 2003 Budget is \$11,016,000 (Construction General) and \$7,297,000 (O&M General). We, however, strongly recommend that the Corps be funded \$29,000,000 (Construction General) and \$16,764,000 (O&M, General) to complete work already underway.

The need and impetus to reduce the Federal budget is certainly acknowledged; however, reduced funding on any of the above projects will result in decreased maintenance levels which will escalate deterioration and, ultimately, prevent them from functioning at their full authorized purpose. Reduction in the serviceability of these projects will cause severe economic impacts not only to this region, but to the nation as a whole that will far outweigh savings from reduced maintenance expenditures. Therefore, we reiterate our strong recommendation that the above projects be funded to their full capability.

Supporting statements from Mr. Gary P. LaGrange, Executive Director of the Port of New Orleans; Mr. Joseph Accardo, Jr., Executive Director of the Port of South Louisiana; Mr. Roger Richard, Executive Director of the Greater Baton Rouge Port Commission; Mr. Terry T. Jordan, Executive Director of the Lake Charles Harbor and Terminal District; Mr. Channing Hayden, President of the Steamship Association of Louisiana; and Capt. Mark Delesdernier, President of the Crescent River Port Pilots Association are attached. Please make these statements along with my statement part of the record. Supplemental graphics relating to my statement have been furnished separately for staff background use. Thank you for the opportunity to comment to the subcommittee on these vital projects.

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#### PREPARED STATEMENT OF THE PORT OF NEW ORLEANS

The Port of New Orleans is located at the terminus of the most extensively developed waterway system in the world, the 14,500 mile inland waterway system of the United States. The Port, via the Mississippi River and the Mississippi River Gulf Outlet, serves as the gateway between America's heartland and the global marketplace.

The Louisiana Governor's Task Force on the Maritime Industry has submitted a statement in support of fiscal year 2003 Congressional appropriations for the U.S. Army Corps of Engineers. This statement addresses Corps activities on the Lower Mississippi River and connecting waterways, the J. Bennett Johnston Waterway, and the Calcasieu River Waterway. We endorse the statement of the Governor's Task Force and the funding levels recommended therein.

We greatly appreciate the outstanding support and cooperation received over many years from the subcommittee, and look forward to working with you on these vitally important projects.

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#### PREPARED STATEMENT OF THE STEAMSHIP ASSOCIATION OF LOUISIANA

I am President of the Steamship Association of Louisiana (SALA). Our Association represents ship owners, operators, and agents who handle the majority of the 7,000 to 8,000 ocean-going vessels that call Louisiana's deep-water ports each year. SALA is dedicated to the safe, efficient movement of maritime commerce through the state's deep-water ports. We endorse the testimony of Mr. Donald T. Bollinger, Chairman of the Governor's Task Force on Maritime Industry.



Channel stabilization and maintenance dredging in Southwest Pass (SWP) are critical to maintaining project draft. Project draft ensures the Mississippi River's deep-water ports will continue to handle the country's foreign and domestic waterborne commerce in the most cost-effective way possible.

For years we have urged this Committee to provide funds to maintain project draft at SWP. You have responded, and your wisdom has benefitted the entire American heartland served by the Mississippi River system. SWP was greatly restricted throughout the 1970s. From 1970 to 1975, the channel was at less than project draft 46 percent of the time. In 1973 and 1974, the channel was below the 40-foot project draft 70 percent of the time. During some periods, drafts were limited to 31 feet. Fortunately, those conditions have not recurred because of a combination of factors: Your help, and the constant vigilance of the Pilots, the Corps, and the maritime community. The years 1990 through 2001 show a tremendous improvement in channel stability. The funding you provided was money well spent. The repairs to the jetties and dikes, and the Corps' ability to rapidly respond to shoaling, have been instrumental in maintaining project dimensions. However, the lack of available hopper dredges has, at times, threatened the integrity of the channel.

The Pilots have taken advantage of tidal flows and other factors to recommend the maximum draft possible consistent with safe navigation. This results in additional sales and increased competitiveness for U.S. products on the world market. Industry's partnership with you has kept Mississippi River ports competitive and attractive to vessels. An additional twelve inches of draft to a large vessel with a loading capacity of 250 metric tons per inch is an added 3,000 tons of cargo. As of this writing, freight rates for grain moving from the Mississippi River to the Far East are \$18 per metric ton. Using this figure, each foot of draft represents an additional \$54,000 in vessel revenue, or \$270,000 for the five additional feet over the old 40-foot project draft that the new channel provides.

The funds we request for maintenance dredging (\$66.2 million, \$8.7 million over the President's request) are essential for the Corps to maintain a reliable channel and respond rapidly to potential problems. This builds the confidence of the bulk trade in a reliable Mississippi River draft, which is critically important. Much of Louisiana's bulk trade is exported agricultural products and imported petroleum products. The export commodities are neither captive to Louisiana nor the United States if they can be shipped from competing countries at a consistently lower cost.

The deeper the channel, the more important channel stabilization becomes. Adequate channel stabilization work minimizes the maintenance cost of the deeper channel—a cost-effective investment. The faster the project is stabilized, the faster and greater the benefits of reduced O&M costs will be realized. Also, we recommend that the Corps conduct research on prototype dredging techniques.

Funds are also needed for dustpan dredges to work the crossings above New Orleans. These crossings control the draft to the Ports of South Louisiana and Baton Rouge, home to eight of our ten major grain elevators plus many mid-stream and other bulk cargo facilities. This area caters to the bulk trade and must have a stable channel depth consistent with the depth at Southwest Pass. Only two dustpan dredges in the world are available to maintain the deep-draft crossings between New Orleans and Baton Rouge. There are times when a high river is followed by a rapid drop in the river's stage. In such cases, the dustpan dredges may not be available, or both dredges may not be capable of restoring the 12 crossings within a reasonable time. When this happens, hopper dredges are used to assist in the work.

For all of the above reasons, we request full funding for the mitigation features of the O&M General, 45-foot Mississippi River project.

We also support Phase III of the Mississippi River channel deepening project and urge that the Corps be funded to proceed with design studies for the 55-foot channel, Baton Rouge to the Gulf of Mexico.

The Mississippi River-Gulf Outlet (MR-GO) is also a viable channel for the state of Louisiana. The funds you provided in past fiscal years have allowed the Corps to improve the channel considerably. However, the channel width has remained limited primarily because of erosion. For safety reasons in this narrow channel, one-way traffic restrictions apply to vessels with a draft of 30 feet or more, causing delays to the tightly-scheduled container traffic using the MR-GO. These specialty vessels serving the Port's facilities are becoming larger. The highest wages under the International Longshoremen's Association's contract (\$26 per straight-time hour) is paid for work at the MR-GO container facilities. Anything that threatens the MR-GO jeopardizes these high-paying jobs, which are held mostly by minority workers.

To improve safety on the MR-GO and protect Louisiana's container trade (and the well-paying, minority employment it produces), we request that the Corps be funded

at \$16.4 million for the MR-GO in fiscal year 2003. This will allow annual maintenance dredging, north and south bank stabilization, and jetty maintenance, which is essential to provide the stability needed for vessel and port operations.

With facilities located on both the MR-GO and the Mississippi River, an adequate route between the two is essential for efficient transit between these facilities. The shortest route is the inadequate, antiquated Inner Harbor Navigation Canal (IHNC) Lock built in the 1920s with a width of 75 feet and limited depth of 30 feet. Its maximum capacity has long been exceeded. The average waiting time for passage through the Lock has increased from 8 percent hours in 1985 to about 12 hours at present; however, we understand that waiting time can be more than a day in some instances. A much larger ship lock is necessary to accommodate today's traffic.

The replacement project for the IHNC Lock is important to the ports on the lower Mississippi River and to the nation's commerce since it is on the corridor for east/west barge traffic. Without full funding, the project will be delayed and increase the overall cost of the project. We urge Congress to provide the Corps' full fiscal year 2003 capability (\$30 million) for this important project to insure its completion. Delays are unthinkable since the new lock is long overdue.

The Port of Lake Charles, Louisiana, is served by the Calcasieu River, which is often below project depth and width. This is another of Louisiana's major deep-water ports that benefits the economy of the State and the nation. The public and private facilities along this waterway provide thousands of jobs for the Lake Charles area. This channel, because of its project deficiencies, requires one-way traffic for many ships, causing delays that disrupt cargo operations. This is costly and inefficient for industry. The Port area's growth and continued success depends on a reliable and safe channel that should be at full project. We request funding to the full capability of the Corps (\$21.4 million) to maintain this channel at its project dimensions and to construct needed revetments at Devil's Elbow.

The J. Bennett Johnston Waterway, Mississippi River to Shreveport, Louisiana, Project is directly related to our deep-water ports. The continuation and completion of this work will stimulate the economy all along the Red River Basin with jobs and additional international trade. This increased trade will help the Port of Shreveport and the ports on the lower Mississippi River, providing needed growth and benefiting the states of Louisiana, Texas, Oklahoma, and Arkansas, which are served through the Shreveport distribution center. Therefore, we strongly recommend that the Corps be funded to full capability for fiscal year 2003.

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#### PREPARED STATEMENT OF THE PORT OF SOUTH LOUISIANA

The Port of South Louisiana very much appreciates being given the opportunity to submit this statement and supportive material to signify its endorsement of the statement of Mr. Donald T. Bollinger, Chairman of the Louisiana Governor's Task Force on Maritime Industry.

The Port of South Louisiana is comprised of nearly 54 miles of Mississippi River north of New Orleans and south of Baton Rouge, with more than fifty private and public docks and wharves. The Port of South Louisiana is the largest tonnage port in the United States and third largest in the world, handling more than 253 million short tons of cargo during 2001. Of this total tonnage, more than 130 million tons are shipped in international trade by deep water vessel and 123 million tons are shipped in domestic trade by vessels and barges. Each year more than 100,000 barges transport cargo at the Port of South Louisiana and more than 4,300 ships call at the public and private wharves of our Port.

A recent study by Dr. Tim Ryan of the University of New Orleans indicates that nearly 20 percent of the domestic gross product of the State of Louisiana is dependent upon the maritime industry and one of eight jobs is created from the economic activity of the maritime industry. Attached you will find statistics which have been developed from the records of the Port of South Louisiana.

The Port of South Louisiana strongly urges the Congress to fund all of the following projects. Mississippi River Ship Channel, Gulf to Baton Rouge, LA; Mississippi River, Baton Rouge to the Gulf, Maintenance Dredging; Mississippi River-Gulf Outlet (MR-GO), LA., Maintenance Dredging; Inner Harbor Navigation Canal (IHNC) Lock, LA; Mississippi River Outlets at Venice, LA; Bayou Sorrel Lock, LA; Gulf Intracoastal Waterway, LA and TX; Calcasieu Lock, LA; Calcasieu River & Pass, LA; Mississippi River-Gulf Outlet (MR-GO) Reevaluation Study, LA; and J. Bennett Johnston Waterway, Mississippi River to Shreveport.

The Port of South Louisiana strongly believes that the funding and completion of the above maritime projects will enhance the ability of the ports in the region to

be competitive in the global economy and will enhance the ability of domestic industry and agriculture to compete in the export of its products.

If we can provide any further information, please feel free to call upon me.

#### COMMODITY STATISTICS AND SUMMARY

[Total Throughput 2001 (short tons)]

	Exports	Imports	Domestic Shipments	Domestic Receipts	2001 Total Tonnage
Animal Feed .....	7,295,822	14,948	23,194	5,621,077	12,955,041
Barley .....	28,839	33,259	.....	97,566	159,663
Chemicals/Fertilizers .....	893,124	5,155,475	7,296,969	3,824,099	17,169,667
Coal/Lignite/Coke .....	181,268	834,216	2,388,848	624,538	4,028,871
Concrete/Stone Products .....	26,347	2,027,689	1,279,978	523,383	3,857,398
Crude Oil .....	942,982	46,257,711	5,536,647	1,882,355	54,619,695
Edible Oils .....	852,182	.....	108,957	361,327	1,322,466
Maize .....	30,702,645	28,665	.....	28,974,208	59,705,518
Milo .....	1,375,042	.....	.....	564,588	1,939,630
Ores/Phosphate Rock .....	.....	2,853,316	1,038,838	1,981,166	5,873,320
Petro-Chemicals .....	2,073,556	3,146,846	25,661,727	13,814,156	44,696,286
Rice .....	608,534	.....	.....	1,582,341	2,190,875
Soybean .....	17,021,772	.....	15,971	15,039,925	32,077,668
Steel Products .....	6,749	3,230,475	651,582	395,545	4,284,351
Sugar/Molasses .....	153,249	22,382	82,333	18,781	276,744
Wheat .....	3,727,424	39,682	58,099	3,203,727	7,028,932
Wood/Woodchips .....	27,786	.....	.....	12,372	40,158
Other .....	111,948	382,418	91,636	6,768	592,771
<b>TOTAL .....</b>	<b>66,029,272</b>	<b>64,027,083</b>	<b>44,234,780</b>	<b>78,527,921</b>	<b>252,819,056</b>

Source: Port of South Louisiana Data.

#### PREPARED STATEMENT OF THE PORT OF GREATER BATON ROUGE

Maintaining open navigable channels for the Mississippi River and its tributaries is vital to the nation's commerce and national interest. Therefore, the Port of Greater Baton Rouge respectfully requests that your committee give favorable consideration to the following U.S. Corps of Engineers projects:

- Mississippi River Ship Channel—Gulf to Baton Rouge, Louisiana (Construction General).*—We support full funding of \$200,000 in fiscal year 2003 to the U.S. Corps of Engineers General Construction Budget. This will allow for the required work on the saltwater intrusion mitigation plan and the Phase III design studies for the fifty-five foot channel. Both projects are important to the future success of the Port of Greater Baton Rouge.
- Mississippi River—Baton Rouge to the Gulf—Maintenance Dredging.*—We support maximum funding for maintenance dredging for the Mississippi River and recommend approval of the President's fiscal year 2003 Budget of \$66,162,000.
- Mississippi River—Gulf Outlet (MR-GO), LA, Maintenance.*—We support the President's fiscal year 2003 Budget of \$13,061,000 under O&M General to include increase funding to the U.S. Corps budget to increase capability for bank stabilization.
- Bayou Sorrel, Lock, LA.*—The President's fiscal year 2003 budget is \$110,000 under General Investigation Studies. Recommend the U.S. Corps be funded \$500,000 to advance pre-engineering design for the replacement of the Bayou Sorrel Lock on the Gulf Intracoastal Waterway (GIWW), Morgan City-to-Port Allen alternate route.
- Mississippi River Outlets at Venice, LA.*—The President's fiscal year 2003 budget is \$80,000 under O&M General. recommend that the Corps be funded \$2,755,000 to perform critical maintenance dredging.
- Gulf Intracoastal Waterway.*—The President's fiscal year budget is \$19,129,000 under O&M General. Recommend that the Corps be funded \$27,464,000 to perform critical maintenance at the navigation locks.
- J. Bennett Johnston Waterway, Mississippi River to Shreveport, LA.*—President's fiscal year 2003 is \$11,016,000 in (Construction General) and \$7,297,000 for Operations and Maintenance. We support full funding to the U.S. Corps budget to complete work already underway and recommend the U.S. Corps be

funded \$29,000,000 (Construction General) and \$16,764,000 (O&M General) to complete work already underway.

As stated in previous correspondence, these projects are vital not only to the Port of Greater Baton Rouge but to the entire lower Mississippi River and the nation. They are projects of critical national significance. The great Mississippi River is the premier national waterway, providing accessibility to and from foreign countries for the transportation of goods and services used by countless numbers of U.S. companies and individual citizens. The channel must be properly designed and maintained for the benefit of all ports and commerce.

We also earnestly request your support for funding of the other projects included in March 22, 2002 testimony prepared and submitted by Mr. Donald T. Bollinger. A summary of Mr. Bollinger's statement is attached. Our waterway infrastructure must be properly maintained if we are to increase trade and have the confidence of our trading partners around the world. Your cooperation and support of these important projects for the Mississippi River are greatly appreciated.

#### PREPARED STATEMENT OF THE ASSOCIATED BRANCH PILOTS

Mr. Chairman: The Associated Branch Pilots is an Association of Pilots that have been guiding oceangoing vessels into the entrances of the Mississippi River system for over 125 years. We are called Bar Pilots because we guide the ships past the constantly shifting and shoaling sand bars in the area.

Southwest Pass of the Mississippi River is the main entrance for deep draft oceangoing vessels entering the Lower Mississippi River System. It is the shallowest stretch of the Lower Mississippi River System and the area that requires the greatest effort by the Corps of Engineers to maintain project depth.

In 2001, the Associated Branch Pilots made 10,348 transits on oceangoing vessels through Southwest Pass. Of these ships 3,309 were of 50,000 deadweight tons or greater and 809 had a draft in excess of 4 feet.

This number of heavily laden vessels calling on the Lower Mississippi River System is a result of having a channel with a depth of 45 feet.

This first phase has proven to be extremely well designed and well maintained by the fact that the maximum draft recommended by my Association for vessels using Southwest Pass has been 45 feet or greater, except for periods of extremely high water that caused shoaling that overwhelmed the dredging efforts. This is in stark contrast to the late 1970's and early 1980's when we often had to recommend drafts less than the project depth due to shoaling.

To the world shipping community, this means that calling at ports on the Mississippi River system will be more profitable because larger ships can enter and carry greater amounts of cargo.

This is beneficial to the entire United States because it makes the large quantities of petroleum, agriculture, and manufactured products shipped from the Mississippi Valley more desirable due to the increased profitability.

I would also like to comment briefly on the East-West navigation channels near Venice, Louisiana. Tiger Pass and Baptiste Collette provide a shorter, more direct route to Breton Sound and the Gulf of Mexico for offshore supply boats and small tugs and barges. These channels not only represent a savings in time and money for these vessels, but reduce the traffic in the main shipping channel, the Mississippi River and its passes, which is one of the most congested waterways in the country.

The dredging and maintaining of South Pass would contribute to the safety of the overall waterway.

The Associated Branch Pilots also pilot vessels in the Mississippi River Gulf Outlet, a man-made tidewater channel 75 miles long, stretching from the Gulf of Mexico to an intersection of the Intercoastal Waterway in New Orleans.

This channel leads to the Main Container Terminals for the Port of New Orleans, the Roll On, Roll Off Terminal, the Port of New Orleans Bulk Handling Plant, and additional General Cargo Docks. For the Port of New Orleans to remain competitive in the ever-growing container trade, the continued maintenance of this channel is crucial. In 2001, 837 ships called on the port using the Mississippi River Gulf Outlet.

Much is being said pro and con concerning the Mississippi River Gulf Outlet. There is, admittedly, an erosion problem in the Mississippi River Gulf Outlet, but any curtailment of shipping traffic in the channel without regard to the long-term effect upon the Port of New Orleans would be disastrous. I strongly support approval of funding for both the maintenance dredging/jetty repair project and the erosion/rip rap study for the Mississippi River Gulf Outlet.

Funding of the Corps of Engineers' projects in the Lower Mississippi River System has proven to be money well spent. It has increased exports and imports that have benefited the entire United States. I urge your support of the funding requested to enable the Corps to continue to maintain and improve the most efficient and productive waterway system in the country.

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PREPARED STATEMENT OF THE LAKE CHARLES HARBOR & TERMINAL DISTRICT

The Lake Charles Harbor and Terminal District respectfully requests favorable consideration from you and your committee for the following projects:

—*Calcasieu River and Pass, LA.*—The President's fiscal year 2003 Budget is \$15,852,000 under O&M General. Recommend that the Corps be funded \$21,352,000 to construct revetment at Devil's Elbow.

—*Calcasieu Lock, LA.*—The President's fiscal year 2003 Budget is \$150,000 in GI funds. Recommend that the Corps be funded \$800,000 to advance the feasibility phase of the study to replace Calcasieu Lock on the GIWW.

—*Gulf Intracoastal Waterway, LA and TX.*—The President's fiscal year 2003 Budget is \$19,129,000 under O&M General. Recommend that the Corps be funded \$27,464,000 to perform critical maintenance at the navigation locks.

These projects are vital not only to the Port of Lake Charles, but to many parts of the nation. The Calcasieu River provides a route for oil and gas to enter the country's 11th largest port and ultimately be distributed to the Midwest and Northeast areas. The Port also provides a route for exports such as bagged grains, wood and paper products, dry bulk materials and other commodities, which originate from as far as the Pacific Northwest.

The District also requests support for funding of the other projects included in the testimony of Mr. Donald Bollinger. These projects are extremely important to Louisiana ports as well as the nation.

Your assistance with these matters is most appreciated.

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PREPARED STATEMENT OF THE CRESCENT RIVER PORT PILOTS' ASSOCIATION

I am President of the largest pilot association in the United States. The Crescent River Port Pilots furnish pilots for ships destined to the Port of Baton Rouge, Port of South Louisiana, Port of New Orleans, Port of St. Bernard, and the Port of Plaquemines.

The Crescent River Port Pilots have piloted and shifted over 15,500 ships during 2001. We pilot deep draft vessels on more than 100 miles on the lower Mississippi River and 35 miles on the Mississippi River Gulf Outlet.

The lower end of our route on the Mississippi River has a shoaling problem starting with the high water season each year. The shoaling requires daily attention by the United States Army Corps of Engineers to maintain project depth.

Heavy-laden vessel calls on the lower Mississippi River system as a direct result of the completion by the Corps of Engineers of the deepening of the channel from 40 feet to 45 feet.

For several years now, we have had extraordinary success in keeping the river dredges to project depth. This success is a direct result of an experienced and vigilant Corps of Engineers that, through experience, is able to timely bid in dredges to avoid extra dredging cost by waiting too long to start maintenance dredging.

Channel stability sends a positive message to the world's shipping community that schedule cargo for deep draft vessels months in advance is reliable. This makes the port call on the Mississippi River very profitable since the ships can lift greater tonnage.

Keeping project depth is beneficial to 27 states that are directly tied to the Mississippi River Port Complex.

Additionally, I would like to comment on the east and west navigation channels near Venice, Louisiana. Baptiste Collette and Tiger Pass provide a shorter and more direct route to Breton Sound and West Delta in the Gulf of Mexico for oil field support vessels.

The Crescent River Port Pilots also pilot ships in the Mississippi River Gulf Outlet. A man-made channel approximately 75 miles long starting in Breton Sound in the Gulf of Mexico and ending in New Orleans where it intersects with the Intercoastal Waterway.

The Mississippi River Gulf Outlet feeds the main container terminals in the Port of New Orleans. Additional docks, such as Bulk Terminal and general cargo facilities depend on this channel, which handled approximately 847 ship calls last year.

The Mississippi River Gulf Outlet has been a controversial channel since its inception, but being an integral part of the Port of New Orleans, it would be a disaster if it is not kept at project width and depth. The Crescent River Pilots strongly support approval of funding for both the maintenance dredging, and jetty repair projects.

Funding of the United States Army Corps of Engineers projects in the lower Mississippi River system which includes the Mississippi River Gulf Outlet, Tiger Pass, Baptiste Collette, and Southwest Pass has proven to be money well spent.

I urge your support of the funding requested to allow the Corps of Engineers to continue to maintain and improve the most productive waterway system in the world.

Mr. Chairman, thanks for allowing me the opportunity to submit my comments to your subcommittee.

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PREPARED STATEMENT OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

The Metropolitan Water District of Southern California (MWD) is pleased to submit the following testimony for the record, regarding programs contained in the U.S. Bureau of Reclamation's, the Department of Energy's and the Army Corps of Engineers' fiscal year 2003 budgets for your Subcommittee's hearing record.

MWD strongly recommends your approval of a Reclamation fiscal year 2003 budget that includes \$30 million in funding for the CALFED Bay-Delta Program. In addition, MWD urges your support for the San Joaquin Water Supply and Exchange Program, as part of the reauthorization of the California Bay-Delta Act. We ask for your support for additional federal funding for Reclamation's Colorado River Basin Salinity Control Program. We request that Congress appropriate \$17.5 million for implementation of the basinwide program that will ensure protection of water quality for this important source of water supply. MWD also urges your support for Reclamation's Endangered Species Recovery Implementation effort and for the Lower Colorado River Operations Program. These programs will provide for conservation of endangered and threatened species and habitat along the lower Colorado River, mitigation for impacts associated with Reclamation's projects, and support for the Arizona-California-Nevada/federal Lower Colorado River Multi-Species Conservation Program.

California has developed a Colorado River Water Use Plan (California Plan) to provide a framework for the agencies which rely on river water to reduce diversions to within California's 4.4 million acre-foot per year normal apportionment. Successful implementation of the California Plan is vital to the water supply reliability of the State of California, and is critical to the Colorado River interests of the six other Colorado River Basin states and Mexico. MWD supports Reclamation funding of \$2 million for Salton Sea Habitat Enhancement activities in support of environmental permits required to proceed with the California Plan. Two water management reservoirs near the All-American Canal, an 8,000 acre-foot reservoir to the east of the Imperial Valley and a 3,000 acre-foot reservoir on the western side of the Valley, would help facilitate the implementation of the California Plan and could be of significant benefit to the other Colorado River Basin states and Mexico. Reclamation funding of \$6.9 million is needed in fiscal year 2003 in order to complete the environmental impact analysis and, if a decision is made to move forward, the initial stage of project design.

Projects funded under Title XVI of the Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law 102-575) and the Reclamation Recycling and Water Conservation Act of 1996 (Public Law 104-266) will greatly enhance Southern California's water supply reliability and the environment through effective water recycling and recovery of contaminated groundwater. Funding in the fiscal year 2003 budget for previously unfunded projects, as well as the continued support for previously funded projects, is a positive step toward realizing regional water supply reliability. The Bureau of Reclamation's budget request for research into the technologies and science of water recycling is another vital step toward making water reuse a viable alternative for communities faced with limited water supplies. MWD urges your full support for the \$35 million for Title XVI.

Metropolitan requests federal funding for desalination activities aimed at developing new and innovative technologies. Technologies to be investigated include innovative pretreatment options such as nanofiltration, ultra low-pressure reverse osmosis membranes and ultra violet (UV) light technology for disinfection and oxidation. Brackish water desalination represents a potentially viable alternative water source to reduce reliance on imported water supplies and minimize the economic impact

associated with high salinity water. Current salinity removal technologies are energy-intensive and expensive. Treating Colorado River water to the secondary total dissolved solids (TDS) standard of 500 milligrams/liter, using conventional membrane technology, can cost \$300 or more per acre-foot. These high costs have precluded the widespread implementation of brackish water desalination technologies, especially for large-scale applications. Breakthroughs in desalination technology will offer potential benefits to water utilities with sources impaired by high salinity levels. It is estimated that \$3 million will be required to continue this research being sponsored by Metropolitan and its member agencies.

MWD supports the recommendation by the National Drought Policy Commission that drought planning assistance funding needs to be increased at the national level and recommends the Bureau's drought planning program be increased to \$5 million. MWD desires your support of funding at the level of \$4.1 million necessary for work required to remove radioactive uranium mill tailings in Moab, Utah. These programs are essential for regional water supply reliability.

The Army Corps of Engineers' (Corps) comprehensive civil works program has the capability to contribute to the social, economic, and environmental well being of California. MWD is primarily interested in the Corps' environmental restoration studies and projects that address the needs of the Bay-Delta Estuary. The President's proposed fiscal year 2003 budget includes numerous programs in the Corps' South Pacific Division, which includes California. Several ecosystem restoration studies and projects specifically address significant habitat issues at various locations in the Bay-Delta watershed. Corps programs that will contribute to the long-term Bay-Delta solution include environmental restoration studies in the Sacramento and San Joaquin River watersheds, habitat conservation and mitigation elements of flood damage prevention projects, and ecosystem restoration programs. MWD urges Congress to fully support these Corps programs as the fiscal year 2003 federal appropriations process moves forward.

We look forward to working with you and your Subcommittee. Please contact Brad Hiltcher, MWD's Legislative Representative in Washington, D.C. at (202) 296-3551, if we can answer any questions or provide additional information.

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA RECOMMENDATIONS FOR FISCAL  
YEAR 2003 APPROPRIATIONS

Appropriations Bill	MWD Recommendation
U.S. Bureau of Reclamation:	
California Bay-Delta Ecosystem Restoration .....	\$30 million
Salton Sea Habitat Enhancement Activities .....	\$2 million
Yuma Area Project .....	\$6.9 million for Water Management Reservoirs near the All-American Canal
Colorado River Basin Salinity Control Program—Title II .....	\$17.5 million plus sufficient funds for required operation and maintenance of constructed units and for plan formulation
Endangered Species Recovery Implementation .....	\$12.747 million
Lower Colorado River Operations Program .....	\$12.421 million
National Fish and Wildlife Foundation .....	\$850,000
Title XVI Water Reclamation and Reuse Program .....	\$35 million
Water Conservation Field Services Program Earmark .....	\$500,000 for MWD
Drought Assistance Program .....	\$5 million
Brackish Water Desalination .....	\$3 million
Department of Energy: Removal of Radioactive Tailings in Moab, Utah .....	\$4.1 million
U.S. Army Corps of Engineers: South Pacific Division .....	Support Corps programs

PREPARED STATEMENT OF THE STATE OF ARIZONA

As a member of the Colorado River Basin Salinity Control Forum representing the State of Arizona, I wish to indicate strong support for the designation of funds for the Colorado River Basin salinity control program.

The Bureau of Reclamation (Reclamation) is the lead agency for the Colorado River Basin Salinity Control Program. In recent years, this salinity control program has been funded at \$12 million. These funds, together with cost-sharing from the Colorado River Basin states, have produced projects which demonstrate a cost-effective

tive and successful methodology for controlling salinity in the Colorado River. However, the water quality control plan, which is prepared by the Forum, adopted by the Colorado River Basin states, and approved by the EPA, recommends that Reclamation's portion of these efforts be funded at \$17.5 million. An appropriation of this amount would allow the implementation of the approved water quality control plan and help control the economic damages in the Lower Basin states due to salinity from the Colorado River.

Arizona's cities, industries, farms, and Indian Tribes depend on the Colorado River. As we import the water to support our growing economy, we also import the salt that has accumulated in the river. Approximately 1.5 million tons per year of salt are now being imported into Arizona via the Colorado River. If the accumulation of salt in the river can be reduced, the economic costs of salt disposal and salt damages will be reduced. Currently, the damages due to salt are estimated to be over half a billion dollars annually in Arizona, Nevada, and Southern California. These damages would be significantly higher if the Colorado River Basin Salinity program had not been in place during the last three decades.

Over the last few years the salinity control efforts by Reclamation have been under-funded, resulting in control efforts lagging behind goals agreed upon in the program's salinity control plan. The \$17.5 million recommended for Colorado River salinity control would provide the appropriations necessary to more aggressively meet these goals and reduce the significant economic costs to the Lower Basin States.

In addition to controlling water quality for water users in the United States, the Salinity Control program helps the United States to comply with Minute 242 of the Mexican Water Treaty of 1944. The United States has always met the commitments agreed to in Minute 242, but water quality at the International Boundary continues to be a subject of discussion between the United States and Mexico sections of the International Boundary and Water Commission.

Thank you for your subcommittee's consideration of additional funding for the Colorado River Salinity Control Program and we hope to have your continued support of this vital program.

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PREPARED STATEMENT OF AUDUBON

Mr. Chairman, on behalf of over one million members and supporters of Audubon, thank you for the opportunity to submit our views on the fiscal year 2003 budget of the U.S. Army Corps of Engineers (Corps). The focal point of our statement on the Corps' fiscal year 2003 budget is our mission, to protect birds, other wildlife, and their habitat.

*Upper Mississippi River Environmental Management Program (EMP)*

Each year over 400 bald eagles and nearly 30,000 wild tundra swan, along with hundreds of thousands of other birds use the Upper Mississippi River. Audubon is deeply concerned about the historically low and grossly inadequate funding levels proposed in the President's fiscal year 2003 budget for the Upper Mississippi River System Environmental Management Program (EMP). The current Administration's request of \$12 million is approximately one-half of the program's funding in recent years and just over one-third of the fully authorized levels needed to adequately restore damaged river habitat, and monitor the delicate Mississippi River ecosystem.

To date, the EMP is a leading example of the type of collaborative process the federal government can use to develop a balanced and sustainable river plan. Its participants are committed and diverse, including the Corps, U.S. Fish and Wildlife Service, the U.S. Geological Survey, and the states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, and the environmental community, all of whom cooperate to share costs and achieve a common goal. This goal, the mission of the EMP, is to "ensure the coordinated development and enhancement of the Upper Mississippi River System" which stretches from Minneapolis, Minnesota to Cairo, Illinois. The efforts of the EMP contribute to the management of navigation and flood control. The EMP enhances and rehabilitates riverine wetland areas up and down the river stimulating transportation uses, attracting visitors, adding recreational opportunities, and bolstering local economies. The program helps preserve this natural treasure by managing river navigation and flood control, promoting recreation on the river—helping people to enjoy the river now while ensuring its preservation for future generations.

The Corps estimates that the low levels of funding in the President's proposed fiscal year 2003 budget could result in the elimination of several critical restoration projects in the Rock Island District (Smiths' Creek and Rice Lake projects), St. Paul



District (Long Meadow project and Biological Monitoring), and in the St. Louis District (Scheming Chute project). We strongly urge the Subcommittee to fund the EMP at its fully authorized level of \$33.17 million to maintain a capacity for the long term monitoring and habitat restoration of this irreplaceable river ecosystem, and to save key programs and offices that will otherwise be eliminated by drastic budget cuts.

#### *Everglades Restoration*

Thank you for your past support of the restoration of America's Everglades. Because the Everglades has been severely abused for more than 100 years, its restoration is the most ambitious environmental challenge our nation has ever undertaken. At this time, however, the outcome remains uncertain. What happens to this living treasure greatly depends on America's actions now and how much we acknowledge the need to honestly balance the use and conservation of natural resources. If our effort is successful, the restoration of the South Florida/Everglades ecosystem will serve as the hemispheric model for sustainability. If not, we face forever losing this natural treasure.

Congress approved, with support from the State of Florida, the Comprehensive Everglades Restoration Plan (CERP) as a framework for changes to the Central and Southern Florida (C&SF) Project. The CERP, which along with Modified Water Deliveries and the C-111 project, are critical to restoring, preserving, and protecting the South Florida ecosystem, while still providing for other water-related needs of the region.

—The President's request for the Corps share of CERP funding in fiscal year 2003 is \$37 million, an increase of \$9 million over fiscal year 2002. We are concerned that this amount is far short of the Corps' original projection of \$83 million needed for CERP implementation in fiscal year 2003 and that the proposed budget does not include \$2.5 million necessary for construction of CERP pilot projects. In March of 2001, the Corps projected \$83 million for CERP implementation in fiscal year 2003. In December of 2001, that figure was revised downward to \$33.6 million and the CERP implementation schedule was revised so as to postpone construction of several projects. We are concerned that this \$50 million downward revision in the projected fiscal year 2003 funding levels, and a \$30 million downward revision in projected fiscal year 2004 funding levels, will require much higher levels of funding in future years that may be difficult to attain.

—We are concerned that the construction of CERP Pilot Projects will not be funded for the second consecutive year in the President's proposed budget due to the "no new starts" policy of the Administration, causing further delay in essential restoration. The "no new starts" policy should be limited to new projects that have not received funding. This policy has been mistakenly applied to the pilot projects; these projects are critical components of a pre-existing project—the C&SF—changes to which were previously authorized in WRDA 1999 and WRDA 2000 and funded in fiscal years 2001 and 2002. These projects include the Okeechobee and Hillsboro Aquifer Storage & Recovery Pilot Projects; the L-31N Seepage Management Pilot; and the Lake Belt In-Ground Reservoir Technology Pilot. The Total Construction funding required for the pilot projects in fiscal year 2003 is \$2.5 million.

Everglades restoration is a long-term commitment, and it must be completed in its entirety. Each component depends on others therefore, all of the "building blocks" must be in place for the restoration to succeed. We urge the Committee to continue to provide adequate funding for the timely implementation of other previously authorized programs whose performance assumptions have been included in the CERP, including Kissimmee River Restoration, Modified Waters Delivery Project, C-111, and Critical Projects (authorized in WRDA 1996).

#### *The Challenge 21 Program (Flood Mitigation and Riverine Restoration Program, Sec. 212 WRDA 1999)*

Increasingly, communities at risk for flooding are implementing non-structural solutions to reduce potential flood damage. These solutions include moving frequently flooded homes and businesses out of the floodplain and working to return the floodplains of rivers and creeks to a condition where they can naturally moderate floods. In addition to reducing flood losses, non-structural projects help meet many other goals of riverside communities including improving water quality, increasing opportunities for recreation, and improving and restoring wildlife habitat. Unfortunately, most federal spending does little to support these non-structural solutions. Challenge 21, a non-structural flood damage reduction program authorized in 1999, is explicitly designed to help support such community-driven and environmentally-

beneficial efforts. Challenge 21 allows the Corps to relocate vulnerable homes and businesses in smaller communities away from floodplains, restore floodplain wetlands, and increase opportunities for riverside recreation, serving to improve quality of life in riverside communities. This deserving program is the best current method for communities to achieve both flood hazard mitigation and restoration of this nation's great rivers.

We strongly urge you to appropriate \$25 million in funding in fiscal year 2003, one-half of the programs' authorized level of funding, to ensure that all willing communities and non-federal partners may participate in the U.S. Army Corps of Engineers' Challenge 21 program.

*Section 1135 Program (Project Modification for Improvement of the Environment)*

The Section 1135 Program allows the Corps to modify the structures and operations of existing Corps projects to improve the quality of the environment where those projects have contributed to the degradation of the environment. The program also authorizes the restoration of areas harmed by Corps projects.

The environmental damage caused by existing Corps projects, many constructed before federal laws requiring mitigation, are enormous. These projects have caused devastating impacts to natural systems such as the Everglades, and severely degraded rivers such as the Missouri, Upper Mississippi, Illinois, and Apalachicola Rivers. The environmental impacts from Corps projects include the loss of rivers' critical side channels, sandbars and wetlands, and jeopardizes the continued existence of federally listed endangered bird and other wildlife species. We strongly urge you to appropriate full funding of \$25 million, \$9 million above the Administration's proposed budget, to ensure that non-federal partners may participate in the Corps' 1135 program in fiscal year 2003.

*Section 206 Program (Aquatic Ecosystem Restoration)*

The Section 206 Program allows the Corps to undertake small-scale projects to restore the aquatic environment, regardless of the existence or impact of the Corps' projects in the area. Projects carried out under this program must improve the quality of the environment, be in the public interest, and be cost-effective. Individual projects under this program may not exceed \$5 million, and non-federal interests must provide 35 percent of the cost.

In order for willing communities and non-federal partners to ameliorate both environmental and economic impacts caused by altering our nation's rivers, floodplains, and wetlands, we strongly urge you to appropriate full funding of \$25 million, \$15 million above the Administration's request, for the Corps' Section 206 program in fiscal year 2003.

*Missouri River Restoration*

The Missouri River Fish and Wildlife Mitigation Project is the primary habitat restoration program for the lower Missouri River between Sioux City, Iowa and St. Louis. Congress established it in 1986 to help reverse the long-term decline of Missouri River fish and wildlife habitat due to the federally sponsored channelization and stabilization projects of the Pick-Sloan era. Congress approved \$13.5 million in fiscal year 2002 for the project, the highest appropriation yet received. We applaud the proposed increase in the President's budget to \$17.5 million in fiscal year 2003 for this program, however, it is imperative that the funding be increased to \$20 million to meet the critical demand for accelerated habitat restoration on the lower Missouri River. The Missouri River remains a nationally significant resource, attracting tens of millions of visitors annually and supporting over 150 species of fish and wildlife. However, severe loss of important habitat—such as side channels, wetlands, and sandbars—threaten the river's long-term health. As the nation prepares to celebrate the 200th anniversary of Lewis and Clark's Voyage of Discovery, we have a once-in-a-lifetime opportunity to restore the Missouri River and revitalize our riverside communities.

Supporting the Missouri River Fish and Wildlife Mitigation Project will help reverse the decline of river wildlife by restoring historic chutes, side channels, wetlands, backwaters, and other habitat fish and wildlife need to feed, conserve energy, and reproduce. We urge you to bolster critically important efforts to reverse the decline of the nation's longest river by supporting an appropriation of \$20 million for the Missouri River Fish and Wildlife Mitigation Project in fiscal year 2003.

*Napa River Salt Marsh Feasibility Study*

Audubon has made San Francisco Bay restoration a national priority. The Napa River Salt Marsh is a critical component of efforts to restore the entire San Francisco Bay ecosystem. The restoration of 10,000 acres of former industrial salt ponds

in the northern San Francisco Bay would create the largest restored tidal wetland in the Western United States.

The restored wetlands will provide extensive wildlife habitat for endangered species, migratory waterfowl and shorebirds, and fish and aquatic species. Once restored, the tidal marsh will also improve water quality, provide beneficial use for recycled treated wastewater and improve public open space and recreational opportunities. In order for the Corps of Engineers to complete the feasibility study and complete the restoration design with the California Coastal Conservancy, \$1.3 million is needed in fiscal year 2003 for the Napa River Salt Marsh Restoration Project. There is an urgent need to complete the study and begin restoration. As the salinity rises within the ponds and as the infrastructure (levees and water control structures) deteriorates, ponds no longer provide habitat for wildlife, the risk of a high-saline spill to the Napa River rises, and the cost of future restoration increases.

Thank you for providing us with this opportunity to testify on the U.S. Army Corps of Engineers proposed fiscal year 2003 budget.

PREPARED STATEMENT OF THE COLORADO RIVER BASIN SALINITY CONTROL FORUM  
BUREAU OF RECLAMATION—FISCAL YEAR 2003 APPROPRIATION

Colorado River Basin Salinity Control Forum's Recommendation:  
—Program Authorized in 1995 (Public Law 104-20)—\$17,500,000.  
—General Investigation Funds—Adequate Funding.  
—Operation and Maintenance—Adequate Funding.

This testimony is in support of funding for the Colorado River Basin salinity control program. Congress has designated the Department of the Interior, Bureau of Reclamation (Reclamation), to be the lead agency for salinity control in the Colorado River Basin. This role and the authorized program were refined and confirmed by the Congress when Public Law 104-20 was enacted. A total of \$17,500,000 is requested for fiscal year 2003 to implement the needed and authorized program. Failure to appropriate these funds will result in significant economic damage in the United States and Mexico.

The President's request for funding is \$10.1 million. Studies have shown that implementation of the program has fallen behind the needed pace to control salinity concentrations. In previous years, the President has supported, and Congress has funded, a program at \$12 million. Most recently, the President's requests have dropped and this year's request, in the judgement of the Forum, is inappropriately low. Water quality commitments to downstream United States and Mexican water users must be honored while the Basin states continue to develop their Compact apportioned waters of the Colorado River. Concentrations of salts in the water above water quality standard mandated levels would cause hundreds of millions of dollars in damage in the United States and result in poorer quality water being delivered by the United States to Mexico. For every 30 mg/l increase in salinity concentrations, there is \$75 million in additional damages in the United States. The Forum, therefore, believes implementation of the program needs to be accelerated to a level beyond that requested by the past President.

The program authorized by the Congress in 1995 has proven to be very successful and very cost effective. Proposals from the public and private sector to implement salinity control strategies have far exceeded the available funding and Reclamation has a backlog of proposals. Reclamation continues to select the best and most cost-effective proposals. Funds are available for the Colorado River Basin states' cost sharing for the level of federal funding requested by the Forum. Water quality improvements accomplished under Title II of the Colorado River Basin Salinity Control Act also benefit the quality of water delivered to Mexico. Although the United States has always met the commitments of the International Boundary & Water Commission's (Commission) Minute 242 to Mexico with respect to water quality, the United States Section of the Commission is currently addressing Mexico's request for better water quality at the International Boundary.

OVERVIEW

In 2000, Congress reviewed the program as authorized in 1995. Following hearings, and with Administration support, the Congress passed legislation that increased the ceiling authorized by this program by \$100 million. Reclamation has received cost-effective proposals to move the program ahead and the Basin states have funds available to cost-share up-front.

The Colorado River Basin Salinity Control Program was authorized by Congress in 1974. The Title I portion of the Colorado River Basin Salinity Control Act re-

sponded to commitments that the United States made, through Minute 242, to Mexico concerning the quality of water being delivered to Mexico below Imperial Dam. Title II of the Act established a program to respond to salinity control needs of Colorado River water users in the United States and to comply with the mandates of the then newly legislated Clean Water Act. Initially, the Secretary of the Interior and Reclamation were given the lead federal role by the Congress. This testimony is in support of adequate funding for the Title II program.

After a decade of investigative and implementation efforts, the Basin states concluded that the Salinity Control Act needed to be amended. Congress revised the Act in 1984. That revision, while leaving implementation of the salinity control policy with the Secretary of the Interior, also gave new salinity control responsibilities to the Department of Agriculture, and to the Bureau of Land Management. Congress has charged the Administration with implementing the most cost-effective program practicable (measured in dollars per ton of salt removed). The Basin states are strongly supportive of that concept as the Basin states consider cost sharing 30 percent of federal expenditures up-front for the salinity control program, in addition to proceeding to implement their own salinity control efforts in the Colorado River Basin.

The Colorado River Basin Salinity Control Forum (Forum) is composed of gubernatorial appointees from Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming. The Forum has become the seven-state coordinating body for interfacing with federal agencies and Congress to support the implementation of the program necessary to control the salinity of the river system. In close cooperation with the Environmental Protection Agency (EPA) and under requirements of the Clean Water Act, every three years the Forum prepares a formal report analyzing the salinity of the Colorado River, anticipated future salinity, and the program necessary to keep the salinities under control.

In setting water quality standards for the Colorado River system, the salinity levels measured at Imperial, and below Parker, and Hoover Dams in 1972 have been identified as the numeric criteria. The plan necessary for controlling salinity and to reduce downstream damages has been captioned the "plan of implementation." The 1999 Review of water quality standards includes an updated plan of implementation. The level of appropriation requested in this testimony is in keeping with the agreed upon plan. If adequate funds are not appropriated, state and federal agencies involved are in agreement that damage from the high salt levels in the water will be widespread in the United States as well as Mexico and will be very significant.

#### JUSTIFICATION

The \$17,500,000 requested by the Forum on behalf of the seven Colorado River Basin states is the level of funding necessary to proceed with Reclamation's portion of the plan of implementation. In July of 1995, Congress amended the Colorado River Basin Salinity Control Act. The amended Act gives Reclamation new latitude and flexibility in seeking the most cost-effective salinity control opportunities, and it provides for proposals and more involvement from the private as well as the public sector. The result is that salt loading is being prevented at costs often less than half the cost under the previous program. Congress this last year recommitted its support to the revised program when it enacted Public Law 106-459. The Basin states are, pursuant to Public Law 104-127 (FAIRA), cost sharing up-front on an annual basis, which adds 43 cents for every federal dollar appropriated. The federally chartered Colorado River Basin Salinity Control Advisory Council, created by the Congress in the Salinity Control Act, has met and formally supports the requested level of funding. The Basin states urge the Subcommittee to support the funding as set forth in this testimony.

#### ADDITIONAL SUPPORT OF FUNDING

In addition to the funding identified above for the implementation of the newly authorized program, the Salinity Control Forum urges the Congress to appropriate necessary funds needed to continue to maintain and operate salinity control facilities as they are completed and placed into long-term operation. Reclamation has completed the Paradox Valley unit which involves the collection of brines in the Paradox Valley of Colorado and the injection of those brines into a deep aquifer through an injection well. The continued operation of this project and other completed projects will be funded through Operation and Maintenance funds.

In addition, the Forum supports necessary funding to allow for continued general investigation of the salinity control program. It is important that Reclamation have planning staff in place, properly funded, so that the progress of the program can be analyzed, coordination between various federal and state agencies can be accom-

plished, and future projects and opportunities to control salinity can be properly planned to maintain the water quality standards for salinity so that the Basin states can continue to develop their Compact-apportioned waters of the Colorado River.

PREPARED STATEMENT OF THE FORT PECK ASSINIBOINE AND SIOUX TRIBES AND DRY PRAIRIE RURAL WATER

FISCAL YEAR 2003 BUDGET REQUEST

The Fort Peck Assiniboine and Sioux Tribes and Dry Prairie Rural Water respectfully request fiscal year 2003 appropriations for the Bureau of Reclamation from your subcommittee on Energy and Water Development. Funds will be used to construct critical elements of the Fort Peck Reservation Rural Water System, Montana, (Public Law 106-382, October 27, 2000). The amount requested is \$14,853,000 as set out below:

FISCAL YEAR 2003 BUDGET REQUEST

Item	Assiniboine and Sioux Tribes	Dry Prairie	Total
<b>Non-Contract Activities:</b>			
Administration/Easements .....	\$200,000	\$95,000	\$295,000
Poplar to Big Muddy Design (Part) .....	500,000	.....	500,000
Dane Valley Design .....	.....	53,000	53,000
Intake Inspection .....	120,000	.....	120,000
Water Treatment Plant Inspection .....	586,000	.....	586,000
Culbertson to Medicine Lake Inspection .....	.....	215,000	215,000
Reclamation Oversight .....	479,000	115,000	594,000
<b>Construction Activities:</b>			
Intake .....	1,713,000	.....	1,713,000
Water Treatment Plant .....	8,372,000	.....	8,372,000
Culbertson to Medicine Lake .....	.....	2,405,000	2,405,000
<b>Total .....</b>	<b>11,970,000</b>	<b>2,883,000</b>	<b>14,853,000</b>
<b>Percentage .....</b>	<b>80.59</b>	<b>19.41</b>	<b>100.00</b>

The sponsor Tribes and Dry Prairie greatly appreciate the appropriations from the subcommittee for fiscal year 2002 that have permitted significant progress in the first year.

PROPOSED ACTIVITIES

This project, which includes all of the Fort Peck Indian Reservation in Montana and the Dry Prairie portion of the project outside the Reservation (see map), was authorized by Public Law 106-382, October 27, 2000. The budget request provides the funds necessary to complete the intake on the Missouri River. Approximately half of the funds for intake construction are in the appropriations for fiscal year 2002. The budget request also provides for construction of water treatment plant for this regional drinking water project. Funds are required in both fiscal year 2003 and 2004 for completion of the water treatment plant. The project will also design the first portion of the pipeline leaving the water treatment plant. The section will be east of the water treatment plant and will serve the community of Poplar, headquarters community for the Assiniboine and Sioux Tribes. Construction is scheduled to start in fiscal year 2004. This will also provide a source of water for a section of the Fort Peck Indian Reservation contaminated by oil drilling operations and the subject of EPA orders to the non-Tribal oil company responsible. The oil company will provide the distribution system necessary to mitigate the problems and the Assiniboine and Sioux Rural Water System will provide the interconnecting pipeline without duplicating any facilities identified in the Final Engineering Report. This is an exigent circumstance that will be corrected by the project in fiscal year 2004.

An urgent project will be undertaken in the Dry Prairie area to bring water supplies from Culbertson with an existing treatment plant on the Missouri River to Medicine Lake where the existing water treatment is inoperable and requires major revisions to bring it into operation. Even with the extra expenditures, the treatment plant will only produce water of the poor quality that will be replaced by Dry Prai-

rie. The system to be constructed in fiscal year 2003 will also serve the Dane Valley residents with fiscal year 2004 funds and mitigate costs of hauling water so prevalent there. The budget request is consistent with the construction schedule in the Final Engineering Report.

#### STATUS OF PROJECT PLANNING AND DESIGN

The Final Engineering Report, incorporating the costs of facilities to serve both the Reservation and the Dry Prairie Rural Water System outside the Fort Peck Indian Reservation is submitted to the Bureau of Reclamation for final review and will be before Congress in spring 2002. The water conservation plan is also before the Bureau for review. Bureau of Reclamation concluded a value engineering session on the project in April, 2001, and the Accountability Report in response to the value engineering investigation is complete.

The Final Engineering Report shows that construction costs of the project total \$192 million, October 1998\$. The total Federal costs will be \$175 million (October 1998\$), less or comparable to similar projects in the Western United States.

Environmental assessment is near completion for both the Reservation and the Dry Prairie areas of the project.

Pilot studies and design of the water treatment plant are scheduled in the third and fourth quarters fiscal year 2002 with construction of the intake beginning in the fourth quarter. Design of the Culbertson to Medicine Lake project by Dry Prairie will also begin in second and third quarter fiscal year 2002 with capability to begin construction in first quarter fiscal year 2003.

#### LOCAL PROJECT SUPPORT

The State of Montana, by action of its legislature, appropriated \$62,000 in fiscal year 1997 to provide for a Needs Assessment and cost estimate of facilities outside the Reservation in the Dry Prairie part of the project. The 1999 Montana Legislature approved an additional \$182,000 in planning funds for use by Dry Prairie in fiscal year 1999 and 2000. The needs and facility costs determined for the Dry Prairie Water System were incorporated into the Final Engineering Report. In addition, the 1999 Montana Legislature approved a funding mechanism from its Treasure State Endowment Program to finance the non-federal share of project planning and construction. Demonstrating support of Montana for the project, there were only three votes against the statutory funding mechanism in both the full House and Senate.

The Fort Peck Tribes have supported the project since 1992 when they conceived it and sought means of improving the quality of life in the region. The planning was a logical step after successful completion of an historic water rights compact with the State of Montana. This compact was the national "ice breaker" that increased the level of confidence by other Tribes in Indian water right settlement initiatives. The Tribes did not seek financial compensation for the settlement of their water rights but contemplated water development for meaningful projects as now authorized.

Dry Prairie support is demonstrated by a financial commitment of all 14 communities within the service area to participate in the project. Rural support is strong, with about 70 percent of area farms and ranches intending to participate as evidenced by their intent fees of \$100 per household.

#### ENTERPRISE COMMUNITY DESIGNATION AND NEED FOR WATER QUALITY IMPROVEMENT

The Fort Peck Indian Reservation is designated as an Enterprise Community, underscoring the level of poverty and need for economic development in the region. The success of the Enterprise Community designation within the Reservation will be enhanced by the availability of safe and adequate municipal, rural and industrial water supplies that this regional project will bring to the Reservation. Outside the Fort Peck Indian Reservation, the Dry Prairie area has income levels that are higher than within the Reservation but lower than the State average.

The geologic setting of the Fort Peck Indian Reservation and the counties outside the Reservation is comparable to the rest of eastern Montana, North Dakota and South Dakota. With the exception of the Missouri River, which is a high quality water source, the groundwater supplies of the region are of poor quality. More than 80 percent of rural households draw water from near-surface aquifers with nitrates exceeding primary contaminant levels for drinking water pursuant to regulations implementing the Safe Drinking Water Act. Some of the worst water on the North American Continent lies below the Fort Peck Indian Reservation in the Madison Formation. This water is not used for human or livestock consumption. It is a brine several times more concentrated than sea water. Above this unsuitable aquifer are

lesser aquifers that have been subjected to oil and gas development and have been contaminated, in part, by those activities.

The Poplar River, which flows through the central portions of the Fort Peck Indian Reservation and the region is the subject of an Apportionment Agreement between Canada and the United States. Half of the water supply is available for Canada as measured at the International Boundary, and the balance is available for use in the United States. Depletion of this resource by agricultural and coal-fired power generation on the Canadian side increases the concentrations of chemicals and contaminants in the supply for the United States. The Poplar River and its principle tributaries are neither dependable supplies of water nor are they of suitable quality for this project. Thus, the Fort Peck Tribes and Dry Prairie have successfully planned a regional water project, comparable to Garrison, WEB, Mni Wiconi and Mid-Dakota that relies on the high quality waters of the Mainstem Missouri River.

The feature of this project that makes it more cost effective than similar projects is its proximity to the Missouri River. The southern boundary of the Fort Peck Indian Reservation is formed by the Missouri River for a distance of more than 60 miles. Many of the towns in this regional project are located two to three miles from the river, including Nashua, Frazer, Oswego, Wolf Point, Poplar, Brockton, Culbertson, and Bainville. As shown on the enclosed project map, a looping transmission system outside the Fort Peck Indian Reservation will deliver water 30 to 40 miles north of the Missouri River. Therefore, the distances from the Missouri River to all points in the main transmission system are shorter than in other projects of this nature in the Northern Great Plains.

For comparison of water quality of this project with other regional projects, please refer to Tables 1 and 2.

TABLE 1.—COMPARISON OF FORT PECK TOTAL DISSOLVED SOLID LEVELS WITH COMPARABLE PROJECTS

Project	Community	Total Dissolved Solids (mg)
Fort Peck .....	Fort Kipp .....	2,730
Lewis and Clark .....	Upper Limit .....	2,600
Mni Wiconi .....	Red Shirt .....	2,332
Mni Wiconi .....	Reliance .....	2,056
Mni Wiconi .....	Murdo .....	1,761
Mni Wiconi .....	Kennebec .....	1,740
Mni Wiconi .....	Presho .....	1,398
Fort Peck .....	Poplar .....	1,380
Fort Peck .....	Frazer .....	1,180
Lewis and Clark .....	Lower Limit .....	1,179
Mni Wiconi .....	Wakpamni Lake .....	1,125
Mni Wiconi .....	Horse Creek .....	869
Fort Peck .....	Brockton .....	748
Mni Wiconi .....	Pine Ridge Village .....	416

TABLE 2.—COMPARISON OF FORT PECK SULFATE LEVELS WITH COMPARABLE PROJECTS

Project	Community	Sulfate (mg)
Lewis and Clark .....	Upper Limit .....	1,500
Mni Wiconi .....	Reliance .....	1,139
Fort Peck .....	Fort Kipp .....	1,120
Mni Wiconi .....	Red Shirt .....	1,080
Mni Wiconi .....	Murdo .....	1,042
Mni Wiconi .....	Kennebec .....	984
Mni Wiconi .....	Presho .....	644
Lewis and Clark .....	Lower Limit .....	538
Fort Peck .....	Frazer .....	498
Mni Wiconi .....	Horse Creek .....	410
Mni Wiconi .....	Wakpamni Lake .....	398
Fort Peck .....	Brockton .....	212
Fort Peck .....	Poplar .....	103
Mni Wiconi .....	Pine Ridge Village .....	70

PREPARED STATEMENT OF THE CITY OF LOS ANGELES BOARD OF HARBOR  
COMMISSIONERS, PORT OF LOS ANGELES

Mr. Chairman and Members of the Subcommittee: We are Nicholas G. Tonsich, President of the City of Los Angeles Board of Harbor Commissioners, and Larry A. Keller, Executive Director of the Port of Los Angeles. Together, we oversee the activities of the Port of Los Angeles, the largest container seaport in the United States. Our testimony speaks in support of continuing the Federal role in carrying out the major navigation improvements underway at the Port, which underpin our country's decisive role in global trade.

We thank your Subcommittee for its unwavering support of the Pier 400 Deep-Draft Navigation and Landfill Project, the first phase of the 2020 Infrastructure Development Plan at the Port. With the Corps of Engineers, we are proud to have completed Pier 400 in April 2000—under budget and ahead of schedule! In August of this year, the Maersk Sealand shipping company—now the largest shipping line in the world—will open its state-of-the-art container terminal on Pier 400. Last year, your Subcommittee's earmark helped us begin the Channel Deepening Project, the second phase of the navigation improvements under the 2020 Plan. The Corps has scheduled construction to begin this August.

Today, we present testimony evidencing the need for full federal funding for construction of the Channel Deepening Project. The President's fiscal year 2003 Budget targets funds to construction projects that, "provide the greatest economic return to the nation . . ." <sup>1</sup> By all objective standards, the Channel Deepening Project squarely meets the President's tests as do the Port's operation and maintenance projects that support our commercial navigation initiatives. Therefore, we respectfully ask the Subcommittee to fully-fund our fiscal year 2003 appropriations requests.

THE ECONOMIC IMPACT OF THE 2020 INFRASTRUCTURE DEVELOPMENT PLAN ON THE  
UNITED STATES ECONOMY

In the late 1970s, the San Pedro Bay ports of Los Angeles and Long Beach quite accurately forecast the current surge in the international trade needs of the Southern California region, and the Nation. The dramatic increase in trade volumes would come from Pacific Rim and Latin American countries. In the early 1980s, the Port of Los Angeles entered a long-term cooperative planning effort with the Army Corps of Engineers, known as The 2020 Infrastructure Development Plan. The 2020 Plan acknowledges the phenomenal growth of trade through the Port of Los Angeles. It is a blueprint for the Port's infrastructure development and adaptation to changes in maritime technology and to the projected growth in trade volumes well into this century. The Channel Deepening Project marks the second phase of the 2020 Plan that began with the Pier 400 Deep-Draft Navigation and Landfill Project. The Port of Los Angeles is aggressively moving forward with the 2020 Plan's goal: to meet the extraordinary infrastructure demands placed on the port of Los Angeles in the face of the explosion in global trade.

The forecast has proved true, far exceeding our expectations! Consequently, infrastructure development at the Port of Los Angeles is now more critical than ever, with more than 35 percent of containerized trade entering the United States through the San Pedro Bay port complex. Approximately 19 percent is attributed to container throughputs at the Port of Los Angeles. In fact, the Port of Los Angeles handled more than 5.1 million TEUs in 2001, representing a first in the history of American seaports. Pacific Rim and Mexican trade volumes with the United States are also at an all-time high. These increased trade volumes have solidified the Port of Los Angeles as a pivotal player in the global trading network.

With a more robust Asian economy, we can best describe the potential for increased two-way trade with the Pacific Rim, alone, as colossal. To illustrate, in 2000, nine start-up shipping lines entered the trans-Pacific trading network, seven of which now call at the Port of Los Angeles. Last year, the Port and its customers recorded an unprecedented increase in containerized cargo from the Pacific Rim valued at more than \$300 billion. These goods went on to stores and manufacturing plants across the United States supporting jobs and local economies. In 2001, goods imported from China accounted for 55 percent of the overall Pacific Rim trade with the United States. Conversely, China is the primary importer of American goods. Modifications in its trade policies and investment practices make it a favorable market for American businesses and would boost the continued upswing in the United States economy and the strong purchasing power of American consumers seeking competitively priced retail merchandise. 2001 was a year of continued burgeoning

<sup>1</sup>"The Budget for Fiscal Year 2003, Corps of Engineers—Civil Works," Page 296.



trade opportunities with Latin America, also. Trade volumes between Mexico and Southern California, for instance, has increased 152 percent since 1994. As such, the Port handled approximately 5 million containers, in 2001 alone, resulting in the maritime industry's recognition of the Port of Los Angeles as the busiest container port in the United States.

As we have testified in the past, cargo throughput for the San Pedro Bay—and the Port of Los Angeles in particular—has a tremendous impact on the United States' economy. This fact cannot be over emphasized. The ability of the Port to meet the spiraling demand of the phenomenal growth in global trade through its facilities is dependent upon the construction of sufficiently deep water channels that will accommodate the largest state-of-the-art deep-draft cargo container ships that are already in service. These new ships provide greater efficiencies in cargo transportation, thereby offering American consumers lower prices on imported goods and exports that are more competitive from the United States to foreign markets. However, for American seaports to maintain their position in global trade, the federal government must immediately make the necessary infrastructure improvements that will enable our ports to participate in this rapidly changing global trading arena.

The Channel Deepening Project is clearly a commercial navigation project of national economic significance and one that will yield exponential economic returns to the United States well into the future. The national economic benefits are evidenced by the creation of more than one million permanent well-paying jobs across the United States; more than \$1 billion in wages and salaries; and, local state and federal sales and income tax revenues, including increased U.S. Customs Service revenues, deposited to the Federal treasury. The return on the Federal investment is real and quantifiable, and we expect it to surpass the cost-benefit ratio as determined by the Corps of Engineers project Feasibility Study many times over. The Federal investment in the Channel Deepening Project will ensure that the Port of Los Angeles, the nation's largest container seaport, remains at the forefront of the new global trade network well into the 21st century.

#### THE CHANNEL DEEPENING PROJECT

The Channel Deepening Project began in February 1999 when the Port and the Los Angeles District Corps executed a Memorandum of Agreement (MOA). The MOA expedited the preliminary study phase required to engage the Corps in the Channel Deepening Project, a federal navigation project. In anticipation of a favorable Chief of Engineers' Report, Congress authorized the Channel Deepening Project in the Water Resources Development Act of 2000. The Corps approved the Feasibility Study on December 29, 2000, thereby enabling the Port to proceed with the Channel Deepening Project.

The Port of Los Angeles requests that your Subcommittee include an appropriation of \$20,000,000 for the federal share of construction dredging of the main navigation channel, to begin in August of this year. The Corps of Engineers' has estimated the total project cost of approximately \$171,000,000<sup>2</sup> with a federal share of \$49,800,000, and a local share of \$121,200,000. The Corps has formally stated that it has capability to spend fully the \$20 million in fiscal year 2003. In May of this year, we expect to execute a simple Project Cooperation Agreement (PCA) with the Corps, enabling the project to begin on time. Along with the executed PCA, we need Congress to fully-fund the Channel Deepening Project in fiscal year 2003.

We cannot emphasize too strongly the critical importance of initiating construction dredging on the Channel Deepening Project in calendar year 2002. At -45 Mean Lower Low Water (MLLW), the Main Channel is, simply, too shallow to accommodate the new state-of-the-art container vessels designed to draft as much as -48 feet and hold containers weighing more than 6,000 TEUs. The 2000 Chief of Engineers' Report concurred with the Feasibility Study's recommendation that the Corps dredge the Channel to at least -53 feet, including a modest allowance for varied tidal conditions and under-keel clearance. The project also includes dredging approximately 6.6 million cubic yards of sediment from the Turning Basin, the West and East Basins, and the East Basin Channel. Five of the major container shipping lines that currently call at the Port of Los Angeles have vessels that draft -46 feet when fully loaded. Consequently, they call with only partial loads to be able to safely navigate the harbor's channels. While unavoidable, this makes for an inefficient shipping system and opens the door to cargo diversion to Vancouver, Canada.

To further illustrate the urgency of fully funding the Channel Deepening Project, the China Shipping Company is awaiting six 9,000 TEU container ships. Its part-

<sup>2</sup> Escalated through end of construction in fiscal year 2005, per OMB.

ner, CMA-CGM (Compagnie Maritime d’Affrètement-Compagnie Générale Maritime)—also known as “The French Line”—ordered three 6,600 TEU container ships. Each ship drafts at – 48 feet. Beginning in 2004, these lines will begin calling exclusively at the Port of Los Angeles from the Pacific Rim. Unless construction dredging begins this year and remains on schedule, the Port would be unable to service its customers’ infrastructure needs and provide the planned state-of-the-art functional navigation gateway for the imported consumer goods and manufacturing parts to enter the American stream of commerce.

Simply, Mr. Chairman, there are no other ports on the west coast of the United States with the current infrastructure capacity to serve these container ships or to absorb the volume of container throughputs. These state-of-the-art container ships represent the new competitive requirements for international shipping efficiencies in this century. It is imperative that Congress appropriate the requested funding that will enable the Channel Deepening Project to begin this August, with ongoing full funding that will keep the project on schedule for completion in 2005.

ONGOING MAINTENANCE OF THE LOS ANGELES HARBOR AND BREAKWATER AND THE LOS ANGELES HARBOR MODELS

For the Army Corps of Engineers Operation and Maintenance Program, the Port of Los Angeles seeks \$4,000,000 to continue the hydrographic surveys, and the ongoing maintenance dredging of the federal channels and turning basins, and to continue engineering studies and rehabilitation of the federal breakwater at the Los Angeles Harbor. The efficient operation of the completed Pier 400 Project relies, too, on the ongoing maintenance of the federal navigation channels and the hydrographic surveys.

Furthermore, the Port of Los Angeles also requests a total appropriation of \$3,165,000 for the San Pedro Bay Models at the Corps of Engineers’ Waterways Experiment Station (WES) at Vicksburg, Mississippi. This funding is critical for the Corps’ maintenance of the Los Angeles Harbor Model studies and the Wave Gauge Program. Our request includes \$165,000 for the maintenance of the physical model of the San Pedro Bay to maintain operational readiness for the continued study of navigation improvements at the Port, and \$3,000,000 to upgrade the wave gauges, wave generators, and computer systems that are now outdated.

The information derived from these study tools is critical to the validation of the numerical and physical models used for the design of ongoing projects under the Port’s 2020 Plan. For example, during the state-of-the-art design of the Pier 400 Project, the scientists and engineers at WES, the Port of Los Angeles and the Corps’ Los Angeles District used eight separate, but related models, to site the land reclamation element of the project and its effect on tidal resonance on container ships at dock. As a result, maintenance of the hydraulic and physical models at WES, and their prototype data acquisition facilities, continue to be an essential resource for the Corps of Engineers and the Port of Los Angeles.

IN SUMMARY

Mr. Chairman, the Port of Los Angeles respectfully urges your Subcommittee to include the following earmarks in the fiscal year 2003 Budget to support the U.S. Army Corps of Engineers projects on behalf of the Port of Los Angeles:

- \$20,000,000 to start construction dredging of the Channel Deepening Project;
- \$4,000,000 for channel maintenance dredging and rehabilitation of the Federal breakwater;
- \$3,165,000 for ongoing maintenance of the Los Angeles Harbor Model at WES.

Thank you, Mr. Chairman, for the opportunity to submit this testimony in support of continued Congressional support of the Channel Deepening Project and other important Federal navigation projects at the Port of Los Angeles. The Port has long valued the support of your Subcommittee and its appreciation of the port industry’s importance to the economic vitality of the United States, and, in particular, the role of the Port of Los Angeles in contributing to this country’s economic vigor.

PREPARED STATEMENT OF THE NATIONAL CONGRESS OF AMERICAN INDIANS

On behalf of the National Congress of American Indians (NCAI) and its more than 200 member tribal nations, we are pleased to have the opportunity to present written testimony on fiscal year 2003 appropriations for the Department of Energy.

The tragic events of September 11 brought forth the strength and the determination of our nation to survive in the face of adversity. It is this same spirit that has carried Indian Country through years of annihilation and termination. It is this

same spirit that has propelled Indian Nations forward into an era of self-determination. And it is in this same spirit of resolve that Indian Nations come before Congress to talk about honoring the federal government's treaty obligations and trust responsibilities throughout the fiscal year 2003 budget process.

The federal trust responsibility represents the legal obligation made by the U.S. government to Indian tribes when their lands were ceded to the United States. This obligation is codified in numerous treaties, statutes, Presidential directives, judicial opinions, and international doctrines. It can be divided into three general areas—protection of Indian trust lands; protection of tribal self-governance; and provision of basic social, medical, and educational services for tribal members.

NCAI realizes that Congress must make difficult budget choices this year. As elected officials, tribal leaders certainly understand the competing priorities that members of Congress must weigh over the coming months. However, the fact that the federal government has a solemn responsibility to address the serious needs facing Indian Country remains unchanged, whatever the economic or political climate may be. We at NCAI urge you to make a strong commitment to meeting the federal trust obligation by fully funding those Department of Energy programs that are vital to the creation of vibrant Indian Nations.

#### OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY

The Solar Program within the Office of Energy Efficiency and Renewable Energy provides electricity restructuring technical assistance and analysis to state and tribal decisionmakers to achieve renewable and energy efficiency goals. It also provides for competitive solicitation for cost-shared awards for renewable and hybrid field feasibility studies National Congress of American Indians fiscal year 2003 Energy Appropriations Testimony Page and validation projects. We support the Administration request of \$87 million for the Solar Program.

In the Renewable Indian Energy Resource Program, the NCAI strongly urges enactment of the proposed \$8.3 million funding level, which would help tribes with much-needed capacity building activities.

NCAI also supports the proposed increase for the Weatherization Assistance to \$277.1 million. This funding level would greatly assist in the delivery of cost-effective, energy efficient improvements to lower-income households.

#### OFFICE OF ENVIRONMENTAL MANAGEMENT

The Office of Environmental Management Office of Public Accountability (EM-11) funds cooperative agreements with several tribes that are participating in the cleanup and restoration of federal facilities and lands impacting tribal environmental quality. Funding for tribal cooperative agreements has been frozen for the past five years, while the scope of program issues and activities has expanded. We urge increased funding for all tribal cooperative agreements in order to provide realistic resources to the tribes involved in cleanup and environmental restoration programs.

Under the President's budget request, Hanford Site activities would receive up to \$800 million for expedited cleanup efforts in fiscal year 2003. The amount and timing of the increase proposed for the Hanford Site is dependent upon an agreement between Washington State, the Department of Energy, and the Environmental Protection Agency. Because the Hanford Site is on ceded lands of the Umatilla, Yakama, and Nez Perce tribes, these governments should be included as a consenting and planning party before finalization of cleanup goals, objectives, and implementation.

#### OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

The Administration has proposed a \$150 million increase for the Office of Civilian Radioactive Waste Management Programs, which oversees development of a high-level radioactive waste and spent nuclear fuel repository at Yucca Mountain in Nevada. The funding increase would be utilized for completing characterization studies, program integration, and waste acceptance and transportation services.

The State of Nevada and ten counties surrounding Yucca Mountain have received several million dollars for scientific review of the studies, yet tribal governments have not received funding for oversight activities or review and analysis of technical assessments. We urge the Subcommittee to direct the Department of Energy to provide at least \$10 million for impacted tribes to assess the full range of impacts of the Yucca Mountain repository to their homelands and culture. The Yucca Mountain Project Office has identified and worked with impacted tribes and should immediately implement a consultation and funding outreach with impacted tribal governments.

## CONCLUSION

Thank you for this opportunity to present written testimony regarding the fiscal year 2003 appropriations for the Department of Energy. The National Congress of American Indians calls upon Congress to fulfill the federal government's fiduciary duty to American Indians and Alaska Native people. This responsibility should never be compromised or diminished because of any political agenda or budget cut. Tribes throughout the nation relinquished their lands and in return received a trust obligation, and we ask that Congress maintain this solemn obligation to Indian Country and continue to assist tribal governments as we build strong, diverse, and healthy nations for our people.

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 PREPARED STATEMENT OF THE VENTURA PORT DISTRICT

The Ventura Port District respectfully requests that the Congress:

- Support the Administration's request for \$2,590,000 to be included in the fiscal year 2003 Energy and Water Development Appropriations Bill for the U.S. Army Corps of Engineers maintenance dredging of the Ventura Harbor federal channel and sand traps.
- Include \$1,510,000 to the fiscal year 2003 Energy and Water Development Appropriations Bill for the U.S. Army Corps of Engineers to repair the serious structural damage to the South Beach Groin at Ventura Harbor.
- Include \$400,000 in the fiscal year 2003 Energy and Water Development Appropriations Bill to continue a cost shared Feasibility Study to determine the advisability of modifying the existing Federal navigation project at Ventura Harbor to include a sand bypass system.

## BACKGROUND

Ventura Harbor, homeport to 1500 vessels, is located along the Southern California coastline in the City of San Buenaventura, approximately 60 miles northwest of the City of Los Angeles. The harbor opened in 1963. Annual dredging of the harbor entrance area is usually necessary in order to assure a navigationally adequate channel. In 1968, the 90th Congress made the harbor a Federal project and committed the U.S. Army Corps of Engineers to provide for the maintenance of the entrance structures and the dredging of the entrance channel and sand traps.

The harbor presently generates more than \$40 million in gross receipts annually. That, of course, translates into thousands of both direct and indirect jobs. A significant portion of those jobs are associated with the commercial fishing industry (the harbor is consistently amongst the top ten commercial fishing ports in the United States), and with vessels serving the offshore oil industry. Additionally, the headquarters for the Channel Islands National Park is located within the harbor, and the commercial vessels transporting the nearly 100,000 visitors per year to and from the Park islands offshore, operate out of the harbor. All of the operations of the harbor, particularly those related to commercial fishing, the support boats for the oil industry, and the visitor transport vessels for the Channel Islands National Park are highly dependent upon a navigationally adequate entrance to the harbor.

## OPERATIONS &amp; MAINTENANCE NEEDS

*Maintenance Dredging*

It is estimated that \$2,590,000 will be required to perform routine maintenance dredging of the harbor's entrance channel and sand traps during fiscal year 2003. This dredging work is absolutely essential to the continued operation of the harbor.

*South Beach Groin*

It is estimated that \$1,510,000 will be required during fiscal year 2003 for the Corps of Engineers to repair extensive storm damage to the South Beach Groin. While the Congress did add funds to the fiscal year 2002 Appropriations Bill to effectuate these repairs, heavy seas in late December 2001 and early January 2002 caused a breach to develop in the trunk of the harbor's offshore breakwater and in light of the fact that the breach had the potential to immediately impair the navigability of the harbor entrance the Corps of Engineers, with the Port District's concurrence, redirected the fiscal year 2002 appropriation to the more urgent breakwater repairs. Thus, the groin repairs will not be accomplished in fiscal year 2002 and the structure continues to experience further degradation.

## STUDY NEEDS

It is estimated that \$400,000 will be required during fiscal year 2003 to continue a cost shared Feasibility Study to determine the advisability of modifying the existing Federal navigation project at Ventura Harbor to include a sand bypass system. Given the continuing need for maintenance dredging, it is appropriate to determine if a sand bypass system or other measures can accomplish the maintenance of the harbor in a manner that is more efficient and cost effective than the current contract dredging approach.

PREPARED STATEMENT OF THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND  
DEVELOPMENT

MISSISSIPPI RIVER AND TRIBUTARIES PROJECT

The Louisiana Department of Transportation and Development, Office of Public Works and Intermodal Transportation, is the agency designated to represent the State of Louisiana in the planning and orderly development of its water resources. This statement is presented on behalf of the State of Louisiana and its twenty levee boards. It contains recommendations for fiscal year 2003 appropriations for work in Louisiana under the Mississippi River and Tributaries Project.

Louisiana contains the terminus of the Mississippi River, which has the third largest drainage basin in the world, exceeded only by the watersheds of the Amazon and Congo Rivers. The Mississippi River drains 41 percent, or 1¼ million square miles, of the contiguous United States and parts of two Canadian provinces. All of the runoff from major river basins, such as the Missouri and Upper Mississippi, the Ohio including the Tennessee and others, and the Arkansas and White, flow into the Lower Mississippi, which empties into the Gulf of Mexico through Louisiana.

The jurisdiction of levee boards in Louisiana includes one-third of the State's total area. However, the importance of this one-third of the State can be seen by the fact that it contains nearly 75 percent of the State's population and about 90 percent of the State's disposable personal income. Traditionally, the levee district areas are water rich and many have fallen heir to industrial development that ranks high in the nation. It has been estimated that about 60 percent of the State's agricultural products come from levee district areas. So you can see why Louisiana and its twenty levee districts are so interested in seeing the completion of the Mississippi River and Tributaries Project.

In making the following recommendations regarding construction, studies, and some selected operation and maintenance items, the State of Louisiana hopes that Congress and the Administration will honor their prior commitments to infrastructure development and fund our requests.

*Operation and Maintenance.—Request: \$62,892,000*

- Atchafalaya Basin
- Old River
- Lower Red River, South Bank Levees (Bayou Rapides Drainage Structure and Pumping Plant)
- Mississippi River Levees (total MR&T)
- Channel Improvement (total MR&T)

The operation and maintenance of completed works are essential to achieving the full benefits of projects. In times of budget constraints it is essential that operation and maintenance of projects continue as scheduled in order to maintain their effectiveness, otherwise more expensive maintenance and rehabilitation would be required at a later date.

The above listed projects have reached a point where delayed maintenance is now essential and we urge you to fund these projects to the full capability of the Corps.

*Mississippi River Levees (total MR&T).—Request: \$30,600,000*

The Mississippi River and Tributaries Project above Louisiana is about 90 percent complete, but to a much lesser extent in Louisiana. Because of the improvements upstream, increased flows are a major problem in Louisiana where the project is lagging behind the construction in the upper valley. Of the total request for levee construction, most is needed for Louisiana projects. In the Vicksburg District there is a deficiency of 4 to 7 feet on mainline Mississippi River levees in the Fifth Louisiana Levee District. It is also requested that Federal funds be provided to purchase rights-of-way for this critical work as the Levee District is in an economically depressed area and does not have a tax base capable of producing the funds necessary for both maintenance and rights-of-way purchase.

*Channel Improvement (total MR&T).—Request: \$23,750,000*

Channel improvement and bank stabilization provide protection to the levees and the development behind them, as well as, preventing unsatisfactory alignment where the river's bank is unstable. The funds we are requesting will provide for the dredging and revetment work necessary to accommodate increased flows caused by upstream improvements.

*Morganza to The Gulf of Mexico.—Request: \$8,000,000*

Funds are requested for pre-construction engineering and design. This hurricane protection project is vital for coastal Louisiana and should be constructed as soon as possible. Authorization should be in WRDA 2002.

*Local Contributions for Flood Control Improvements*

Historically, Louisiana has always done its part in cooperation with the Federal agencies concerned with flood control. The Louisiana Board of State Engineers, the forerunner of the Department of Transportation and Development, Office of Public Works and Intermodal Transportation, was created in 1879, the same year as the Mississippi River Commission, to coordinate the planning and construction of the required flood control facilities to protect the State. Since that time, local expenditures for flood control have exceeded \$730,000,000. This amount adjusted to present day dollars represents expenditures in excess of \$5.5 billion. Nearly one-half of the potential flooded area of the Lower Mississippi River Valley lies in Louisiana. Local expenditures for flood control have increased with the growth of the valley. This record not only meets, but exceeds any National Water Policy local participation requirement ever put into practice.

*Conclusion*

The Mississippi River and Tributaries Project has been underway since 1928 and isn't scheduled for completion until the year 2031—a date that will continually move further into the future unless an adequate level of funding is provided each year. We understand the need for budget constraints, but the past budget requests for the total MR&T Project has not been adequate. We endorse the recommendation of the Mississippi Valley Flood Control Association in their request for \$391 million for the MR&T project throughout the whole valley.

The State of Louisiana, Department of Transportation and Development, Office of Public Works and Intermodal Transportation, in particular, wishes to commend the Appropriations Subcommittees on Energy and Water Development and express our appreciation for the foresight and understanding exhibited for water resources projects which are vital to the national interest. We solicit your further consideration of the recommendations presented herein.

MISSISSIPPI RIVER AND TRIBUTARIES—SUMMARY OF RECOMMENDED APPROPRIATIONS FOR  
FISCAL YEAR 2003—STATE OF LOUISIANA

Louisiana Projects	Budget Schedule	Louisiana Request
<b>Operation and Maintenance:</b>		
Mississippi River Levees .....	\$6,875,000	\$3,456,000
Atchafalaya Basin .....	12,512,000	17,152,000
Channel Improvement .....	14,610,000	14,610,000
Old River Control Structure .....	11,520,000	25,299,000
Bonnet Carre Spillway .....	3,105,000	3,105,000
Lower Red River-Bayou Rapides Drainage Structure & Pumping Plant .....	125,000	2,375,000
Boeuf & Tensas Rivers .....	2,463,000	3,713,000
Red River Backwater Area .....	3,145,000	3,595,000
Atchafalaya Basin, Floodway System, LA .....	2,095,000	2,095,000
Baton Rouge Harbor-Devil Swamp, LA .....	210,000	210,000
Bayou Cocardie and Tributaries .....	75,000	75,000
Mississippi Delta Region, Caernarvon, LA .....	860,000	860,000
Inspection of Completed Works .....	751,000	751,000
Mapping .....	750,000	750,000
Dredging .....	6,970,000	6,970,000
Revetments & Dikes (AR, LA, MS) .....	13,170,000	13,170,000
<b>Construction:</b>		
Mississippi River Levees .....	29,100,000	30,600,000
Louisiana State Penitentiary Levee .....	2,449,000	2,449,000
Atchafalaya Basin .....	18,873,000	21,873,000

MISSISSIPPI RIVER AND TRIBUTARIES—SUMMARY OF RECOMMENDED APPROPRIATIONS FOR  
FISCAL YEAR 2003—STATE OF LOUISIANA

Louisiana Projects	Budget Schedule	Louisiana Request
Channel Improvements .....	21,350,000	23,750,000
Atchafalaya Basin, Floodway System .....	7,107,000	10,200,000
Mississippi Delta Region, Davis Pond .....	3,500,000	3,500,000
Mississippi & Louisiana Estuarine Area (Bonnet Carre) .....	25,000	25,000
General Investigations:		
Morganza to the Gulf of Mexico .....	2,880,000	8,000,000
Donaldsonville to the Gulf of Mexico .....	780,000	1,300,000
Alexandria to the Gulf of Mexico .....	420,000	700,000
Spring Bayou .....	480,000	1,200,000
Tensas River Basin, LA .....	0	200,000
West Baton Rouge Parish, LA (recon) .....	0	750,000
Collection & Study of Basic Data .....	445,000	445,000

NOTE: The projects listed above are only those in Louisiana (except where noted) and directly affect the State. We realize that there are other projects in the Valley. We endorse the recommendations of the Mississippi Valley Flood Control Association.

FLOOD CONTROL, NAVIGATION, HURRICANE PROTECTION AND WATER RESOURCES  
PROJECTS IN LOUISIANA

The Louisiana Department of Transportation and Development, Office of Public Works and Intermodal Transportation, is the agency designated to represent the State of Louisiana for the coordinated planning and development of water resources, including flood control, navigation, drainage, water conservation and irrigation projects; therefore, this statement is presented on behalf of the State of Louisiana and its twenty levee boards. We are pleased to present the recommendations for fiscal year 2003 appropriations for Louisiana projects. The projects listed herein are in addition to those covered in the statement by the Office of Public Works and Intermodal Transportation for the Mississippi River and Tributaries Project.

Louisiana contains the terminus of the Mississippi River, which has the third largest drainage basin in the world. The Mississippi drains 41 percent, or 1¼ million square miles, of the contiguous United States and parts of two Canadian provinces. In addition to the Mississippi River system, Louisiana contends with other interstate waters—the Sabine River, the Red River, the Ouachita River, the Amite River, and the Pearl River. All of these river systems converge toward Louisiana, passing on to the Gulf of Mexico, draining a figure approaching 50 percent of these contiguous 48 states.

Louisiana also plays a strategic part in providing the country with access to world markets through an inland navigation system. Approximately 75 percent of all soybeans, animal feed, and corn grown in the United States are shipped through Louisiana. And almost 50 percent of all rice and cereals. Louisiana has the highest waterborne traffic by state. The river flood control systems work in conjunction with the hurricane and coastal protection systems to form a total integrated protection system to protect us from floods of all types. This integrated system protects the inland navigation system. It also protects the petrochemical industry in Louisiana which has the second largest refining capacity in the country producing approximately 15 billion gallons of gasoline at 19 refineries. Louisiana ranks second in produced natural gas and third for oil production. The pipeline system which supplies much of the country with natural gas and petroleum originates in Louisiana. The petrochemical and oil and gas industries depend almost totally on Federally constructed levee systems to protect them from floods and hurricanes, and depend on the Federally maintained navigation system for transportation. This infrastructure development which benefits the entire country has contributed to the destruction of our marshes and wetlands which still produce a commercial fish and shellfish harvest worth more than \$600 million and 40 percent of the Nation's wild fur and hides harvest worth more than \$15 million. This wealth of natural resources cannot survive and propagate for the economic benefit of our State and Nation without onshore facilities that require protection from major storms and hurricanes. It would be a national loss if these facilities and infrastructures were not protected. But Louisiana alone cannot support the infrastructure on which the country depends. All these facilities in Louisiana that support and contribute to the economic well being of the country are protected by flood control measures; flood control measures that the Federal Government has appropriately committed itself to provide.

In making the following recommendations regarding construction, studies, and operation and maintenance items, the State of Louisiana would hope that Congress and the Administration will honor their prior commitments to infrastructure development and fund our requests. We feel that water resources projects are probably the most worthwhile and cost-effective projects in the Federal budget, having to meet stringent economic justification criteria not required of other programs. We ask that this be taken into consideration in the final decision to appropriate the available funds.

*Inner Harbor Navigation Canal Lock.—Request: \$30,000,000*

The Inner Harbor Navigation Canal (IHNC) lock has long been considered dimensionally obsolete and is a key to the viability of the Port of New Orleans, the nation's 4th largest.

*West Bank Vicinity of New Orleans, LA.—Request: \$25,000,00*

We urge Congress to provide for an accelerated construction schedule for this project to provide hurricane protection to the metropolitan area of New Orleans.

*Southeast Louisiana Urban Flood Control.—Request: \$100,000,000*

We urge that the approved five-year construction schedule be maintained by authorizing funds to the full capability of the Corps.

*Lake Pontchartrain and Vicinity, Hurricane Protection.—Request: \$14,900,000*

Funding to the full capability of the Corps will allow for the completion of existing construction contracts and to continue with other required work.

*Mississippi River Ship Channel, Baton Rouge to Gulf.—Request: \$200,000*

The funds will be used to complete existing construction contracts for saltwater intrusion mitigation to the water supply of Plaquemines Parish.

*New Orleans to Venice.—Request: \$3,500,000*

This is a hurricane protection project for Plaquemines Parish. The funds requested are needed to continue construction of this important hurricane protection project.

*Larose to Golden Meadow.—Request: \$410,000*

This is a hurricane protection project which will protect the developed areas along Bayou Lafourche. Funds are needed to complete this project.

*Ouachita River Levees.—Request: \$3,600,000*

The Ouachita River Levees are deficient and need to be brought up to Federal standards. We request that specific language be added to the appropriations bill to direct the Secretary of the Army to accomplish this task.

*J. Bennett Johnston (Red River) Waterway.—Request: \$29,000,000*

Remaining work consists of additional channel training works, purchase of mitigation lands and construction of recreation features. We urge the approval of funds for fiscal year 2003 based on the previously approved schedule.

*Grand Isle and Vicinity.—Request: \$213,000*

Funds are requested to complete the study.

*East Baton Rouge Parish, LA.—Request: \$1,000,000*

The funds requested are needed initiate construction.

*Lake Pontchartrain Westshore.—Request: \$300,000*

Funds would be used to advance Pre-construction, engineering and design.

*MR-GO Reevaluation Study.—Request: \$16,351,000*

The Environmental Protection Agency, at the request of local officials, has formed a task force to re-examine the navigation project based on the amount of economic benefits and the safety issues of possible storm damage.

*Orleans Parish, LA.—Request: \$25,000*

This project is in addition to the Southeast Urban Flood Control projects already under construction in Orleans Parish. The funds requested would be used to advance pre-construction engineering and design.



*Jefferson Parish, LA.—Request: \$25,000*

This project is in addition to the Southeast Urban Flood Control projects already under construction in Jefferson Parish. The funds requested would be used to advance pre-construction engineering and design.

*Calcasieu Lock, LA.—Request: \$800,000*

The Calcasieu Lock is becoming congested due to an increase in traffic. The funds will be used to advance the feasibility study.

*St. Bernard Parish, Urban Flood Control.—Request: \$500,000*

Flood control improvements are needed to reduce the repetitive damages to residential development, which is consistent with Administration policy. The funds will be used to advance the feasibility study.

*New Study Requests.—Request: \$200,000*

Several new study requests will address a comprehensive look at the hurricane protection system, urban flood control, ecosystem restoration and beneficial use of dredged material. See attached Summary Sheet for individual projects.

*Continuing Authorities Projects*

We urge you to discontinue the practice of earmarking funds and to raise the program limits for Section 205 projects to \$60 million.

*Coastal Wetlands Planning, Protection and Restoration Act*

The passage of the Coastal Wetlands Planning, Protection and Restoration Act has been a positive force for Louisiana. We support the continued funding for this program.

*Red River Basin Chloride Control Project.—Request: \$2,000,000*

The funds are needed to continue environmental monitoring and completion of the Ouchita River re-evaluation studies.

*Operation and Maintenance.—Request: Full Capability*

It is essential that operation and maintenance not be delayed which would hamper the effectiveness of the projects and cause more expensive maintenance at a later date. We urge you to continue funding O&M to the Corps' full capability.

*Conclusion*

"The 2003 Budget targets funds to those waterways that provide the greatest economic return, and substantially reduces funding for those that provide minor commercial navigation benefits." That statement is from the President's Budget. It is in direct contradiction with the Constitution of the United States of America, Article I, Section 9, which states: "No Preference shall be given by any Regulation of Commerce or Revenue to the Ports of one State over those of another; nor shall Vessels bound to, or from, one State, be obliged to enter, clear, or pay Duties in another." Clearly, the President's budget gives preference to ports that are on the so-called efficient waterways over the ports that are on the underutilized channels. This preference is not supported by the Senate who likened the waterways to the interstate highway system in Senate Report 107-39. The Senate understands the importance of the smaller channels that feed into the main arteries of commerce. We believe that this budget policy, if allowed to become reality, would devastate the national economy. We need to think and practice "intermodalism" throughout the government. It does no good for the Department of Transportation to promote intermodal transportation when the administration is actively neglecting the maintenance of the waterway infrastructure. We urge your continued support for our marine transportation infrastructure.

We wish to express our thanks to the Appropriations Subcommittees on Energy and Water Development of the House and Senate for allowing us to present this brief on the needs of Louisiana. Without reservation, practically every single project in Louisiana which has been made possible through actions of these committees has shown a return in benefits many times in excess of that contemplated by the authorizing legislation. The projects which you fund affect the economy of not only Louisiana, but the nation as a whole. The State of Louisiana appreciates the accomplishments of the past and solicits your consideration of the appropriations requested for fiscal year 2003.

FLOOD CONTROL, NAVIGATION, HURRICANE PROTECTION AND WATER RESOURCES PROJECTS IN  
LOUISIANA—SUMMARY OF RECOMMENDED APPROPRIATIONS FISCAL YEAR 2003

Louisiana Projects	Budget Schedule	Louisiana Request
<b>Construction:</b>		
Inner Harbor Navigation Canal Lock .....	\$9,000,000	\$30,000,000
West Bank Vicinity of New Orleans, LA .....	5,000,000	25,000,000
Southeast Louisiana Urban Flood Control .....	20,083,000	100,000,000
Lake Pontchartrain and Vicinity, Hurricane Prot. ....	4,900,000	14,900,000
Mississippi River Ship Channel, LA .....	200,000	200,000
New Orleans to Venice, Hurricane Protection .....	900,000	3,500,000
Larose to Golden Meadow, Hurricane Protection .....	410,000	410,000
Ouachita River Levees .....	0	3,600,000
J. Bennet Johnston (Red River) Waterway, LA .....	11,016,000	29,000,000
Grand Isle and Vicinity .....	0	213,000
Comite River Diversion .....	3,000,000	7,000,000
MR-GO Reevaluation Study .....	0	1,711,000
East Baton Rouge Parish, LA .....	0	1,000,000
Ascension Parish (Environmental Infrastructure), LA .....	0	1,000,000
East Baton Rouge Parish (Environmental Infrastructure), LA .....	0	6,574,000
Livingston Parish (Environmental Infrastructure), LA .....	0	1,000,000
Red River Chloride Control .....	( <sup>1</sup> )	.....
<b>Pre-construction Engineering and Design:</b>		
Lafayette Parish, LA .....	125,000	750,000
Orleans Parish, LA .....	25,000	25,000
Jefferson Parish, LA .....	25,000	25,000
West Shore, Lake Pontchartrain, LA .....	100,000	300,000
Intracoastal Waterway Locks (Bayou Sorrel), LA .....	110,000	500,000
<b>Authorized Studies:</b>		
Calcasieu Lock .....	150,000	800,000
Louisiana Coastal Area-Ecosystem Restoration Feasibility Study (COAST 2050) .....	785,000	5,000,000
St. Bernard Parish, Urban Flood Control .....	150,000	500,000
St. John the Baptist Parish, LA .....	100,000	300,000
Calcasieu River Basin, LA .....	150,000	700,000
Amite River & Tributaries, LA-Bayou Manchac .....	100,000	700,000
Amite River Ecosystem Restoration .....	150,000	600,000
Atchafalaya, Chene, Boeuf and Black .....	100,000	500,000
Hurricane Protection Improvements .....	125,000	1,000,000
St. Charles Parish, Urban Flood Control .....	100,000	450,000
Plaquemines Parish, Urban Flood Control .....	100,000	500,000
Port of Iberia, LA .....	185,000	685,000
Ouachita River Bank Stabilization (AR, LA) .....	37,000	37,000
<b>New Study Requests:</b>		
Millenium Port, LA .....	0	100,000
Port Fourchon Enlargement, LA .....	0	100,000
Pearl River, Bogalusa (MS) .....	0	500,000
<b>Operation and Maintenance:<sup>2</sup></b>		
Atchafalaya River, Bayous Chene, Boeuf & Black .....	14,681,000	19,181,000
Barataria Bay Waterway .....	0	5,060,000
Bayou Lafourche .....	1,085,000	1,085,000
Calcasieu River & Pass .....	15,852,000	21,352,000
Gulf Intracoastal Waterway .....	19,129,000	27,464,000
Miss River, Baton Rouge to the Gulf .....	57,482,000	66,162,000
Mississippi River Gulf Outlet .....	13,061,000	16,351,000
Miss River Gulf Outlets at Venice .....	80,000	2,755,000
Ouachita & Black Rivers (AR, LA) .....	6,491,000	10,795,000
J Bennett Johnson WW .....	7,297,000	16,764,000
Lake Providence Harbor .....	20,000	441,000
Madison Parish Port .....	5,000	97,000

<sup>1</sup> Full capability.

<sup>2</sup> Note: The following is only a partial listing of the most severely under budgeted projects.

PREPARED STATEMENT OF FIFTH LOUISIANA LEVEE DISTRICT

With the combined efforts of the Washington delegation, the Mississippi Valley Flood Control Association, the Vicksburg District, Corp of Engineers, the State of Louisiana, and the Fifth Louisiana Levee District, great strides have been made in recent years regarding flood protection for the people of Louisiana. Vulnerable areas, levee stretches insufficient in height, have been reduced significantly. Completing construction of the remaining Levee enlargement projects, as planned, at the earliest date(s) possible, is the only way to insure that investments already made in the mainline Mississippi River Levee System are protected.

It is also the only way to insure that the people of Louisiana are protected. As long as any section of the Mississippi River Levee System is deficient, people are at risk. The Levee System in Louisiana and Mississippi must be brought to heights and capabilities equal to that of the levees to the north.

The Mississippi Valley Flood Control Association has requested a total appropriation of \$391,000,000 (copy attached) in fiscal year 2003 for Mississippi River and Tributaries (MR&T), to be divided among the seven states covered by the Project.

To guarantee that the Vicksburg District, Corp of Engineers is able to proceed with construction plans for the Mississippi River Levee System and ensure that MR&T construction schedules are met, it is essential that the \$25,500,000 "capability", as requested and allocated for construction of Levees within the Division, be funded.

The people of Louisiana spend six months each year contending with the possibility of being flooded by waters descending from the northern reaches of this nation, and the other six months contending with the competing demands on the water resources of the area, especially in the Tensas River Basin in Louisiana. Demands for water use and the decline of environmental resources combine to create a perpetual problem to the health and economy of the Basin.

Additional funds in the amount of \$250,000, allocated for Tensas River Basin, Louisiana, Reconnaissance Study, are needed in order for the Corps of Engineers to complete a thorough study that is required to ensure proper and efficient use of the Basin's water resources, a study investigating a comprehensive watershed approach to the problem. I urge support of that request for funding.

*Mississippi Valley Flood Control Association—Fiscal Year 2003 Civil Works  
Requested Budget, Mississippi River and Tributaries Appropriations*

<i>PROJECT AND STATE</i>	<i>MVFCR REQUEST</i>
<b>SURVEYS, CONTINUATION OF PLANNING AND ENGINEERING &amp; ADVANCE ENGINEERING &amp; DESIGN:</b>	
Memphis Metro Area, TN & MS .....	\$25,000
Germantown, TN .....	345,000
Wolf River, Memphis, TN .....	123,000
Millington, TN .....	150,000
Coldwater Basin Below Arkansas .....	180,000
Alexandria, LA to the Gulf of Mexico .....	420,000
Morganza, LA to the Gulf of Mexico .....	2,880,000
Donaldsonville, LA to Gulf of Mexico .....	780,000
Spring Bayou, LA .....	505,000
Collection & Study of Basic Data .....	600,000
<b>SUBTOTAL—SURVEYS, CONTINUATION OF PLANNING &amp; ENGINEERING &amp; ADVANCE ENGINEERING &amp; DESIGN .....</b>	<b>6,008,000</b>
<b>CONSTRUCTION:</b>	
St. John's Bayou-New Madrid Floodway, MO .....	5,020,000
Eight Mile Creek, AR .....	1,960,000
Helena & Vicinity, AR .....	1,360,000
Grand Prairie Region, AR .....	12,200,000
West Tennessee Tributaries, TN .....	100,000
Nonconnah Creek, TN .....	1,995,000
Reelfoot Lake, TN .....	710,000
St. Francis Basin, MO & AR .....	4,270,000
Yazoo Basin, MS .....	46,300,000
Atchafalaya Basin, LA .....	28,210,000

*Mississippi Valley Flood Control Association—Fiscal Year 2003 Civil Works  
Requested Budget, Mississippi River and Tributaries Appropriations—Continued*

<i>PROJECT AND STATE</i>	<i>MVFCA REQUEST</i>
Atchafalaya Basin Floodway .....	10,000,000
MS Delta Region, LA .....	3,500,000
Horn Lake Creek, MS .....	509,000
MS & LA Estaurine Area, MS & LA .....	25,000
Louisiana State Penitentiary, LA .....	2,449,000
Channel Improvements, IL, KY, MO, AR, TN, MS & LA .....	39,140,000
Mississippi River Levees, IL, KY, MO, AR, TN, MS & LA .....	50,285,000
SUBTOTAL—CONSTRUCTION .....	208,033,000
SUBTOTAL—MAINTENANCE .....	200,837,000
SUBTOTAL—MISSISSIPPI RIVER & TRIBUTARIES .....	414,878,000
LESS REDUCTION FOR SAVINGS & SLIPPAGE .....	- 30,878,000
TOTAL—MISSISSIPPI RIVER & TRIBUTARIES .....	384,000,000
FULL FUNDING FOR FEDERAL RETIREE COSTS .....	7,000,000
GRAND TOTAL—MISSISSIPPI RIVER & TRIBUTARIES ...	391,000,000

PREPARED STATEMENT OF ST. FRANCIS LEVEE DISTRICT OF ARKANSAS

EXECUTIVE SUMMARY

The Lower Mississippi Valley Flood Control Association fiscal year 2003 Civil Works Budget, Mississippi River and Tributaries Appropriations—Requesting Appropriations of \$4,270,000 for Construction and \$12,900,000 for Maintenance and Operation in the St. Francis Basin Project and a Total of \$391,000,000 for the Mississippi River Tributaries Project.

BACKGROUND INFORMATION

My name is Rob Rash, and my home is in Marion, Arkansas, located on the West side of the Mississippi River and in the St. Francis Basin. I am the Chief Engineer of the St. Francis Levee District of Arkansas. Our District is the local cooperation organization for the Mississippi River and Tributaries Project and the St. Francis Basin Project in Northeast Arkansas. Our District is responsible for the operation and maintenance of 160 miles of Mississippi River Levee and 75 miles of St. Francis River Tributary Levee in Northeast Arkansas.

The St. Francis Basin is comprised of an area of approximately 7,550 square miles in Southeast Missouri and Northeast Arkansas. The basin extends from the foot of Commerce Hills near Cape Girardeau, Missouri to the mouth of the St. Francis River, seven miles above Helena, Arkansas, a total distance of 235 miles. It is bordered on the east by the Mississippi River and on the West by the uplands of Bloomfield and Crowley's Ridge, having a maximum width of 53 miles.

The Mississippi River and Tributaries Project and the St. Francis Basin Project provide critical flood protection to over 2,500 square miles in Northeast Arkansas alone. This basin's flood control system is the very lifeblood of our livelihood and prosperity. Our resources and infrastructure are allowing the St. Francis Basin and the Lower Mississippi Valley to develop into a major commercial and industrial area for this great nation. The basin is quickly becoming a major steel and energy production area. The agriculture industry in Northeast Arkansas and the Lower Mississippi Valley continues to play an integral role in providing food and clothing for this nation. This has all been made possible because Congress has long recognized that flood control in the Lower Mississippi Valley is a matter of national interest and security and has authorized the U.S. Army Corps of Engineers to implement a flood control system in the Lower Mississippi Valley that is the envy of the civilized world. With the support of Congress over the years, we have continued to develop our flood control system in the Lower Mississippi Valley through the Mississippi River and Tributaries Project and for that we are extremely grateful.

Although, at the current level of project completion, there are areas in the Lower Mississippi Valley that are subject to major flooding on the Mississippi River. The level of funding that has been included in the President's Budget for the overall Mississippi River and Tributaries Project is not sufficient to adequately fund and maintain this project. The level of funding will require the citizens of the Lower Mississippi Valley to live needlessly in the threat of major flood devastation for the

next 30 years. Timely project completion is of paramount importance to the citizens of the Lower Mississippi. Ten and Fifteen Mile Bayou improvements are just one of many construction projects necessary for flood relief in the St. Francis Basin. Ten and Fifteen Mile Bayou improvements were reauthorized by Congress through the Flood Control Act of 1928, as amended. Section 104 of the Consolidated Appropriation Act of 2001 modified the St. Francis Basin to expand the project boundaries to include Ten and Fifteen Mile Bayous and shall not be considered separable elements. The first item of work cannot begin until the Design Document Review and Environmental Assessment are completed in April 2002 for the total project length of 38 miles. Total project length includes Ten and Fifteen Mile Bayou, Ditch No. 15 and the 10 Mile Diversion Ditch that provide drainage for the West Memphis and Vicinity. Without additional funds, construction would be delayed and West Memphis and Vicinity will continue to experience record flooding as of December 17, 2001. West Memphis and Vicinity would experience immediate flood relief when the first item of construction is completed.

PROPOSED FUNDING

We support the amount of 391,000,000 requested by the Mississippi Valley Flood Control Association for use in the overall Mississippi River and Tributaries Project. This is the minimum amount that the Executive Committee of the Association feels is necessary to maintain a reasonable time line for completion of the overall Mississippi River and Tributaries Project. Also, the amounts that have been included in the President's Budget for the St. Francis Basin Project; construction, operation and maintenance have not been sufficient to fund critical projects. These declined amounts have resulted in a significant backlog of work within the St. Francis Basin. Therefore, our District is requesting additional capabilities of 12,900,000 for the St. Francis Basin Project construction funds and \$4,270,000 for the St. Francis Basin operation and maintenance funds. The amounts requested for the St. Francis Basin Project are a part of the total amounts requested for the Mississippi River and Tributary Appropriations of the Civil Works Budget.

SUMMATION

As your subcommittee reviews the Civil Works Budget of fiscal year 2003 Appropriations for the Mississippi River and Tributaries Project, please consider the significance of this project to the Lower Mississippi Valley and the Nation's, economy and infrastructure. As always, I feel the Subcommittee will give due regard to the needs of the Lower Mississippi River Valley as it considers appropriations for the Mississippi River and Tributaries Project. I would like to sincerely thank the Subcommittee for its past and continued support of the Mississippi River and Tributaries Project.

Also, I would like to express our continued support for the U.S. Army Corps of Engineers and the fine water resource projects that they perform. However, we find the Corps under constant attack from a variety of organizations and special interests groups. A few members of Congress are even proposing to reform the Corps. In our opinion, leadership at the Corps is of the highest level of professional integrity, and the processes in place result in projects that are essential to the well being of our great nation. I can think of no other agency that provides such a vital service to the citizens of this country. The Corps of Engineers is the worlds' premiere engineering and construction agency. They have the expertise and technical ability to perform any task or solve any problem the nation could possibly face. We depend on their services daily. I would like to respectfully request that you and your Subcommittee help us defend the U.S. Army Corps of Engineers from these unjustified attacks and accusations and to promote them as the fine agency that they are and have been for the past 226 years.

MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION—FISCAL YEAR 2003 CIVIL WORKS  
REQUESTED BUDGET—MISSISSIPPI RIVER AND TRIBUTARIES APPROPRIATIONS

Project and State	President's Budget	Recommended Program
SURVEYS, CONTINUATION OF PLANNING AND ENGINEERING & ADVANCE ENGINEERING & DESIGN:		
Memphis Metro Area, TN & MS .....	\$25,000	\$0
Memphis Harbor, TN .....	0	700,000
Germantown, TN .....	345,000	545,000
Wolf River, Memphis, TN .....	123,000	123,000

MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION—FISCAL YEAR 2003 CIVIL WORKS  
REQUESTED BUDGET—MISSISSIPPI RIVER AND TRIBUTARIES APPROPRIATIONS

Project and State	President's Budget	Recommended Program
Millington, TN .....	150,000	150,000
Bayou Meto Basin, AR .....	0	1,880,000
Southeast Arkansas .....	0	900,000
Boydsville, AR .....	0	150,000
Coldwater Basin Below Arkansas .....	180,000	300,000
Alexandria, LA to the Gulf of Mexico .....	420,000	700,000
Morganza, LA to the Gulf of Mexico .....	2,880,000	7,500,000
Donaldsonville, LA to Gulf of Mexico .....	780,000	1,300,000
Spring Bayou, LA .....	505,000	1,250,000
Tensas River, LA .....	0	200,000
Donaldsonville Port Development, LA .....	0	100,000
Collection & Study of Basic Data .....	600,000	600,000
<b>SUBTOTAL—SURVEYS, CONTINUATION OF PLANNING &amp; ENGINEERING &amp; ADVANCE ENGINEERING &amp; DESIGN .....</b>	<b>6,008,000</b>	<b>16,398,000</b>
<b>CONSTRUCTION:</b>		
St. John's Bayou-New Madrid Floodway, MO .....	100,000	5,020,000
Eight Mile Creek, AR .....	750,000	1,960,000
Helena & Vicinity, AR .....	660,000	1,360,000
Grand Prairie Region, AR <sup>1</sup> .....	0	12,200,000
West Tennessee Tributaries, TN .....	100,000	100,000
Nonconnah Creek, TN .....	605,000	1,995,000
Reelfoot Lake, TN .....	0	710,000
St. Francis Basin, MO & AR .....	1,970,000	4,270,000
Yazoo Basin, MS <sup>2</sup> .....	10,550,000	35,875,000
Atchafalaya Basin, LA .....	18,873,000	28,210,000
Atchafalaya Basin Floodway .....	7,010,000	10,000,000
MS Delta Region, LA .....	3,500,000	3,500,000
Horn Lake Creek, MS .....	300,000	509,000
MS & LA Estaurine Area, MS & LA .....	25,000	25,000
Louisiana State Penitentiary, LA .....	2,449,000	2,449,000
Channel Improvements, IL, KY, MO, AR, TN, MS & LA .....	36,690,000	39,140,000
Mississippi River Levees, IL, KY, MO, AR, TN, MS & LA .....	42,360,000	50,285,000
<b>SUBTOTAL—CONSTRUCTION .....</b>	<b>125,942,000</b>	<b>197,608,000</b>
<b>SUBTOTAL—MAINTENANCE .....</b>	<b>162,135,000</b>	<b>200,837,000</b>
<b>SUBTOTAL—MISSISSIPPI RIVER &amp; TRIBUTARIES .....</b>	<b>294,085,000</b>	<b>414,843,000</b>
<b>LESS REDUCTION FOR SAVINGS &amp; SLIPPAGE .....</b>	<b>- 13,085,000</b>	<b>- 30,843,000</b>
<b>TOTAL—MISSISSIPPI RIVER &amp; TRIBUTARIES .....</b>	<b>281,000,000</b>	<b>384,000,000</b>
<b>FULL FUNDING FOR FEDERAL RETIREE COSTS .....</b>	<b>7,000,000</b>	<b>7,000,000</b>
<b>GRAND TOTAL—MISSISSIPPI RIVER &amp; TRIBUTARIES .....</b>	<b>288,000,000</b>	<b>391,000,000</b>

<sup>1</sup> Capability—\$45,000,000.

<sup>2</sup> Capability—\$44,775,000.

PREPARED STATEMENT OF THE BOARD OF LEVEE COMMISSIONERS FOR THE YAZOO-  
MISSISSIPPI DELTA

This statement today, made on behalf of the citizens represented by the Yazoo-Mississippi Delta Levee Board, is not only in support of the funding request contained herein, but also for the general funding testimony offered for fiscal 2003 by the Mississippi Valley Flood Control Association. The Association is requesting funding in the amount of \$391 million for the Mississippi River and Tributaries Project (MR&T), an amount based on the Association's professional assessment of the capabilities of the U.S. Army Corps of Engineers, Mississippi Valley Division.

A copy of my remarks is included and I ask that it be made a part of the record. In the aftermath of the devastating and historic Great Flood of 1927, the Flood Control Act of 1928 established as national priority, the development of a comprehensive flood control plan to reduce the likelihood of such a horrific events ever happening again in the lower Mississippi valley. As we look back, now 74 years later, the MR&T has returned \$23 in benefits for every dollar expended-truly an American public works success story.

Significantly, however, a substantial amount of uncompleted work on the project remains, necessarily exposing many areas to the risks of flooding. Consequently, the Yazoo-Mississippi Delta Levee Board asks Congress to provide funding at a level which will allow the MR&T to continue at a pace commensurate with the national priority to protect people and property from the ravages of flooding. In order to avoid the sorts of delays which can result in the loss of life and livelihoods, we must again depend upon the good men and women of Congress to add the necessary funding to the Administration's budget which will allow the Corps of Engineers to proceed with its work at full capacity.

A brief summation of and justification for our request, along with a line-item chart reflecting existing and needed funding levels for MR&T projects in Mississippi follows, with special emphasis given to those projects most critical to our levee district:

#### MISSISSIPPI RIVER LEVEES AND CHANNELS IMPROVEMENT

Of special interest to our district is the ongoing joint effort between our board and the Memphis District, U.S. Army Corps of Engineers, to address significant under-seepage and boils which occur during high river stages at the Hillhouse area of Coahoma County. A system of relief wells is planned and we urgently hope that adequate funding for this, and other efforts to strengthen and enlarge the Mainline Mississippi River Levee will be available. Overall, the needs for levees and channels in Mississippi and neighboring states totals \$50.285 million, with an additional \$2.375 million in maintenance funds required in Mississippi for additional gravel surfacing and operational costs, along with \$13.170 million earmarked for bank stabilization and shoreline protection.

#### UPPER YAZOO PROJECTS (UYP)

The number one priority for the Yazoo-Mississippi Delta Levee Board, the Upper Yazoo Project was originally conceived in 1936. This project includes a system of flood control reservoirs which discharge into a system of channels and levees intended to safely convey headwater from the hills to the Mississippi River. While this project has been proceeding smoothly to date, it is absolutely critical to the people of the North Delta that it continue on schedule. The necessity of that was made quite clear by this winter's flooding, all of which was related to problems which would be solved with completion of the UYP. We are requesting that \$18 million be appropriated for fiscal 2003 so that work items 5A, 5B and Item 7 structures might be completed and that the acquisition of mitigation lands might continue.

#### YAZOO HEADWATER FLOOD CONTROL RESERVOIRS

Four major flood control reservoirs exist in Mississippi to control the release of headwater into the Yazoo River system—Sardis, Arkabutla, Enid and Grenada. These have prevented significant flood damages through allowing drainage from the state's hill section to be released into the much lower Delta at controlled rates. The proper maintenance and operation of these reservoirs are essential to all persons residing downstream. All four require both routine maintenance and upgrading, and we are requesting that Congress allocate the needed \$53.457 million so that they can continue to function effectively.

#### BIG SUNFLOWER RIVER CONSTRUCTION AND MAINTENANCE PROJECTS

The primary drainage outlet for 10 counties in Mississippi, the Sunflower River System has been subject to the same siltation factors common to all Delta streams. The Corps of Engineers has determined that the river has a 40 percent reduction in its flow capacity. While the urgently needed completion of this project has been delayed by politics and litigation, it is our belief that these problems will soon be resolved, and we are requesting that Congress allocate \$4.115 million in maintenance funds so that scheduled work items might proceed at that time. Additionally, we are requesting \$1.2 million in construction funds so that Item 66 A/B at Swan Lake might be completed and that mitigation lands might be purchased.

## DEMONSTRATION EROSION CONTROL PROJECT (DEC)

While the Administration's budget contains no funding for these projects—most of which lie outside our district—we strongly feel that the continued funding of DEC is important due to the fact that substantial amounts of the sediments which would be controlled by them would eventually end up within the Coldwater-Tallahatchie-Yazoo River system. Just as now exists with the Big Sunflower, such sedimentation would necessarily result in significant additional maintenance within the overall river system.

## GREENWOOD AND YAZOO CITY

Additional maintenance funds totaling \$2.725 million are needed to continue existing pump plant operations, remove silt and install relief wells.

## MAIN STEM

Maintenance funding in the amount of \$3.239 million is required for needed repairs and rehabilitation of the Cassidy and Whiting Bayou, Wasp Lake and Piney Creek drainage structures.

## YAZOO BACKWATER

Although lying wholly outside our district, we continue to support the Mississippi Levee Board's efforts to reduce the effects of annual backwater flooding in the South Delta. We join in their request for \$14.250 million in additional funding in order to accelerate design and initiate a pumps contract and to acquire right-of-way and easement lands. We also support their request for \$680,000 in maintenance funds to rehabilitate bulkheads at Steele Bayou, Little Sunflower and Muddy Bay drainage structures.

## CONTINUING AUTHORITY PROGRAMS

The YMD Levee Board has committed to assist local governments in co-sponsoring projects that fall under the Corps Continuing Authority Program. There is tremendous need for Section 14, Section 205, and Section 208 programs throughout our district. We urge that Congress fund these authorities to their maximum appropriation limits.

Those of us at the Yazoo-Mississippi Delta Levee Board are deeply appreciative of the enormous support lent our efforts by Congress in the past and it is with full awareness of the challenges facing our great nation that we earnestly request that you support us again in meeting our challenge of keeping the flood waters at bay.

Humbly submitted on behalf of the Yazoo-Mississippi Delta Levee Board and all the citizens it seeks to keep dry.

## PREPARED STATEMENT OF THE LITTLE RIVER DRAINAGE DISTRICT

My name is Dr. Sam Hunter, DVM of Sikeston, Missouri. I am a veterinarian, landowner, farmer and resident of Southeast Missouri.

I am the President of the Little River Drainage District, the largest such entity in the nation. Our District serves as an outlet drainage and flood control District to parts of seven (7) counties in Southeast Missouri. We provide flood control protection to a sizable area of Northeast Arkansas as well. Our District is solely tax supported by more than 3,500 private landowners in Southeast Missouri.

Our District, as well as other Drainage and Levee Districts in Missouri and Arkansas, is located within the St. Francis River Basin. This is a project item of the Mississippi River and Tributaries Project.

The St. Francis Basin Project was authorized by Congress in 1928 for improvements by the U.S. Army Corps of Engineers. The initial authorization was justified by a projected benefit cost ratio of 2.4:1. Today this ratio is 3.6:1 and the project is still not completed. As you can see this has been a wise investment of our federal tax dollars. Few projects or ventures with funding levels provided by the Federal Government return more than they cost. This one does and we need to complete it in a timely fashion.

Local interests have done their part in providing rights of way, roads, utilities and the like. Our government now needs to fulfill their part of the project and bring it to completion as quickly as possible.

The amount allocated for maintenance in the St. Francis Basin Project for fiscal year 2002 was approximately \$11.8 million. This is a slight increase over what had been occurring for the past five (5) years which we saw funding levels average ap-



proximately \$9.5 million. The U.S. Army Corps of Engineers had a capability of approximately \$15 million last year.

We believe the Corps could adequately use approximately \$13 million a year for maintenance within that basin. We respectfully request Congress approve funding for maintenance in the St. Francis Basin Project of \$12.9 million. This is only \$100,000 more than what was allocated in fiscal year 2002 and is only \$2.4 million more than what is in the President's budget. Further we would request \$4.27 million be budgeted for construction money in this project. The \$4.27 million is equal to the Corps capability.

Since the initiation of the project for improvements we have seen many positive changes occur such as:

- Many miles of all weather roads have been constructed and are usable almost daily each year.
- Improved flood control and drainage.
- Development of one of the most fertile and diversified valleys in the world.
- Growth of towns, schools, churches, industry, commerce, and etc.
- Improvement of our environment: malaria, typhoid and other such diseases are no longer the norm but seldom occur.
- A future for our young people to have a desire to remain in the area.
- Production of a variety of food and fiber products.

As you can see many changes have occurred and we who live there welcome them fully. We, local interests, in Southeast Missouri and Northeast Arkansas want this project brought to completion and adequately maintained. We have waited over seventy (70) years and we believe it is now time to complete a wise investment for our nation.

Our requests to you today is to approve funding for the St. Francis Basin Project of \$4,270,000 for construction for the fiscal year 2003 and with funding of not less than \$12,900,000 to perform the required and needed annual maintenance of items within that project which have been completed and which are the responsibility of the U.S. Army Corps of Engineers.

The Corps of Engineers has a capability of more than \$391,000,000 for fiscal year 2003 in the MR&T Project. We ask you to give consideration to provide funding levels at \$391,000,000 for this project for fiscal year 2003. This will provide some new construction but it will also provide the necessary maintenance monies needed each year.

Our great Mississippi River and the other navigable tributaries are valuable assets to our great nation. As far back as 1845 we find records indicating our forefathers and leaders of this nation recognized the Mississippi River as a national problem, a national asset, and a problem local interests could not and should not be responsible for controlling, namely, flood control and navigation. The river has always been a viable asset to our nation and important to the development of our towns along its banks such as New Orleans, Louisiana, Memphis, Tennessee, St. Louis, Missouri, and of course many others along it and its tributaries.

We have locks and dams which are more than fifty (50) years old. They need to be improved and enlarged to meet the needs for our navigation interest to perform in the 21st century. Our competing nations are modernizing and building navigation systems in order to compete with our export of commodities and we need to at least keep pace. We must upgrade our waterways infrastructure in order to compete with the foreign markets and we must improve our aging waterway facilities. No successful private industry does not improve and modernize its internal and external features in order to keep pace with the competition and to meet current demands. Our nation needs to do the same.

It has been proven over and over our waterway transportation system is the safest, the most environmentally acceptable, and the most fuel efficient in moving commodities and materials throughout our nation. It would be totally unacceptable and very unwise to diminish that mode of moving products throughout our nation and expect them to be moved either by rail or by highways. Our highway systems already are in dire need of repair and to add additional demands on them would be extremely costly, very unsafe, and would expend much more fuel which we currently do not have but must import. Hopefully, common sense will prevail and Congress will make the choice to invest into one (1) of the greatest assets we have in our nation. The many locks and dams on our rivers are needed. They were designed to accommodate traffic fifty (50) years ago and it is now time to upgrade, enlarge, and construct them to accommodate the industry as we have it today. We have done the same thing with our vehicular traffic on our roads by upgrading, enlarging, and constructing to meet the modern day demands. It is now time and past time to do the same for our water industry. Former President Eisenhower saw an increase in

our car and truck traffic on the horizon and thus we implemented an extensive interstate system. Let's do something in a similar way on our rivers.

Our nation is the world's leading maritime and trading nation. We rely on an efficient and effective marine transport system to maintain our role as a global power.

Our current waterway system has improved the quality of life and has provided a foundation for economic growth and development in the United States particularly throughout the Mississippi Valley. Our flood control systems work, our transport systems are efficient, our multi-purpose projects all contribute to our national prosperity. The benefits are real, the flood damages are known to have prevented much devastation. Transportation costs have been reduced and increased trade worldwide has increased. Unfortunately our nation has not invested in water resource projects and has not kept pace with the economic and social expansion not only in this country but on global markets as well. Most of our locks and dams are outdated and were designed only for a fifty year life. We have exceeded that on nearly half of those locks. Many of our locks are undersized for modern commercial barge demands and need to be modernized. There is currently \$9 billion needed for waterway improvements in addition to a backlog of approximately \$240,000,000 which we need to address in this country. Our country should have the same vision and the same goal of modernizing and upgrading our waterway system as we upgraded and modernized our interstate system across our country.

Recently the American Society of Civil Engineers provided an independent report card review on America's infrastructure. Features that were graded were roads, bridges, transit systems, aviation schools, drinking water, waste water, dams, solid waste, hazardous waste, navigable waterways, and energy. The highest grade this independent organization gave was a C+ to our solid waste disposal system. The overall average which they gave to our infrastructure was a D+. This is shameful and this needs to be corrected. The ASCE estimates approximately \$1.3 trillion needs to be spent on our infrastructure over the next five (5) years.

What a great way for our country to stimulate its economy and at the same time be building and making investments into a system which will return back more dollars than expended. This would be a "win-win" endeavor for our citizens. It would be:

- A win for our economy as it would put private contractors to work.
- A win for the environment as it would encourage more companies to ship products on our waterways which is the cleanest form of transportation.
- A win for the safety of the movement of those goods throughout our nation. Barge transportation is the safest form of transportation we have.
- A win for our taxpayers. What an encouragement, it should be to the American taxpayer to see our tax dollars invested returning more than was spent. Few, if any, other government programs do that.
- A win for our nation since we are upgrading and improving a part of our infrastructure which is long past due and which will permit fair and open competition with other nations for foreign markets.
- A win for saving fuel to ship tons of commodities by water instead of rail or highways. Barges are the most fuel efficient to move tonnage of products.
- A win for our defense system should the Mississippi River be needed to move wartime materials and weapons through our waterway systems. At least let's have a modern system in place to use should such a need arise.

We have only a few oil producing fields, therefore, we must look for as many means as possible to conserve our fuel. Utilizing and increasing our waterway transportation industry is one (1) way to do that. We need an energy plan and we encourage Congress to incorporate increased use of water to move products throughout our nation as one way to conserve fuel. Every little bit will help when our oil resources are so small domestically.

This past year there has been much unfair criticism of the U.S. Army Corps of Engineers for their study procedures and related work. This organization should have their hands held up high and not with accusing fingers pointed toward them. We say it is about time the Corps Program begins to grow. Certainly it does not need to diminish. No other organization, to my knowledge, must stand before Congress each year and justify by a favorable cost/benefit ratio of why they need the funding to do the work Congress has authorized them to do. The Mississippi and Tributaries Project currently returns back to the Federal Treasury more than \$25 for each dollar spent. In any society and to any investor that is a good return.

The Corps of Engineers does not do anything beyond what Congress has authorized them to do. They can and they will improve our great nation if Congress will only let them and if those groups who oppose them are not given the never ending ability to interfere. Those groups and individuals who oppose the Corps seem to only have to point a finger and we see an investigation occur. They should be required

to provide scientific facts and supporting evidence not “innuendos”, “perhaps”, “maybes”, and “could have” type charges before any consideration is given to their allegations. Simply to delay a project or to cast doubt in the citizens eyes through their good use of our news media means they have been successful. Local interests and those who benefit from the Corps projects are fully aware of the results of their tactics. We are sure Congress in their wisdom will do the same. Your assistance in this matter is extremely important. Congressman Barry from Arkansas and Congresswoman Jo Ann Emerson from Missouri understands the problem. Perhaps many more of the other 433 will be likewise enlightened.

I wish to thank you very much for your time and kind attention and for taking the time to review the above discourse. We would be very appreciative of anything this committee can do to help us improve our environment, improve our livelihood, and improve the area in which we live and work which ultimately is good for America. We are also very appreciative of all this Committee has done for us in the past. We trust you will hear our pleas and act accordingly.

PREPARED STATEMENT OF THE PONTCHARTRAIN LEVEE DISTRICT  
MISSISSIPPI RIVER AND TRIBUTARIES FLOOD CONTROL PROJECT  
SUMMARY FISCAL YEAR 2003 RECOMMENDED APPROPRIATIONS

Project	Budget	Recommended
Mississippi River & Tributaries Flood Control Project .....	\$288,000,000	\$391,000,000

The Mississippi River and Tributaries Flood Control Project has been under construction as an authorized project for about 73 years, and yet there are a number of segments not yet complete. Although most levees are complete to grade and section in south Louisiana an extensive reach from the Old River Control Structure in lower Concordia Parish upstream to the Lake Providence area is still below grade. Should these levees be overtopped during a major flood, those people in south Louisiana know full well those flood waters are going to head southward. Other items not yet complete are slope protection and crown surfacing. It is recommended that a minimum of \$50,285,000 be appropriated for Mississippi River Levees.

The second item of indispensable importance to Pontchartrain Levee District and the State of Louisiana is Channel Improvements. Main line levees must be protected from caving banks throughout this lower river reach where extremely narrow battures are the last line of defense against levee crevasses and failures. If caving banks are not controlled the only answer is “setback”. Simply stated there is no room remaining for levee setbacks in the Pontchartrain Levee District. Revetment construction must be annually funded to prevent levee failures, land losses and relocations. This item also benefits the 55-foot depth navigation channel. The Pontchartrain Levee District recommends at least \$39,140,000 be appropriated for fiscal year 2003 for Mississippi River Channel Improvements.

COMMENTS

The Pontchartrain Levee District has full realization of the necessity of keeping these Subcommittees advised of current and future needs for federal monetary support on vital items of the MR&T Flood Control Project. Beginning in 1995 the Subcommittees refused to give audience to the Mississippi Valley Flood Control Association. This year no oral testimony will be heard. Again, this is a great travesty of justice. Such actions seriously erode the partnership that has been built between Congress, the Corps of Engineers and local sponsors.

We trust that this pattern will revert back to the sixty-three year practice of hearing our delegation. Five representatives from the Pontchartrain Levee District are present today desiring to present views to the Subcommittees—they are:

- Commissioners: Joseph Gautreau, President; Jesse J. Bartley; and Steven Wilson.
- Staff: Mike Babin, Program Administrator; and Susan Canatella, Secretary to the Board.

CONCLUSION

The Board of Commissioners, Pontchartrain Levee District, compliments the Subcommittees on Energy and Water Development for its keen understanding of real needs for the MR&T Flood Control Project along with Hurricane Protection and effi-

cient, alert actions taken to appropriate funds for the many complex requirements. We endorse recommendations presented by the Association of Levee Boards of Louisiana, Department of Transportation and Development, Mississippi Valley Flood Control Association and Red River Valley Association.

PREPARED STATEMENT OF ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of this distinguished Committee, my name is Wallace Gieringer. I am retired as Executive Director of the Pine Bluff-Jefferson County (Arkansas) Port Authority. It is my honor to serve as Chairman of the Arkansas River Basin Interstate Committee, members of which are appointed by the governors of the great states of Arkansas, Colorado, Kansas, Missouri, and Oklahoma.

In this time of war on terrorism, homeland defense and needed economic recovery, our thanks go to each of you, your staff members and the Congress. Your efforts to protect our nation's infrastructure and stimulate economic growth in a time of trial and budget constraints are both needed and appreciated.

Our nation's growing dependence on others for energy, and the need to protect and improve our environment, make your efforts especially important. Greater use and development of one of our nation's treasures—our navigable inland waterways—will help remedy these problems. At the same time, these fuel-efficient and cost-effective waterways keep us competitive in international markets.

As Chairman of the Interstate Committee, I present this summary testimony as a compilation of the most important projects from each of the member states. Each of the states unanimously supports these projects without reservation. I request that the copies of each state's individual statement be made a part of the record, along with this testimony.

*Montgomery Point Lock and Dam*

The Interstate Committee continues to identify Montgomery Point Lock and Dam as our top priority. As completion of construction nears, we respectfully request a \$25 million Congressional Add for a total budget of \$45 million for fiscal year 2003 to insure that this urgently needed lock and dam is in operation as soon as possible at the lowest possible cost. Scheduled to be operational in 2003, Montgomery Point will protect over \$5 billion in public and private investments, some fifty thousand jobs, world trade, growing military shipments and future economic development. Continuing problems caused by the lowering of the Mississippi River continue to plague McClellan-Kerr entrance channel users. During times of low water on the Mississippi River the entrance channel is drained of navigable water depth. As the Mississippi River bottom continues to lower, the McClellan-Kerr moves toward total shutdown. Thus, the entire Arkansas River Navigation System is at risk, and its long-term viability is threatened without Montgomery Point.

Use of the temporary by-pass channel increases navigation hazards and existing dredge disposal areas are virtually full. Ongoing dredging and disposal of material can mean environmental damage. Construction needs to continue as rapidly as possible before limited dredge disposal areas become inadequate.

The good news is that you, your associates and the Congress have all recognized the importance of constructing Montgomery Point! Appropriations of \$176.3 million have been made to date for engineering, site acquisition and construction for this project. Mr. Chairman and Members of the Committee, continuing Congressional support is essential at this crucial time in the history of the project.

The Interstate Committee also respectfully recommends the following as important priorities:

*Backlog of Major Maintenance—Arkansas*

A \$2 million Congressional Add to the fiscal year 2003 O&M funding for the McClellan-Kerr Arkansas River Navigation System in Arkansas is vitally important. These additional funds will help repair bank stabilization and other navigational system components that have deteriorated over the past three decades.

The O&M funding level has been stagnant for the past 10 years while cost and maintenance needs have continued to increase. Your help in adding \$2 million to the project will reduce the critical backlog of needed maintenance repairs, the lack of which cause impediments to commercial navigation.

*Equus Beds Aquifer—Kansas*

Equus Beds Aquifer Storage and Recovery Project—the continuation of a Bureau of Reclamation project jointly endorsed by the City of Wichita, Groundwater Management District No. 2 and the State of Kansas. This model, nationally acclaimed technology has proven the feasibility of recharging and providing environmental pro-

tection to a major groundwater aquifer supplying water to irrigation, municipal and industrial users. The demonstration project has successfully recharged more than one billion gallons.

Governor Graves supports this much-needed project in order to secure the quality of life and economic future for more than 20 percent of the state's population.

We are grateful for your previous cost share funding during the demonstration phase. We request continued Congressional support:

—By authorizing as a Federal project, the Aquifer Storage and Recovery Project and directing the Bureau of Reclamation to participate in its final design and construction to completion as funding is available.

—Through continued cost share funding for Phase One of the full-scale Aquifer Storage and Recovery Project in the minimum amount of \$1,500,000 for fiscal year 2003.

*Tow Haulage Equipment—Oklahoma*

We also request funding of \$2.5 million to initiate the installation of tow haulage equipment on the locks located along the Arkansas River Portion of the McClellan-Kerr Arkansas River Navigation System. Total cost for these three locks is \$4.5 million. This project will involve installation of tow haulage equipment on W.D. Mayo Lock and Dam #14, Robert S. Kerr Lock and Dam #15, and Webbers Falls Lock and Dam #16, on the Oklahoma portion of the waterway. The tow haulage equipment is needed to make transportation of barges more efficient and economical by allowing less time for tows to pass through the various locks.

The testimony we present reveals our firm belief that our inland waterways and the Corps efforts are especially important to our nation in this time of trial. National treasures, like the inland waterways, need be cared for, nurtured and protected for the benefit of the populace. Without adequate annual budgets this is impossible.

We strongly urge the Appropriations Committee to increase the Corps' fiscal year 2003 budget so that long deferred system-wide maintenance may be accomplished and delayed construction projects may be completed in a timely and cost-effective manner.

Mr. Chairman, Members of this Committee, we respectfully request that you and members of your staff review and respond in a positive way to the attached individual statements from each of our states which set forth specific requests pertaining to those states.

We sincerely appreciate your consideration and assistance.

ARKANSAS

STATEMENT OF PAUL LATTURE, II, CHAIRMAN FOR ARKANSAS

Mr. Chairman and members of the Committee, thank you for the opportunity to present testimony to this most important committee. I serve as Executive Director for the Little Rock Port Authority and as Arkansas Chairman for the Interstate Committee. Other committee members representing Arkansas, in whose behalf this statement is made, are Messrs. Wally Gieringer of Hot Springs Village, retired Executive Director of the Pine Bluff-Jefferson County Port Authority; Scott McGeorge, President, Pine Bluff Sand and Gravel Company, Pine Bluff; Barry McKuin of Morrilton, President of the Conway County Economic Development Corporation; and N.M. "Buck" Shell, CEO, Five Rivers Distribution in Van Buren and Fort Smith, Arkansas.

In this time of war on terrorism, homeland defense and needed economic recovery, our thanks go to each of you, your staff members and the Congress. Your efforts to protect our nation's infrastructure and stimulate economic growth in a time of trial and tight budgets are needed and appreciated. Our requests for fiscal year 2003 are modest.

We especially call to your attention three projects on the McClellan-Kerr Arkansas River Navigation System that are especially important to navigation and the economy of this multi-state area: completion of Montgomery Point Lock and Dam, the backlog of Major Maintenance and completion of the Arkansas River Navigation Study, AR & OK.

*Montgomery Point Lock and Dam*

Mr. Chairman and Members of the Committee, continuing Congressional support is essential as construction for this project nears completion. We respectfully request a \$25 million Congressional Add for a total budget of \$45 million for fiscal year 2003. Adequate funding will insure that this urgently needed facility is in operation as soon as possible at the lowest possible cost. Scheduled to be operational in 2003,

Montgomery Point will protect over \$5 billion in public and private investments. Some fifty thousand jobs, world trade and growing military shipments have resulted from the McClellan-Kerr Arkansas River Navigation System. Without Montgomery Point Lock and Dam the future of our wonderful navigation system remains threatened.

We are very grateful that you, your associates, and the Congress have recognized the urgency of constructing Montgomery Point, a time sensitive project. Economic growth along the entire McClellan-Kerr is being deterred awaiting completion! As the Mississippi River bottom continues to lower, the McClellan-Kerr moves toward total shutdown. Existing dredge disposal areas are virtually full. Ongoing dredging and disposal of material can mean environmental damage. Construction must continue as rapidly as possible if the project is to be in place before disposal areas become inadequate.

*Backlog of Major Maintenance*

A need for a \$2,000,000 Congressional Add to the Operation and Maintenance funding for the McClellan-Kerr Arkansas River Navigation System is vitally important. The additional funds would help repair bank stabilization and other navigational system components, which have deteriorated over the past three decades.

The O&M funding level has been stagnant for the past 10 years while cost and maintenance needs have continued to increase. Your help in adding \$2,000,000 to the project will reduce the critical backlog of maintenance repairs.

*Arkansas River Navigation Study, AR & OK*

On another crucial matter, a \$1,090,000 Congressional Add is needed for a total budget of \$2,000,000 for the most important Arkansas River Navigation Study, AR & OK. We want to especially express thanks, Mr. Chairman, for the Committee's past support. In addition, taking into account the need to realize the total economic potential of the McClellan-Kerr Navigation System, WRDA 2000 directed the Corps to "expedite completion of the Arkansas River Navigation Study, including the feasibility of increasing the authorized channel depth from 9 feet to 12 feet."

More than 93 percent of the navigation system already enjoys a 12-foot or greater channel depth. A 12-foot channel can mean up to 43 percent more cargo in each barge with resultant energy savings, reduced cost of shipping, reduction in greenhouse gases plus other environmental advantages. Lock chambers on the McClellan-Kerr were built to accommodate deeper drafts.

While navigation is the primary purpose of the McClellan-Kerr System, navigation needs and flood control are closely related. Chronic high-water flows and channel restrictions result in decreased navigation traffic, as well as continued flooding in the vicinity of Fort Smith, Arkansas and reduced recreational use. This study addresses the navigation System Operating Plan and navigable depths to improve navigation conditions on the river as well as the performance of flood control measures and the impacts of high/low flows on environmental quality and recreation uses.

Other projects are important to the environment, social and economic well-being of our region and nation. We recognize the importance of continued construction of needed features to the McClellan-Kerr Arkansas River Navigation System and strongly recommend that you favorably consider the following in your deliberations:

- Support continued funding for the construction, and Operation and Maintenance of the McClellan-Kerr Arkansas River Navigation System. We are grateful that you included \$800,000 in fiscal year 2002 to complete bank stabilization work in the vicinity of the Little Rock Port.
- Continue construction authority for the McClellan-Kerr Arkansas River Navigation Project until remaining channel stabilization problems identified by the Little Rock District Corps of Engineers have been resolved. It is vitally important that the Corps continue engineering studies to develop a permanent solution to the threat of cutoffs developing in the lower reaches of the navigation system and for the Corps to construct these measures under the existing construction authority.
- Fund installation of tow-haulage equipment for the locks and dams on the Oklahoma portion of the McClellan-Kerr. This efficiency feature will reduce lockage time by as much as 50 percent while permitting tonnage to double in each tow with only a minor increase in operating cost.

In conclusion, Mr. Chairman, please help prevent a crisis for the Arkansas River Navigation System and the multi-state region it serves by appropriating \$45 million for use in fiscal year 2003 for Montgomery Point Lock and Dam.

The entire Arkansas River Navigation System is at risk and its long-term viability is threatened. Some \$5 billion in federal and private investments, thousands of jobs,

world trade and growing military shipments are endangered. The system remains at risk until Montgomery Point is completed.

We fully endorse the statement presented to you today by the Chairman of the Arkansas River Basin Interstate Committee. We appreciate the opportunity to provide testimony to your most important subcommittee and urge you to favorably consider these requests that are so important to the economic recovery of our region and nation.

KANSAS

STATEMENT OF GERALD H. HOLMAN, CHAIRMAN FOR KANSAS

Mr. Chairman and members of the committee, I am Gerald H. Holman, Senior Vice President of the Wichita Area Chamber of Commerce, Wichita, Kansas and Chairman of the Kansas Interstate Committee for the Arkansas Basin Development Association (ABDA). I also serve as Chairman of ABDA.

The Kansas ABDA representatives join with our colleagues from the states of Oklahoma, Arkansas and Colorado to form the multi-state Arkansas River Basin Interstate Committee. We fully endorse the summary statement of the Arkansas River Basin Interstate Committee.

In addition to the important projects listed below, continued construction to completion of the Montgomery Point Lock and Dam Project is essential to maintain viable navigation for commerce on the McClellan-Kerr Navigation System. This inland waterway is vital to the economic health of our multi-state area. Likewise, your support is vital to maintain its future viability. Construction is well underway and continued funding is needed. We state our unanimous support for the \$45 million needed by the Corps of Engineers for fiscal year 2003 to maintain the most economical and cost efficient construction schedule.

The critical water resources projects in the Kansas portion of the Arkansas River Basin are identified below. The projects are safety, environmental and conservation oriented and all have regional and/or multi-state impact. We are grateful for your leadership and your past commitment to our area.

We ask for your continued support for these important Bureau of Reclamation projects on behalf of the Wichita/South Central Kansas area:

*Equus Beds Aquifer Storage and Recovery Project*

This is the continuation of a Bureau of Reclamation project jointly endorsed by the City of Wichita, Groundwater Management District No. 2 and the State of Kansas. This model technology has proven the feasibility of recharging a major groundwater aquifer supplying water to nearly 600,000 irrigation, municipal and industrial users. The demonstration project has successfully recharged more than one billion gallons of water from the Little Arkansas River. The project is essential to help protect the aquifer from on-going degradation caused by the migration of saline water.

Governor Graves supports this much-needed project in order to secure the quality of life and economic future for more than 20 percent of the state's population. All interested parties fully support the project as the needed cornerstone for the area agricultural economy and for the economy of the Wichita metropolitan area.

The demonstration project has confirmed earlier engineering models that the full scale aquifer storage and recovery project is feasible and capable of meeting the increasing water resource needs of the area to the mid 21st century. Presently, the Equus Beds provide approximately half of the Wichita regional municipal water supply. The Equus Beds are also vital to the surrounding agricultural economy. Once the aquifer storage and recovery project is on-line, south central Kansas will rely to an even greater extent on the aquifer for water resources. Environmental protection of the aquifer, which this strategic project provides, will have increasing importance to ensure quality water for the future.

The full scale design concept for the aquifer storage and recovery project calls for a multi-year construction program. Phase One is estimated to cost \$17.1 million. Construction is planned to begin in 2003. The total project involving the capture and recharge of more than 100 million gallons of water per day is estimated to cost \$110 million over 10 years. This is substantially less costly, both environmentally and financially, when compared with reservoir construction or other alternatives. The aquifer storage and recovery project is a vital component of Wichita's comprehensive and integrated water supply strategy estimated to cost \$350 million at completion.

We are grateful for your previous cost share funding during the demonstration phase, as a compliment to funds provided by the City of Wichita. As we enter the construction phase, we request continued Congressional support:

- By authorizing as a Federal project, the Aquifer Storage and Recovery Project and directing the Bureau of Reclamation to participate in its final design and construction to completion as funding is available.
- Through continued cost share funding for Phase One of the full-scale Aquifer Storage and Recovery Project in the minimum amount of \$1,500,000 for fiscal year 2003.

*Cheney Reservoir*

The reservoir provides approximately half of Wichita's regional water supply. Two continuing environmental problems threaten the water quality and longevity of the reservoir. One is sedimentation from soil erosion and the other is non-point source pollution, particularly the amount of phosphates entering the reservoir resulting in offensive taste and odor problems. A partnership between farmers, ranchers and the City of Wichita has proven beneficial in implementing soil conservation practices and to better manage and therefore reduce and/or eliminate non-point source pollution. Landsat 7 imaging and digital elevation modeling have been employed to identify high priority areas. To date, over 2,000 environmental projects have been completed within the 543,000-acre watershed. The next phase of concentration is buffer strips for the control of pollution from intermittent streams and also from livestock waste. This partnership must continue indefinitely to protect the reservoir and to extend the life of the Wichita regional water supply. The City of Wichita is providing funding for this critical, nationally acclaimed model nonpoint source pollution project. We request continued federal funding in the amount of \$125,000 for fiscal year 2003.

Many of our agricultural communities have historically experienced major flood disasters, some of which have resulted in multi-state hardships involving portions of the state of Oklahoma. The flood of 1998 emphasized again the need to rapidly move needed projects to completion. Major losses also took place in the Wichita metropolitan area. Projects in addition to local protection are also important. Our small communities lack the necessary funds and engineering expertise and federal assistance is needed. This Committee has given its previous support to Kansas Corps of Engineers projects and we request your continued support for the following:

- Arkansas City, Kansas Flood Protection.*—Unfortunately, this project was not completed prior to the flood of 1998. The flood demonstrated again the critical need to protect the environment, homes and businesses from catastrophic damages from either Walnut River or Arkansas River flooding. When the project is complete, damage in a multi-county area will be eliminated and benefits to the state of Oklahoma just a few miles south will also result. The Secretary of the Army was authorized to construct the project in fiscal year 1997. The project is slated for completion in fiscal year 2004. We request your continued support in the amount of \$5 million for fiscal year 2003, the level needed by the Corps of Engineers.
- Walnut River Basin, Kansas Feasibility Study.*—This basin including the White-water and Little Walnut Rivers, is located in south central Kansas. The feasibility study will identify ecosystem resources, evaluate the system qualities, determine past losses and current needs, and evaluate potential restoration and preservation measures. The non-Federal sponsor is the Kansas Water Office who believes that environmental restoration is a primary need in the basin. Environmental restoration features may also stabilize and protect streambanks from erosion and improve the water quality in the basin. The request for fiscal year 2003 is \$200,000, which is the Corps' capability.
- Grand Lake Feasibility Study.*—A need exists to complete evaluation of water resource problems in the Grand-Neosho River basin in Kansas and Oklahoma to evaluate solutions to upstream flooding problems associated with the adequacy of existing real estate easements necessary for flood control operations of Grand Lake, Oklahoma. A study authorized by the Water Resources Development Act of 1996 was completed in September of 1998 and determined that if the project were constructed based on current criteria, additional easements would be required. Section 449 of WRDA 2000 directed the Secretary to evaluate backwater effects specifically due to flood control operations on land around Grand Lake. That study indicated that Federal actions have been a significant cause of the backwater effects and according to WRDA 2000, the feasibility study should be 100 percent Federally funded. A Feasibility study is necessary to determine the most cost-effective solution to the real estate inadequacies. Changes in the operations of the project or other upstream changes could have a significant impact on flood control, hydropower, and navigation operations in the Grand (Neosho) River system and on the Arkansas River basin system, as well. We request funding in the amount of \$3 million in fiscal year 2003 to fully



fund Feasibility studies evaluating solutions to upstream flooding associated with existing easements necessary for flood control operations of Grand Lake. —*Grand (Neosho) Basin Watershed Reconnaissance Study.*—A need exists for a basin-wide water resource planning effort in the Grand-Neosho River basin, apart from the issues associated with Grand Lake, Oklahoma. The reconnaissance study would focus on the evaluation of institutional measures needed to improve the quality of the aquatic and terrestrial habitat in the basin and to assist communities, landowners, and other interests in southeastern Kansas and northeastern Oklahoma in the development of non-structural measures to reduce flood damages. We request funding in the amount of \$100,000 in fiscal year 2003.

—*Continuing Authorities Programs.*—We support funding of needed programs including the Small Flood Control Projects Program (Section 205 of the 1948 Flood Control Act, as amended) as well as the Emergency Streambank Stabilization Program (Section 14 of the 1946 Flood Control Act, as amended). Smaller communities in Kansas (Iola, Liberal, McPherson, Augusta, Parsons, Altoona, Coffeyville and Medicine Lodge) have previously requested assistance from the Corps of Engineers under these programs. The City of Wichita has also addressed flooding problems through this program. We urge you to support these programs to the \$50 million programmatic limit for the Small Flood Control Projects Program and \$15 million for the Emergency Streambank Stabilization Program.

The Planning Assistance to States Program under section 22 of the Water Resources Development Act of 1974, as amended, provides federal funding to assist the states in water resource planning. The state of Kansas is grateful for previous funding under this program which has assisted small Kansas communities in cost sharing needed resource planning as called for and approved in the Kansas State Water Plan. We request continued funding of this program at the level which will allow the state of Kansas to receive the \$500,000 limit.

Also, Ecosystem Restoration Programs are relatively new programs which offer the Corps of Engineers a unique opportunity to work to restore valuable habitat, wetlands, and other important environmental features which previously could not be considered. Preliminary Restoration Plan studies are underway at Newton, Garden City and Neosho County. We urge you to support section 1135 of the Water Resources Development Act of 1986 and Section 206 of the Water Resources Development Act of 1996 at their \$25 million programmatic limits.

—*National Streamflow Information Program (NSIP).*—For more than 100 years, the USGS has operated a multipurpose streamgaging network supported primarily by other Federal, State and Local agencies. Streamflow data from those stations is used for planning and decisions related to agriculture, industry, urban water supplies, riverine and riparian habitat, navigation and flood hazard verification. The loss of about 22 percent of the streamgaging stations since 1971 has resulted in a commensurate loss in valuable streamflow information. In 1998, the USGS completed a study on the ability of the streamgaging network to meet Federal needs. A NSIP program was recommended to produce information for multiple current and future uses. We recommend funding the NSIP program to cover the entire cost of a baseline network of stream gages needed to meet national interests in order to ensure the long-term stability of this vital network.

Finally, we are very grateful that both the Corps of Engineers and Bureau of Reclamation have the expertise needed for the development and protection of water resources infrastructure. It is essential to have the integrity and continuity these agencies provide on major public projects. Your continued support of these vital agencies, including funding, will be appreciated. Our infrastructure must be maintained and where needed, enhanced for the future.

Mr. Chairman and Members of this Committee, we thank you for the dedicated manner in which you and your colleagues have dealt with the Water Resources Programs and for allowing us to present our needs and funding requests.

Thank you very much.

OKLAHOMA

STATEMENT OF JAMES M. HEWGLEY, JR., CHAIRMAN FOR OKLAHOMA

Mr. Chairman and members of the committee, I am James M. Hewgley, Jr., Oklahoma Chairman of the Arkansas River Basin Interstate Committee, from Tulsa, Oklahoma.

It is my privilege to present this statement on behalf of the Oklahoma Members of our committee in support of adequate funding for water resource development

projects in our area of the Arkansas River Basin. Other members of the Committee are: Mr. Ted Coombes, Tulsa; Mr. Edwin L. Gage, Muskogee; Mr. Terry McDonald, Tulsa; and Mr. Lew Meibergen, Enid.

Together with representatives of the other Arkansas River Basin states, we fully endorse the statement presented to you by the Chairman of the Arkansas River Basin Interstate Committee. We appreciated the opportunity to present our views of the special needs of our States concerning several studies and projects.

*Montgomery Point Lock and Dam—Montgomery Point, Arkansas*

As we have testified for several years, we are once again requesting adequate appropriations to continue construction of this most important and much needed project. This project must be kept on the current schedule to insure the shippers on the system will not be impacted by a low water event after that date. Lower funding will only stretch out the completion of the project and add to the final cost in real dollars and subject the shippers to possible losses due to low water and restrictions on, or halting, navigation.

We respectfully request the Congress to appropriate \$45 million in the fiscal year 2003 budget cycle to continue construction on the current project schedule. With the needed funding for fiscal year 2003 (and significantly reduced funding in fiscal year 2004) the project can be finished by July of fiscal year 2004. This request coincides with the Presidents recommendation that "funding go toward ongoing projects, particularly those nearing completion." This will help insure the project is completed and in operation in a timely manner at the lowest possible cost.

Mr. Chairman, it is my pleasure to point out to this distinguished Committee that this navigation system has brought low cost water transportation to Oklahoma, Arkansas and the surrounding states. There has been over \$5.5 billion invested in the construction and development of the McClellan-Kerr Arkansas River Navigation system by the Federal Government and the public and private sector, resulting in the creation of over 50,000 jobs in this partnered project.

*Tow Haulage Equipment—Oklahoma*

We also request funding of \$2.5 million to initiate the installation of tow haulage equipment on the locks located along the Arkansas River Portion of the McClellan-Kerr Arkansas River Navigation System. Total cost for these three locks is \$4.5 million. This project will involve installation of tow haulage equipment on W.D. Mayo Lock and Dam#14, Robert S. Kerr Lock and Dam#15, and Webbers Falls Lock and Dam#16, on the Oklahoma portion of the waterway. The tow haulage equipment is needed to make transportation of barges more efficient and economical by allowing less time for tows to pass through the various locks.

*Arkansas River System Operations Feasibility Study—Arkansas and Oklahoma*

We are especially pleased that the budget includes funds to continue the Arkansas River Navigation Study, a feasibility study which is examining opportunities to optimize the Arkansas River system. The system of multipurpose lakes in Arkansas and Oklahoma on the Arkansas River and its tributaries supports the McClellan-Kerr Arkansas River Navigation System, which was opened for navigation to the Port of Catoosa near Tulsa, Oklahoma, in 1970. The navigation system consists of 445 miles of waterway that passes through the states of Oklahoma and Arkansas. This study would optimize the reservoirs in Oklahoma and Arkansas that provide flows into the river with a view toward improving the number of days per year that the navigation system would accommodate tows. This study could have significant impact on the economic development opportunities in the states of Oklahoma, Arkansas, and the surrounding states. Due to the critical need for this study, we request funding of \$2.0 million, which is greater than shown in the budget, to continue feasibility studies in fiscal year 2003.

*Maintenance of the Navigation System*

We request additional funding in the amount of \$2 million, over and above normal funding, for deferred channel maintenance. These funds would be used for such things as repair of bank stabilization work, needed advance maintenance dredging, and other repairs needed on the systems components that have deteriorated over the past three decades.

In addition to the systemwide needed maintenance items mentioned above, the budget for the Corps of Engineers for the past several years has been insufficient to allow proper maintenance of the McClellan-Kerr Arkansas River Navigation System—Oklahoma portion. As a result, the backlog of maintenance items has continued to increase. If these important maintenance issues are not addressed soon the reliability of the system will be jeopardized. The portion of the system in Oklahoma alone is responsible for returning \$2.6 Billion in annual benefits to the regional

economy. We therefore request that \$3.02 million be added to the budget to accomplish the critical infrastructure maintenance items following: Repair weir at L&D 14; repair tainter gates at L&D 17; stream bank stabilization at Marine terminal and down stream dike repair; construct Navigation signs; replace bridge bearing pad at L&D 17 and repair support cells at L&D 15. These are the very worst of the needed repairs of the many awaiting proper preventive maintenance and repair.

*Miami, Oklahoma and Vicinity Feasibility Study*

We request funding of \$700,000 for the continuation of a feasibility study for the vicinity in Ottawa County including and surrounding Miami, Oklahoma in the Grand (Neosho) Basin. Water resource planning related concerns include chronic flooding, ecosystem impairment, poor water quality, subsidence, chat piles, mine shafts, health effects, and Native American issues. The State of Oklahoma's desire is to address the watershed issues in a holistic fashion and restore the watershed to acceptable levels. Study alternatives could include structural and non-structural flood damage measures, creation of riverine corridors for habitat and flood storage, development of wetlands to improve aquatic habitat and other measures to enhance the quality and availability of habitat and reduce flood damages.

We are pleased that the President's budget includes funds to advance work for Flood Control and other water resource needs in Oklahoma. Of special interest to our committee is funding for the Skiatook and Tenkiller Ferry Lakes Dam Safety Assurance Projects in Oklahoma and that construction funding has been provided for those important projects. We would like to see Tenkiller funded at the \$6.5 million level which is the Corps capability for fiscal year 2003. We request that funding in the amount of \$3 million be provided for the Skiatook Dam Safety project. We are also pleased that funding is included to continue reconnaissance studies and initiate feasibility studies for the Oologah Watershed, the Wister Watershed and the Miami, OK and Vicinity region. We are also pleased to see continued funding for the SE Oklahoma Water Resource Study.

*Oologah Lake Watershed Feasibility Study*

We request funding of \$450,000 for ongoing feasibility studies at Oologah Lake and in the upstream watershed. The lake is an important water supply source for the city of Tulsa and protection of the lake and maintaining and enhancing the quality of the water is important for the economic development of the city. Recent concerns have been expressed by the city of Tulsa and others regarding potential water quality issues that impact water users as well as important aquatic and terrestrial habitat. Concerns are related to sediment loading and turbidity, oilfield-related contaminants and nutrient loading.

*Illinois River Watershed Reconnaissance Study*

We request funding in the amount of \$100,000 to conduct a reconnaissance study of the water resource problems of the Illinois River Basin. The Illinois River watershed is experiencing continued water resource development needs and is the focus of ongoing Corps and other agency investigations. However, additional flows are sought downstream of the Lake Tenkiller Dam and there are increasing watershed influences upstream of Lake Tenkiller which impact on the quality of water available for fish and wildlife, municipal and industrial water supply users, and recreation users of the Lake Tenkiller and Illinois River waters.

*Grand (Neosho) Basin Reconnaissance Study*

We request funding in the amount of \$100,000 to conduct a reconnaissance study of the water resource problems in the Grand (Neosho) Basin in Oklahoma and Kansas. There is a need for a basin-wide water resource planning effort in the Grand-Neosho River basin, apart from the issues associated with Grand Lake, Oklahoma. The reconnaissance study would focus on the evaluation of institutional measures which could assist communities, landowners, and other interests in northeastern Oklahoma and southeastern Kansas in the development of non-structural measures to reduce flood damages in the basin.

*Grand Lake Feasibility Study*

A need exists to evaluate water resource problems in the Grand-Neosho River basin in Kansas and Oklahoma to evaluate solutions to upstream flooding problems associated with the adequacy of existing real estate easements necessary for flood control operations of Grand Lake, Oklahoma. A study authorized by the Water Resources Development Act of 1996 was completed in September of 1998 and determined that if the project were constructed based on current criteria, additional easements would be required. Section 449 of WRDA 2000 directed the Secretary to evaluate backwater effects specifically due to flood control operations on land

around Grand Lake. That study indicated that Federal actions have been a significant cause of the backwater effects and according to WRDA 2000, the feasibility study should be 100 percent Federally funded. A Feasibility study is necessary to determine the most cost-effective solution to the real estate inadequacies. Changes in the operations of the project or other upstream changes could have a significant impact on flood control, hydropower, and navigation operations in the Grand (Neosho) River system and on the Arkansas River basin system, as well. We urge you to provide \$3 million to fully fund Feasibility studies for this important project in fiscal year 2003 and to direct the Corps of Engineers to execute the study at full Federal expense.

*Polecat Creek Reconnaissance Study*

This watershed drains about 370 square miles and includes the cities of Jenks, Glenpool and Sapulpa, Oklahoma. This area has experienced significant growth within the last 10 years and flooding occurs frequently. The most recent flood occurred in May 2000 with over 300 structures (including 200 homes) experiencing flood damage. We request \$100,000 in fiscal year 2003 to perform this very important reconnaissance study.

*Wister Lake Watershed Feasibility Study*

We request funding of \$450,000 to continue feasibility studies of the Wister Lake watershed. Wister Lake is located on the Poteau River near Wister, Oklahoma. The lake was completed in 1949 for flood control, water supply, water conservation and sediment control. Wister Lake is the primary water resource development project in the Poteau River Basin. It provides substantial flood control, municipal and industrial water supply, and recreation benefits for residents of LeFlore County, Oklahoma, and the southeastern Oklahoma region. Ecosystem degradation in the lake and in the basin, in general, is occurring primarily as a result of non-point source pollution from poultry operations, forestry practices, abandoned strip coal mines, and natural gas exploration operations. The study will identify potential measures to restore the ecosystem in the basin and will evaluate other water resource problems and potential solutions.

We also support funding for the Continuing Authorities Program, including the Small Flood Control Projects Program, (Section 205 of the 1948 Flood Control Act, as amended) and the Emergency Streambank Stabilization Program, (Section 14 of the 1946 Flood Control Act, as Amended). We want to express our appreciation for your continued support of those programs.

*Section 205*

Although the Small Flood Control Projects Program addresses flood problems which generally impact smaller communities and rural areas and would appear to benefit only those communities, the impact of those projects on economic development crosses county, regional, and sometimes state boundaries. The communities served by the program frequently do not have the funds or engineering expertise necessary to provide adequate flood damage reduction measures for their citizens. Continued flooding can have a devastating impact on community development and regional economic stability. The program is extremely beneficial and has been recognized nation-wide as a vital part of community development, so much so, in fact, that there is currently a backlog of requests from communities who have requested assistance under this program. There is limited funding available for these projects and we urge this program be fully funded to the programmatic limit of \$50 million.

*Section 14*

Likewise, the Emergency Streambank Stabilization Program provides quick response engineering design and construction to protect important local utilities, roads, and other public facilities in smaller urban and rural settings from damage due to streambank erosion. The protection afforded by this program helps insure that important roads, bridges, utilities, and other public structures remain safe and useful. By providing small, affordable, and relatively quickly constructed projects, these two programs enhance the lives of many by providing safe and stable living environments. There is also a backlog of requests under this program. Funding is also limited for these projects and we urge this program be fully funded to the programmatic limit of \$15 million.

*Sections 1135 and 206*

We also request your continued support of and funding for the Ecosystem Restoration Programs (Section 1135 of the Water Resources Development Act of 1986 and Section 206 of the Water Resources Development Act of 1996). The Ecosystem Restoration Programs are relatively new programs which offer the Corps of Engineers

a unique opportunity to work to restore valuable habitat, wetlands, and other important environmental features which previously could not be considered. The Section 1135 Program is already providing significant benefits to the states of Kansas and Oklahoma. We urge that these programs be fully funded to the programmatic limit of \$25 million each.

We also request your continued support of the Flood Plain Management Services Program (Section 206 of the 1960 Flood Control Act) which authorizes the Corps of Engineers to use its technical expertise to provide guidance in flood plain management matters to all private, local, state, and Federal entities. The objective of the program is to support comprehensive flood plain management planning. The program is one of the most beneficial programs available for reducing flood losses and provides assistance to officials from cities, counties, states, and Indian Tribes to ensure that new facilities are not built in areas prone to floods. Assistance includes flood warning, flood proofing, and other flood damage reduction measures, and critical flood plain information is provided on a cost reimbursable basis to home owners, mortgage companies, Realtors and others for use in flood plain awareness and flood insurance requirements.

We also request your support of the Planning Assistance to States Program (Section 22 of the 1974 Water Resources Development Act) which authorizes the Corps of Engineers to use its technical expertise in water and related land resource management to help States and Indian Tribes solve their water resource problems. The program is used by many states to support their State Water Plans. As natural resources diminish, the need to manage those resources becomes more urgent. We urge your continued support of this program as it supports States and Native American Tribes in developing resource management plans which will benefit citizens for years to come. The program is very valuable and effective, matching Federal and non-Federal funds to provide cost effective engineering expertise and support to assist communities, states and tribes in the development of plans for the management, optimization, and preservation of basin, watershed, and ecosystem resources. The Water Resources Development Act of 1996 increased the annual program limit from \$6 million to \$10 million and we urge this program be fully funded to the programmatic limit of \$10 million.

On a related matter, we would share with you our concern that the Administration has not requested sufficient funds to meet the increasing infrastructure needs of the inland waterways of our nation. The Administration's request will not keep projects moving at the optimum level to complete them on a cost effective basis. Moving the completion dates out is an unacceptable exercise since 50 percent of the funds come from the Waterways Trust Fund. This will not only waste federal funds but, those from the trust fund as well.

We strongly urge the Appropriations Committee to raise the Corps of Engineers budget to \$4.9 billion to help get delayed construction projects back on schedule and to reduce the deferred maintenance backlog which is out of control. This will help the Corps of Engineers meet the obligations of the Federal Government to people of this great country.

Concerning another related matter, we have deep concerns about the attempt to re-authorize the Endangered Species Act without significant beneficial reforms. If a bill is passed through without reforms, it will be devastating to industry and the country as a whole. We strongly urge you to take a hard look at any bill concerning this re-authorization and insure that it contains reasonable and meaningful reforms. We urge the re-authorization of the act with reforms at the earliest possible time.

Mr. Chairman, we appreciate this opportunity to present our view on these subjects.

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#### PREPARED STATEMENT OF THE BRAZOS RIVER HARBOR NAVIGATION DISTRICT

On behalf of the Brazos River Harbor Navigation District and the users of Freeport Harbor, we extend gratitude to Chairman Reid, and members of the subcommittee for the opportunity to submit testimony in support of the feasibility study for the proposed channel improvement project for Freeport Harbor and Stauffer Channel, Texas.

We express full support of the inclusion in the fiscal year 2003 budget for:

—Initial phase of a Corps of Engineers feasibility study for Freeport Harbor, Texas—\$500,000

#### HISTORY AND BACKGROUND

Port Freeport is an autonomous governmental entity authorized by an act of the Texas Legislature in 1925. It is a deep-draft port, located on Texas' central Gulf

Coast, approximately 60 miles southwest of Houston, and is an important Brazos River Navigation District component. The port elevation is 3 to 12 feet above sea level. Port Freeport is governed by a board of six commissioners elected by the voters of the Navigation District of Brazoria County, which currently encompasses 85 percent of the county. Port Freeport land and operations currently include 186 acres of developed land and 7,723 acres of undeveloped land, 5 operating berths, a 45' deep Freeport Harbor Channel and a 70' deep sink hole. Future expansion includes building a 1,300-acre multi-modal facility, cruise terminal and container terminal. Port Freeport is conveniently accessible by rail, waterway and highway routes. There is direct access to the Gulf Intracoastal Waterway, Brazos River Diversion Channel, and, State Highways 36 and 288. Located just three miles from deep water, Port Freeport is one of the most accessible ports on the Gulf Coast.

#### PROJECT DESCRIPTION

The fiscal year 2002 Energy and Water Appropriations signed into law included a \$100,000 appropriation to allow the United States Army Corps of Engineers (USACE) to conduct a reconnaissance study to determine the federal interest in an improvement project for Freeport Harbor, Texas. The USACE, in cooperation with the Brazos River Harbor Navigation District as the local sponsor, has initiated that study. The Corps anticipates a benefit to cost ratio of the project to be at an impressive more than 20 to 1 benefit to cost.

The project will study the federal interest in widening and deepening Freeport Harbor and Stauffer Channel. Port Freeport has the opportunity to solidify significant new business for Texas with this improvement project. In addition, the improvement to the environment by taking a huge number of trucks off of the road, transporting goods more economically and environmentally sensitive by waterborne commerce is infinitely important to the community, the State, and the Nation. Moreover, the enhanced safety of a wider channel cannot be overstated.

#### ECONOMIC IMPACT OF PORT FREEPORT

Port Freeport is 16th in foreign tonnage in the United States and 24th in total tonnage. The port handled over one million tons of cargo in 2001 and an additional 70,000 T.E.U.'s of containerized cargo. It is responsible for augmenting the Nation's economy by \$7.06 billion annually and generating 30,000 jobs. Its chief import commodities are bananas, fresh fruit and aggregate while top export commodities are rice and chemicals. The port's growth has been staggering in the past decade, becoming one of the fastest growing ports on the Gulf Coast. Port Freeport's economic impact and its future growth is justification for its budding partnership with the federal government in this critical improvement project.

#### COMMUNITY AND INDUSTRY SUPPORT

This proposed improvement project has wide community and industry support. The safer transit and volume increase capability is an appealing and exciting prospect for the users of Freeport Harbor and Stauffer Channel. The anticipated more than 20 to 1 benefit to cost ratio that will arise from the Corps of Engineers reconnaissance study will solidify the federal interest.

#### WHAT WE NEED FROM THE SUBCOMMITTEE IN FISCAL YEAR 2003

The Administration's budget included \$200,000 for the first phase of the feasibility study, which will be conducted at a 50/50 federal government/local sponsor share. The Corps had indicated a capability for fiscal year 2003 of \$500,000 to institute this project on an optimal and most cost-efficient time frame for the federal government and the local sponsor. We respectfully request the additional \$300,000 for fiscal year 2003.

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#### PREPARED STATEMENT OF CAMERON COUNTY

On behalf of Cameron County and the users of the Gulf Intracoastal Waterway, (GIWW) Texas, we extend gratitude to Chairman Reid, and members of the subcommittee for the opportunity to submit testimony in support of an appropriation to direct the United States Army Corps of Engineers (USACE) to conduct a reconnaissance study to reroute the GIWW.

We express full support of the inclusion in the fiscal year 2003 budget for:  
—Reconnaissance study—\$100,000

## HISTORY AND BACKGROUND

On September 15, 2001, a tugboat and several barges struck the Queen Isabella Causeway on the Gulf Intracoastal Waterway at the mouth of the Brownsville Ship Channel east of Port Isabel. The accident took the lives of eight people.

A January 1997 Reconnaissance Report of the Gulf Intracoastal Waterway-Corpus Christi Bay to Port Isabel, Texas (Section 216), was conducted by the United States Army Corps of Engineers. The study was initiated to determine the federal interest in rerouting the GIWW. The information available at the time indicated a less than favorable benefit to cost ratio for the proposed realignment. Since the September 15 incident, the Corps, Cameron County officials, and a number of local entities and residents of the County have reopened discussion of the rerouting of the GIWW. The Corps of Engineers agrees that new facts regarding the safety of the current alignment warrants a revisiting of the issue to determine the viability of rerouting the channel in a direct line from the point where the waterway crosses underneath the causeway to the point where it reaches the Brazos Santiago Pass and the Brownsville Ship Channel. The route in question is the exact one traveled by the tugboat and barges that struck the bridge on September 15, killing eight people. The tugboat captain failed to negotiate the sharp turn after it passed through the Long Island Swing Bridge. This particular turn is one of the most dangerous on the entire waterway.

## PROJECT DESCRIPTION

The reconnaissance study would allow the Corps to reopen the examination of the rerouting of the GIWW on the basis of safety. The measure would seek to eliminate safety hazards to Port Isabel and Long Island residents created by barges that move large quantities of fuel and other potentially dangerous explosive chemicals through the existing route under the Queen Isabella Causeway. The overall goal of the study would be to enhance safety and transportation efficiency on this busy Texas waterway by removing the treacherous turn tug and barge operators are forced to make as they navigate the passage through the Long Island Swing Bridge. In addition to the hazardous curve, the winding and congested course taken by the waterway through the City of Port Isabel adds needless distance and time to the transportation of goods to and from Cameron County ports. These costs are borne not only by commercial operators using the waterway, but also by consumers and businesses all across Texas and the Nation. The rerouting would also seek to correct the adverse impact of waterway traffic on Cameron County residents. Apart from the obvious potential for damage to the Queen Isabella Causeway, adverse impacts are created by waterway traffic in the form of traffic delays associated with the Long Island Swing Bridge and the transportation of hazardous materials within several hundred feet of densely populated areas in Port Isabel and Long Island. Currently, a 1950's era swing bridge that floats in the waterway channel connects Long Island and the City of Port Isabel. As waterborne traffic approaches the bridge, cables are used to swing it from the center of the channel and then swing it back into place. This costly and time-consuming process, which frequently backs up traffic into the downtown business district of Port Isabel, is estimated to drain hundreds of dollars a year from the economy of this economically distressed area. More serious problems are created when the heavily used cables or winch motors on the swing bridge fail, leaving the bridge stuck in an open or closed position. Equipment failures often cause delays for several days and leave Long Island residents cut-off from vehicle access or the ports of Port Isabel and Brownsville cut-off from in-bound and out-bound barge traffic. During these times, supplies of vital commodities are halted all across the Rio Grande Valley as stocks dwindle and produce and finished goods begin to pile up.

## IMPACT OF THE GULF INTRACOASTAL WATERWAY

The Gulf Intracoastal Waterway is an integral part of the inland transportation system of the United States. Stretching across more than 1,300 coastal miles of the Gulf of Mexico, this man-made, shallow-draft canal moves a large variety and great number of vessels and cargoes. The 426 miles of the waterway running through Texas makes it possible to supply both domestic and foreign markets with chemicals, petroleum and other essential goods. Barge traffic is essential to many of the port economies from Texas to Great Lakes ports, indeed, throughout the entire GIWW. Some ports feel their future strategic plans are closely linked to the efficient operation of the GIWW. This is true for ports that rely almost entirely on barge traffic as well as ports that function primarily as recreational facilities. Most of the cargo moved along Texas waterways is petroleum and petroleum products. The

GIWW is well suited for the movement of such cargo, and, therefore, has allowed many of the smaller, shallow-draft facilities to engage in both interstate and international trade. Commercial fishing access via the GIWW has had a significant impact on these port economies as well.

#### CONCLUSION

A 1995 Lyndon Baines Johnson School of Public Affairs report entitled "The Texas Seaport and Inland Waterway System" warned of concern with the safe operation of barges on the GIWW citing, "a serious accident perhaps involving a collision between two barges carrying hazardous materials could force closure of the waterway". No one foresees the terrible accident that occurred on September 15. The lives of eight people came to an end and the lives of their loved ones was irrevocably changed forever. This important waterway must be improved to prevent another tragedy. The \$100,000 that must be added to the fiscal year 2003 appropriations bill will allow the Corps of Engineers to begin to remedy this dangerous situation. Cameron County, the users of the GIWW, and the residents of the area respectfully requests the addition of this much-needed appropriation.

#### PREPARED STATEMENT OF THE CHAMBERS COUNTY-CEDAR BAYOU NAVIGATION DISTRICT

On behalf of the Chambers County-Cedar Bayou Navigation district and the users of the Cedar Bayou Channel, Texas, we extend gratitude to Chairman Reid, and members of the subcommittee for the opportunity to submit testimony in support of the improvement project for the Cedar Bayou Channel, Texas.

We express full support of the inclusion in the fiscal year 2002 budget for:

—Pre-Construction Engineering and Design (O&M) For Cedar Bayou, Texas—  
\$310,000

#### HISTORY AND BACKGROUND

The River and Harbor Act of 1890 originally authorized navigation improvements to Cedar Bayou. The project was reauthorized in 1930 to provide a 10 ft. deep and 100 ft. wide channel from the Houston Ship Channel to a point on Cedar Bayou 11 miles above the mouth of the bayou. In 1931, a portion of the channel was constructed from the Houston Ship Channel to a point about 0.8 miles above the mouth of Cedar Bayou, approximately 3.5 miles in length. A study of the project in 1971 determined that an extension of the channel to project Mile 3 would have a favorable benefit to cost ratio. This portion of the channel was realigned from mile 0.1 to mile 0.8 and extended from mile 0.8 to Mile 3 in 1975. In October 1985, the portion of the original navigation project from project Mile 3 to 11 was deauthorized due to the lack of a local sponsor. In 1989, the Corps of Engineers, Galveston District completed a Reconnaissance Report dated June 1989, which recommended a 12 ft. by 125 ft. channel from the Houston Ship Channel Mile 3 to Cedar Bayou Mile 11 at the State Highway 146 Bridge. The Chambers County-Cedar Bayou Navigation District was created by the Texas Legislature in 1997 as an entity to improve the navigability of Cedar Bayou. The district was created to accomplish the purpose of Section 59, Article XVI, of the Texas Constitution and has all the rights, powers, privileges and authority applicable to Districts Created under Chapters 60, 62, and 63 of the Water Code—Public Entity. The Chambers County-Cedar Bayou Navigation District then became the local sponsor for the Cedar Bayou Channel.

#### PROJECT DESCRIPTION AND REAUTHORIZATION

Cedar Bayou is a small coastal stream, which originates in Liberty County, Texas, and meanders through the urban area near the eastern portion of the City of Baytown, Texas, before entering Galveston Bay. The bayou forms the boundary between Harris County on the west and Chambers County on the east. The project was authorized in Section 349 of the Water Resources Development Act 2000, which authorized a navigation improvement of 12 feet deep by 125 feet wide from mile 2.5 to mile 11 on Cedar Bayou.

#### JUSTIFICATION AND INDUSTRY SUPPORT

First and foremost, the channel must be improved for safety. The channel is the home to a busy barge industry. The most cost-efficient and safe method of conveyance is barge transportation. Water transportation offers considerable cost savings compared to other freight modes (rail is nearly twice as costly and truck nearly four times higher). In addition, the movement of cargo by barge is environmentally



friendly. Barges have enormous carrying capacity while consuming less energy, due to the fact that a large number of barges can move together in a single tow, controlled by only one power unit. The result takes a significant number of trucks off of Texas highways. The reduction of air emissions by the movement of cargo on barges is a significant factor as communities struggle with compliance with the Clean Air Act.

Several navigation-dependent industries and commercial enterprises have been established along the commercially navigable portions of Cedar Bayou. Several industries have docks on at the mile markers that would be affected by this much-needed improvement. These industries include: Reliant Energy, Bayer Corporation, Koppel Steel, CEMEX, US Filter Recovery Services and Dorsett Brothers Concrete, to name a few.

#### PROJECT COSTS AND BENEFITS

The Corps of Engineers has indicated a benefit to cost ratio of the project of 2.8 to 1. The estimated total cost of the project is \$16.8 M with a federal share estimated at \$11.9 M and the non-federal sponsor share of approximately \$4.9 M. Total annual benefits are estimated to be \$4.8 M, with a net benefit of \$3 M. This project is environmentally sound and economically justified. We would appreciate the subcommittee's support of the required \$310,000 appropriation included in the Administration's budget to complete the plans and specifications of the project so that it can move forward at an optimum construction schedule. The users of the channel deserve to have the benefits of a safer, most cost-effective federal waterway.

#### PREPARED STATEMENT OF THE ASSOCIATION FOR THE DEVELOPMENT OF INLAND NAVIGATION IN AMERICA'S OHIO VALLEY

Mr. Chairman and Members of the Subcommittee: I am Barry Palmer, Executive Director of DINAMO, The Association for the Development of Inland Navigation in America's Ohio Valley. DINAMO is a multi-state, membership based association of business and industry, labor, and state government leaders from throughout the Ohio Valley, whose singular purpose is to expedite the modernization of the lock and dam infrastructure on the Ohio River Navigation System. Largely through the leadership of this subcommittee and the professional efforts of the U.S. Army Corps of Engineers, we in the Ohio Valley are beginning to see the results of 20 years of continuous hard work in improving our river infrastructure.

Lock and dam modernization at Robert C. Byrd Locks and Dam, Grays Landing Locks and Dam, Point Marion Lock, and Winfield Locks are largely complete. These projects were authorized for construction in the Water Resources Development Act of 1986. The immediate problems really are focused on completing in a timely manner lock and dam modernization projects authorized by the Congress in subsequent water resources development acts. Substantial problems remain for adequate funding of improvements at the Olmsted Locks and Dams, Ohio River, IL/KY; Lower Monongahela River Locks and Dams 2, 3 & 4, PA; McAlpine Locks and Dam, Ohio River, IN/KY; Marmet Lock, Kanawha River, WV; and for the Kentucky Locks, Tennessee River, KY. The construction schedules for all of these projects have been severely constrained, and we are requesting increased funding for these construction projects at an "efficient construction rate." Following is a listing of the projects and an efficient funding level determined by the U.S. Army Corps of Engineers to advance construction projects for completion by 2010 or earlier and to advance other projects through the planning, design and engineering and construction process:

#### *Recommendations for Fiscal Year 2003*

- For the Robert C. Byrd Locks and Dam modification project, formerly the Gallipolis Locks and Dam on the Ohio River, OH/WV, about \$12,300,000 to complete rehabilitation of the dam. Fiscal year 2003 Budget Request \$1,500,000.
- For the Winfield Lock Replacement on the Kanawha River, WV, \$3,600,000 for continued construction of the lock and relocations related to environmental mitigation. Fiscal year 2003 Budget Request \$200,000.
- For the Olmsted Locks and Dam, replacing Locks and Dams 52 and 53 on the Lower Ohio River, IL/KY, \$89,000,000 for continued construction of the approach lock walls related to the twin 110' × 1,200' locks and design and initial construction activities for the new gated dam. Fiscal year 2003 Budget Request \$77,000,000.
- For the Monongahela River Locks and Dams 2, 3 & 4, PA, \$63,00,000, the completion of construction on the Braddock Dam, prepare Charleroi Locks site development, prepare work on the Charleroi Locks demolition/dam stilling basin

- and to initiate construction on the Charleroi Locks floating guard wall. Fiscal year 2003 Budget Request \$36,017,000.
- For the McAlpine Lock Project on the Ohio River, IN/KY, \$30,000,000 to complete construction of the cofferdam related to the new 110' × 1,200' lock addition. Fiscal year 2003 Budget Request \$6,192,000.
  - For the Marmet Lock Replacement on the Kanawha River, WV, \$58,000,000 for real estate acquisition and for initial systems for mitigation of the construction project. Fiscal year 2003 Budget Request \$10,978,000.
  - For the Kentucky Lock Addition on the Tennessee River, KY, \$45,000,000 to continue construction of the new highway and bridge work and to begin construction of the upstream cofferdam. Fiscal year 2003 Budget Request \$27,400,000.
  - For continuing major rehabilitation of London Locks and Dam, Kanawha River, \$11,934,000. Fiscal year 2003 Budget Request \$11,934,000.
  - For the Ohio River Mainstem Study, including studies related to completing Interim Feasibility Reports for Newburgh, Cannelton, and Meldahl, and for Emsworth, Dashields, and Montgomery Locks and Dams, approximately \$3,000,000 in fiscal year 2003. This level of funding is needed to continue the work leading to construction authorization documents for additional capacity at these six lock and dam locations. Fiscal year 2003 Budget Request \$3,000,000.
  - For Pre-Construction Engineering and Design for the John T. Myers Locks and Dam, Ohio River, IN/KY, \$2,100,000. A new construction start for this project will be required soon, since this project was authorized for construction in the Water Resources Development Act of 2000. Fiscal year 2003 Budget Request \$1,346,000.
  - For Pre-Construction Engineering and Design for the Greenup Locks and Dam, Ohio River, OH/KY, \$2,100,000. A new construction start for this project will be required soon, since this project was authorized for construction in the Water Resources Development Act of 2000. Fiscal year 2003 Budget Request \$1,302,000.

All lock and dam modernization projects should be completed in a timely and orderly manner. It is important to note that monies to pay for lock and dam modernization are being generated by a 20 cents per gallon diesel fuel tax by towboats operating on America's inland navigation system. These tax revenues are gathering in the Inland Waterways Trust Fund, in order to finance 50 percent of the costs of these project costs. There is about \$400 million in the Inland Waterways Trust Fund. The real challenge is not the private sector contribution to completing these lock and dam construction projects in a timely manner, but rather it is the commitment of the federal government to matching its share.

The construction schedules for Ohio River Navigation System projects have slipped from one to six years, depending on the project. Delaying the construction of these vitally needed infrastructure investments is a terribly inefficient practice. Inefficient construction schedules cost people a lot of money. A March 2000 study by the Institute for Water Resources concluded that \$1.34 billion of cumulative benefits (transportation savings) for Olmsted, Lower Monongahela River 2, 3 & 4, McAlpine, Marmet, and Kentucky lock and dam modernization projects have been lost forever. The benefits foregone represent the cumulative annual loss of transportation cost savings associated with postponing the completion of these projects from their "optimum," or "efficient," schedule. In addition, this study concludes that \$534 million of future benefits are at risk but will be foregone (based on fiscal year 2001 schedules) if funding is not provided to accelerate design and construction activities in accordance with "efficient" schedules.

Expenditures for lock and dam modernization are an investment in the physical infrastructure of this nation. The President's \$4.29 billion Corps of Engineers Civil Works Budget for fiscal year 2002 will fall at least \$700 million short of what will be needed to meet the nation's water resources needs. Mr. Chairman, we have great confidence in the Corps of Engineers and urge your support for a funding level more in line with the real water resources development needs of the nation. For lock and dam modernization on America's inland navigation system, targeted construction funding ought to be at a level of about \$300 million annually, with half coming from the Inland Waterways Trust Fund and half coming from the General Treasury. Last year Congress provided about \$4.54 billion for the Corps of Engineers program and more than \$200 million for lock and dam modernization on America's inland navigation system. It is reasonable that funding for the Corps program should be increased to levels closer to \$5 billion and about \$300 million for lock and dam modernization on our nation's river system, in order to complete the major lock and dam modernization projects by the end of the decade or earlier.

Following is our analysis of the partial consequences of inadequate funding of Ohio River Navigation System infrastructure improvements:

*Olmsted Locks and Dam*

The project is cost-shared 50/50 with the Inland Waterways Trust Fund. Total project cost of \$1.06 billion. The benefit to cost ratio is 3.5 to 1 based on an interest rate of 8 7/8 percent. The average annual navigation benefits for this project are \$526,250,000. Construction funds were first appropriated in fiscal year 1991. Approximately \$514 million has been expended through fiscal year 2001 leaving a balance of \$538 million to complete the project. In fiscal year 2002 the Congress provided \$40,000,000. During the last three fiscal years the President's budget averaged about \$40 million annually for the Olmsted construction project, while about \$68 million has been reprogrammed into the project during the same time (\$58 million in fiscal year 2000 alone). The challenge is to put Olmsted on an Efficient Funding schedule, which will require \$89 million in fiscal year 2003 and about \$70 million annually throughout the balance of the decade.

Olmsted has already slipped its completion date by 4 years, and hundreds of millions in transportation benefits have already been washed down the river (non-recoverable) because of construction schedule slippage. The President's fiscal year 2003 Civil Works Budget has funded the project on an Efficient Funding Schedule, and the new facility could be operational by 2010. This improved construction scenario (when compared to fiscal year 2002 construction schedule projections) could prevent the loss of more than \$2.5 billion in transportation benefits.

Many contracts are required to design and construct the project. Of the sixteen major construction contracts, five are complete, five are underway and six remain to be awarded. The construction contracts for the Locks (\$270 million) are nearly complete. The Locks Approach Walls (\$99 million) and the Operating & Maintenance Bulkheads (\$24 million) construction contracts and the preparation of the Dam P&S will continue in fiscal year 2002. The advertisement of the Dam construction contract is scheduled for fiscal year 2002, with the award scheduled for the first quarter of fiscal year 2003. The award of this contract assumes that adequate funding will be available to support the estimated \$300M construction contract over the five-year contract duration.

*Lower Monongahela River Locks and Dams 2, 3 & 4*

A significant portion of the fiscal year 2003 appropriation will be used to complete construction of the new gated Braddock Dam (NTP for construction of Braddock Dam was issued in July 1999). When operational, the new gated Braddock Dam can lessen system failure risks by raising Pool 2 five feet to reduce the head at L/D 3 only if adequate funding to complete the required Pool 2 relocations is received. The decommissioning of L/D 3 is scheduled to begin with the completion of one new lock chamber at Locks 4 (Charleroi). The Pittsburgh District has a plan to maintain momentum on advancing construction of the new Charleroi Locks that requires significant funding in the near term. Without sufficient funds, this plan would be forced into a very inefficient design and construction mode, causing major delays to project completion and the realization of project benefits. In summary, efficient funding levels for this project are vital to maintain viable inland navigation on the Monongahela River and avoid these negative impacts:

Navigation Project Funding Schedules presented to the Inland Waterway Users Board on July 18, 2001, indicate that an additional \$501 million will be required to complete the project (seven years) by 2010 (it has already slipped its completion date by 6 years). The Corps of Engineers funding for the Lower Mon Project has only averaged \$30 million annually from fiscal year 1997 to fiscal year 2001. \$40 million was appropriated in fiscal year 2002. The President's Budget for fiscal year 2003 allocates \$36,017,000, while the Efficient Funding Level for construction of this project is \$63 million. Continued funding at a rate of \$36 million annually could delay completion an additional 5 or more years, possibly by 2015 -17.

Construction delays fail to reduce risks associated with continued reliance and use of existing Locks and Dam 3 and Locks 4. A structural failure would cause a loss in transportation savings of hundreds of millions of dollars per year. Delays in construction completion increase the cost of work by about 2.7 percent per year for inflation. Delays in construction completion result in continued transportation inefficiencies of about \$30 million per year. Each year the project is delayed, \$1.5 million of scarce Operations and Maintenance funds must be allocated to continue L/D 3 in service. The relocation of utilities in pool 2, to accommodate a five-foot pool raise upon completion of the Braddock Dam, would be delayed. Raising Pool 2 is critical to decreasing loads on the structurally deficient L/D 3.

*McAlpine Locks and Dam*

The McAlpine Locks and Dam project is cost-shared 50/50 with the Inland Waterways Trust Fund. The total cost of the project is \$278 million. The benefit to cost ratio is 1.8 to 1 based on an interest rate of 8 percent. The average annual benefits for this project are \$41.6 million. Approximately \$60 million has been expended through fiscal year 2001 leaving a balance of approximately \$218 million to complete the project. During the last five fiscal years the Congress appropriated slightly more than \$12 million annually (\$18.6 million in fiscal year 2002) for the McAlpine project. In fiscal year 2001 an additional \$9M was reprogrammed into McAlpine to meet construction expenditures and fiscal year 2002 will require \$9M to be reprogrammed to meet scheduled expenditures. In fiscal year 2003, \$30 million is needed to fund the project on an Efficient Funding Level, and an average of \$47.5 million annually through fiscal year 2007 will be needed to complete the project.

McAlpine has already slipped its completion date by 5 years, and over \$173 million in transportation benefits have been washed down the river (non-recoverable) because of construction schedule slippage. Failure to fund the project on an Efficient Funding Schedule in fiscal year 2003 (at \$30 million) and each future year could delay completion by as much as an additional ten years, possibly to 2017. That scenario would wash another \$416 million in benefits down the river.

The cofferdam/lock demolition construction contract was awarded in May 2000 and is approximately 60 percent complete. The Corps of Engineers can advertise a contract for construction of the new lock in February 2002. Award of the lock contract is scheduled for September 2002 and will have a four-year performance period. If funded at an efficient level, the lock can be completed in 2007. A total of \$208 million will be needed over the next five years (fiscal year 2003-fiscal year 2007) to complete the project.

*Marmet Lock and Dam*

The majority of the fiscal year 2003 appropriation will be used to continue construction of the replacement lock. When operational, the new Marmet Lock will reduce the average transit time of 4.7 hours to 0.8 hours, and at current traffic levels, would yield over 16.4 thousand hours of trip time savings for the 4,210 tows which utilized the project in 2001.

Navigation Project Funding Schedules presented to the Inland Waterway Users Board in July 2001 indicate that an additional \$248 million will be required to complete the project by 2009 (seven years). The Corps of Engineers funding for the Marmet Project has only averaged \$12 million annually from fiscal year 1998 to fiscal year 2001. \$27.1 million was appropriated in fiscal year 2002. The fiscal year 2003 budget allocates nearly \$11 million, when the efficient funding level for the new Marmet Lock is \$58 million. With remaining costs to complete the new lock estimated at \$236 million, a \$6 million annual investment would delay completion of the project more than 22 years. Average annual benefits of this new project are about \$56 million a year.

*Kentucky Locks and Dam*

The project is cost-shared 50/50 with the Inland Waterways Trust Fund. The total project cost is estimated to be \$533 million. Average annual benefits are \$52.5 million, and the project has a benefit to cost ratio of 2.4 to 1. Construction on the project commenced in July 1998 and could be completed by 2008 if sufficient and timely funds are received. Approximately \$69 million has been expended through fiscal year 2001, leaving a balance of \$464 million to complete the project. During the last three fiscal years the Kentucky Lock Addition project has received an average funding level of approximately \$21 million. To complete the project on an Efficient Funding Schedule (in the 2008 timeframe) will require \$45 million in fiscal year 2003 and annual funding levels of \$55 to \$60 million from fiscal year 2004 to project completion. Annual budget allocations/appropriations at the fiscal year 2003 level identified in the President's fiscal year 2003 Civil Works Budget (\$27.4 million) will delay completion of the project by as much as 17 years. And \$hundreds of millions will be washed down the river.

Due to the continuing deterioration of the existing 60 year-old Kentucky Lock, two 130-day outages are expected to be needed beginning in 2009 to make necessary repairs. The economic ramifications to these outages will be extreme. Completion of the new lock prior to these outages will not only prevent these economic disruptions but will also expedite the economic benefits of eliminating the long delays currently and projected by traffic using the existing lock.

Many contracts are required to design and construct the project. Of the eight major construction contracts, one is complete, one is 85 percent complete, two are just underway, and four remain to be awarded. The largest of these construction

contracts is for the new 110' × 1,200' lock, which will be ready for award in 2004 if sufficient funds are appropriated in fiscal year 2003 and allocated in fiscal year 2004.

We thank you for the opportunity to present this request and our thoughts on these matters.

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PREPARED STATEMENT OF THE GARRISON DIVERSION CONSERVANCY DISTRICT

My name is Richard Fugleberg, Chairman of the Garrison Diversion Conservancy District Board of Directors. I am privileged to represent the largest water district this side of the Rocky Mountains. I am submitting this for your consideration as you look at the appropriations for fiscal year 2003 for the Bureau of Reclamation and, in particular, the Garrison Diversion project. I would also like to discuss the impact that the current budget request has for Garrison and for the Bureau of Reclamation on the effort to fight recession and provide reliable, affordable, quality water supplies to the citizens of North Dakota.

I must start by recognizing that this nation is currently in the unenviable position of fighting two wars at the same time. We cannot look our children or grandchildren in the face and consider any alternative but to fight the war against the horrific potential of terrorism. We must be able to tell those children and grandchildren that we are fully committed to not only fighting this war, but winning it. As bad as terrorism is, the eventual result of a prolonged recession or depression is as bad, if not worse. If we do not win the war on recession, we will eventually be unable to wage the war on terrorism effectively, and we will suffer a slow, but certain and agonizing, demise. We have no choice but to fight to win both wars at the same time.

A strong economy is needed in order to support the defense program. This means we must continue our programs to maintain our infrastructure. The economy/business sectors depend not only on infrastructure in the form of transportation networks, communication systems and energy supplies, but most importantly, water supplies.

DISCUSSION OF OVERALL BUREAU OF RECLAMATION BUDGET

It is important to recognize that the fiscal year 2003 budget submission of \$726 million for the Bureau of Reclamation's Water and Related Resources program is \$80 million better than their request for fiscal year 2002. It is still, however, \$36 million less than the amount that Congress provided last year, and \$115 million less than has been called for by the "Invest in the West" Coalition, a coalition of nine western water organizations that are involved in the full array of western water issues.

The "Invest in the West" goal, one with which I agree, is to raise the Bureau's Water and Related Resources Budget to \$1 billion by the end of fiscal year 2005. This is simply a goal to restore the budget to previous levels. The erosion of the Bureau's budget during the 90s has created problems across the west for virtually all of its constituents.

The Bureau of Reclamation reports that they have a \$5 billion backlog of projects. The 106th Congress authorized \$2 billion worth of water programs, of which the Dakota Water Resources Act was a major piece. I would also like to submit, for the record as Attachment 1, a report by the National Urban Agriculture Council, entitled "Withering in the Desert", which shows the Bureau of Reclamation's budget declining 36 percent from fiscal year 1991 through fiscal year 2000. The Invest in the West Coalition believes this modest ramping up of the present budget is necessary and appropriate in order to restore the program effectiveness of the Bureau and to meet the critical water needs in the west. In addition to the construction backlog, there is also a need to deal with future operation and maintenance funding needs in the program. This is particularly true in the operation and maintenance budgets for Native American projects. This element of the budget is already in serious competition for construction dollars, as I will briefly illustrate during my discussion of the Garrison program.

As you look forward to funding for western water needs and the needs in our own state, I would like you to consider one other need that I believe could be addressed in the Bureau budget. There is a serious need for the Bureau of Reclamation, working with the states and the tribes, to conduct a water development needs assessment for the western states. We can't just look at today when we have a responsibility for tomorrow. We suggest you consider providing some modest funding to the 17 western states to update their state water plans so a comprehensive view on future development funding needs would be available to your Committee, as well as

the respective authorizing and appropriations committees. It is a need that hasn't been addressed. The Western Water Policy Review Commission examined the issues, but not the funding necessary to address the current and future issues. I believe this is a vital missing link as Congress, the Administration and water users provide a vision and opportunities for future generations.

#### BUDGET IMPACTS ON GARRISON PROJECT

At this point, I would like to shift to the particulars of the budget as it impacts the Garrison program and some specific projects within the State of North Dakota. Let me begin by reviewing the various elements within the current budget request and then discuss the impacts that the current level of funding will have on the current program.

Attachment 2 shows the funding history over the last six years for the Garrison Diversion Unit. The average is approximately \$26 million. The President's budget request for fiscal year 2003 is for \$25.239 million. A continuation of that trend is a formula for disaster. The President's budget request maintains the historic funding level but ignores the needs of the current programs and does not keep up with the price increases expected in the major programs as delays occur. Fortunately, Congress saw fit to provide that the unexpended authorization ceilings would be indexed annually to adjust for inflation. The proposed allocations to the indexed programs in the President's budget totals \$6.7 million. If a modest 2 percent inflation factor is assumed, the increase will be \$8 million for MR&I and \$2 million for the Red River Valley phase. Simply put, with the current request, we will lose ground on the completion of these projects.

This year, the District is asking the Congress to appropriate a total of \$45 million for the Project. Attachment 3 is a breakdown of the elements in the District's request. To discuss this in more detail, I must first explain that the Garrison budget consists of several different program items. For ease of discussion, I would like to simplify the breakdown into three major categories. The first I would call the base operations portion of the budget request. Attachment 4 contains a breakdown of the elements in that portion of the budget. This amount is nominally \$20 million annually. However, as more Indian MR&I projects are completed, the operation and maintenance costs for these projects will grow and create a conflict with a growing request for actual construction funding.

The second element of the budget is the MR&I portion. This consists of both Indian and non-Indian funding. The Dakota Water Resources Act contains an additional \$200 million authorization for each of these programs. For discussion purposes, I have lumped them together and acknowledged that however each program proceeds, it is our intent that each reach the conclusion of the funding authorization at approximately the same time. We believe this is only fair.

The MR&I program consists of a number of medium-sized projects that are independent of one another. They generally run in the \$20 million category. Some are, of course, smaller and others somewhat larger, but one that is considerably larger is the Northwest Area Water Supply Project (NAWS). The first phase of that project is underway. The optimum construction schedule for completion of the first phase has been determined to be five years. The total cost of the first phase is \$66 million. At a 65 percent cost share, the federal funding needed to support that program is \$43 million. On the average, the annual funding for that project alone is over \$8 million. Four other projects have been approved for future funding and numerous projects on the reservations are in the final stages of planning. These requests will all compete with one another. It will be a delicate challenge to balance these projects with one another. Nevertheless, we believe that once a project is started, it needs to be pursued vigorously to completion. If it is not, we simply run the cost up and increase the risk of incompatibility among the working parts.

An example of the former would be the certain impact of increased cost of construction over time through inflation but also by protracting the engineering and administration costs and "interest-during-construction" costs.

Another costly example might be that a part used in an early phase may no longer be available from manufacturers during the last phases. The risk of the two dissimilar parts not quite meshing in actual operation is, of course, increased when the project is stretched out over a longer period of time.

The third element of the budget is the Red River Valley (RRV) construction phase. The Dakota Water Resources Act authorized \$200 million for the construction of facilities to meet the water quality and quantity needs of the Red River Valley communities. It is my belief that the final plans and authorizations, if necessary, should be expected in approximately five years. This will create an immediate need for greater construction funding.

This major project, once started, should be pursued vigorously to completion. The reasons are the same as for the NAWS project and relate to good engineering construction management. Although difficult to predict at this time, it is reasonable to plan that the RRV project features, once started, should be completed in approximately seven years. This creates a need for an additional \$30 million as soon as authorized and a repayment contract is signed. Fortunately, the RRV project start will probably follow the completion of the NAWS first phase and possible later phases.

Using these two projects as examples sets up the argument for a steadily increasing budget. First, to accelerate the MR&I program in early years to assure the timely completion of the NAWS project and then to ready the budget for a smaller MR&I allocation when the RRV project construction begins.

Attachment 5 illustrates the level of funding for the two major items, MR&I and RRV. It is quickly apparent that if a straight-line appropriation is used for each, that a jolt or funding disaster will occur in the sixth year. That is when an additional \$30 million will suddenly be needed for the RRV program. It is simply good management to blend these needs to avoid drastic hills and valleys in the budget requests. By accelerating the construction of NAWS and other projects which are ready for construction during the early years, some of the pressure will be off when the RRV project construction funding is needed. A smoother, more efficient construction program over time will be the result.

Attachment 6 shows such a program. It begins with a \$45 million budget this year and gradually builds over time to nearly \$80 million when the RRV construction could be in full swing (fiscal year 2008). Mr. Chairman, this is why we believe it is important that the budget resolution recognize that a robust increase in the budget allocation is needed for the Bureau of Reclamation. We hope this testimony will serve as at least one example of why we fully support the efforts of the "Invest in the West" campaign to increase the overall allocation by another \$115 million in fiscal year 2003 and over time an increase to a total of \$1 billion.

Once again, the District acknowledges the difficulty of increasing the numbers in a time of deficit spending, but can only conclude that these two wars must be fought vigorously and simultaneously. We cannot afford to fail at either.

#### ATTACHMENT 1.—NATIONAL URBAN AGRICULTURE COUNCIL

##### WITHERING IN THE DESERT: THE NEED TO INCREASE THE BUREAU OF RECLAMATION'S BUDGET

Western water interests have been concerned for several years about the downward trend of the Water and Related Resources Budget of the U.S. Bureau of Reclamation, Department of the Interior. The Bureau's Budget has decreased more than 36 percent in ten years going from \$899,378,000 in fiscal year 1991 to \$573,612,000 in fiscal year 2000. During the five-year period covered by the tables attached to this report, it was reduced by \$106 million.

In order to address the backlog in the Bureau of Reclamation that is discussed later in this report, we suggest a \$1 billion a year budget be provided for the Water and Related Resources account in their budget so that important needs in the West are adequately addressed.

During the time frame of fiscal year 1991-fiscal year 2000, Congress has passed new project and program authorizing legislation for the Bureau such as the Reclamation Projects Authorization and Adjustment Act of 1992 and projects in the Omnibus Consolidated and Emergency Supplemental Appropriations for fiscal year 2001. Freestanding authorization bills in the 106th Congress totaled \$2 billion, giving the Bureau of Reclamation a \$5 billion backlog of authorizations to be incorporated into their Budget. This backlog includes the Title 16 Water Reclamation and Reuse Program and the California Bay-Delta Ecosystem Restoration Program.

In 1997 the Bureau published its five-year Strategic Plan pursuant to the Government Performance and Results Act (GRPA) of 1993. Western water organizations participated in discussions and development of the plan and on the subsequent Annual Plans for the Bureau. The Strategic Plan had three primary objectives coupled with eighteen strategies and five-year goals for each of the strategies. Their mission, in its simplest terms, is broken down as follows:

- Manage, develop, and protect associated water related resources;
- Protect the Environment in the West;
- Improve business practices and increase employee productivity.

We do not believe the Bureau should unilaterally redefine its mission. First, its original mission isn't finished. Second, defining the mission of a Federal agency is the prerogative of Congress, not the agency itself. In June of 1998, Congress was presented with a report from the Western Water Policy Review Advisory Commis-

sion: "Water in the West: Challenge for the Next Century". Western water interests concerns with the decline of the Bureau's Budget are matched by their concern of how to address the growth-related issues in the West. As the report notes: "For the past 15 years, the West has been experiencing the most dramatic demographic changes for any region or period in the country's history. Should present trends continue, by 2020 population in the West may increase by more than 30 percent."

With that growth is a little recognized fact: The Bureau of Reclamation is about to celebrate its 100th birthday. The Bureau of Reclamation is responsible for the largest portion of water storage in Federal reservoirs in the West; an ever-increasing aging infrastructure. Reclamation has sole responsibility for the operation of reservoirs with a total capacity of more than 119 MAF and shares responsibility for the operation of reservoirs with an additional 16 MAF. There are about 133 water projects in the western United States constructed by Reclamation. As a result, the Bureau of Reclamation's operation and maintenance budget, just like that of the U.S. Army Corps of Engineers is increasing at a substantial rate. Just as the backlog of projects needs to be accommodated, there is a need to recognize the operations and maintenance budget with future Budget increases.

Attached is a table for fiscal year's 1996-2000 budgets for each of the major agencies in the Department of the Interior. All of these agencies are funded by the Interior Appropriations Bill. The Bureau of Reclamation is funded by the Energy and Water Appropriations Bill, which also funds the U.S. Army Corps of Engineers and the Department of Energy. However, when viewed by the Administration and the Department of the Interior, the Bureau of Reclamation is included in the Department's framework for decisions on increases or reductions to the overall Department's Budget even though it is funded by a different appropriations account.

There is great concern among Western water interests about the downward trend of the Bureau's Budget. There is a general consensus that a minimum of \$1 billion a year is needed to address ongoing programs and the growing backlog of the Bureau. This is necessary for the West to address its growth related issues. Given the information presented in the attached tables, every agency except the Bureau of Reclamation and the Minerals Management Service received a Budget increase, ranging from \$30 million to \$500 million during these five fiscal years. The Bureau of Reclamation has suffered a \$106 million decrease. We feel a change needs to occur, especially since there was a combined increase of \$1.3 billion for these agencies during the fiscal year 1996-2000 time frame. This time frame incidentally coincides with the 5-year Balanced Budget Agreement where a vast majority of other agencies programs were being reduced. In addition, Congress has provided money through Conservation and Reinvestment Act (CARA)-type programs in the fiscal year 2001 budget that, just for the Interior related budget non-Reclamation program, amounted to \$678 million. This funding is only expected to increase in the future once the actual authorizing legislation passes Congress.

There is also a growing recognition that in the 107th Congress, there is a strong likelihood of an additional \$3 to \$7 billion of authorizations being proposed for the State of California. These include new authorizations for CAL-FED, a comprehensive water management program for the Santa Ana Watershed, the Salton Sea, and a water reuse/recycling program for various parts of California. There are also growing program needs in the Pacific Northwest with respect to addressing salmon related issues.

A careful note needs to be made about the \$3 billion backlog for the Bureau that existed prior to the action in the 106th Congress. A small portion of that backlog may be reduced as a result of the legislation that passed in the 106th Congress. For example, the old cost ceiling for the Animas LaPlata (ALP) is in the \$3 billion backlog. The legislation that passed the 106th Congress for ALP reduced the cost of the project substantially. There are further examples of features of projects in that backlog that will likely never get built, but Congress has taken no action to suggest that they should be modified or deleted.

In addition, a report last year by the firm of Will & Carlson, Inc.—"The Greening of the Bureau of Reclamation: From Bird Seed to Pistachio Farms to Life on the Edge" reviewed the Bureau of Reclamation's budget from fiscal year 1991-99 regarding loans, grants and cooperative agreements for less than \$2 million. That report indicated during that period, approximately \$750 million had been provided for a variety of activities. The vast majority of these activities were legitimately related to specific project or program authorizations of the Bureau of Reclamation, as well as activities directly related to other Federal requirements and activities, such as the Endangered Species Act and Indian Water Rights Settlements. Without making a value judgment call, there was funding provided for maybe as much as 20 percent of this total that might be questionable. Regardless, the information is now available so that Congress, if they so choose, can decide on whether such activities



should continue in the future. It is important to recognize the dollar amount that is necessary for the environmental challenge for water development to occur to meet the future water needs in the West.

In conclusion, with the growth related issues in the West, the backlog of projects, the downturn in the Bureau's Budget, the overall increase in almost all of the other Interior Agencies, and with the country now in a budget surplus period, it is time to increase the Bureau's Budget to a level that meets this challenge. It is time to turn the corner on the funding for the Bureau and put it on a course so the West is not left withering in the desert.

106TH CONGRESS—BUREAU OF RECLAMATION BILLS/PROVISIONS THAT BECAME LAW

*Reclamation-Wide*

Reclamation Reform Act Refunds, Public Law 106-377  
 Dam Safety amendments, Public Law 106-377  
 Hawaii Reclamation and Reuse Study, Public Law 106-566

*Great Plains Region*

Perkins County Rural Water Supply Project, Public Law 106-136  
 Rocky Boys Indian Water Rights Settlement, Public Law 106-163  
 Lewis and Clark Rural Water Supply, Public Law 106-246  
 Middle Loup Title Transfer, Public Law 106-366  
 Northern Colorado Title Transfer, Public Law 106-376  
 Glendo Contract Extension, Public Law 106-377  
 Canyon Ferry Technical Corrections, Public Law 106-377  
 Loveland Warren Act amendment, Public Law 106-377  
 Fort Peck Rural Water Supply, Public Law 106-382  
 Park County land conveyance, Public Law 106-494  
 Palmetto Bend Title Transfer, Public Law 106-512  
 City of Dickinson, North Dakota Bascule Gates Settlement Act, Public Law 106-566  
 Dakota Water Resources Act, Public Law 106-554  
 Lower Rio Grande, Public Law 106-576

*Upper Colorado Region*

Central Utah Project Completion Act, Public Law 106-140  
 Carlsbad Title Transfer, Public Law 106-220  
 Jicarilla Apache Feasibility Study, Public Law 106-243  
 Weber Basin Warren Act Amendment, Public Law 106-368  
 Upper Colorado Fish Recovery, Public Law 106-392  
 Colorado River salinity, Public Law 106-459  
 Mancos (Warren Act Amendment), Public Law 106-549  
 Colorado Ute Settlement Act Amendments, Public Law 106-554

*Lower Colorado Region*

Griffith Title Transfer, Public Law 106-249  
 Ak-Chin Indian Water Rights Settlement, Public Law 106-285  
 Hoover Dam Miscellaneous Sales, Public Law 106-461  
 Yuma Port Authority Transfer Act, Public Law 106-566  
 Wellton Mohawk Title Transfer, Public Law 106-221

*Pacific Northwest Region*

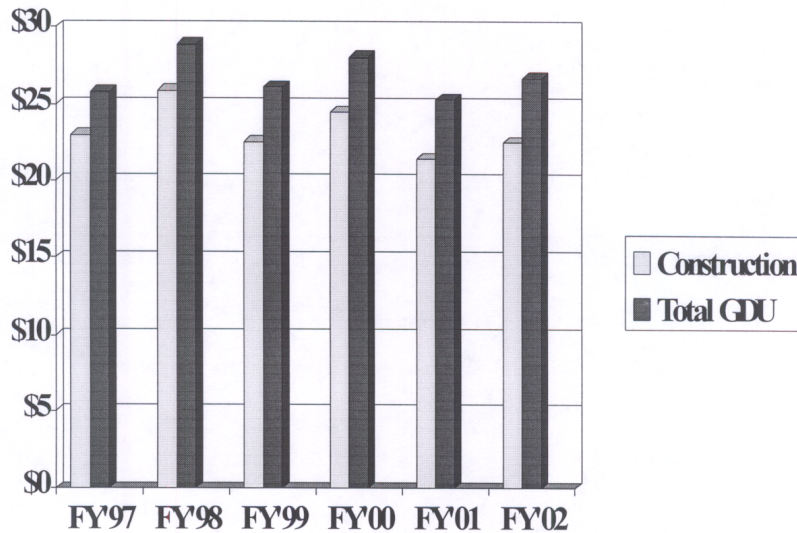
Deschutes, Public Law 106-270  
 Minidoka Authorization Ceiling Increase, Public Law 106-371  
 Chandler study, Public Law 106-372  
 Nampa and Meridian Title Transfer, Public Law 106-466  
 Cascade Reservoir Land Exchange, Public Law 106-493  
 Bend Feed Canal, Public Law 106-496  
 Salmon Creek Studies, Public Law 106-499  
 Fish Screen, Public Law 106-502

*Mid-Pacific Region*

Sly Park Title Transfer, Public Law 106-377  
 Solano Project Warren Act amendment, Public Law 106-467  
 Sugar Pine Title Transfer, Public Law 106-566  
 Clear Creek Title Transfer, California, Public Law 106-566  
 Colusa Basin, California, signed 12/23/00, signed 12/23/00, Public Law 106-566  
 City of Roseville, CA, signed 12/23/00, Public Law 106-554  
 Truckee Water Reuse Project, Public Law 106-554

Sacramento River study, Public Law 106-554  
 Klamath studies, Public Law 106-498

## Garrison Diversion Unit Funding History (\$ Millions)



ATTACHMENT 2

### ATTACHMENT 3.—JUSTIFICATION FOR \$45 MILLION GDU APPROPRIATION, FISCAL YEAR 2003

Northwest Area Water Supply is cleared for construction after 15 years of study and diplomatic delay. Construction of first phase is estimated to be \$66 million.

Designs are based on a five-year construction period, thus, \$12 million is needed for NAWs alone. Indian MR&I programs should be approximately the same.

McKenzie County, Ramsey County expansion, Tri-County and the Langdon-Munich phase will be ready but may be funded from carryover of existing appropriations.

Red River Valley special studies are behind schedule and need to be accelerated.

[In millions of dollars]

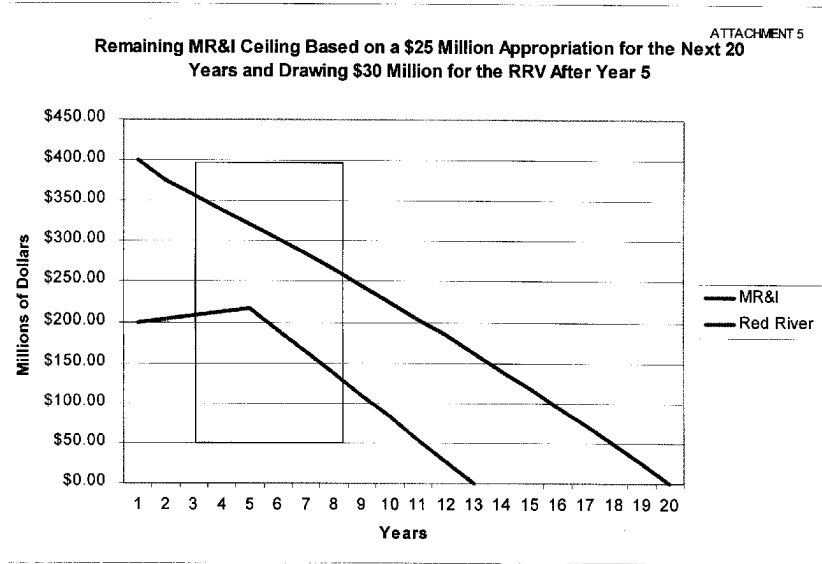
OPERATION AND MAINTENANCE OF INDIAN MR&I SYSTEMS PLUS JAMESTOWN DAM .....	4
BREAKDOWN OF \$45 MILLION CONSTRUCTION REQUEST:	
Operation and Maintenance of existing Supply system .....	5
Wildlife Mitigation & Natural Resources Trust .....	4
Red River Valley Special Studies and Env. Analysis .....	4
Indian and non-Indian MR&I .....	20
Indian Irrigation .....	3
Recreation .....	1

Underfinancing 9.5 percent .....	4
Total for Construction .....	41
Grand Total .....	45

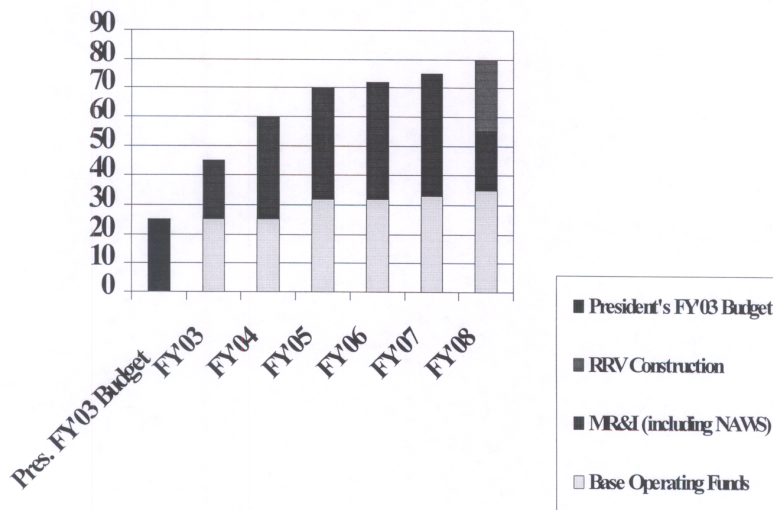
ATTACHMENT 4.—*Elements of the Base Operations Portion of the Garrison Diversion Unit Budget, Fiscal Year 2003*

[In millions of dollars]

Operation and Maintenance of Indian MR&I systems and Jamestown Dam .....	4.5
Operation and Maintenance of Existing GDU facilities .....	5.0
Funding of Natural Resources Trust and remaining Wildlife Mitigation Programs .....	4.0
Indian Irrigation .....	2.5
Recreation .....	1.0
Underfinancing at 9.5 percent .....	4.0
Total .....	21.0



## Garrison Diversion Unit Annual Appropriations (\$ Millions)



ATTACHMENT 6

PREPARED STATEMENT OF THE TUMALO IRRIGATION DISTRICT

The Tumalo Irrigation District (TID) in Bend, Oregon respectfully requests your support for inclusion of \$1,300,000 in the fiscal year 2003 Energy and Water appropriations bill for the District's Bend Feed Canal Project. The 106th Congress authorized the U.S. Bureau of Reclamation to participate in the further construction associated with the project in the amount of \$2.5 million.

The TID is proposing to continue and complete in the next fiscal year construction to pipe a critical portion of our open canals, essentially eliminating water loss and enhancing public safety along the project's approximate 14,500 foot length. The conserved water would be used to deliver enhanced water to the TID irrigators even in drought years, as they currently receive inadequate water in 8 of 10 years. It will also increase stream flows in Tumalo Creek and the Deschutes River.

The TID Board of Directors has expressed its willingness to pay their share of the estimated \$5 million project cost of this important project and have provided all but \$80,000 of their share. We are concerned that no funding for the project was requested by the Administration in their fiscal year 2003 Budget for the Bureau of Reclamation. Our request for \$1.3 million for fiscal year 2003 would allow us to complete the project in the next fiscal year which would benefit both the District and the general public. We appreciate the previous funding that we have received for work in this area and look forward to your favorable consideration of our request.

JOINT PREPARED STATEMENT OF NEW JERSEY MARITIME RESOURCES, STATE OF NEW JERSEY, DEPARTMENT OF TRANSPORTATION; NEW YORK CITY ECONOMIC DEVELOPMENT CORPORATION; TRANSPORTATION AND INFRASTRUCTURE, STATE OF NEW YORK, EMPIRE STATE DEVELOPMENT CORPORATION; AND PORT COMMERCE DEPARTMENT, THE PORT AUTHORITY OF NEW YORK & NEW JERSEY

On behalf of the Port of New York and New Jersey, we wish to thank you for the support this Subcommittee has shown for navigation programs and the civil works program. This Subcommittee and Congress understand the critical relationships between the navigation programs and the nation's commercial shipping and defense. We are especially appreciative of the funding that projects in our port have received to enable it to continue to serve our country's security, economic and international commerce objectives.

We offer our comments on the U.S. Army Corps of Engineers' fiscal year 2003 budget request. We enthusiastically support the Administration's budget request to continue the New York and New Jersey Harbor Navigation project at a strong level of funding. We also appreciate the support of Governor McGreevey and Governor Pataki for their leadership in securing federal funding for critical projects in the Port of New York and New Jersey. These funds will ensure that essential navigation infrastructure will be in place to accommodate post-Panamax ships currently deployed in international commerce. Clear trends in steamship design and construction will result in a larger percentage of the worldwide fleet of container ships that require channel depths up to 50 feet. It is critical, therefore, that major US gateways have the required depth to accommodate these deeper draft vessels. The Port of New York and New Jersey directly serves states of the Northeast and Midwest and with these channel improvements can continue to provide greater transportation efficiencies to those markets and as warranted provide for better military deployment.

In general, we support the Administration's budget request for studies and channel maintenance within the Port of New York and New Jersey. We respectfully request that the Subcommittee appropriate funds at levels outlined in this statement to ensure that these important projects continue. Listed below are select projects, discussed later in this statement, and appropriation amounts that we seek for fiscal year 2003. Those projects displayed in bold are our requests beyond the fiscal year 2003 budget levels.

	Budget	Port Request
Construction: New York & New Jersey Harbor .....	\$120,000,000	\$120,000,000
Studies:		
NY Harbor Anchorage Areas .....	364,000	364,000
Flushing Bay & Creek, NY Restoration .....	258,000	258,000
Hudson—Raritan Estuary (NY/NJ) .....	676,000	2,800,000
Hudson—Raritan Estuary (Lower Passaic) .....	206,000	700,000
Hudson—Raritan Estuary (Gowanus) .....	360,000	1,000,000
Operation and Maintenance:		
Buttermilk, NY .....	300,000	300,000
East River, NY .....	80,000	80,000
East Rockaway Inlet, NY .....	2,100,000	2,100,000
Flushing Bay & Creek, NY .....	80,000	80,000
Jamaica Bay, NY .....	1,420,000	1,420,000
New York Harbor (Drift Removal) .....	5,300,000	5,300,000
New York Harbor (Prevention of Obstructive Deposits) .....	750,000	750,000
New York Harbor, NY (Sandy Hook Channel) .....	3,720,000	3,720,000
New York & New Jersey Channels .....	3,835,000	3,835,000
Newark Bay, Hackensack & Passaic Rivers .....	75,000	825,000
Project Condition Surveys, NY District .....	1,650,000	1,650,000
Raritan River, NJ .....	80,000	80,000

A brief description of each of these activities follows.

#### CONSTRUCTION

##### *New York and New Jersey Harbor*

This project was authorized by Section 101 (a)(2) of the Water Resources Development Act of 2000 (Public Law 106-541). The recommended project includes deepening the Ambrose Channel from deep water to the Verrazano-Narrows Bridge to 53 feet below mean low water (mlw), and deepening the Anchorage Channel (from the Verrazano-Narrows Bridge to its confluence with the Port Jersey Channel), the

Kill van Kull Channel, portion of the Newark Bay Channels, the Arthur Kill Channel (from the Kill van Kull to Howland Hook Marine Terminal), the Port Jersey Channel and the Bay Ridge Channel to 50 feet mlw (52 feet mlw in rock or otherwise hard material). The Pre-construction Engineering and Design phase began March 6, 2001. While the local sponsor and Corps of Engineers prepare the project cooperation agreement with the Corps of Engineers the ongoing Kill van Kull-Newark Bay channel project (45 feet mlw) continues to make great progress and remains under budget. The next contract is about to be let and we are working with the Corps of Engineers to maintain the 2004 completion date. In the spirit of the consolidated funding approved by this Committee in conference last year, the local sponsor has applied for a permit and would fund a parallel contract to have the contractor continue the dredging beyond 45 feet to 50 feet. We are very grateful that the Committee approved in the fiscal year 2002 conference report the combined funding of the New York & New Jersey Harbor, the Kill van Kull, Arthur Kill and Port Jersey channel projects. It will prove to be a very effective way to advance the project and maximize efficiencies. We are likewise honored that the Administration considers this project a national priority and, accordingly, we strongly support the \$120 million budget request.

#### STUDIES

##### *NY Harbor Anchorage Areas (NY & NJ)*

This study was authorized by a Senate Committee Resolution on December 5, 1980. Red Hook Flats anchorage area, consisting of three anchorage areas, is located west of Red Hook and Bay Ridge, Brooklyn. It comprises part of the Port of New York and New Jersey anchorage area system that also includes the Gravesend, Liberty Island and Stapleton Anchorage areas. The reconnaissance report, completed in December 1993, identified a favorable improvement alternative for the Red Hook Flats consisting of deepening specific areas. The feasibility study has been started, and will examine this and other alternatives and recommend one that is technically feasible, economically justified and environmentally sound. We support the Administration's request for \$364,000 in order to continue this feasibility study.

##### *Flushing Bay & Creek, NY Restoration*

A reconnaissance study for Flushing Bay and Creek was authorized by resolution of the Committee on Public Works and Transportation of the U.S. House of Representatives adopted September 28, 1994. The study was authorized to address the problems and needs of the area with a view toward improving water quality problems in the Bay through ecosystem restoration. The primary concern is the southwest corner of the Bay next to LaGuardia Airport where water quality is degraded. The feasibility study began in October 1999 and will be finished in January 2003. Reconnaissance work indicates that ecosystem restoration can be effected, with benefits measurable as improvements in fish and wildlife habitat values. The Port Authority of New York and New Jersey supports this initiative and is willing to continue to be an active co-sponsor of the study. To that end, we support the Administration's request for \$258,000 in order to continue this much needed feasibility study.

##### *Hudson—Raritan Estuary Studies*

These studies were authorized by a House of Representatives Committee Resolution dated April 15, 1999, Docket Number 2596. Increases are being requested for the Hudson River Estuary studies in order to achieve the completion schedules of 2005 for the New York & New Jersey and Lower Passaic studies and 2004 for the Gowanus study.

—*New York & New Jersey.*—The purpose of the study is to identify a project that will comprehensively restore estuarine, wetland and adjacent upland buffer habitat throughout the port region to the extent practicable, in keeping with existing port and regional management plans. The NY District and the Port Authority signed the Feasibility Cost Sharing Agreement July 12, 2001. The Feasibility Study began July 16, 2001. We are eager to keep the momentum of this study going and respectfully request that the fiscal year 2003 budget be augmented to \$2,800,000 particularly since identification and implementation of beneficial use of dredged material for habitat enhancement and restoration from large-scale port channel deepening projects is included in this study.

—*Lower Passaic.*—Local communities throughout the Passaic River Basin requested a program of improvements that would restore the Passaic River. The Passaic River, including adjacent river shorelines, has been subject to degradation as a result of historic industrial and commercial activities, along with the associated impacts of urban development. The NY District initiated the Recon-

naissance Phase in January 2000 that recommended a separate feasibility study for the tidal influence of the Lower Passaic River. The NY District is now working to develop a Project Study Plan (PSP) for the feasibility study. The PSP is being developed in coordination with the Environmental Protection Agency. The District expects to execute the Feasibility Cost-Sharing agreement by August 2002. The non-Federal partner is the New Jersey Maritime Resources. We respectfully request that the fiscal year 2003 budget be augmented to \$700,000.

—*Gowanus*.—The feasibility study will assess the environmental problems and potential solutions in the Gowanus Canal. Restoration measures will assess hot spot clean-up of off channel contaminated sediments, contaminant reduction measures, creation of wetlands, water-quality improvements, and alteration of hydrology/hydraulics to improve water movement and quality. The potential non-Federal partner is the NYC Department of Environmental Protection. We request that the fiscal year 2003 budget be augmented to \$1,000,000 for this study intended to benefit human health.

#### OPERATION AND MAINTENANCE

Operation and maintenance projects are critical to the continued commerce, navigation and security of the Port of New York and New Jersey. This, in turn, is of paramount importance to the nation's security. If channels are not maintained to the depth recorded on nautical charts they become inaccurate and increase the risk of groundings to vessels. Portions of the channels in Newark Bay that lead to the Port Newark Marine Facility were deepened from 35 feet to 40 feet in 1995 as part of a more comprehensive deepening project. The current federal fiscal year provided funds to dredge a portion of these channels, unfortunately there were insufficient funds to do the needed maintenance dredging. Consequently, we respectfully request that the fiscal year 2003 budget be augmented by \$750,000 to \$20,140,000 for the New York District's operation and maintenance work.

#### CONCLUSION

The Port of New York & New Jersey has a long and productive history with Congress and the Corps of Engineers in the development and evolution of one of America's first seaports. Much of the Federal government's early revenues were collected in New York Harbor as tariffs, long before the advent of the income tax. In our port the civil works program, coupled with public and private sector investments, has served the Nation's economic and security interest for the better part of two centuries. The same is true in other ports of the United States. We are proud of that history and commit to continuing this partnership with the federal government so that our region will continue to serve the nation for centuries to come.

#### PREPARED STATEMENT OF THE CITY OF STILLWATER, MINNESOTA

Chairman Reid and Members of the Energy and Water Development Subcommittee, I thank you for the opportunity to submit this testimony requesting the \$1.5 million needed to complete Stage 3 of the Stillwater, Minnesota flood control project. In 2001, the City experienced its seventeenth flood since 1941, immediately after the Corps completed construction work on Lock and Dam #3 20 miles South of the convergence of the Mississippi River and the St. Croix River.

The first two stages of the project have been completed, and Congress appropriated \$2.3 million in the fiscal year 2002 Appropriations Bill to begin construction the critical Stage 3 of the project. The \$1.5 million in Federal funds requested this year, plus State appropriated, and local funds should be sufficient to complete the \$13.2 million project.

The project is divided into three stages. Stage 1 included the repair and reconstruction of the existing retaining wall which extends 1,000 feet from Nelson Street on the South to the gazebo on the North end of the levee wall system. Stage 2 consists of the extension of the levee wall about 900 feet from the gazebo North around Mulberry Point.

The completion of Stage 2 was delayed by floods of 1997, costing the City and the Federal government nearly a half million dollars. After the waters subsided, it was discovered that the soil beneath the planned levee extension was very unstable, requiring a revision of plans, and the addition of another stage in the construction process.

The flood waters of the St. Croix River did not recede until August of 1997. The construction area remained under water preventing construction work to proceed as scheduled. Lowell Park, which extends the full length of the levee wall system, sev-

eral structures, and the emergency roadway which is used to provide emergency medical assistance for those using the recreational St. Croix River, and as a water source for local fire departments, were all either under water or inaccessible.

Phase I, the repair and reconstruction of the original levee wall, was completed in the Summer of 1998. Work on Stage 1 was completed in late Summer of 1997, and additional soil borings were taken for Stage 2. The soil was found to be very unstable, and unable to support the levee system designed for Stage 2 of the project. The construction of Stage 2 required remedial action, and was been designated as Stage 2S. A contract was awarded for Phase 2S in November, 1998, and was completed in 1999. Phase 2 was begun in the late Fall of 1999, and the major construction work was completed at the end of the year 2000. Only some landscaping, and finishing work on the levee wall system remains to be done. The Design Memorandum schedule calls for the construction of Stage 3 in fiscal year 2002, and to be completed in fiscal year 2003, according to the Corps schedule.

Stage 3 expands the flood protection system by constructing a 3 foot flood wall, and driving sheet piling below the surface to reduce seepage and to provide a base for the wall. The flood wall will be constructed about 125 feet inland from the riverbank. Stages 1 and 2 were critical to the protection of the fragile waterfront, and also, to prevent minor flooding on the North end of the riverfront.

Stage 3 is the component that provides the flood protection for the City. The rising elevation of the terrain, the flood wall, and minimal emergency measures are designed to provide the City with up to 100 year flood protection.

The Mayor, City Council Members, and Engineering staff all understand that Stage 3 of the flood control project is essential for the protection of life and property of the citizens, that the Stage 3 flood wall is a critical phase of the project, and that the project must be completed at the earliest possible date. The Corps acknowledged the necessity for all three stages of the project when the Design Memorandum included plans for all three stages.

This fact is born out by the support of the Minnesota Department of Natural Resources, the Governor of Minnesota, and the State Legislature. The Minnesota Department of Natural Resources made funds available based on this premise. The State has appropriated half of the Non-Federal matching funds needed to complete Stage 3 of the project, as well as for Stages 1 and 2. The City has provided the remainder of the required matching funds, consequently, only the Federal share is missing to complete the project.

#### STILLWATER—A NATIONAL HISTORIC SITE

The City of Stillwater is recognized for the 66 historic sites on the National Register of the U.S. Department of Interior, as well as other historic structures. Many of these sites are located in the flood plain of the St. Croix River. Designated the "Birthplace of Minnesota," the City of Stillwater was founded in 1843.

When Wisconsin became a state in 1848, a portion of land West of the St. Croix and Mississippi Rivers, including much of what is now the Twin Cities of Minneapolis and St. Paul, was excluded. The prominent citizens of the excluded area convened in Stillwater on August 26, 1848, passed a resolution to be presented to Congress asking that a "new territory be formed," and that the territory be named "Minnesota." Henry Sibley carried the petition to Washington, D.C., and in March, 1849, Minnesota Territory was established. Stillwater then became the only city in the nation to become the county seat of two different territories, St. Croix County in Wisconsin, and Washington County, Minnesota. The Stillwater Convention firmly established Stillwater as the "Birthplace of Minnesota."

Stillwater grew and prospered as the Lumber Capitol of the Midwest. Billions of feet of timber was cut, and floated down the St. Croix to the nine sawmills that were located on the riverbank of the St. Croix at Stillwater between 1848 and 1914. More logs were carried through the boom site North of Stillwater than any other place in the United States. Three billion feet of lumber was produced by the nine lumber mills in the 1880's alone. All nine lumber mills were located on the riverfront. The lumber from the Stillwater mills were the primary source of wood-constructed buildings throughout the Midwest.

Much of the lumber was carried down the St. Croix to the Mississippi River, and on to St. Louis, the "jumping off" point for the Westward movement. Sawdust and wood debris from these mills helped created the fragile riverbank that the levee wall system protects today.

Later in the 19th Century, five railroads carried lumber from Stillwater Westward to Nebraska, North and South Dakota, and points West, as the Nation expanded beyond the Mississippi River into the plains states. Many of the Midwest's oldest buildings still carry the mark of the Stillwater mills.



As a result of Stillwater's place in the history of the Midwest, the lumber industry, the unique homes built by Minnesota's first millionaires, and the birthplace of both Minnesota Territory and the State of Minnesota, sixty-six sites are included on the National Register of Historic Places. All of the downtown area, which is located in the 100-year flood plain, is included in this recognition.

#### THE IMPACT OF LOCK AND DAM #3 ON FLOODS STILLWATER

The Lock and Dam #3 was constructed in 1937-38 on the Mississippi River at Red Wing, Minnesota. The Lock and Dam construction raised the level of the St. Croix at Stillwater by 8 to 10 feet. It has made the City of Stillwater vulnerable during periods of high water and flooding of the St. Croix since that time. Records prove that the lock and dam construction, raising the water levels of both the Mississippi and the St. Croix River, has markedly increased the incidence of flooding at Stillwater. The culpability of the Corps is clearly evident.

The Mississippi and the St. Croix Rivers merge about 14 miles South of Stillwater. When constructing the Lock and Dam at Red Wing in 1938, the Federal officials recognized that detaining the flow of the Mississippi would back up the water in the St. Croix at Stillwater. A 1,000 foot levee wall system was constructed at Stillwater by the WPA under the supervision of the Corps to protect the fragile waterfront.

From 1850 to 1938, the 88 years prior to the construction of Lock and Dam #3, only four floods were reported by historians. None were the result of Spring snow melts. The 1852 flood was the result of a cloudburst, the destruction of a dam built on McKusick Lake above the City, and was not the result of the flooding of the St. Croix River. The floods of June 14, 1885, and May 9, 1894, as well as the 1852 flood, were all the result of cloudbursts in or above Stillwater. These floods resulted in both loss of life and significant property losses in the City.

Since the completion of the Lock and Dam 60 years ago, the St. Croix has flooded on 17 occasions, and only four times in the 90 years preceding the construction of the Lock and Dam. None of the four were the result of high water on the St. Croix River. Four floods were recorded in the 1940's, immediately after the completion of the lock and dam at Red Wing. The 1952, 1965, and 1969 floods were record-breaking floods, the result of a heavy snow fall, and early Springs rainfall, coupled with warm weather. Record flooding was avoided in 1997, by the early planning of City officials, the construction of a huge emergency levee requiring thousands of truck loads of clay and sand, the work of hundreds of volunteers, and luck in the avoidance of a severe rainstorm in or around the flood event.

The 2001 flood was second worst flood in the 160 year history of the City. It was only topped only by the flood of 1965. The careful planning and preparation by the City, hundreds of volunteer workers included high school students and younger, local citizens from Minnesota and Wisconsin, and dozens of inmates from the nearby State prison were given credit for preventing a major catastrophe for the City. The water pump rental, thousands of yards of sand and fill, and a "round the clock" line up of trucks, cost the Federal, State, and local governments nearly \$1.3 million.

The planning and preparation of City officials, and adequate lead time have allowed the construction of levees high enough to avoid massive flooding in the historic section of the City during most of the floods, and to prevent further loss of life. However, a 4-5 inch rainfall during high water levels would be devastating to the City. Such rainfalls are not infrequent in the St. Croix Valley, and can not be anticipated. A major concern is the safety of the volunteers. Working around heavy equipment and massive trucks, day and night, and on top of 20 foot emergency levees over swirling flood waters, it is only a matter time until we have serious injuries or loss of life.

A wet Fall that saturates the soil, heavy snows during the Winter, extended warm spells in the Spring, coupled with persistent Spring rains, and cloudbursts as experienced in the past, will all come together in the same year at some point in time. At that point, the City's emergency responses to flood control will not be sufficient to cope with the flood waters.

History bears out the City's contention that the raising of the river levels by ten feet in 1938, when Lock and Dam #3 was constructed, greatly increases the flooding potential faced by the City during the past 60 years. On this basis alone, the Federal Government must share in the responsibility for providing a remedy. The construction of the Stage 3 flood wall at Stillwater will provide this safety.

#### ENVIRONMENT THREATENED DURING FLOOD EVENTS

The St. Croix River was designated as one of the first Wild and Scenic Rivers by Congress and is protected under both Federal and State laws, as well as by local

ordinances. The St. Croix River is carefully monitored by the Federal government, an Interstate Commission, and the DNR's by both the States of Wisconsin and Minnesota.

The City's concern is the trunk sanitary sewer line and pumping stations for the City of Stillwater. The sewer line runs adjacent to the riverfront and is frequently under water during major flood events. More than 2 million gallons of raw sewage is handled daily by the sewer line and pumping stations that follow the riverfront. Engineers have advised the City that extended flooding of the flood plain could result in the rupturing of the trunk line or the surcharging of the pumping stations.

Either of these events would result in the direct flow of raw sewage into the St. Croix River. It would be impossible to repair the system during the high water of a flood event. During the 1997 floods, one pumping station and a portion of the trunk sewer line remained under water for 95 days, and required careful monitoring by the City workers.

The protection of the river is not only the dominant theme of the State and Federal governments, but also by the counties and municipalities that line the riverbanks of the St. Croix. However, the greatest protectors of the river are the citizens themselves who take advantage of the crystal blue waters of the St. Croix for fishing, boating, and other recreational and scenic purposes.

The topography of the City of Stillwater requires the location of the trunk sanitary sewer line and pumping stations at the base of the City's hub, adjacent to the riverfront. The City is built on two hills that slope toward the river, abruptly interrupted by sandstone bluffs extending 50–75 feet high above the river level. The sanitary sewer system serving the 16,000 Stillwater residents flows into the trunk sewer line that runs parallel to the riverfront. It can not be moved. The 2 million gallons of raw sewage handled by the system each day, is gathered in the trunk sewer line and pumped Southward to the water treatment plant.

According to engineering studies, the trunk line and the pumping stations are both susceptible to rupture or surcharging during periods of flooding. Little could be done to stop the flow of raw sewage into the St. Croix until the water receded. During recent floods, it is not unusual for high water levels to persist for as much as 2–5 months. Such an event could release 120 million gallons of raw sewage into one of America's most pristine rivers over that period of time. If for no other reason than the protection of the river, the City believes the Stage 3 flood wall must be constructed with no delay.

#### LEGISLATIVE BACKGROUND

The Stillwater Flood Control and Retaining Wall project first was authorized in section 363 of the Water Resources Development Act (WRDA) of 1992. An allocation of \$2.4 million was made in the the Energy and Water Development Appropriations Act of 1994.

A Committee Report described the project in three parts—to repair, extend, and expand the levee wall system on the St. Croix River at Stillwater, Minnesota.

- “To repair” (Stage 1) the original existing levee wall system constructed in 1936.
- “To extend” (Stage 2) the original wall by approximately 900 feet to prevent the annual flooding that occurs at that location, and
- “To expand” (Stage 3) the system by constructing the flood wall about 125 feet inland from the levee wall system to protect the downtown and residential section in the flood plain.

In 1995, the Design Memorandum confirmed the cost estimate for the project was much too low, and the project was reauthorized for \$11.6 million by Congress in the 1996 WRDA legislation. In 2001, the Corps estimated the Federal cost at \$9.86 million, the non-Federal cost at \$3.29 million, and the total cost of the project to be \$13.15 million.

Since the reauthorization of the project five years ago, and the completion of the feasibility study, both Stage 1 and 2 have essentially been completed. Only the completion of Stage 3 will provide the City with the flood protection that is critically needed. The reconstruction of the existing levee wall system, the extension of the levee wall, and the construction of the flood wall are all critical to the safety of the citizens, the protection of property, and the preservation of historic sites that contributed to the growth and expansion of the Midwest in the last half of the 19th Century.

#### SUMMARY

The Mayor and Council for the City of Stillwater, Washington County Officials, the Governor and Minnesota State Legislature, and bipartisan support of Minnesota Representatives and Senators in Congress, all recognize the significant importance

of completing this project by constructing the Stage 3 flood wall on the St. Croix River at Stillwater. They are committed to the completion of the Flood Wall Project at Stillwater. It is critical to the protection of property, the preservation of our history, the respect of historic Indian sites, and the safety of our citizens and their homes and business.

We respectfully urge the Energy and Water Development Subcommittee for Appropriations to allocate the \$1.5 million needed to complete the Stage 3 flood wall in the fiscal year 2003 Appropriations Bill. If you have questions or would like additional information regarding this project, please call on us.

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PREPARED STATEMENT OF THE CITY OF CROOKSTON, MINNESOTA

Chairman Reid and Members of the Appropriations Subcommittee, I appreciate the opportunity to submit this testimony on behalf of the City Council and the citizens of Crookston, Minnesota. We are requesting \$3.702 million in Federal funds for the completion of Stage 2 of the flood control project authorized in the Water Resources Development Act of 1999. This funding level includes the \$3.2 million the U.S. Army Corps of Engineers has determined is necessary to complete the work on Stage 2 of the Crookston Flood Control Project, and \$500,000 for the development of the plans and specifications for Stage 3. As a result of the history of flooding experienced by the citizens of Crookston, and the continuing threat of flood events we face, it is critical that the funds needed for the Crookston project is made available in the Energy and Water Appropriation Bill for fiscal year 2003.

We would like to thank you and the Members of this Committee for the \$2 million appropriation awarded the Crookston Flood Control Project in the fiscal year 2002 Appropriations Bill. These funds have made it possible to complete nearly all the construction scheduled in Stage 1 of the project. Plans and specifications for Stage 2 have been completed. Bids for construction of Stage 2 are now in the process of being advertised. Construction is scheduled to begin immediately after the Winter thaw this Spring.

The \$2 million provided in the fiscal year 2002 Appropriations Bill has allowed us to move ahead on the construction of Stage 2. We are requesting \$3.702 million in the fiscal year 2003 Energy and Water Appropriations Bill. This will provide funds to complete the construction of Stage 2, and provide \$500,000 for the development of the plans and specifications for Stage 3.

Stage 2 calls for the construction of a second diversion channel, levees, and other features. The Section 22 study completed by the Corps has identified two additional communities that remain unprotected under the existing project. An amendment to the project authorization is being requested in WRDA 2002 which will include the Chase/Loring and Sampson Additions. The inclusion of the two additional communities in the project will result in a cost/benefit ratio of 1:1.03 as determined by the E and R Index. The inclusion of funds for the plans and specifications in the fiscal year 2003 Appropriations Bill will permit the project construction to move forward in fiscal year 2004 without any delay between Stage 2 and Stage 3.

The original project was authorized incrementally, rather than including all four of the neighborhoods susceptible to flooding. All the homeowners have been paying flood project fees for 10 years to provide the non-Federal match required. It would be unfair to the citizens living in unprotected areas to halt the project when half completed.

The Sampson and Chase/Loring Additions include some 250 structures, primarily single family dwellings. There are two rather large apartment complexes, one of which is designed as assisted living housing for senior citizens. It is located adjacent to the river, directly in the flood plain.

Two sanitary sewer pump stations are housed in the Sampson addition. Both are a concern to the City during flood conditions. As major trunk sewer lines, they carry more than a third of the City's raw sewage daily. It is important that Stage 3 plans and specifications be included in the fiscal year 2003 Appropriations Bill. Delaying the work till 2003 will result in increased costs, and continuing an unsafe environment for many of our citizens.

BACKGROUND AND LOGISTICS

The City of Crookston is located in the Red River Valley of Western Minnesota, in Polk County, 25 miles East of Grand Forks, North Dakota. The Red Lake River winds its way through the City from its source at the Upper and Lower Red Lakes, and flows into the Red River at Grand Forks. The population of the City has remained constant over the past decade at about 8,200 citizens.

The community was settled in 1872, when the first railroad route was announced crossing the Red Lake River where Crookston now stands, and later, extending to Canada. The economy of Crookston is based primarily on agriculture. It is the home of the University of Minnesota Crookston, a technology oriented school with a full academic program enrolling approximately 2,500 students.

#### FLOODING EVENTS AND THEIR CAUSES

Floods occurring over the past forty years have created significant damage to homes and businesses, and have resulted in the loss of lives as well. They include the flood events of 1965, 1966, 1967, 1969, 1978, 1979, 1996, and 1997. Floods have been documented at Crookston as early as 1887. The 1950 flood, though not the maximum flood of record, created the most damage to the City and resulted in the deaths of two citizens from the community.

Between 1950 and 1965, clay levees were constructed through local efforts in an attempt to ameliorate the damages from the flooding of the Red Lake River. The floods of 1965, however, demonstrated these efforts were not adequate to hold back the torrents of water during significant flood events. While certain areas of the City received some flood protection, severe damages occurred in the South Main Street area. This section of the City has since been totally cleared.

The 1969 flood established new high water marks, and again, it was necessary to carry out extreme emergency measures. These efforts were successful in protecting the community from severe damages. Recognizing the need for more protection, another locally financed project was initiated, extending, enlarging, and raising the height of the levee wall system.

The flood of 1997, was the "granddaddy" of all floods. It established the highest water mark in recorded history when the Red Lake River crested at 28.6 feet above flood stage, the equivalent of a three story building. It is described as a 500-year flood event.

Only the careful planning and preparation by City officials in cooperation with the Corps of Engineers, the State of Minnesota, FEMA, the National Guard, and many private citizens, were damages reduced, and fortunately, no lives were lost. Prior to the crest of the flood, the City of Crookston completed the work of adding two feet of clay and sandbags to the entire levee system throughout the town. The Corps of Engineers constructed clay dikes as a second line of defense, sacrificing a few homes for the good of many others. As a precautionary measure, 400 residents evacuated from their homes during the height of the flood.

These efforts spared Crookston from the devastation experienced by neighboring towns, allowing the City to provide for 8,000 persons evacuated from their homes in nearby communities. But this disaster and the potential devastation that such floods can bring, emphasized the critical importance of replacing the temporary earthen and clay dikes with a well-planned, permanent flood control system.

There are several causative factors that have created flood conditions for the Red River Valley and the City of Crookston. The Red River of the North did not carve out the valley, it merely meanders back and forth through the lowest parts of the floor of the ancient Glacial Lake Agassiz.

With no definitive flood plain to channel flood torrents, the slow-moving flood waters quickly overrun the shallow river banks and spread out over the flat floor of the former glacial lake bed. The small river's gradient is on one-half foot per mile, as opposed to areas in Southwestern Minnesota where in one instance, the gradient establishes a 19 foot drop in one mile. Both extremes have created problems.

The Red Lake River flows into Crookston from the Northeast, winds its way through the City, and flows out of the City, turning in a Northwesterly direction toward its confluence with the Red River at Grand Forks, North Dakota. The merged rivers then flow due North into Winnipeg, Manitoba, Canada. As the snow melts in the Southern portion of the valley, ice often remains in the channel to the North. Ice and other debris flowing North pile up against the river ice creating ice dams. These barriers back up the water and increase the flood crest upstream.

The extremely level terrain also creates a phenomenon during the Spring thaw which is called "overland flooding." As the snow melts, the huge volume of water can overwhelm the network of shallow ditches and creeks. Unable to enter the choked stream channels, the water travels overland until it meets small terrain barriers such as railroad beds and road grades, creating huge bodies of water.

In addition to the topography of the area, a combination of factors such as agricultural drainage, the loss of wetlands, the Federal governments work in the Red River Basin, and the construction of the county ditch systems, all these factors have contributed to the vulnerability of the area.

City officials and the Corps of Engineers are evaluating the potential for flooding even this year, While the weather is permitting a more gradual snow melt with less water content, a substantial rainfall of several inches on the soil that is already saturated from the snow melt can greatly increase the predicted flood levels.

PROJECT DESCRIPTION AND STATUS

A Feasibility Cost Share Agreement between the Corps of Engineers and the City was signed on October 19, 1992, and a feasibility study and environmental assessment was completed in 1997. Both partners shared costs equally in the \$1.2 million study. The Red Lake Watershed District and the State of Minnesota provided part of the non-Federal funding required, and both join the City with their strong support.

The Feasibility Report by the U.S. Army Corps of Engineers recommended that a local flood control project be constructed consisting of two down-stream cut off channels and levees built to the 100-year level of protection for Thorndale, Woods, and the downtown/Riverside neighborhoods. While the two down-stream cut channels are planned to reduce the flooding somewhat for the entire City, and the levees protect the fore mentioned neighborhoods, other areas of the City remain at risk. The Corps of Engineers has completed a Section 22 study of the City in which further recommendations will be made.

The National Economic Development (NED) optimization analysis indicated that the 100-year and the 50-year levels of protection would have the approximately the same net benefits. The policy is that if two alternatives have the same benefits the lower cost plan is accepted.

The District, after consultation, requested a waiver to recommend the 100-year protection. Their rationale included the high potential for property damages, the increased risk of loss of life, and the benefits of providing a consistent level of protection throughout the City. Secretary of the Army (Civil Works) H. Martin Lancaster approved the waiver on January 15, 1997.

- 1992—Feasibility Cost Share Agreement signed.
- 1997—Feasibility Report and Environmental Assessment completed.
- 1997—National Economic Development optimizational analysis waived to provide the entire project with 100-year flood protection.
- 1998—Preconstruction engineering and design efforts begun.
- 1999—Project authorized for construction in the Water Resource Development Act of 1999.
- 2000—Plans, specifications, and design work for Stage 1 completed.
- 2000—Congress appropriates \$1 million for Stage 1 construction.
- 2000—Plans and Specifications for Stage 2 commenced.
- 2001—Corps of Engineers total cost estimates for the project to be \$10.8 million
- 2001—City requests \$5.31 million from Congress for the construction of Stage 2 of the Crockston Flood Control Project.
- 2001—Congress appropriates \$2 million to complete work of Stage 1.
- 2002—Bids are advertised for construction of Stage 2.

FISCAL DATA

The recommended plan has a fully funded baseline cost estimate of \$9.5 million and a benefit to cost ratio of 1.6. The total cost of the project, as projected by the Army Corps of Engineers, is \$10.8 million. The increase is due to newly refined design requirements.

The following “Cost-Sharing Schedule” was information developed by the Corps of Engineers, and was made available to us on January 30, 2001. Our request for \$5.31 million for Stage 2 of the project is based on this information. Nearly all of Stage 2 expenditures will occur in 2002 and 2003. The schedule provided by the Corps is as follows:

CROOKSTON, MINNESOTA FLOOD CONTROL PROJECT—COST-SHARING SCHEDULE

(Costs in \$000)

Fiscal Year	Total Project Costs	LERRDs	Non-Fed Fed	Fed Const.	Percent	Total Fed Costs	Total Non-Fed Costs
2000 and Prior .....	\$1,168	\$0	\$298	\$870	29.7	\$870	\$298
2001 .....	2,490	1,650	0	840	0.0	840	1,650
2002 .....	4,086	1,000	0	3,086	32.4	2,760	1,326
2003 .....	2,814	125	0	2,689	34.8	2,339	475

CROOKSTON, MINNESOTA FLOOD CONTROL PROJECT—COST-SHARING SCHEDULE—Continued

(Costs in \$000)

Fiscal Year	Total Project Costs	LERRDs	Non-Fed Fed	Fed Const.	Percent	Total Fed Costs	Total Non-Fed Costs
2004 .....	242	0	0	242	3.1	211	31
Total Costs .....	10,800	2,775	298	7,727	100	7,020	3,780

Sponsor 35 percent Share = \$3,780.  
 LERRDs = \$2,775.  
 Cash Requirement = \$1,005.  
 Five Percent Cash = \$540.

NON-FEDERAL CONTRIBUTIONS TO THE PROJECT

The citizens of Crookston have demonstrated their commitment to the project each year since 1997. Every year for since 1997, they have voted to assess themselves a flood control project fee, over and above their property taxes. This action by the community has resulted in raising about \$1.4 million up to the present time. One third of these local funds were used to meet part of the 50 percent match for the \$1.2 million feasibility study, and the remainder will be used as a part of the non-Federal match for the construction Stages of the flood control project.

The State of Minnesota has also made a significant contribution to the project. They have appropriated \$3.3 million for the dual purpose of providing funds to match the Federal contribution, and to buy out homes that have been lost in the construction of the flood control measures. Nineteen families were required to lose their homes to the project, including one farm. The State funds were used both for the purchase of the homesteads, and the relocation of the affected families.

For these reasons, we respectfully request this Subcommittee to appropriate \$5.31 million of Federal funds in the fiscal year 2002 Appropriations Act to complete the Stage 2 work on the Crookston Flood Control Project. The Committee's favorable response to this request will prevent any delays affecting the completion of the project, and avoid cost overruns that inevitably occur when construction is delayed.

In closing, I would like to say there is nothing more important to me as Mayor, and to each Member of the Crookston City Council, than the safety of our citizens, and the protection of their homes and property. We can not give them this assurance until we have completed this flood control project.

May I also say that our association with the St. Paul District of the Army Corps of Engineers throughout this process has been outstanding. They are an extraordinary organization, working on the scene during flood conditions, and assisting us as we attempt to resolve this problem that threatens our citizens. We could not ask for a better partner in this project.

Thank you for the opportunity to bring this important matter to your attention through this statement. I will be delighted to respond to any questions you may have about the project.

PREPARED STATEMENT OF THE OGLALA SIOUX TRIBE RURAL WATER SUPPLY SYSTEM

FISCAL YEAR 2003 CONSTRUCTION BUDGET REQUEST

The Mni Wiconi Project beneficiaries (as listed below) respectfully request appropriations for construction in fiscal year 2003 in the amount of \$46,077,000 as follows:

Oglala Sioux Rural Water Supply System:	
Core Facilities (Pipelines and Pumping Stations) .....	\$17,164,000
Distribution System on Pine Ridge .....	7,349,000
West River/Lyman-Jones Rural Water System .....	7,748,000
Rosebud Sioux Rural Water System .....	10,725,000
Lower Brule Sioux Rural Water System .....	3,091,000
Total Mni Wiconi Project .....	46,077,000

The project sponsors have been provided with the Administration's budget for this project in fiscal year 2003 (\$23.292 million for construction) and are extremely concerned with the inadequacy of the budget. The following is the average federal funding need to complete the project in fiscal year 2008.

Total Federal Funding Required .....	\$391,091,000
Federal Spent Through Fiscal Year 2002 .....	\$213,384,726
Percent Spent .....	54.56
Amount Remaining .....	\$177,706,274
Average Required for Fiscal Year 2008 Finish .....	\$29,617,712

The funding request presented above is urgently needed to complete this project in a timely manner. An extension of time beyond fiscal year 2007 will require an increase in the project budget beyond indexing due to added years of administration. The funding request is within the capability of the sponsors to utilize in fiscal year 2003 based on the status of designs.

The principle elements in the budget for fiscal year 2003 are \$17.164 million for the Oglala Sioux Rural Water Supply System (OSRWSS) core to reach Kadoka and funds for Rosebud, Lower Brule and West River/Lyman-Jones to build distribution systems that will interconnect with the OSRWSS core facilities.

The sponsors are extremely pleased to report that the OSRWSS water treatment plant on the Missouri River near Fort Pierre, South Dakota, is fully operational and will deliver treated water on a sustained and dependable basis during fiscal year 2002 and thereafter. Large diameter OSRWSS core pipelines (24 inch) will have been constructed by the end calendar year 2002 to Vivian and Murdo, over a distance of 100 miles. The completion of these critical segments of the core pipeline permits the Lower Brule Sioux Tribe to interconnect at Vivian and deliver water immediately to large areas of West River/Lyman-Jones. Over a period of several years, Lower Brule will complete its core system into the Reservation. The completion of the core pipeline to Murdo permits the Rosebud Sioux Tribe and other parts of West River/Lyman-Jones to interconnect at that location. Over 50 percent of the design population will have access to Missouri River water from the OSRWSS core pipelines, but only if the requested level of appropriations is made available to provide for construction of the interconnecting pipelines. The project now has the most significant project components completed and can conclude the project in a timely manner given adequate appropriations in fiscal years 2003 through 2008. The subcommittee is respectfully petitioned by the sponsors to give priority to the completion of this project before committing significant funds to new projects. The degree of poverty and need for improvement of drinking water are set forth in greater detail in section 3 of our testimony and underscore the importance of this project.

#### OSRWSS CORE PIPELINE TO REACH KADOKA IN FISCAL YEAR 2003

Only the Pine Ridge Indian Reservation and parts of West River/Lyman-Jones will be without points of interconnection to the OSRWSS core. The requested funding level for the OSRWSS core of \$17.164 million will complete the project from Murdo to Kadoka and leave a relatively small distance in fiscal year 2004 for connection to the northeast corner of the Pine Ridge Indian Reservation where, in combination with the western part of West River/Lyman-Jones, the remaining 50 percent of the design population resides. The 2000 census confirms that this remaining population is growing at a rate of 24 percent per decade or 1½ times greater than projected from the 1990 census. Delivery of Missouri River water to this area is urgently needed.

All proposed OSRWSS construction activity will build pipelines that will provide Missouri River water immediately to beneficiaries. In many cases, construction of interconnecting pipelines by other sponsors is ongoing, and fiscal year 2003 funds are required to complete projects that will connect with the OSRWSS core.

Funding for OSRWSS core and distribution facilities is necessary to bring the benefits of the Empowerment Zone designation to the Pine Ridge Indian Reservation, one of five rural designations across the Nation. There is great anticipation on the Pine Ridge Indian Reservation. The federal projection that as much as \$.5 to \$1.0 billion in economic activity can be generated, however, is largely dependent on the timely completion of a water system, which depends on appropriations for this project.

Finally, the Subcommittee is respectfully requested to take notice of the fact that fiscal year 2003 will significantly advance construction of facilities that will bring the end of the project into focus. While amendment of the legislation is required to extend the completion date beyond fiscal year 2003 to as distant as fiscal year 2008, the Subcommittee's past support has brought the project to the point that the end can be seen. Key to the conclusion of the project in fiscal year 2008 is the completion of the OSRWSS core to the Pine Ridge Indian Reservation. Toward this end, funds are included in the fiscal year 2003 budget to build the connecting pipelines between the northeast corner of the Pine Ridge Indian Reservation and the central portion of the Reservation near Kyle. Rosebud is similarly engaged in the construction of

a major connecting pipeline that will join the OSRWSS core near Murdo and deliver water southerly to the central portions of the Rosebud Indian Reservation and to service areas for West River/Lyman-Jones.

#### UNIQUE NEEDS OF THIS PROJECT

This project covers much of the area of western South Dakota that was formerly the Great Sioux Reservation established by the Treaty of 1868. Since the separation of the Reservation in 1889 into smaller more isolated reservations, including Pine Ridge, Rosebud and Lower Brule, tensions between the Indian population and the non-Indian settlers on former Great Sioux lands has been high with little easing by successive generations. The Mni Wiconi Project is perhaps the most significant opportunity in more than a century to bring the sharply diverse cultures of the two societies together for a common good. Much progress has been made due to the good faith and genuine efforts of both the Indian and non-Indian sponsors. The project is an historic basis for renewed hope and dignity among the Indian people. It is a basis for substantive improvement in relationships.

Each year our testimony addresses the fact that the project beneficiaries, particularly the three Indian Reservations, have the lowest income levels in the Nation. The health risks to our people from drinking unsafe water are compounded by reductions in health programs. We respectfully submit that our project is unique and that no other project in the Nation has greater human needs. Poverty in our service areas is consistently deeper than elsewhere in the Nation. Health effects of water borne diseases are consistently more prevalent than elsewhere in the Nation, due in part to (1) lack of adequate water in the home and (2) poor water quality where water is available. Higher incidences of impetigo, gastroenteritis, shigellosis, scabies and hepatitis-A are well documented on the Indian reservations of the Mni Wiconi Project area. At the beginning of the third millennium one cannot find a region in our Nation in which social and economic conditions are as deplorable. These circumstances are summarized in Table 1. Mni Wiconi builds the dignity of many, not only through improvement of drinking water, but also through direct employment and increased earnings during planning, construction, operation and maintenance and from economic enterprises supplied with project water. We urge the subcommittee to address the need for creating jobs and improving the quality of life on the Pine Ridge and other Indian reservations of the project area.

Employment and earnings among the Indian people of the project area is expected to positively impact the high costs of health-care borne by the United States and the Tribes. Our data suggest clear relationships between income levels and federal costs for heart disease, cancer and diabetes. During the life of the Mni Wiconi Project, mortality rates among the Indian people in the project area for the three diseases mentioned will cost the United States and the Tribes more than \$1 billion beyond the level incurred for these diseases among comparable populations in the non-Indian community within the project area. While this project alone will not raise income levels to a point where the excessive rates of heart disease, cancer and diabetes are significantly diminished, the employment and earnings stemming from the project will, nevertheless, reduce mortality rates and costs of these diseases.

TABLE 1.—1990 BUREAU OF CENSUS ECONOMIC STATISTICS<sup>1</sup>

Indian Reservation/Site	Per Capita Families Below		
	Income (\$)	Poverty Level (%)	Unemployment (%)
Pine Ridge (Shannon County) .....	\$3,029	59.6	32.7
Rosebud (Todd County) .....	4,005	54.4	27.3
Lower Brule (Lyman County) .....	4,679	45.0	15.7
State of South Dakota .....	10,661	11.6	4.2
National .....	14,420	10.0	6.3

<sup>1</sup> 2000 census data are not yet available for income and poverty. Preliminary estimates based on 1997 census information indicate that conditions have not changed significantly.

Financial support for the Indian membership has already been subjected to drastic cuts in funding programs through the Bureau of Indian Affairs. This project is a source of strong hope that helps off-set the loss of employment and income in other programs and provide for an improvement in health and welfare. Tribal leaders have seen that Welfare Reform legislation and other budget cuts nation-wide have created a crisis for tribal government because tribal members have moved back to the reservations in order to survive. Recent Census Bureau data indicate that the



population of Shannon County (Pine Ridge Indian Reservation) increased over 24 percent between 1990 and 2000. The populations of the Rosebud and Lower Brule Indian Reservations have also continued to grow. Economic conditions have resulted in accelerated population growth on the reservations. The Mni Wiconi Project Act declares that the United States will work with us under the circumstances:

. . . the United States has a trust responsibility to ensure that adequate and safe water supplies are available to meet the economic, environmental, water supply and public health needs of the Pine Ridge, Rosebud and Lower Brule Indian Reservations . . .

Indian support for this project has not come easily because the historical experience of broken commitments to the Indian people by the Federal Government is difficult to overcome. The argument was that there is no reason to trust and that the Sioux Tribes are being used to build the non-Indian segments of the project and the Indian segments would linger to completion. These arguments have been overcome by better planning, an amended authorization and hard fought agreements among the parties. The Subcommittee is respectfully requested to take the steps necessary to complete the critical elements of the project proposed for fiscal year 2003.

The following sections describe the construction activity in each of the rural water systems.

#### OGDALA SIOUX RURAL WATER SUPPLY SYSTEM—DISTRIBUTION

Pine Ridge and parts of West River will be the last project sponsors to interconnect with the OSRWSS core to receive Missouri River water. With the conclusion of projects under construction in fiscal year 2002, the Oglala Sioux Tribe will have completed all facilities that can be supported from local groundwater and will rely on the OSRWSS core to convey Missouri River water throughout the Reservation. Much pipeline has been constructed, primarily between Kyle, Wounded Knee and Red Shirt and between Pine Ridge Village and the communities of Oglala and Slim Buttes.

Of particular importance to the Oglala Sioux Tribe is the start of the main transmission system from the northeast corner of the Reservation to Kyle in the central part of the Reservation. The transmission line is needed to interconnect the OSRWSS core system with the distribution system within the Reservation in order to deliver Missouri River water to the populous portions of the Reservation. With adequate funds, this critical segment of the project can be initiated in fiscal year 2003 and concluded to coincide with the westward construction of the OSRWSS core to the northeast corner of the Reservation. This component of the Oglala system has been deferred for several years due to inadequate funding although the design and easements have been completed on large portions of the project. This system is urgently needed so that the OSRWSS core system can be utilized.

#### WEST RIVER/LYMAN-JONES RURAL WATER SYSTEM—DISTRIBUTION

WR/LJ is now delivering quality water to more of its membership with each Federal appropriation. With fiscal year 2002 funds and completion of the OSRWSS water treatment plant we were able to provide service to Ft. Pierre, Vivian, Presho, Kennebec and rural members in those areas. Service was also extended to new housing facilities now able to be build adjacent to the Federally developed Oahe reservoir North of Ft. Pierre. The City of Murdo will be served very early in fiscal year 2003.

Each year of Tribal core pipeline construction provides WR/LJ with the opportunity to construct distribution pipeline that have been long awaited by its membership. The area now being reached by core pipeline is an area where the only alternative to project water is a \$50,000 deep well that is beyond the financial means of most members and the water still does not meet Safe Drinking Water Act standards.

The area in Eastern Mellette County will extend pipelines from the Rosebud core that is making its connection to the core pipeline at Murdo. These lines will serve WR/LJ members and Rosebud tribal members through shared and jointly financed distribution facilities.

WR/LJ will construct distribution facilities in the Murdo, Draper and Okaton service areas as the Oglala core extends westward. This area includes service to communities and commercial facilities that serve the traveling public along the US Interstate 90 corridor.

#### ROSEBUD RURAL WATER SYSTEM (SICANGU MNI WICONI)

The foresight of the Rosebud Sioux Tribe in planning the Sicangu Mni Wiconi will become apparent in fiscal year 2003. Existing sources of supply for some reservation

communities are unable to meet the revised arsenic standard planned for implementation in 2006. In other areas the level of nitrates are rising and the current primary standard has been exceeded. The high quality water from the OSRWSS core is now needed to provide a safe and adequate drinking water supply.

While the existing Sicangu Mni Wiconi well field near Rosebud continues to be a reliable source for portions of the project area, it was not originally intended to extend service to northern Todd County and Mellette County from that source. The connection to the OSRWSS core at Murdo will eliminate the need to provide tribal members and WR/LJ members with ground water from the Rosebud well field. The core connection will not only provide a reliable source of high quality water for the residents in the rural areas near Corn Creek and the WR/LJ Mellette East Project, it will also "free-up" groundwater from the Rosebud well field to be used in eastern Todd County where nitrate levels are rising.

The Tribe's highest priority for funding in 2003 is completion of the core pipeline project. However, without funds to construct distribution lines and service connections the water will not reach the areas that need it most. Funds are also being sought for a distribution and service lines in the Spring Creek/Grass Mountain area (high arsenic concentrations) and Hidden Timber/Okreek area (high nitrate concentrations).

#### LOWER BRULE RURAL WATER SYSTEM—DISTRIBUTION

The Lower Brule Rural Water System has made a tremendous amount of progress over the last few years. A state of the art microfiltration water treatment plant was constructed and placed into operation in December 1999. The completion of this plant has not only benefited the users of the LBRWS but also allowed the provision of high quality water to a significant number of users of the West River/Lyman Jones Rural Water System from Oacoma to Vivian.

The provision of water to WR/LJ RWS and its users has been a very rewarding experience. The cooperation and communication between the two systems, especially the operation and maintenance personnel, has been exceptional and has thus led to the successful delivery of high quality water to users on both systems. As a result, much of the apprehension that was felt prior to this supply of water has turned to praise.

The Fort George Butte-County Line Road and the Vivian to Presho core pipelines are installed. Both segments will be tested and placed into operation as soon as water is available from the Oglala Sioux Rural Water Supply System (OSRWSS) core pipeline. Construction of the Presho to Kennebec and Kennebec North pipelines began during the 2001 construction season with all of the piping being installed. The mild winter has allowed the Contractor to continue work on the appurtenances. As a result, these lines should be flushed, tested and placed into service by early spring 2002. All of these pipelines will initially serve only WR/LJ users until the on-Reservation distribution system can be constructed.

LBRWS has committed current funding for the construction of the last segment of LBRWS core pipeline between Kennebec and Reliance during the 2002 construction season. This will result in the core pipeline from Vivian to Reliance serving WR/LJ service areas along the pipeline and the cities of Vivian, Presho and Kennebec.

After the Project received funding and construction began, the LBRWS quickly realized that the original estimated cost was severely underestimated. The Bureau of Reclamation confirmed the error in the original estimate in their Cost Containment Report dated October 1999.

Primarily, as a result of the severely underestimated cost in the Final Engineering Report, the LBRWS has received the extent of the funding designated for its portion of the project with the receipt of the 2001 funds. An amendment to increase the ceiling for overall project costs, including that needed by Lower Brule, has been requested. The LBRWS with the support of the other sponsors is proceeding with the optimism that the amendment will be approved in a time frame that will not impact the progress currently being made. To that extent, LBRWS will receive \$1,450,000 in fiscal year 2002 funds for the Kennebec to Reliance segment of core pipeline and is requesting \$3,091,000 in fiscal year 2003 funds for the Fort Hale, Medicine Butte North and Kennebec North-Medicine Creek distribution systems. This will be the initiation of the on-Reservation distribution system and thereby provide service to on-Reservation users.

#### OPERATION, MAINTENANCE AND REPLACEMENT BUDGET

In fiscal year 2002, the approved budget for operation, maintenance and replacement (OMR) was \$7.5 million. The sponsors will work with Reclamation and among

themselves to budget more closely in this and future years to insure that OMR costs are adequate and that they do not reduce the amount available from total project funds to complete construction by fiscal year 2008.

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PREPARED STATEMENT OF THE BOARD OF MISSISSIPPI LEVEE COMMISSIONERS

MISSISSIPPI RIVER AND TRIBUTARIES PROJECT

Mr. Chairman and Members of the Committee: I am James E. Wanamaker, Chief Engineer for the Board of Mississippi Levee Commissioners, Greenville, Mississippi, and I have the privilege of presenting this statement on behalf of this Board and the citizens of the Levee District. The Board of Mississippi Levee Commissioners is comprised of 7 elected commissioners representing the counties of Bolivar, Issaquena, Sharkey, Washington, and parts of Humphreys and Warren counties in the Lower Yazoo Basin in Mississippi. The Board of Mississippi Levee Commissioners is charged with the responsibility of providing protection to the Mississippi Delta from flooding of the Mississippi River and maintaining major drainage outlets for removing the flood waters from the area. These responsibilities are carried out by providing the local sponsor requirements for the Congressionally authorized projects in the levee district.

The region encompassed by the Mississippi River & Tributaries Project over lays the heart of the recently authorized Delta Regional Authority. The employment of the local work force and purchases from local vendors by the contractors on these projects are vital to maintaining the economies of some of the most impoverished counties included in the boundary of the Delta Regional Authority. Adequate or increased funding of existing authorities is one of the most efficient ways to boost the economy and to improve our nation's infrastructure.

The foresight used by the Congress in their authorization of the many features of the Mississippi River & Tributaries Projects is exemplary. This project has proven to be one of the most cost effective projects ever undertaken by the United States. The Board remains aware that the President's budget is again extremely low shifting the burden again to the Congress of funding projects at levels deemed necessary to maintain timely construction to provide the much needed flood protection to the Mississippi Delta. Without the Congressional adds to the budget over the last several years, construction would be lagging far behind throughout the entire Lower Mississippi Valley. The Mississippi Valley Flood Control Association will be submitting a general statement to support an appropriation of \$391M for fiscal year 2003 for surveys, advanced engineering, construction, and the operation and maintenance of the Mississippi River & Tributaries Project. We must always remember that the Lower Mississippi River receives flood waters from 41 percent of the Continental United States and inadequate funding delays benefits and increases the cost of our projects to the nation.

The Mainline Mississippi River Levee throughout the Valley is the backbone for providing flood protection to the Delta areas. Following the 1973 flood, it was determined that 69.1 miles of Mainline Mississippi River Levees in Mississippi were deficient in grade and section. The Corps of Engineers currently has 18 miles of our levee under construction with another award scheduled for June of this year. The administration budget for Mississippi River Levees of \$42.36M will not allow any new construction starts on this vital project. We are asking that the Congress appropriate \$50M for construction of Mainline Mississippi River Levees to allow construction to proceed in an orderly manner. Until such time all of our levees are completed to grade and section, the Mississippi Delta will remain exposed to severe flooding from the Project Design Flood on the Mississippi River. It is estimated that the State of Mississippi alone would suffer damage in excess of \$1.8 billion with over 20,000 homes flooded, displacing more than 56,000 people by an overtopping of the levee system in Mississippi.

As the Corps prepares to release the Final Reformulation Report for the Yazoo Backwater Project, I need to remind you that the Board of Mississippi Levee Commissioners initiated a consensus process involving State and Federal resource agencies and major private environmental groups. After the initial meeting the National Wildlife Federation, the Mississippi Wildlife Federation, the Audubon Society, the Gulf Restoration Network, and the Sierra Club elected to withdraw from this consensus building process. The only private environmental group to remain in the process was Ducks Unlimited. The consensus process involved over 50 hours of meetings of these agencies, organizations, and local citizens over an 18 month period. We remain very disappointed in the attitude taken by the U.S. Fish & Wildlife Service and Environmental Protection Agency during this process. These agencies

did not participate as resource agencies as anticipated, but as advocates of their own plan for the area. The consensus process resulted in a modification of alternatives being considered by the Corps of Engineers for this project. The Board of Mississippi Levee Commissioners and the Corps of Engineers have each hosted public meetings in the project area and found the vast majority of individuals living in the project area support the recommended plan. This support is given by these local individuals living in the project area even though water levels will be 7 feet deeper with the recommended plan than the 1982 plan before the pumps are operated, and 62,500 acres of developed land will be taken out of production and reforested as part of this project. The Recommended Plan is supported officially by the Board of Mississippi Levee Commissioners, and all six County Boards of Supervisors in the project area, Issaquena, Sharkey, Washington, Warren, Humphreys, and Yazoo. We are currently requesting an appropriation of \$14.25M for this project, which will allow the Vicksburg District to initiate right-of-way acquisition and initiate the pump supply contract for this project.

As with all infrastructure, the need for maintenance is required to keep the projects functioning as designed. Many areas experienced heavy flooding on two occasions last fall that would have been prevented with the completion of this maintenance project. The Big Sunflower River Maintenance Project is a case where the local sponsors have provided the necessary minor maintenance for over 50 years. It has been identified that major maintenance is required to restore the capacity of this project to move flood waters through the Mississippi Delta. We are requesting an appropriation of \$4.115M to allow work to continue on this project. Construction on Item 3 has been completed and right-of-way for Item 2 is being acquired. This appropriation will allow the work on Item 2 to continue and to purchase rights-of-way for future items.

Work on the Upper Yazoo Project is continuing with the completion of Items 4-A and 4-B bringing protection in the Delta to the City of Greenwood. We are requesting an appropriation of \$18M for the Upper Yazoo Project which will allow work to continue upstream. The communities of Marks, Tutwiler, and Glendora all had extensive flooding following heavy rains in November and December of last year. It is imperative that work on this project be continued to provide an adequate outlet for the flood control reservoirs that hold back flood waters from the Mississippi Delta. Without an adequate outlet for these reservoirs, stages inside the reservoirs will continue to rise threatening an overtopping of the emergency spillway, whereby, we lose all control of flood waters in the basin.

Work on the Upper Steele Bayou Project has been completed through Greenville and as we pointed out on other projects, the completed works provided enormous protection to the heavy rains received in November and December of last year. Our request of \$1.2M for this project will allow work to continue in the Yazoo National Wildlife Refuge and continue acquisition of mitigation lands.

The construction of the Demonstration Erosion Control Project greatly reduces erosion in the upland tributaries and holds back the movement sediment into our Delta streams. Continued work on this project will reduce future maintenance requirements along the Yazoo Tallahatchie Coldwater System in years to come. Our request for \$21.6M will allow construction to continue further reducing erosion and sediment to the Delta streams.

Maintenance of our Mainline Mississippi River Levee System continues as a major feature carried out by the basins' Levee Boards. The Flood Control Act of 1928 clearly delineates Federal and local responsibilities in the maintenance activities required for this project. We are requesting \$8.13M for the maintenance of Mississippi River Levees to allow the Corps of Engineers to carry out the Federal responsibilities for major maintenance along the Mainline Mississippi River Levee System.

As we pointed out earlier, all projects need to be maintained to keep them functioning as designed. Work on our 4 flood control reservoirs are no exception to this need. We are asking for an appropriation for maintenance of Arkabutla Lake of \$18.33M; Enid Lake \$7.436M; Grenada Lake \$8.186M; and Sardis Lake of \$19.505M. The increased funds requested for this project will be utilized to complete the bank protection along these dams, repair water wells, treatment storage facilities and other maintenance needs. We are also requesting an appropriation of \$1.265M for the tributaries features of the Yazoo Basin which will allow for continued bank stabilization and shore line protection work.

In closing, I must take a minute to reflect on the criticism being focused on the Corps of Engineers' study process utilized in reviewing projects. I must point out that the focus of the criticism primarily on the Upper Mississippi Navigation Study relies on activities taking place prior to the publication of a draft report. No one knows what that draft report would have contained had the process been allowed to continue. Even after a draft report is published, the current process allows thor-

ough review of the report and the recommended plan by government agencies, private organizations and individuals throughout the project area and the Nation. All of the comments received by the Corps through that draft report must be addressed prior to a final report being made before construction of any project proceeds. Far more studies performed by the Corps of Engineers throughout the Nation fall by the wayside than results in actual construction taking place. We feel that the current process provides a thorough review and an adequate opportunity for proponents and opponents to review and express their thoughts.

We are grateful to the Committee for providing us the opportunity each year to present our requests.

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PREPARED STATEMENT OF RED RIVER VALLEY ASSOCIATION

INTRODUCTION

The Red River Valley Association is a voluntary group of citizens bonded together to advance the economic development and future well being of the citizens of the four state Red River Basin area in Arkansas, Louisiana, Oklahoma and Texas.

For the past 77 years, the Association has done notable work in the support and advancement of programs to develop the land and water resources of the Valley to the beneficial use of all the people. To this end, the Red River Valley Association offers its full support and assistance to the various Port Authorities, Chambers of Commerce, Economic Development Districts, Municipalities and other local governmental entities in developing the area along the Red River.

The Resolutions contained herein were adopted by the Association during its 77th Annual Meeting in Shreveport, Louisiana on February 21, 2002, and represent the combined concerns of the citizens of the Red River Basin area as they pertain to the goals of the Association, specifically:

- Economic and Community Development
- Environmental Restoration
- Flood Control
- Bank Stabilization
- A Clean Water Supply for Municipal, Industrial and Agricultural Uses
- Hydroelectric Power Generation
- Recreation
- Navigation

The Red River Valley Association is aware of the constraints on the federal budget, and has kept those restraints in mind as these Resolutions were adopted. Therefore, and because of the far-reaching regional and national benefits addressed by the various projects covered in the Resolutions, we urge the members of Congress to review the materials contained herein and give serious consideration to funding the projects at the levels requested.

RRVA TESTIMONY

Mr. Chairman and members of the Committee. I am Wayne Dowd, and pleased to represent the Red River Valley Association as its President. Our organization was founded in 1925 with the express purpose of uniting the Citizens of Arkansas, Louisiana, Oklahoma and Texas to develop the land and water resources of the Red River Basin.

Even though the President's budget included \$4.175 billion for civil works programs this is \$450 million (9.73 percent) less than appropriated in fiscal year 2002. Again, the Corps took the biggest reduction than any of the other major Federal agencies. This does not come close to the real needs of our nation. A more realistic funding level to meet the requirements for continuing the existing needs of the civil works programs is \$6.4 billion. The traditional programs, inland waterways and flood protection remain at the low, unacceptable level as in past years. These projects are the backbone to our nation's infrastructure for waterways, flood control and water supply. We remind you that civil works projects are a true "jobs program" in that 100 percent of project construction is contracted to the private sector, as is much of the architect and engineer work. Not only do these funds provide jobs, but provide economic development opportunities for our communities to grow and prosper.

The tragedy of the 11 September terrorist attack has shown how fragile our economy can be. The civil works program is a catalyst that is responsible for creating jobs and stimulating growth. It would be irresponsible to allow our nation's infrastructure to deteriorate, or worse, stop its growth in a time when America must be the leader in world trade. Our inland waterways are the key to our dominance of

world markets. This is a pivotal budget year where critical decisions must be made which will determine our future economic strength.

The Corps of Engineers has served our nation for over 225 years and has been instrumental in developing the infrastructure that makes us the economic power we are in the world today. In 1996 our ports generated over \$146 billion in federal taxes, moving 2.3 billion tons of commerce annually providing \$3 increase in GDP for every \$1 spent. Corps flood control projects have prevented damages of \$21 billion annually saving \$6 for every \$1 spent. Corps projects and lakes provide more recreation opportunities for Americans, in visitor days, than the National Park Service.

It is difficult to understand why the environmental extremists are so strong in their objection to the inland waterways. The facts are that one barge, 1,500 tons of commodities, is equivalent to 15 jumbo rail hoppers or 58 tractor-trailer trucks. According to EPA, towboats emit 35 to 60 percent fewer pollutants than locomotives or trucks. So why would anyone want to take cargo off our waterways and increase highway congestion and air pollution? We do not believe opponents to civil work programs have the scientific justification to back their claims.

We do not support proposed actions for radical reform to the Corps process or additional independent review of Corps projects. Civil Works projects already go through the strictest "benefit to cost" justification then any other federal agency.

I would now like to comment on our specific requests for the future economic well being of the citizens residing in the four state Red River Basin region.

*Navigation.*—The J. Bennett Johnston Waterway is living up to the expectations of the benefits projected. The tonnage moved in CY 2000 was 3.8 million tons with the projected tonnage, to justify the project, at 3.9 million tons. We are extremely proud of our public ports, municipalities and state agencies that have created this success. New opportunities were announced in CY 2001 including a ConAgra facility at the Natchitoches Parish Port. Liquid petroleum shipments are expected to double in CY 2002 and commercial stone operations are expected to increase. You are reminded that the Waterway is not complete, twelve percent (12 percent) remains to be constructed, \$244 million. We appreciate Congress's appropriation level in fiscal year 2002; however, in order to keep the Waterway safe and reliable we must continue at a funding level closer to \$25 million. The RRVA formed a Navigation Committee for industry, the Corps and Coast Guard to partner in making our Waterway a success. This effort has reaped many benefits. We cannot sacrifice what has been accomplished by inadequate funding levels each year.

An issue we need to address is the current 9-foot draft authorized for the J. Bennett Johnston Waterway. Our Waterway feeds into the Mississippi River, Atchafalaya River and Gulf Coastal Canal, which all accommodate 12-foot draft barges. This additional cargo capacity will greatly increase the efficiency of our Waterway and make us compatible with the systems we feed into. We request that the Corps conduct a study to evaluate this proposal requiring \$300,000 for fiscal year 2003. This change would greatly increase the economic success of our Waterway.

The feasibility study to continue navigation from Shreveport-Bossier City, Louisiana into the State of Arkansas is on going. It is imperative that you continue funding this important study and appropriate the \$583,000 required for fiscal year 2003 to complete the study. This region of SW Arkansas and NE Texas continues to suffer major unemployment and the navigation project, although not the total solution, will help revitalize the economy. The President's budget included no funding for this study. We remind you that this is a \$6 million study cost shared 50 percent with the Arkansas Red River Commission. It would not do justice to come this far and not complete the study after the local sponsor has provided \$3 million in good faith, that the study would be completed.

This will be a multipurpose project addressing navigation, hydropower, bank stabilization, recreation and environmental restoration. As we experience serious shortages of electric power in parts of our nation this project will offer the potential for hydropower generation at each of the proposed lock and dams. This is the most efficient, safest and environmental friendly source of power generation.

Additionally, we believe this continuation of navigation into Arkansas should be analyzed and justified under the same parameters as was used in Louisiana and request language in the Appropriation Bill to direct this change.

*Bank Stabilization.*—One of the most important, continuing programs, on the Red River is bank stabilization in Arkansas and North Louisiana. We must stop the loss of valuable farmland that erodes down the river and interferes with the navigation channel. In addition to the loss of farmland is the threat to public utilities such as roads, electric power lines and bridges; as well as increased dredging cost in the navigable waterway. These bank stabilization projects are compatible with subsequent navigation and we urge that they be continued in those locations designated

by the Corps of Engineers to be the areas of highest priority. We appreciated the Congressional funding in fiscal year 2002 and request you fund this project at a level of \$11 million.

It is essential to protect the banks from caving and erosion along the Red River from Denison Dam, Texas to Index, Arkansas along the Texas/Oklahoma border. You supported a Reconnaissance Study to investigate the restoration of wetlands, bottomland hardwoods and riparian habitat in fiscal year 2002. We request that you provide \$60,000 in fiscal year 2003 to complete this study.

There is a new technique for bank stabilization, which should be tested as a demonstration project, under the existing authority "Red River Waterway, Index, AR to Denison Dam". This new technique, underwater Bendway Weirs, has proven to be more efficient in controlling the energy of the river as well as providing environmental benefits. Over 1,000 acres of prime farmland in Oklahoma and Texas is lost each year to river erosion and we must investigate all avenues to correct this problem. You funded the initiation of construction for this project in fiscal year 2002 and we want to express appreciation for this funding. Adequate carryover funds exist for fiscal year 2003.

*Flood Control.*—You will recall that in 1990 major areas of northeast Texas, Southwest Arkansas and the entire length of the Red River in Louisiana were ravaged by the worst flooding to hit the region since 1945 and 1957. More than 700,000 acres were flooded with total damages estimated at \$20.4 million. However, it could have been much worse. The Corps of Engineers estimates that without the flood control measure authorized by Congress over the past several decades an additional 1.3 million acres would have been flooded with an estimated \$330 million in additional flood damage to agriculture and urban developments.

We continue to consider flood control a major objective and request you continue funding the levee rehabilitation projects ongoing in Arkansas. Four of eleven levee sections have been completed and brought to federal standards. Appropriations of \$8.0 million will construct two more levee sections; completing Miller County, AR and starting on levees in Lafayette County, AR.

In addition, Bowie County levee, in Texas, is crucial to the integrity of the Arkansas levee system. Should the Bowie County levee fail floodwaters will inundate behind the just completed Miller County levees in Arkansas. It is important to continue funding this project for the "locally preferred" option, according to cost sharing under the Flood Control Act of 1946, not withstanding economic justification. \$9,400,000 is requested to complete construct this levee system.

The levees in Louisiana have been incorporated into the Federal system; however, do not meet current construction standards due to their age. These levees do not have a gravel surface roadway, threatening their integrity during times of flooding. It is essential for personnel to traverse the levees during a flood to inspect them for problems. Without the gravel surface the vehicles used cause rutting and themselves can create conditions for the levees to fail. Gravel surfaces will insure inspection personnel can check the levees during the saturated conditions of a flood. We propose a four phase, four-year project to correct this Valley wide problem in Louisiana. Funding was appropriated in fiscal year 2002 and approximately 50 miles of levees in the Natchitoches Levee District will be completed this year. \$2 million will continue this important project in other parishes.

*Clean Water.*—Nearly 3,500 tons of natural salts, primarily sodium chloride, enter the upper reaches of the Red River each day, rendering downstream waters unusable for most purposes. The Truscott Brine Lake project, which is located on the South Fork of the Wichita River in King and Knox Counties, Texas became operational in 1987. An independent panel of experts found that the project not only continues to perform beyond design expectations in providing cleaner water, but also has an exceptionally favorable cost benefit ratio. In fiscal year 1995 \$16 million dollars was appropriated by the Administration, to accelerate engineering design, real estate acquisition and initiate construction of the Crowell Brine Dam, Area VII and Area IX. Due to a conflict over environmental issues, raised by the U.S. Fish and Wildlife Service, completion of the SFEIS was delayed pending further study to determine the extent of possible impacts to fish and wildlife, their habitats and biological communities along the Red River and Lake Texoma. In an effort to resolve these issues and insure that no harmful impact to the environment or ecosystems would result, a comprehensive environmental and ecological monitoring program was implemented. It evaluates the actual impacts of reducing chloride concentrations within the Red River watershed.

This base line data is crucial to understanding the ecosystem of the Red River basin west of Lake Texoma and funding for this must continue.

The Assistant Secretary of the Army (Civil Works), in October 1998 agreed to support a re-evaluation of the Wichita River Basin tributary of the project. Completion

of this project will reclaim Lake Kemp as a usable water source for the City of Wichita Falls and the region. We request appropriations of \$2,000,000 to continue this important environmental monitoring. The drought experienced in the Red River Valley, in past years, has highlighted the critical need for new usable water sources.

*Operation & Maintenance.*—We appreciate the support of your subcommittee to support navigation to Shreveport/Bossier City, which is now providing a catalyst to our industrial base, creating jobs and providing economic growth. We request that O&M funding levels remain at the expressed Corps capability to maintain a safe, reliable and efficient transportation system. It was very disturbing to see the President's budget eliminate maintenance dredging for the Red River. This would in affect "shut down" the river and commerce would cease on the Waterway and shift to highways and rail, at a more expensive rate and increasing air pollution.

It is our understanding that the criteria used to fund dredging was 1 billion "average ton-miles", which is .3 billion ton-miles for the Red River. This is the wrong criteria and methodology to use. Navigation projects are justified using "system ton-miles", which is 2.1 billion ton-miles for the Red River and exceeds the 1 billion ton-mile standard. "Average ton-miles" is measured from point of origin to the mouth of the river, while "system ton-miles" is measured from point of origin to destination of cargo, which makes sense. It is not right to change the criteria for maintenance funding than what was used to justify the project. Not only do we request our maintenance funding be added (\$3,519,000), but that the criteria used in the future be 1 billion "system ton-miles".

Full O&M capability levels are not only important for our Waterway project but for all our Corps projects and flood control lakes. The backlog of critical maintenance only becomes worse and more expensive with time. We urge you to appropriate funding to address this serious issue at the expressed full Corps capability. Presently there is a \$400 million backlog of critical maintenance at Corps projects throughout the nation.

The Continuing Authorities Program (CAP) has never been fully funded to its authorized amount. This has been an outstanding program providing small, cost shared projects within our communities. We believe this program should be funded at its full authorized amount.

We are sincerely grateful to you for the past support you have provided our various projects. We hope that we can count on you again to fund our needs and complete the projects started that will help us diversify our economy and create the jobs so badly needed by our citizens. We have included a summary of our requests for easy reference.

Thank you for the opportunity to present this testimony and project details of the Red River Valley Association on behalf of the industries, organizations, municipalities and citizens we represent throughout the four state Red River Valley region. We believe that any federal monies spent on civil work projects are truly investments in our future and will return several times the original investment in benefits that will accrue back to the federal government.

#### GRANT DISCLOSURE

The Red River Valley Association has not received any federal grant, sub grant or contract during the current fiscal year or either of the two previous fiscal years.

#### SUMMARY OF FISCAL YEAR 2003 REQUESTS

(NOTE: PROJECTS ARE NOT IN ANY ORDER OF PRIORITY.)

##### *General Investigation Studies (GI)*

*Red River Navigation, SW Arkansas.*—This is a feasibility study initiated on March 24, 1999 to investigate the potential to extend navigation from Shreveport/Bossier, LA to Index, AR. To date \$2,372,000 has been appropriated for this study and matched by the State of Arkansas. An additional \$583,000 is required to complete the study in fiscal year 2003. The study is cost shared 50 percent with the Arkansas Red River Commission, the local sponsor, who has their share on hand. Total fiscal year 2003 request—\$583,000.

*Southeast Oklahoma Water Resource Study.*—Conduct a reconnaissance study to evaluate the water resources in the study area. The study area includes the Kiamichi River basin and other tributaries of the Red River. A comprehensive plan will be developed to determine how best to conserve and utilize this water. In fiscal year 2002 \$182,000 was received for this study. Total fiscal year 2003 request—\$250,000.

*Bois D'Arc Creek, Bonham, TX.*—This is a reconnaissance study to address the flooding on 16,100 acres on the lower two-thirds of the basin. The towns of



Whitewright and Bonham are within the basin. A dam was determined feasible in the 1960's; however, there was no local sponsor. Currently there are local sponsors interested in this project. In fiscal year 2002 \$126,000 was received to initiate this study. The total study cost will be \$1,270,000, federal funds and \$1,170,000 local sponsor costs. Total fiscal year 2003 request—\$270,000.

*Red River Waterway, Index Arkansas to Denison Dam, TX.*—Investigate the restoration of natural resources, such as wetlands, bottomland hardwoods and riparian habitat along approximately 245 river miles. Various types of bank stabilization would be considered to protect environmental zones and corridors. \$63,000 was allocated in fiscal year 2002. Total fiscal year 2003 request—\$60,000.

*Southwest Arkansas Study.*—Conduct a reconnaissance report in the four county areas of the Red River/Little River basins. Included would be the four Corps lakes; DeQueen, Dierks, Gillham and Millwood. The watershed study would evaluate; flooding, irrigation, fish and wildlife habitat, water quality, recreation and water releases for navigation. The State of Arkansas has expressed an interest in cost sharing the feasibility study. Total fiscal year 2003 request—\$200,000.

*Washita River Basin, OK.*—Under Public Law 534 NRCS, Department of Agriculture, constructed approximately 1,100 small Flood control structures in the Washita River basin above Lake Texoma. These structures have significantly reduced the sediment flow into Lake Texoma; however, they are reaching their 50-year life expectancy. This study will assist NRCS in determining how to extend the life of the structures which have had a great positive impact to the water quality, flood storage capacity and ecosystem of Lake Texoma. Total fiscal year 2003 request—\$100,000.

*Mountain Fork River Watershed, OK & AR, Reconnaissance Study.*—The study area includes 754 square miles above Broken Bow Lake, OK. Broken Bow Lake was justified for flood control, hydropower, water supply, recreation and fish and wildlife purposes. In recent years the water quality of Broken Bow Lake have deteriorated. This study will investigate the impact of the up stream watershed nutrient and sediment loading to the lake. Total fiscal year 2003 request—\$100,000.

#### *Construction General (CG)*

*Red River Waterway Project.—a. J. Bennett Johnston Waterway.*—Seven projects will be awarded in fiscal year 2002 as well as three recreation facilities, two visitor centers and continued mitigation. These ongoing projects need to be completed as well as the initiation of eight new projects, which include: Coushatta Port (\$715,000), Pump Bayou Reinforcement (\$976,000), Fausse/Natchitoches/Clarence Reinforcement (\$1,308,000), Nichols/Bull Reinforcement (\$4,552,000), ACM Pool #1 (\$3,115,000), Lindy C. Boggs Barrier Upgrade (\$4,908,000), continued mitigation (\$1,302,000) and Shell Point Structure (\$1,108,000). Total fiscal year 2003 request—\$29,000,000.

*b. Index, AR to Denison Dam, TX; Bendway Weir Demonstration Project.*—This stretch of the Red River experiences tremendous bank caving. A demonstration project using this bendway weir technique is needed to determine if this method will work in the Red River. The U.S. Highway 271 Bridge was selected due to the river threatening this infrastructure and accessibility for evaluation. The project will include underwater weirs 6 miles upstream and 5.5 miles downstream of the bridge. There is great environmental enhancement potential with this project. \$3,265,000 has been appropriated to date and there are adequate carryover funds available for fiscal year 2003. Total fiscal year 2003 request—0.

*Red River Basin Chloride Control Project.*—A reevaluation for the Wichita River Basin features had been ongoing using reprogrammed funds. The office of the ASA (CW) has supported this project and funds were appropriated in fiscal year 2002. In addition to the re-evaluation and NEPA process, environmental monitoring activities will continue. Total fiscal year 2003 request—\$2,000,000.

*Red River Below Denison Dam Levees & Bank Stabilization.—a. Levee Rehabilitation, AR.*—Funds are required to complete construction of Levee Item #5 initiated in fiscal year 2001, initiate construction of the next Levee Item and initiate design for the follow on Levee Item. Funds would also be used to design and initiate construction of Dillard Revetment downstream extension to protect an existing levee from bank erosion. An Incorporation Report must be accomplished for Twelve Mile Bayou Levee, Caddo Parish, LA as directed by WRDA 99. Total fiscal year 2003 request—\$8,000,000.

*b. Bowie County Levee, TX.*—The local sponsor wants the locally preferred option' authorized for construction. In fiscal year 2002 \$500,000 was appropriated to initiate this project. The local sponsor is willing to execute a PCA and initiate real estate activities in fiscal year 2002. Total fiscal year 2003 request—\$9,400,000.

*c. Upgrade Levees, LA.*—Approximately 220 miles of levees in Louisiana do not have gravel surfaces on top of the levee, therefore do not meet federal standard. These levees are in the federal system and must be upgraded. This surface is required for safe inspections of the levees during times of floods and to maintain the integrity of the levee. The total project can be completed in four phases over four years. \$2,000,000 was appropriated in fiscal year 2002 and approximately 50 miles of levee will be upgraded in the Natchitoches Levee District, LA. Total fiscal year 2003 request—\$2,000,000.

*Red River Emergency Bank Protection, Arkansas.*—Funds are required to complete construction of Pleasant Valley Revetment (\$4,500,000) initiated in fiscal year 2002; award contracts for Bois D'Arc Revetments (\$4,000,000) and Dickson Revetment (\$2,500,000); and complete the design on Finn Revetment Phase II. These are important projects for protection of valuable farmlands and to maintain the existing alignment of the river in advance of navigation. Total fiscal year 2003 request—\$11,000,000.

*Little River County (Ogden Levee), AR.*—A Reconnaissance report in 1991 determined that flood control levees were justified along Little River. The project sponsor, Arkansas Soil and Water Conservation Commission requests that the project proceed directly to PED, without a cost shared feasibility study. We request language and funding to accomplish this. Total fiscal year 2003 request—\$200,000.

*McKinney Bayou.*—The Reconnaissance Report showed a favorable project to clear and reshape this drainage canal. Presently, the local sponsor is unable to cost share continuation of this project due to the extremely high cost of mitigation. Total fiscal year 2003 request—\$200,000.

*Big Cypress Valley Watershed (Section 1135).*—The main focus of this study is within the City of Jefferson, Texas. Informal coordination with Jefferson has showed their continued support and intent to participate. Their total share is estimated to be \$601,600 with annual O&M costs of approximately \$21,000. In fiscal year 2001 \$120,000 was appropriated to initiate this project. Total fiscal year 2003 request—\$400,000.

*Millwood Lake, Grassy Lake, AR (Section 1135).*—An environmental restoration project of 15,000 acres of wetlands located downstream from Millwood Dam. The Dam interrupted the flow to these wetlands and this project would be a water delivery system to include restoring flow to a 400-acre pristine wetland area. It is private land; however, there is a national interest for migratory birds. A potential sponsor is the Arkansas Soil & Water Conservation Commission. Total fiscal year 2003 request—\$200,000.

*East/West Burns Run Public Use Area, Park Modernization, Lake Texoma, OK.*—Modernization of these facilities will bring them up to standards to serve the high volume of users experienced each year. The Lake Texoma region economy depends mostly on recreation. This facility will ensure continued success, but also increase the economic potential for the area. Total fiscal year 2003 request—\$4,600,000.

#### OPERATION & MAINTENANCE (O&M)

*Red River Waterway.*—The President's budget is usually only sufficient to operate and perform preventive maintenance. There are major, unfunded backlog maintenance items that must be done. These items include inspection and certification of lock & dam stop logs, repairs to tainter gate diagonal bracing and revetment repairs. The President's budget included no funding for maintenance dredging which would be detrimental to navigation itself. \$3,519,000 is required for annual maintenance dredging and must be added. Total fiscal year 2003 request—\$16,764,000.

*Lake Texoma (Denison Dam), TX and OK Reallocation Study and NEPA Documentation.*—The severe drought experienced these past years has increased the need for additional water supply. Public Law 99-662, Section 838, granted authority to reallocate up to an additional 300,000 acre-feet of hydropower storage to water supply, 150,000 acre-feet for Texas and 150,000 acre-feet for Oklahoma. This reallocation is needed and we request the impact study be funded. The total study cost is \$750,000 of which \$150,000 was received in fiscal year 2002 to initiate the study. Total fiscal year 2003 request—\$600,000.

We support that O&M at all projects be funded at the full Corps capability.

#### SUPPORT OF MR&T PROJECTS

*MR&T Projects.*—There are several MR&T projects in the southern reaches of the Red River in Louisiana that have a great impact to our citizens and the Red River. We want to express our support for the following projects:

*a. Lower Red River, Bayou Rapides Pump Station, CG.*—Fiscal year 2003 request—\$2,375,000.

*b. Spring Bayou, LA, Feasibility Study, GI.*—Fiscal year 2003 request—\$1,200,000.

*c. Tensas Basin, Red River Backwater, O&M.*—Fiscal year 2003 request—\$3,595,000.

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PREPARED STATEMENT OF THE NATIONAL URBAN AGRICULTURE COUNCIL

Chairman Reid and Members of the Subcommittee: Mr. Chairman, Members of the Subcommittee, I am Roger Waters, President of the National Urban Agriculture Council (NUAC). NUAC is a national nonprofit organization established as a center for the promotion and implementation of effective water management in the urban landscape.

NUAC's objective is to enhance the environment by increasing education, training, and research on the use of recycled water and water conservation techniques that produce healthier and more vigorous landscapes while conserving potable water supplies. NUAC is headquartered in Washington, D.C. NUAC is a service and product oriented council that is involved with quality research, technology development, training, community outreach, and program and policy development. Additionally, NUAC partners with our members and state and federal agencies to address the related issues of water availability, drought preparedness and water management policy.

I would like to offer testimony on six Bureau of Reclamation programs: Drought Emergency Assistance, Efficiency Incentives, Water Management and Conservation, Technical Assistance to States, Soil and Moisture Conservation, and the Title XVI—Water Reclamation and Reuse.

I would like to request that the Subcommittee support efforts to increase the overall budget of the Bureau of Reclamation. NUAC is part of the Western Water Industry's "Invest In the West" campaign that aims to substantially increase the Bureau's Water and Related Resources Budget to \$1 billion by fiscal year 2005 to meet critical water supply improvements throughout the western United States. NUAC is proud to be a part of the important campaign on this issue that includes the Western Coalition of Arid States, the WateReuse Association, the Family Farm Alliance, the National Water Resources Association, the Association of California Water Agencies, the Oregon Water Resources Congress, the Upper Missouri Water Association and the Idaho Water Users Association.

DROUGHT EMERGENCY ASSISTANCE

NUAC was an active participant in the Interim National Drought Policy Commission's efforts that produced a report and plan for moving forward on recommendations for a national drought policy for our country. Part of NUAC's core mission is to serve as a center for the acceptance, promotion, and implementation of practical, science-based water resource management and conservation measures. An important element of our mission is making sure water users are prepared for the eventuality of drought. We have been supportive of the efforts of the Commission to produce such a vision as part of their recommendations in the final report.

Federal response to drought planning has great impact on the economic strength of our nation. The USDA in the Global Climate Change Prevention Act of 1990 underscored the need to address drought related information and to "coordinate research and share expertise with other federal agencies working on issues related to global change". NUAC believes that other federal agencies require similar funding to meet research objectives and prepare for the challenges of drought planning. Droughts drastically impact the availability of water resources for all purposes. The Agricultural Research Service has identified the drought of 1988 as the most costly natural disaster in U.S. history with economic losses estimated at more than \$39 billion.

The Bureau of Reclamation requested \$899,000 for fiscal year 2003. NUAC believes and would ask that Congress consider, that given the ongoing and likely future potential for droughts throughout our country, a budget of \$5 million be included in this program for fiscal year 2003. The Bureau of Reclamation and the Department of Agriculture appear to be the agencies best suited to working with state and local governments, tribes and local water users on the issue of drought. Through active planning these agencies future will save the Federal Government from the more costly future expense of emergency bailouts to recuperate from the devastation of drought. Funding commensurate with the responsibilities of drought planning needs to be provided to the Bureau in order for the agency to meet its objectives.

## EFFICIENCY INCENTIVES PROGRAM

NUAC is supportive of this program that provides a partnership among the Bureau of Reclamation, water users and states to implement water use efficiency and conservation solutions that are tailored to local conditions. The Bureau of Reclamation requested only \$3,087,000 for the program for fiscal year 2003. We would like to see the program increased up to \$5,000,000 so that a greater amount of work can take place among water districts throughout the west for the necessary planning, assistance, training and development of water conservation plans and water efficient landscapes. The need for this training was a key impetus upon which NUAC was founded. Water resource managers and policy makers are increasingly challenged by management issues. Paramount to making good management decisions is the availability of sound scientifically based information. This information is the keystone to the development of practical and environmentally sound programs that are cost effective and socially responsible.

## WATER MANAGEMENT AND CONSERVATION PROGRAM

On the surface this program appears to be a duplication of other Bureau of Reclamation assistance programs. The Bureau of Reclamation requested \$6,581,000 for this program for fiscal year 2003. A question that has arisen is whether the Bureau of Reclamation has construction authority for funds provided to districts under the program. This is an issue we would like the Committee to clear up so projects could go forward. We believe the funding requested is less than adequate and would suggest it be increased to \$10 million. However, if construction is going to occur under this program, we would suggest a cap on the size of the project receiving such funding, so it does not become a program for the few and not the many.

## TECHNICAL ASSISTANCE TO THE STATES

NUAC is concerned with how this program has been cut by Congress over the past several years. We believe the data collection and analyses for management of water and related land resources that occurs with this funding is extremely important in the absence of a national water policy. We would ask that the request of \$1,942,000 not be cut. We would further request that funding be increased to \$3 million to help make up the shortfall that has occurred from previous cuts.

## SOIL MOISTURE AND CONSERVATION

The modest amount of the Bureau of Reclamation's request, \$326,000 makes this program appear unimportant. NUAC would like to see this increased by a modest amount to \$500,000 with the caveat that this increase be tied to assisting in implementing the recommendations of the final National Drought Policy Commission Report. We believe this program should be examined to see if it can assist in the proper site management of Federally funded structures that require water for urban landscapes and horticultural purposes.

## TITLE XVI—WATER RECLAMATION AND REUSE

NUAC is supportive of the funding that has been provided for the ongoing projects authorized by the Title XVI Program. The \$17,750,000 budget request is substantially below the \$36 million provided by Congress for fiscal year 2002 and we would request that you consider increasing the funding at least up to that level this year. The funding provided for research, new starts, and feasibility studies needs to be examined from the standpoint of how long it is going to take to fund the existing projects, instead of looking to increase the number of projects. We believe there is a need for a serious discussion among water policy leaders on the methods to fund the future of this program in a timely manner. With regard to research, we see this as an area for the private and public sector to move forward on their own. It is important that discussions continue on how and for what type of research needs to take place and the role Reclamation should play in that agenda. We believe the results of those discussions would be beneficial in terms of laying the groundwork for any future legislative changes to the program and NUAC looks forward to continuing to be a part of that effort.

Thank you for the opportunity to provide testimony for the record on these programs.

## PREPARED STATEMENT OF THE SAN ANTONIO WATER SYSTEM

## APPLEWHITE PROPERTY ENVIRONMENTAL MITIGATION—\$2 MILLION

We request a targeted appropriation of \$2 million in funding for the U.S. Army Corps of Engineers to be used for environmental mitigation of the Applewhite property on the Medina River, which is owned by the San Antonio Water System (SAWS).

*Background.*—The Corps has completed a Section 905(b) analysis of the property and has concluded that a restoration project would improve the habitat quality of aquatic and terrestrial wildlife species around the former reservoir site. Additionally, the proposed project would benefit water quality, air pollution, and aesthetics. SAWS would like to divest itself of this property, but there must first be specific environmental clean-up, including the removal of two large railcar-like structures that were placed in the river to facilitate crossing, the stabilization of river walls created by the excavation of the cancelled dam site, and the maintenance of a sedimentation pond created to prevent sediment-laden runoff from entering the river. SAWS is currently working with several community groups who are interested in developing projects on the property. One is the Land Heritage Institute of the Americas (LHIA). The LHIA concept calls for a land-based educational, research, and recreational facility located on the Applewhite property. However, before any development, such as the LHIA, may move forward, the issues outlined above must be resolved.

SAWS/LOWER COLORADO RIVER AUTHORITY (LCRA) ENVIRONMENTAL IMPACT STUDY—  
\$1 MILLION

We request a targeted appropriation of \$1 million for the U.S. Corps of Engineers for environmental study and assessment of the potential impact of the proposed SAWS/LCRA water purchase agreement.

*Background.*—SAWS and LCRA have entered into a contract whereby SAWS would purchase up to 150,000 acre feet of surface water from the Colorado River. This is a key element of SAWS' 50 year plan to meet the growing need for water in the San Antonio area. The study would be to determine the potential impact of this project on water levels in the Colorado River Basin, specifically including a determination of the freshwater inflow needs of the Matagora Bay and its fish, shellfish, and other animal and plant species.

## LEON CREEK QUARRY/MITCHELL LAKE WATER REUSE PROJECTS—\$2 MILLION

We request a targeted appropriation of \$2 million for the U.S. Bureau of Reclamation for final feasibility assessments and construction costs for the San Antonio Water Recycling Program water reuse projects at Leon Creek Quarry and Mitchell Lake.

*Background.*—When completed, these two projects of the San Antonio Water Recycling Program of SAWS will be able to deliver over 35,000 acre feet of recycled water per year for irrigation and various industrial (non-drinking) uses. The Leon Creek Quarry and Mitchell Lake would be used to store the water until it is used. The Bureau of Reclamation has conducted a review of SAWS' environmental assessment and appraisal level study, which is expected to lead soon to full feasibility analysis and then construction. The \$2 million would be used for both the feasibility analysis and construction activities, including treatment capability upgrades, increased storage capacity at the two sites, branch and source interconnection, and required dam modifications at Mitchell Lake.

## PREPARED STATEMENT OF THE GREEN BROOK FLOOD CONTROL COMMISSION

THE GREEN BROOK FLOOD CONTROL PROJECT (NEW JERSEY—RARITAN RIVER BASIN—  
GREEN BROOK SUB-BASIN PROJECT)

Mr. Chairman and Members of the Subcommittee: My name is Vernon A. Noble, and I am the Chairman of the Green Brook Flood Control Commission. I submit this testimony in support of the Raritan River Basin—Green Brook Sub-Basin project, which we request be budgeted in fiscal year 2003 for \$10,000,000 in Construction General funds.

As you know from our testimony last year, a tremendous flood took place in September of 1999. Extremely heavy rainfall occurred, concentrated in the upper part of Raritan River Basin. As a result, the Borough of Bound Brook, New Jersey, located at the confluence of the Green Brook with the Raritan River, suffered cata-

strophic flooding. Water levels in the Raritan River and the lower Green Brook reached record levels.

There were tremendous monetary damages, and extensive and tragic human suffering.

As we reported to you in our testimony last year, a thorough study of the water levels throughout the Bound Brook Borough area in the terrible flood of September, 1999 showed that although the flood water reached record levels, it would have been contained by the extra margin of safety, the "free board", which the Corps of Engineers has incorporated in the design of this Project.

The flooding of September 1999 is not the first bad flood to have struck this area. Records show that major floods have occurred here as far back as 1903.

Disastrous flooding took place in the Green Brook Basin in the late summer of 1971. That flood caused \$304,000,000 in damages (April 1996 price level) and disrupted the lives of thousands of persons.

In the late summer of 1973, another very severe storm struck the area, and again, thousands of persons were displaced from their homes. \$482,000,000 damages was done (April 1996 price level) and six persons lost their lives.

As you no doubt know, actual construction of the Project began in late fiscal year 2001. This first construction involves the replacement of an old bridge over the Green Brook which connects East Main Street in the Borough of Bound Brook, Somerset County, New Jersey, with Lincoln Boulevard in the Borough of Middlesex, in Middlesex County, New Jersey. That work is progressing rapidly, and it is expected that this first construction contract will be completed in the fall of this year.

In February of this year, the New York District of the Corps of Engineers awarded the second construction contract, know as Segment T.

This Segment T contract will complete the construction of protection for the eastern section of the Borough of Bound Brook, New Jersey. The protection consists of levees and associated elements which will connect with the new and higher bridge which is now well along in construction. This new Segment T also includes a large pumping station to be built into the levee, for the purpose of gathering up the internal rain water, and pumping it safely over the levee and in to the Green Brook stream on the other side of the levee.

Because of the continued support of the Congress, this second Segment T of the Project will be under construction as the first segment (the new and higher bridge), approaches completion.

Final plans and specifications for the balance of the work to protect the Borough of Bound Brook are in progress. It is the Commission's hope that protection for all of the Borough of Bound Brook will proceed seamlessly during the next several years.

Since the devastating Floyd flood of 1999, the Borough of Bound Brook has been in desperate financial condition. That flood destroyed extensive tax rateables, and the Borough is in a critical situation. The only hope for stabilizing the municipal tax situation is redevelopment projects in Bound Brook. Because of its strategic location, there appear to be significant redevelopment opportunities available for Bound Brook Borough.

However, realization of redevelopment depends upon completion of flood protection on schedule.

Slowing down this Project by the provision of only \$5,000,000 for fiscal year 2003 as proposed in the Administration's budget would be a cruel blow to the efforts of the long suffering people of Bound Brook.

Bound Brook Borough needs flood protection sooner, not later.

To accomplish that, the Project requires \$10,000,000 in Federal appropriation for fiscal year 2003.

The Green Brook Flood Control Commission was established in 1971, pursuant to an Act of the New Jersey Legislature shortly after the very bad flood of 1971.

The Green Brook Flood Control Commission is made up of appointed representatives from Middlesex, Somerset and Union Counties in New Jersey, and from the 13 municipalities within the Basin. This represents a combined population of about one-quarter of a million people.

The Members of the Commission are all volunteers, and for 31 years have served, without pay, to advance the cause of flood protection for the Basin. Throughout this time, the Corps of Engineers, New York District, has kept us informed of the progress of their work, and a representative from the Corps has been a regular part of our monthly meetings.

We believe that it is clearly essential that the Green Brook Flood Control Project be carried forward, and pursued vigorously, to achieve protection at the earliest possible date. This Project is needed to prevent loss of life and property, as well as the trauma caused every time there is a heavy rain.

New Jersey has programmed budget money for its share of the Project in fiscal year 2003.

We urgently request an appropriation for the Project in fiscal year 2003 of \$10,000,000.

The Green Brook Flood Control Commission is dedicated to the proposition that Bound Brook Borough, and the other municipalities, and their thousands of residents, who would otherwise suffer in the next major flood, must be protected. We move forward with renewed determination to achieve the protection which the people of the flood area need and deserve.

With your continued support, we are determined to see this Project through to completion.

Thank you, Mr. Chairman, and Members of the Subcommittee, for your vitally important past support for the Green Brook Flood Control Project; and we thank you for the opportunity to submit this testimony.

GREEN BROOK FLOOD CONTROL PROJECT FUNDING

Federal Fiscal Year	Federal Administration Budget Request	Congressional Appropriation (Nominal)	Savings and Slippages	Effective Net Appropriation to Corps of Engineers	Transfer by Corps to (-) from (+) Other Projects	Net Money Available for Work on Project (Work Allowance)	Cumulative Money Received by Corps Since Authorization in 1986
1986	\$445,000	\$445,000	-\$19,000	\$426,000		\$426,000	\$426,000
1987	1,370,000	1,370,000		1,370,000		1,370,000	1,796,000
1988	1,400,000	1,400,000		1,400,000		1,400,000	3,196,000
1989	1,500,000	1,500,000	-68,000	1,432,000		1,432,000	4,628,000
1990	1,200,000	1,200,000	-116,000	1,084,000	+\$23,000	1,107,000	5,735,000
1991	2,000,000	2,000,000	-496,000	1,504,000	-98,000	1,406,000	7,141,000
1992	2,600,000	3,169,000	-364,000	2,805,000		2,805,000	9,946,000
1993		3,500,000		3,500,000		3,500,000	13,446,000
1994		2,800,000	-594,000	2,206,000	+571,000	2,777,000	16,223,000
1995	2,000,000	2,000,000		2,000,000	+135,000	2,135,000	18,358,000
1996	3,600,000	3,600,000	-932,000	2,668,000	+193,000	2,861,000	21,219,000
1997	2,781,000	2,781,000	-300,000	2,481,000		2,781,000	24,000,000
1998		3,100,000	-189,000	2,911,000		2,911,000	26,911,000
1999		9,900,000	-694,000	9,206,000	-6,500,000	2,706,000	29,617,000
2000	1,000,000	1,000,000	-142,000	858,000		858,000	30,475,000
2001	4,000,000	4,000,000	-640,000	3,360,000	+89,000	3,449,000	33,924,000
2002	10,000,000	10,000,000	-1,598,000	8,402,000	-1,000,000	7,402,000	41,326,000
2003	5,000,000	10,000,000					

<sup>1</sup> Recommendation of the Green Brook Flood Control Commission for fiscal year 2003 to continue construction.  
 Reference: This summary of funding for the Green Brook Flood Control Project has been assembled based upon publicly available information.



## PREPARED STATEMENT OF THE PORT OF HOUSTON AUTHORITY

I would like to thank you for allowing the Port of Houston Authority (PHA) to add comments to the record regarding the Houston-Galveston Navigation Channels Texas Project's appropriations in the Energy and Water Appropriations Act. The PHA is supporting a request for \$67 million in Federal funds for the U.S. Army Corps of Engineers—Galveston District in the fiscal year 2003 Energy and Water Appropriations bill for this major Port project.

The Houston-Galveston Navigation Channels Texas Project deepens the Houston Ship Channel (HSC) to 45 feet from 40 feet and widens it to 530 feet from 400 feet. Additionally, twelve-foot deep barge lanes will be added to both sides of the project crossing Galveston Bay to increase safety and efficiency for channel users. While the dredging effort to make the HSC usable at the improved depth will be nearing completion in December 2003, the construction phase for the widening and deepening project will continue in future years. Following the completion of the initial dredging, oyster reefs will continue to be constructed to mitigate for the oyster beds destroyed during the construction of the barge lanes. The construction of saltwater marshes—an award winning interagency effort that will benefit the environment—will also continue. In order to maintain the optimal construction schedule and provide the greatest benefits to the PHA and the economy, the U.S. Army Corps of Engineers—Galveston District (the Corps) requires a total of \$67 million in Federal funds for fiscal year 2003.

If the project is not fully funded, project cost to the taxpayers will increase by \$1.6 million, the project will be delayed at least another year, and a consequent reduction in revenue to local governments and a delay in the realization of the project's economic benefits to the public will ensue. The project, at completion, is expected to provide an average annual economic benefit of over \$87 million according to the Corps' limited reevaluation report. This sizable economic benefit will not be realized for each year the completion of the project is delayed. Additionally, the project has a remaining cost-benefit ratio of \$3.60 for every \$1 spent. The initial cost-benefit ratio (in 1996) was a substantial \$1.80 to every \$1 spent.

The President's budget only includes \$19.487 million for the continuation of the project in fiscal year 2003. This amount will not allow the Corps to let any new construction contracts in fiscal year 2003 and will delay the project by at least one year. With the significant economic benefits from the deepened channel, the safety benefits from a widened channel, favorable remaining cost-benefit ratio, and the Corps so close to making the HSC operational at its authorized depth, I would urge the Committee to increase the appropriation for the project to fully fund it at \$67 million.

The PHA also appreciates and supports the Corps' request for operation and maintenance of the HSC (\$8.254 million), the Barbours Cut Channel (\$606,000) and the Bayport Channel (\$2.389 million) in the President's budget. We request that the Committee support these funding levels.

Among U.S. ports, the Port of Houston is first in foreign tonnage, second in overall tonnage and is the eighth largest port in the world. The Port also has an annual economic impact of over \$7.7 billion and is responsible for nearly 205,000 jobs related to port activity. The Port of Houston generates just under \$500 million in U.S. Customs receipts per year and over \$525 million in state and local taxes per year. The Port is of vital importance not only to the Houston region, but also to Texas and the United States as it is home to one of the largest petrochemical complexes in the world and provides the U.S. military with excellent facilities to move cargo and equipment around the globe. With the Committee's help and support, the Port of Houston can maintain and increase its stature as a leading hub for international commerce.

The Commissioners of the PHA thank you for all of the hard work you do for the Port and for Texas. With your leadership, the PHA will maintain its position as a major economic engine for Texas.

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 PREPARED STATEMENT OF THE MISSOURI RIVER BANK STABILIZATION ASSOCIATION

The Missouri River Bank Stabilization Association is pleased to thank you for the opportunity to present this 2003 budget request and a brief statement of the reasons underlying the request.

This statement relates to the Missouri National Recreational River project which was authorized by the Congress in 1978 per Section 707 of Public Law 95-625. That law authorized the expenditure of some \$21,000,000.00. According to the U.S. Army Corps of Engineers, some \$4,000,000.00 has thus far been expended. The Associa-

tion's budget request for fiscal year 2003 is \$260,000.00. The money requested is to be used for the following purposes:

- The operation, maintenance and repair of streambank protection structures constructed prior to 1978 under the authority of Section 32 of the Streambank Erosion Control and Demonstration Act.
- Rebuild or replace structures which were damaged or destroyed by the record high flows (70,000 cubic feet per second as contrasted with the normal 34,000–35,000 cubic feet per second) of 1997.
- Acquire shoreline easements from riparian owners to protect existing habitat (some of which is rapidly eroding away), and to restore habitat to shorelines where it has already eroded away.
- The improvement of access to the river in areas where access is limited or non-existent.
- The acquisition or protection of the river's scenic qualities which in large part prompted the legislation.
- Such other work as may be needed to achieve the congressional purposes in designating this reach of the Missouri a part of the Wild and Scenic Rivers system.

This budget request relates to a reach of the Missouri River lying between Ponca State Park, near Ponca, Nebraska and Gavins Point Dam, near Yankton, South Dakota. The river mileage at Ponca State park is 753; at Gavins Point Dam it is 811.

This reach of river was designated part of the Wild and Scenic Rivers system in 1978. Still in a relatively wild state, it is the only such reach of the Missouri lying downstream of the Corps of Engineers' "main stem" dams. While there is a sprinkling of bank protection structures on this reach, the river still displays many of its storied characteristics. It erodes its banks, builds and removes islands, changes its channel at will, harbors endless snags, ranges from inches to fathoms in depth and bedecks itself with a myriad of sandbars. Stand of willow, cottonwood, ash and an array of underbrush flank the stream, providing habitat for a diverse population of wildlife. Deer, coyotes, raccoons, beaver, mink, opossums and muskrat abound. Bald eagles are year-round residents, and a profusion of birds call this reach of river home. Located on the Central Flyway, the river hosts a truly massive number of migrating waterfowl, spring and fall.

Though retaining many of its traditional characteristics, this reach of river is not truly natural. Construction of the "main stem" dams eliminated a principle feature of the truly wild Missouri: the annual "June Rise". This deluge of the mountain snowmelt often caused over-bank flooding. A significant consequence of such flooding was the build-up of accretion land. As often as not, land lost to erosion was thus restored; accretion offset erosions. While the riparian owner once had a good chance of restoration of lost land, today he has only a 100 percent chance of losing the land. As a result the Missouri today is over 60 percent wider than it was in pre-dam days. Today's erosion is exacerbated by the fact that the relatively clear water discharged from Gavins Point Dam has a greater erosive power than did the silt-laden waters of the wild Missouri: Thus, increased erosion, coupled with the absence of off-setting accretion, wreaks havoc on unprotected shorelines.

The proposed "spring rise" (being touted by the U.S. Fish and Wildlife Service) can only further exacerbate the problem. While said Service does not phrase it in clear, precise language, a principle aim of the "spring rise" is to increase erosion so as to increase nutrients in the water. The Service is in fact proposing the intentional destruction of the riparian owners' land. This is not only intentional, it is criminal.

The erosion is not only depriving riparian owners of their property, it is also causing grave and irreversible losses to some of the very attributes which led the Congress to include this reach of the Missouri in the Wild and Scenic Rivers system. Stands of cottonwoods along the river are being devoured by the river, along with a variety of other shoreline-enhancing trees and shrubs. Bottom degradation continues to lower the water table and the lost cottonwoods will not be replaced by young cottonwoods as these need to stand "with their feet in the water" to grow and thrive. Absent bank protection, the existing treelined shores will disappear and corn and bean fields will supplant them. Very severe erosion of a large and fine stand of cottonwoods is currently occurring at the North Alabama Point, circa Mile 779.8R, north of Maskell, Nebraska.

The Bicentennial of the Lewis and Clark Expedition is at hand, and public interest in the Missouri has grown noticeably. This has demonstrated a need for improved access, signage and some additional viewing points ("overlooks"). The new overlook at the Newcastle-Vermillion Bridge has already been discovered by those seeking a glimpse of the river, and a number of tour operators have already incorporated this site into their itineraries.

This project has enjoyed Congressional support from its inception. The Missouri River Bank Stabilization Association is appreciative of that support and thanks the Congress for it. So, too, do a variety of others—fishermen, boaters, hunters, and those who simply enjoy viewing this reach of the historic Missouri.

PREPARED STATEMENT OF THE INTERNATIONAL ASSOCIATION OF FISH AND WILDLIFE AGENCIES

BUREAU OF RECLAMATION (BOR)

The budget request by the Bureau of Reclamation for Fish and Wildlife Management and Development is \$89.4 million, an increase of \$3.8 million over the fiscal year 2002 request of \$85.5 million, but a \$17.3 million decrease from the fiscal year 2002 enacted level of \$106.7 million. The Association appreciates the increase in the Agency's budget request for fish and wildlife management in fiscal year 2003 and recommends additional budget increases for the BOR that allows them to meet their statutory water delivery requirements and, that allows them to mitigate for their project impacts to sport fish, threatened and endangered species and, provide for water based recreation. We urge the adoption of a budget that will pay for water needed for T&E species and, to re-supply sport fish that are lost to reservoirs, tailwaters and rivers due to the operation of their water delivery systems.

Throughout its history, the BOR has played a vital role in harnessing and managing water resources for a young and growing Western United States. The fulfillment of those high national priorities has not always been accomplished with a long-term vision for the health of fish and wildlife resources within BOR project design, construction and operational practices. Thus, the development of high priority public services has sometimes proven highly detrimental to other public values, including certain fish and wildlife resources. The agency's publicly stated policy is to sustain the health and integrity of ecosystems and protect the environment as it goes about the important work of providing dependable sources of water. The Association is encouraged that the agency is continuing its recent efforts to better balance these sometimes competing uses of limited natural resources. The Association appreciates and strongly supports BOR's efforts to refocus considerable financial resources on ameliorating historical water development-related impacts to fish and wildlife and their habitats in cooperation with other federal state and tribal partners.

*Endangered Species Recovery Program.*—The BOR is requesting \$12.7 million for endangered species conservation and recovery work spread among 17 western states. This is a reduction of over \$700,000 from the \$13.5 million enacted for fiscal year 2002. When viewed in the context of the geographical areas affected by prior BOR activities and the complex of imperiled fish, wildlife and essential habitats that need attention as a consequence of these earlier actions, these funds are very necessary and appropriate. The Association supports funding levels at least consistent with the level enacted for fiscal year 2002.

The funding for efforts associated with carrying out the Adaptive Management Program required by the Grand Canyon Protection Act comes from power revenues—and hence these needs are rarely addressed by Congress. These cooperative efforts, led by the Department of Interior and staffed by the BOR and the USGS Grand Canyon Monitoring and Research Center, are often left wanting in the federal budget process. The Federal Advisory Committee charged with oversight of Adaptive Management has consistently recommended appropriations in the range of \$750,000 to \$1,000,000 per year to support necessary work. As evidence now mounts about the decline of listed fishes in Grand Canyon, we urge Congress to consider the financing necessary to assure these programs progress with regard to conservation of Threatened and Endangered fishes and conservation of sport fishing opportunity associated with the tailwater below Glen Canyon Dam.

*California Bay-Delta Ecosystem Restoration.*—Authorization bills for California Bay-Delta Restoration have been introduced and are under consideration in the House and Senate. Absent authorizing legislation prior to fiscal year 2002, no funding was recommended by the Congressional Conference Committee for the California Bay-Delta Restoration Project. However, Congress did appropriate \$30 million in fiscal year 2002 for previously authorized activities that support and further the goals of the overall California Bay-Delta restoration. The fiscal year 2003 budget requests \$15 million for the California Bay-Delta Ecosystem Restoration account. The Association is concerned that this funding level is less than the \$20 million requested last year, and only half of the \$30 million Congress provided for Bay/Delta-related activities last year. The Association believes the requested funding level is

insufficient to address the needs identified by federal and state officials in the August 2000 Record of Decision finalizing a long-term plan for restoring the San Francisco Bay-San Joaquin River Delta. In order to make progress on improving water supply reliability and quality for urban and agricultural water users concurrent with improvements to the Bay-Delta ecosystem and ensure that sound science is used to guide management and policy decisions in the Bay-Delta, a significant increase in appropriations is needed. The Association supports Congressional reauthorization of the California Bay-Delta Program and appropriation of funds necessary to implement the Record of Decision for the California Bay-Delta Program.

*Central Valley Project.*—The BOR is seeking a Congressional appropriation of \$48.9 million in fiscal year 2003 to manage and improve California's Central Valley Project (CVP) through the CVP Restoration Fund. With the addition of \$6.3 million in state cost-share funds, the total amount of federal and non-federal funds supporting CVP restoration equals the \$55 million enacted last year. The appropriations request is offset by discretionary receipts of approximately \$39.6 million in the CVP Restoration Fund. The funds will be used to undertake important anadromous fisheries habitat work, water acquisition, fish screening and other works that are necessary to continue efforts to restore the fish and wildlife-related damages created by this federal project. The Association encourages the Congress to fully fund this work at the requested level of \$48.9 million, and to make the CVP Restoration Fund a permanent appropriation. Making the account permanent would help ensure that this important source of beneficiary funded restoration work is available.

*Upper Colorado River.*—The Association fully supports the BOR budget request of \$6.3 million for Endangered Species Recovery Implementation Programs for the Bureau's Upper Colorado Region. This budget request mirrors the needs identified by the Upper Colorado River Endangered Fish Recovery Program and the San Juan River Basin Recovery Implementation Program. These cooperative programs involving the states of Colorado, New Mexico, Utah, Wyoming, Indian tribes, federal agencies and water, power and environmental interests are ongoing in the Upper Colorado River and San Juan Basins and have as their objective recovering endangered fish species while water development proceeds in compliance with the Endangered Species Act, state water law and interstate compacts. Substantive non-federal cost-sharing funds are provided by the four states, power users and water users in support of these recovery programs.

*Lower Colorado River.*—The BOR is requesting \$12.4 million for work in the Lower Colorado River Operations Program, which is focused on endangered species recovery and includes \$4.4 million for the Lower Colorado River Multi-Species Conservation Program. The MSCP is a 50–50 cost-shared program with non-federal partners to develop a long-term plan to conserve over 70 state and federal special status species along the Lower Colorado River from Lake Mead to Mexico. The \$12.4 million for the Lower Colorado River Operations Program, proposed by the BOR for fiscal year 2003, is deemed essential by the Association and is strongly supported.

#### U.S. ARMY CORPS OF ENGINEERS

The fiscal year 2003 budget proposal for Civil Works Appropriations of the U.S. Army Corps of Engineers is \$4.3 billion. In addition, the program will include \$464 million in new resources and trust fund receipts. The budget proposal reflects continued commitment to proper management of our natural resources, through dedication of \$863 million to environmental programs. The environmental portion of the Corps budget represents approximately 20 percent of the overall request. The fiscal year 2003 proposed budget is the third year of significantly enhanced funding of environmental programs within the Corps of Engineers budget. The Association applauds the fact that many of our recommendations from recent fiscal years have been maintained by the Corps in their budget requests.

The Corps has conducted listening sessions across the United States and is in the process of developing programs to improve the Nation's water supplies through implementation of a holistic approach to water resources management. We commend the Corps' efforts and look forward to working with them on this significant commitment.

The Association encourages the Corps to cooperate coordinate and develop civil works and restoration activities with State fish and wildlife agencies. The State fish and wildlife agencies are generally aware of where Corps projects could most effectively enhance the status of fish and wildlife resources through improvements to habitat. We are pleased there continues to be funding which will result in development of partnerships to restore riverine ecosystems to address flood prevention through non-structural alternatives.

The Association particularly appreciates the leadership of Congress in providing funding for mitigation projects. We are especially pleased that the Corps is requesting, and the Association supports, continuation of funding for the Columbia River Fish Mitigation in Washington State. The Association also strongly encourages Congress to appropriate necessary funding within the Corps budget to facilitate the mitigation feature and river restoration opportunities associated with the West Tennessee Tributaries Project. It is in the best interest of the country to restore the habitat and hydrologic components of our river systems that have been significantly altered.

We recommend that the Congress explore the need for generic legislative direction to the Corps to ensure that the older projects include the authority for fish, wildlife, water quality, and sustained minimum flow mitigation and enhancement, and if legislation is necessary, to act on that need. Further, the Association recommends that mitigation funding for ongoing projects be listed as a separate line item within the Civil Works Appropriations. Further, the Corps has made commitments to fish and wildlife mitigation and on numerous occasions has received Congressional authorization for mitigation activities that have not been initiated or completed. The Association encourages Congress to direct the Corps to complete all mitigation activities simultaneous with project development (as opposed to subsequent to project development). Also, the Association suggests that the Corps continue to look at actually transferring some project mitigation lands to the individual states as efficiently and expeditiously as possible, without unnecessary staff time and financial costs. The Corps is currently in the process of transferring mitigation lands associated with the Richard B. Russell Project to the State of South Carolina, along with a trust account to manage these lands. The transfer process associated with this project is ongoing and has taken over three years, requiring specific language in two separate Water Resources Development Acts. The Association encourages Congress to support the transfer of mitigation lands to those States interested in receiving title to such lands, as well as direct and/or encourage the Corps to implement policies to complete the transfers in a timely and efficient manner.

We support the request of \$151 million, an increase of \$24 million, for funding for the regulatory program to reduce the average review time of individual wetland permit applications. Furthermore, the Association supports enhanced review and enforcement of permit and mitigation violations.

The Association recommends that the Corps continue to initiate applicable restoration, mitigation and conservation projects in partnership with State fish and wildlife agencies. For example, we request the Corps continue to participate with State agencies and non-Federal interests in the North American Waterfowl Management Plan through wetlands conservation and wetlands identification. Further, the Association encourages the Corps to become a significant partner in the North American Bird Conservation Initiative (NABCI).

The Association is excited by the potential for significant environmental accomplishments in restoration, conservation, and sustainable management of water, fish, and wildlife resources. The Association is especially pleased with Federal plans to partner with local, state and tribal agencies and with the watershed management emphasis. The States are interested in forging a true partnership through sharing ideas, plans, design, implementation structure and enforcement in establishing a unified, cooperative approach to improving water quality.

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#### PREPARED STATEMENT OF THE STATE OF ILLINOIS

As you begin to formulate your appropriations and funding priorities for fiscal year 2003, I respectfully urge you to consider the following items for inclusion in the upcoming Energy and Water Appropriations bill. In addition, I am grateful for all of the assistance that you have been able to provide to the State of Illinois—your efforts are greatly appreciated and provide many benefits throughout the state. All of these funding requests are important to the State of Illinois and reflect the state's long-standing commitment to providing sound energy and water policies.

#### ILLINOIS RIVER BASIN RESTORATION PROGRAM (ILLINOIS RIVERS 2020)

*Request:* Federal appropriation of \$6.5 million in the federal fiscal year 2003 Corps of Engineers Civil Works budget; and increase the 3-year, \$100 million authorization in the Water Resources Development Act 2000 (WRDA) to a 10-year authorization.

This multi-level, multi-billion dollar State plan for the restoration of the Illinois River Basin is a voluntary, incentive-based program that will develop new technologies and innovative approaches to transportation, water quality, economic devel-

opment and land and habitat conservation issues. Funding will provide for the development of new sediment removal, transport, characterization, and beneficial use of technology along with other action for the restoration of Illinois River hydrology and water quality.

#### CHICAGO HARBOR LOCK MAJOR REHABILITATION

*Request:* Illinois supports full funding of Construction General new funds for the Chicago Harbor Lock Major Rehabilitation.

Chicago Lock is located at the mouth of Chicago River in downtown Chicago adjacent to Navy Pier. Chicago Lock was constructed by Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) between 1936 and 1938. The Corps began operating the Lock in 1984 under the authority of Section 107 of Public Law 97-88, and by a memorandum of agreement between the Chicago District Corps of Engineers and the MWRDGC. This is a high use lock with low commodity tonnage, but most of the traffic is commercial cruise and passenger vessels. The Lock is currently operating at 15 years beyond its design life, resulting in the lack of reliability in the gate operating machinery and structural members. Gate seals are not providing the expected level of water tightness. Leakages through the gates is again becoming a problem and impacting the Illinois' Lake Michigan diversion accounting. Corps of Engineers approved the major rehabilitation project in 1999. Delayed rehabilitation of the lock threatens the safety of millions of passengers yearly and result in total lake diversion in excess of the limitations of the 1980 U.S. Supreme Court Decree by the State of Illinois.

#### CARLYLE LAKE CONVEYANCE ANALYSIS

*Request:* Illinois supports an appropriation of \$200,000 for the Corps of Engineers to conduct a conveyance analysis of the Kaskaskia River from Vandalia, Illinois to Carlyle Lake, and the surrounding vicinity.

The State of Illinois is concerned about the surface drainage flow levels, channel depths, and sedimentation trends and their performance effects in the Kaskaskia River from Vandalia, Illinois to Carlyle Lake, and the surrounding vicinity in addition to environmental opportunities. Therefore, the State is requesting \$475,000 be provided to the Corps of Engineers for conveyance analysis which will include detail mapping necessary to conduct hydrology analysis to establish frequency discharges and profiles for the 2 to 10 year flood events.

#### RARE ISOTOPE ACCELERATOR FACILITY (RIA)

*Request:* Seek additional \$32.82 million in the Department of Energy, Office of Science, Nuclear Physics Budget to create the world's leading facility for research in nuclear structure and nuclear astrophysics.

Currently, two sites are under consideration for the Rare Isotope Accelerator Facility: Argonne National Laboratory, Illinois, and Michigan State University, Michigan. With the additional \$32.82 million, the Department of Energy will begin the environmental impact statements on the interested sites.

Argonne has experience in operating large scientific user facilities and the technical staff. It is estimated that the cost of the project would be much less expensive in Illinois versus Michigan. The estimate of reduced cost ranges between \$100 million and \$200 million. Argonne is a research facility and has the necessary safe guards in place.

#### CHICAGO UNDERFLOW PLAN (TARP)

*Request:* Illinois supports full funding of McCook and Thornton Reservoirs. McCook will require \$131 million in non-federal funds and \$393 million in federal. Thornton will require \$36 million in non-federal funds and \$108 million in federal funds.

The completion of these projects with their related improvements to water quality will have a significant impact on reducing the amount Lake Michigan diversion water required for dilution purposes. The reduction in dilution water will improve Illinois' ability to meet the limits of Lake Michigan diversion and provide for future water supply needs. These projects must not be delayed and design and construction should be accelerated. The Corps must budget for the design and construction of these reservoirs to their full capability. The 1988 Water Resources Development Act authorized the Corps to proceed with construction of the McCook and Thornton reservoirs as components of the Chicago Underflow Plan (also called TARP). The McCook Reservoir will reduce flooding and significantly improve water quality in

the mainstream and Des Plaines systems of TARP. The Thornton Reservoir will reduce flooding and improve water quality in the Calumet system of TARP.

I appreciate your consideration of these priorities as you formulate the Energy and Water Appropriations bill and urge their inclusion.

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PREPARED STATEMENT OF THE AMERICAN ASSOCIATION OF PORT AUTHORITIES

As you know, the U.S. Army Corps of Engineers performs critical services that provide this Nation with the ability to trade internationally and deploy our national defense. Ports throughout the Nation rely on the Corps to both maintain and improve federal navigation channels, through which 95 percent of our overseas trade (by volume) flows. Grain exports from the Mid-West and oil imported to fuel our economy all rely on modern navigation channels. On behalf of U.S. public port agencies, we urge your Committee to support a strong fiscal 2003 budget for the Corps in order to properly address the water resources needs of our country.

We are gravely concerned that the Administration's budget request for fiscal year 2003 would not provide enough funding to keep needed navigation projects on schedule or allow for the start of new projects. In terms of deep-draft harbor construction, the budget request seeks only \$267 million in fiscal year 2003, which is only half of what is needed to fund ongoing and new projects (\$539 million). The attached testimony contains additional details of deep-draft harbor construction requirements.

In addition, we are extremely concerned about the critical backlog that exists for maintenance of the Corps' existing navigation projects. In his February 27, 2002, testimony before the House Appropriations Subcommittee on Energy and Water Development, Chief of Engineers Lieutenant General Robert B. Flowers stated that funds provided for fiscal year 2002 left a critical maintenance backlog of \$702 million, of which \$587 million is in the navigation mission. General Flowers defined critical maintenance as maintenance that should be performed in the budget year in order to continue operation at a justified level of service and to attain project performance goals. The critical maintenance backlog for navigation consists largely of dredging and repairs to structures such as locks, dams, breakwaters, and jetties. We respectfully request your support for substantially increasing the O&M budget to address this critical maintenance backlog.

The impact of inadequately funding the Corps navigation mission would be severe. Trade is projected to double by 2020, with container trade projected to triple. In order to meet these needs, we must make significant investments now. The fiscal year 2003 proposed budget, however, falls far short of meeting these needs. Port infrastructure is a local/federal partnership and port authorities are investing to update and modernize their facilities. Between 2002 and 2006, public ports estimate that they will spend \$9.4 billion.

The United States has always been a great maritime and trading nation. Foreign trade as a percentage of the U.S. Gross Domestic Product (GDP) has risen consistently, and currently accounts for over one-fourth of the GDP. Public ports also generate significant local and regional economic growth, including job creation. Commercial port activities annually provide employment for 1.4 million Americans, and account for Federal taxes of \$14.7 billion and state and local tax revenues amounting to \$5.5 billion. Such statistics show that Federal investments in navigation channels through the Corps of Engineers budget are an excellent choice for the Nation. We urge you to provide the funds necessary to allow the marine transportation system to be ready for the challenges of both today and tomorrow.

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PREPARED STATEMENT OF THE NORTH CAROLINA STATE PORTS AUTHORITY

*Introduction*

Good morning. I am Erik Stromberg, Executive Director of the North Carolina State Ports Authority. I am testifying today on behalf of the American Association of Port Authorities. Founded in 1912, AAPA represents virtually every U.S. public port agency, as well as the major port agencies in Canada, Latin America and the Caribbean. Our Association members are public entities mandated by law to serve public purposes—primarily the facilitation of waterborne commerce and the generation of local and regional economic growth. My testimony today reflects the views of AAPA's United States delegation.

Mr. Chairman, AAPA commends you for convening this hearing on the Corps of Engineers budget for fiscal year 2003. We are gravely concerned that the Administration's budget request for fiscal year 2003 would not provide enough funding to keep critical navigation projects on schedule or allow for the start of new projects.

In addition, we are extremely concerned about the critical backlog that exists for maintenance of the Corps' existing navigation projects. We appreciate the strong leadership this Subcommittee has shown in supporting sound water resources policy and investment. We urge your continued support and assistance in assuring a sufficient level of funding is appropriated for the Corps of Engineers.

If I leave one message with you today, it is that our entire nation—our ports and all who benefit from the services we provide—depend on adequate funding of Corps of Engineers studies, construction, operations and maintenance, research and regulatory functions. The relationship between our ports and the Federal government is far from one sided. Besides the non-federal cost share and the substantial economic, national defense and environmental benefits the activities at our nation's ports generate, there are significant levels of investment in shoreside infrastructure by non-federal public and private interests as well. In the year 2000, the local investment in landside terminal facilities totaled over \$1 billion. These investments of local funds in landside facilities fundamentally depend on the continued partnership with the Federal government to maintain and improve the nation's deep-draft navigation system.

*Administration Fiscal Year 2003 Budget Request for the Army Corps of Engineers*

The Administration budget requested fiscal year 2003 appropriations of \$4.175 billion for the Corps of Engineers Civil Works Program. This level represents a 10 percent cut from fiscal year 2002 appropriated levels (including fiscal year 2002 supplemental appropriations). (We note that the Administration has proposed a new initiative to allocate the cost of Federal retirees to agency programs. In order to fairly compare project funding levels to previous years, we have subtracted these retiree costs where appropriate.) AAPA and its member ports around the country are deeply concerned that the President's proposed budget for fiscal year 2003 does not provide for sufficient investment in or maintenance of the nation's commercial navigation system.

*Construction-General Account.*—The Construction-General account, which provides the funding for investment in our nation's water resources, was subject to an 18 percent cut in the Administration's budget proposal compared to fiscal 2002 appropriated levels (\$1.42 billion v. \$1.72 billion). The Administration did not propose to initiate any new construction starts in fiscal year 2003 or to continue any new construction starts that Congress approved in fiscal year 2002.

In terms of deep-draft harbors, which provide the gateways for more than 95 percent of our nation's growing import and export trade, this budget seeks only \$267 million in fiscal year 2003. This amount is only half of what is needed to fund ongoing and new projects (\$539 million). The attached table lists the fiscal year 2003 funding requirements and the Administration's budget request for construction projects of interest to the nation's deep-draft port industry.

Without additional funding, next year a number of ongoing projects will not be able to maintain contractual obligations. This will force work to come to a halt and increase project costs by having contractors demobilize their equipment and add unnecessary inflation costs. Failure to maintain optimal schedules will increase project costs and delay the realization of project benefits. In addition, delays in starting projects or continuing projects on an optimal schedule could result in the loss of local sponsor funding.

*Operations and Maintenance Account.*—The Administration requested \$1.914 billion for the Operations and Maintenance (O&M) account, which is slightly less than fiscal year 2002. In his February 27, 2002, testimony before the House Appropriations Subcommittee on Energy and Water Development, Chief of Engineers Lieutenant General Robert B. Flowers stated that funds provided for fiscal year 2002 left a critical maintenance backlog of \$702 million, of which \$587 million is in the navigation mission. General Flowers defined critical maintenance as maintenance that should be performed in the budget year in order to continue operation at a justified level of service and to attain project performance goals. The critical maintenance backlog for navigation consists largely of dredging and repairs to structures such as locks, dams, breakwaters, and jetties. The Congress must substantially increase funding in the O&M Account to lower the maintenance backlog and ensure that project benefits are sustained.

AAPA supports continued funding for two Research and Development programs funded from the O&M account: The Dredging Operations and Environmental Research (DOER) Program and the Dredging Operations Technical Support (DOTS) Program. DOER is essential to develop answers to a variety of complex technical questions that confound dredging projects such as assessing contaminated sediments, identifying innovative dredging technologies, and minimizing impacts of



threatened and endangered species. AAPA urges Congress to fund the DOER program at the level recommended by the Administration, \$6.755 million.

The DOTS program provides an efficient and cost effective means for Corps district personnel to consult with Corps researchers on complex dredging. This program helps keep important projects on schedule when new issues are raised. While the Administration's request for \$1.545 million will keep this important program operating, this level of funding is unlikely to meet the growing demand for consultations. We urge the Congress to provide \$3 million for the DOTS program.

*General Investigation Account.*—The Administration's proposed budget for the General Investigations account, which funds reconnaissance and feasibility studies for new water resources projects, was one-third lower than Congress appropriated in fiscal year 2002 (\$104 million v. \$154 million). The stated Administration purpose for this drastic cut in study funding is to "slow the rate at which studies and preconstruction engineering and design effort are carried out and completed and the rate at which projects with completed studies are added to the existing construction backlog." (See testimony of Secretary of the Army for Civil Works Mike Parker before the House Appropriations Subcommittee on Energy and Water Development, February 27, 2002, page 6–7.) To this end, the Administration has included no new studies in its fiscal year 2003 budget request.

This blanket policy of suspending all new studies would severely limit the Congress' ability to make informed decisions about Federal investments by stifling critical assessments of the nation's water resources development needs. AAPA urges Congress to reverse this policy of strangling the study process.

*Regulatory Program.*—AAPA supports the proposed increase of \$19 million in the regulatory program. As project reviews have become more complex and controversial, the Corps resources for permit evaluation, enforcement, and administrative appeals have not kept pace. This increased funding will help reduce the amount of time needed to obtain permits from the Corps.

#### *Importance of the Corps Deep-Draft Navigation Mission*

Our water highways are national assets that serve a broad range of economic and strategic interests. The United States has the most extensive, complex and decentralized marine transportation system in the world; it is an appropriate asset for the world's largest trading country and sole superpower. A large measure of this country's unprecedented economic growth and the minimization of the impact of economic downturns are due to the increased productivity of the American economy and foreign trade. To remain competitive in the global marketplace, U.S. businesses must have an efficient and reliable transportation system.

The nation's system of ports and harbors provides the nation's shippers—importers and exporters—with a range of choices that show them to minimize transportation costs, and, thus, deliver goods to the consumer more cheaply and compete more effectively in international markets. For example, in 1997, problems with rail service in the Southwest United States caused cargo diversions to ports in the Northwest. A westward shift in manufacturing patterns in Asia has resulted in more consumer goods from that region being delivered to the United States through East Coast ports, via the Suez Canal. The diversity of transportation options also serves the country well during times of crisis when the military needs to quickly move troops and materiel.

*Economic Benefits.*—Ports' activities link every community in our nation to the world marketplace—enabling us to create export opportunities and to deliver imported goods more inexpensively to consumers across the nation. The deep-draft commercial ports of the United States handle over 95 percent of the volume and 75 percent of the value of cargo moving in and out of the Nation. Port activities create substantial economic and trade benefits for the nation, as well as for the local port community and regional economies. The following statistics highlight how critical ports are in facilitating national economic activity<sup>1</sup>:

- U.S. Customs duty revenues totaling approximately \$15.6 billion were paid into the general treasury in fiscal year 1996 on cargo moved through ports.
- Our nation's commercial deep draft ports annually handle in excess of \$600 billion in international trade.
- Foreign trade is an increasingly important part of the U.S. economy, currently accounting for over 30 percent of our Gross Domestic Product. U.S. exports and imports are projected to increase in value from \$454 billion in 1990 to \$1.6 trillion in 2010. The volume of cargo is projected to increase from 875 million to 1.5 billion metric tons in 2010.

<sup>1</sup>Source: U.S. Maritime Administration.

—The overall national economic impact of port activities in 1996 generated: 13 million jobs; \$743 billion to the Gross Domestic Product; and \$200 billion in taxes at all levels of government.

*National Defense Benefits.*—We should also not lose sight of the fact that the ports continue to play a very critical role in our nation's defense. That role has never been more apparent than during the loadouts of military cargo and personnel during Operation Desert Shield/Desert Storm. The huge buildup of U.S. forces in and around the Persian Gulf would have been impossible without the modern facilities and strong support provided by America's ports. According to the U.S. Military Traffic Management Command (MTMC), between August of 1990 and March of 1991, MTMC loaded 312 vessels and more than 4.2 million measurement tons of cargo in 18 U.S. ports for delivery to the Persian Gulf in support of Desert Shield/Desert Storm. More than 50 ports have agreements with the Federal Government to provide ready access for national emergency purposes.

*Environmental Benefits.*—Several navigation projects that have substantial environmental features, including the creation of thousands of acres of wildlife habitat using dredged material, would not proceed under the proposed funding levels. For example, the Port of Oakland is currently building a project to expand its container handling capability that will redevelop a former military facility, create 120 acres of shallow-water habitat, restore 3200 acres of wetlands, provide 30 acres of new public parkland, and reduce vehicle emissions by 40 tons per year. In addition, the larger, more efficient ships that will be able to call at the port will result in reduced discharge of ballast water, which will reduce the risk of introducing aquatic nuisance species. Similar multi-objective projects are the hallmark of local public port development activities.

*Importance to the Corps of Engineers Navigation Mission to North Carolina*

I come to you today from a port that is far more typical of the 100-plus public port agencies in the United States than usually testifies before the Congress. The North Carolina State Ports Authority owns deepwater port facilities at Wilmington and Morehead City. Cargoes moving through our ports include steel, forest products, rubber, fertilizers, salt, liquid chemicals, petroleum products, and containers. Our two ports are also classified as "national strategic ports." We primarily serve a regional market that encompasses some half dozen states. The Authority views its role to enhance the economy of North Carolina through businesslike operations and administration. Our \$30 million budget is generated by over five million tons of cargo moving annually across our docks.

The importance of our two ports is only partially revealed by our statistics and economic impact. Statewide, over 80,000 jobs and nearly \$300 million in state and local tax revenues are dependent on operations at North Carolina's ports. In the Wilmington area alone, this translates to over 6,500 jobs and more than \$23 million in tax revenues. When, not if, global economic growth resumes—and in the South Atlantic, it is projected at six percent annually over the next several years—the capacity of the ports in our region will be severely taxed. Already there is serious congestion in all components of the international transportation system—roads, rail and terminals—in key ports in the South Atlantic region. Given the uncertainties in international cargo flows, both in the short term and in the longer run, as well as the unpredictable national strategic considerations, adequate port capacity cannot be precisely defined. Port directors and their governing boards can at best watch carefully the marketplace, listen to their customers and invest in new and expanded marine terminal facilities and equipment with an eye to the future. Moreover, additional capacity lowers transportation costs and facilitates access to international markets.

Finally, experts citing current vessel draft requirements and "new build" characteristics, have stated that ports of the future must have at least 45 feet preferably 50 feet of draft. Consequently, we believe the ports of Wilmington and Morehead City will maintain their national significance economically and strategically into the foreseeable future. The reality is that while much attention has been focused on the building of new huge new ships, some 6,000 plus TEUS and beyond, industry analysts acknowledge that through for the next two decades at least, the vast majority of oceangoing commerce will be handled by ships that can easily be accommodated with a 42-foot channel now under construction at the Port of Wilmington. The notion that our nation's international commerce requires only two or three ports per coast flies, therefore, in the face of economic and transportation reality.

In North Carolina alone, exports have been forecast to double over the decade. This cargo growth cannot be accommodated by two or three mega ports—which means that ports like Wilmington will become increasingly important to handle both

anticipated growth, and growth which may not have been foreseen in some trade lanes. In 1999, Wilmington handled over \$3 billion in cargo—or \$8.2 million a day.

Our ports in North Carolina play a critical role in our national security. Materials needed to keep our military forces safe and well supplied during peacekeeping efforts or military conflicts move through our ports, in particular serving Camp Lejeune, Fort Bragg and the Military Ocean Terminal at Sunny Point (MOTSU). Most recently, during Phase I and Phase II of DESERT STORM/DESERT SHIELD, the two ports on the Cape Fear River—the Port of Wilmington and MOTSU—loaded out approximately 25 percent of the vessels required for these operations.

At the time, Major General John R. Piatak, Commander Military Traffic Management Command, Falls Church, VA, said, “During this time of national need, you moved 768,148 square feet of DESERT SHIELD equipment safely and quickly through the Port of Wilmington. The contribution of the Port of Wilmington was significant to the successful deployment of DESERT SHIELD forces.”

As is evident, I am very proud of the role that North Carolina’s ports have played in our nation’s vital security interests throughout history. We remain committed to serving our nation’s strategic security interests even in these very moments of national concern.

As a highlight to the Corps’ deepening projects, I would like to talk about the Wilmington Harbor Deepening Project. We are sensitive to multiple benefits from this project. For example, environmental enhancements are significant. This project front loaded environmental mitigation and enhancement components such that they were designed and underway before the first bucket of dredge material was removed from the Cape Fear River navigation channel. When former Governor James B. Hunt, Jr., inaugurated the deepening project in March 2000, construction was already underway for creation of a fish nursery, estuarine creek and marsh habitat on Island 13 in the Cape Fear River.

The Wilmington Harbor Project also incorporates an important shoreline protection project with some six million cubic yards of sand being placed on the nearby beaches of Brunswick and New Hanover Counties. This is the coastline that was thrashed by six hurricanes in four years and which desperately needed sand to restore sea life habitats as well as to protect property investments—an economic benefit to the tourism industry that feeds North Carolina’s economy.

With our fundamental mission to grow North Carolina’s economy, the future increasingly will depend on international trade. As the 13th largest exporting state in the country, nearly 286,000 North Carolina jobs depend on export of manufactured goods. However, there is much more to this than just the numbers. Many companies, much of them small-sized operations, could not reach overseas markets if there were not ports with good access close by. Without the additional opportunities of international markets, many of these smaller companies could not grow as fast, or withstand the periodic downturns in our domestic economy. These include good small-to-medium-sized companies in North Carolina like Meridien Marketing, moving fine North Carolina furniture around the world, and American Crane, selling its equipment to global buyers. Their business success would not be possible without our ports. Our North Carolina ports are also essential to the agribusiness community, whether it’s importing fertilizer or exporting farm products, all of which account for over two-thirds of the tonnage moving across our state port docks.

Given the importance of our ports and international trade to North Carolina, the NC General Assembly and the state’s elected and appointed leaders continue to support the Wilmington Harbor Deepening project with full funding of the required State match—even during these extremely tough fiscal times.

The Wilmington Harbor Deepening Project also is absolutely vital to meet the needs of continued operations with existing customers and any future expansion of their business—let alone attract new business. Our major container shipping lines and forest product carriers have been forced to call on our Port of Wilmington carrying less cargo, and leaving North Carolina export cargo at the docks because of the lack of adequate draft. Three years ago, a container shipping company which provided service between North Carolina and Northern Europe was forced to discontinue its service due to the lack of draft at the Port of Wilmington. North Carolina companies now are absorbing hundreds of thousands of additional costs in getting their products to other, more distant ports. Our remaining container carriers continue to call at Wilmington, however, because of the strong regional marketplace and our highly efficient terminal operations. These contracts are threatened if the channel is not deepened to 42 feet by 2003.

The Corps’ deepening projects, like the Wilmington Harbor Deepening project, are important as a key component of our nation’s basic transportation, economic and defense infrastructures. The investments to this point cannot begin to be returned unless the project is completed to the Port of Wilmington, and delays past 2003 would

increase total project costs, seriously jeopardize the customer base of the Port of Wilmington, and negatively impact the economy of the State of North Carolina—already struggling through this latest recession.

#### Conclusion

Thank you for the opportunity to testify today. We understand the Congress is faced with difficult budget decisions, but this country can not afford to make the mistake of shortchanging our nation's economic competitiveness and opportunity by failing to provide for continued improvement and maintenance of our federal navigation system. Ports and navigation channels are critical links in the intermodal transportation chain. Failure to continue to invest in all aspects of this transportation system will have serious long-term economic consequences. We ask this Committee's support in ensuring adequate funding for the Corps of Engineers Fiscal Year 2003 budget.

#### FISCAL YEAR 2003 DEEP-DRAFT CONSTRUCTION PROJECT BUDGET FOR THE U.S. ARMY CORPS OF ENGINEERS

(Dollars in millions)

Project	Fiscal Year 2003 Capability	Fiscal Year 2003 Budget Request	Shortfall
New York & NJ Harbor, NY & NJ .....	120.00	120.00	0.00
Delaware River, NJ .....	12.00	12.00	0.00
Baltimore Harbor, MD .....	10.59	10.59	0.00
Polar Island, MD .....	10.60	10.60	0.00
Norfolk Harbor, VA .....	12.00	0.48	-11.52
James River, VA .....	0.10	0.10	0.00
Wilmington Harbor, NC .....	76.20	24.65	-51.55
Charleston Harbor, SC .....	7.40	4.54	-2.86
Savannah Harbor, GA .....	0.69	0.43	-0.26
Brunswick Harbor, GA .....	16.00	11.12	-4.88
Jacksonville, FL .....	4.03	4.03	0.00
Canaveral Harbor, FL .....	3.60	3.60	0.00
Miami Harbor Channel, FL .....	31.00	13.10	-17.90
Manatee Harbor, FL .....	11.60	0.00	-11.60
Tampa Harbor Big Bend, FL .....	1.00	0.00	-1.00
Tampa Harbor, FL .....	0.80	0.00	-0.80
Panama City Harbor, FL .....	4.10	1.65	-2.46
Mobile Harbor, AL .....	0.20	0.20	0.00
Gulfport Harbor, MS .....	1.00	0.00	-1.00
Pascagoula Harbor, MS .....	2.48	2.48	0.00
Mississippi River Ship Channel, Gulf to Baton Rouge, LA .....	0.20	0.20	0.00
Inner Harbor Nav. Canal Lock, LA .....	30.00	9.00	-21.00
Houston-Galveston Nav. Channels, TX .....	67.00	19.49	-47.51
Corpus Christi, TX .....	21.00	0.00	-21.00
Los Angeles Harbor, CA, Main Channel Deepening .....	20.00	0.00	-20.00
Oakland Harbor, CA .....	50.00	5.00	-45.00
Hamilton Air Field Env. Restoration .....	3.90	3.90	0.00
San Francisco Bay to Stockton, CA .....	0.30	0.00	-0.30
Sacramento River Ship Channel, CA .....	0.30	0.25	-0.05
Columbia River Deepening, WA .....	11.50	0.00	-11.50
Grays Harbor, WA .....	0.50	0.50	0.00
Dredged Material Disposal Facility Program .....	9.00	9.00	0.00
<b>Total .....</b>	<b>539.09</b>	<b>266.89</b>	<b>-272.20</b>

#### PREPARED STATEMENT OF THE NEW MEXICO INTERSTATE STREAM COMMISSION

##### SUMMARY

This Statement is submitted in support of appropriations for the Colorado River Basin salinity control program of the Department of the Interior's Bureau of Reclamation. Congress designated the Bureau of Reclamation to be the lead agency for salinity control in the Colorado River Basin by the Colorado River Basin Salinity Control Act of 1974. Public Law 104-20 reconfirmed the Bureau of Reclamation's role. A total of \$17.5 million is requested for fiscal year 2003 to implement the au-

thorized salinity control program of the Bureau of Reclamation. The President's appropriation request of \$10.1 million is inadequate because studies have shown that the implementation of the salinity control program has fallen behind the pace needed to control salinity. An appropriation of \$17.5 million for Reclamation's salinity control program is necessary to protect water quality standards for salinity and to prevent unnecessary levels of economic damage from increased salinity levels in water delivered to the Lower Basin states and Mexico.

#### STATEMENT

The water quality standards for salinity of the Colorado River must be protected while the Basin States continue to develop their compact apportioned waters of the river. Studies have shown that the implementation of the salinity control program has fallen below the threshold necessary to prevent future exceedence of the numeric criteria of the water quality standards for salinity in the Lower Basin of the Colorado River. The salinity standards for the Colorado River have been adopted by the seven Basin States and approved by EPA. While currently the standards have not been exceeded, salinity control projects must be brought on-line in a timely and cost-effective manner to prevent future effects that would cause the numeric criteria to be exceeded.

The Colorado River Basin Salinity Control Act was authorized by Congress and signed into law in 1974. The seven Colorado River Basin States, in response to the Clean Water Act of 1972, had formed the Colorado River Basin Salinity Control Forum, a body comprised of gubernatorial representatives from the seven states. The Forum was created to provide for interstate cooperation in response to the Clean Water Act, and to provide the states with information necessary to comply with Sections 303(a) and (b) of the Act. I am New Mexico's representative to the Forum. The Forum has become the primary means for the Basin States to coordinate with federal agencies and Congress to support the implementation of the salinity control program for the Colorado River Basin.

Bureau of Reclamation studies show that damages from the Colorado River to United States water users are about \$300,000,000 per year. Damages are estimated at \$75,000,000 per year for every additional increase of 30 milligrams per liter in salinity of the Colorado River. Control of salinity is necessary for the Colorado River Basin states, including New Mexico, to continue to develop their compact-apportioned waters of the Colorado River.

It is essential that appropriations for the funding of the salinity control program be timely in order to comply with the water quality standards for salinity to prevent unnecessary economic damages in the United States, and to protect the quality of the water that the United States is obligated to deliver to Mexico. The appropriation of \$10.1 million in the past President's budget request is inadequate to protect the quality of water in the Colorado River and prevent unnecessary salinity damages in the states of the Lower Colorado River Basin. Studies have shown that the implementation of the salinity control program has fallen behind the pace needed to control salinity. Although the United States has always met the water quality standard for salinity of water delivered to Mexico under Minute No. 242 of the International Boundary and Water Commission, the United States through the U.S. Section of IBWC is currently addressing a request by Mexico for better quality water.

Congress amended the Colorado River Basin Salinity Control Act in July 1995 (Public Law 104-20). The salinity control program authorized by Congress by the amendment has proven to be very cost-effective, and the Basin States are standing ready with up-front cost sharing. Proposals from public and private sector entities in response to the Bureau of Reclamation's advertisement have far exceeded available funding. Basin States cost sharing funds are available for the \$17.5 million appropriation request for fiscal year 2003. The Basin States cost sharing adds 43 cents for each federal dollar appropriated.

Public Law 106-459 gave the Bureau of Reclamation additional spending authority for the salinity control program. With the additional authority in place and significant cost sharing by the Basin States, it is essential that the salinity control program be funded at the level requested by the Forum and Basin States to protect the water quality of the Colorado River.

Maintenance and operation of the Bureau of Reclamation's salinity control projects and investigations to identify new cost-effective salinity control projects are necessary for the success of the salinity control program. Investigation of new opportunities for salinity control are critical as the Basin states continue to develop and use their compact-apportioned waters of the Colorado River. The water quality standards for salinity and the United States water quality requirements pursuant to treaty obligations with Mexico are dependent on timely implementation of salin-

ity control projects, adequate funding to maintain and operate existing projects, and investigations to determine new cost-effective projects.

I urge the Congress to appropriate \$17.5 million to the Bureau of Reclamation for the Colorado River Basin salinity control program, adequate funding for operation and maintenance of existing projects and adequate funding for general investigations to identify new salinity control opportunities. Also, I fully support testimony by the Forum's Executive Director, Jack Barnett, in request of this appropriation, and the recommendation of an appropriation of the same amount by the federally chartered Colorado River Basin Salinity Control Advisory Council.

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LETTER FROM THE STOCKTON EAST WATER DISTRICT

*Stockton, California, March 12, 2002.*

The Honorable HARRY REID,  
*Committee on Appropriations, United States Senate, S-128, The Capitol, Washington, DC 20510-6025.*

We are writing to request your assistance with our Farmington Groundwater Recharge & Seasonal Habitat Project as authorized by the 1999 WRDA. Specifically, we request the funding of our project's line item in fiscal year 2003 in the amount of \$3,000,000, and "report language" directing the Army Corps of Engineers to ensure that our project is funded annually until complete.

Thanks to you and your staff, the Stockton East Water District (SEWD) received the 1999 WRDA authorization of \$25,000,000 to construct groundwater recharge and conjunctive use projects, and the 'new start' funding of this project in fiscal year 2002.

SEWD, together with its neighboring districts, needs your continued help to implement the remedy for our critically over drafted groundwater basin and saline intrusion problem. The Farmington Groundwater Recharge & Seasonal Habitat Study was completed in August 2001. This Study recommends a base project which is expected to provide an average of 35,000 acre feet of recharge water to our critically over drafted groundwater basin each year.

Last year we sent you a copy of a petition signed by over 10,000 San Joaquin County residents who joined us in supporting our project. We again need your continued help in securing this \$3,000,000 request and the report language which will ensure the recovery of our critically over drafted groundwater basin.

Thank you in advance for your help.

ANDREW WATKINS,  
*President.*

ALFRED BONNER,  
*Director.*

MELVIN PANIZZA,  
*Director.*

THOMAS MCGURK,  
*Vice President.*

WESTFORD LATIMER,  
*Director.*

PAUL POLK,  
*Director.*

PAUL SANGUINETTI,  
*Director.*

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PREPARED STATEMENT OF THE APALACHICOLA BAY & RIVER KEEPER, INC.

The Apalachicola River Restoration Coalition is a working group of representatives from twelve Florida organizations seeking to persuade Congress to modify the Apalachicola-Chattahoochee-Flint Waterway Project authorization by eliminating all dredging activity by the U.S. Army Corps of Engineers on the Apalachicola River between Jim Woodruff Dam and the Gulf Intracoastal Waterway. A list of member groups of the coalition is attached.

As part of an effort to eliminate or reduce spending on wasteful U.S. Army Corps of Engineers projects and concentrate on inland waterways operations and maintenance projects with high traffic volumes, President George W. Bush in his fiscal year 2003 Budget provides only \$1,444,000 for the Apalachicola-Chattahoochee-Flint Waterway.

We appreciate and applaud the President's sensible budget recommendation, and we urge that you and your committee adopt it as proposed.

The ACF Waterway is the most highly subsidized active waterway in the United States. Notwithstanding the Corps' dredging activities over the past 50 years, commercial navigational use of the river is so low and dredging costs are so high that the unit cost of maintaining this waterway (per ton-mile of goods shipped) is 50 times the national average (according to the Congressional Budget office).

It is estimated that in recent years the channel maintenance project has cost the U.S. taxpayers about \$30,000 for every barge tow that has used the river. We receive only 40 cents in benefits for every dollar spent.

This fiscal insult is reason enough to support the President's recommendation that dredging on the Apalachicola be halted. But when we also consider the damage being done to the river by the Corps' dredging and "within bank" spoiling, the decision becomes imperative. In effect, inbanks deposit of dredged material and sedimentation from the slurry of sand created during dredging operations clogs the creeks and sloughs of the invaluable floodplain, blocking its natural filtration capability and destroying the flowing water habitat, critical to spawning and foraging of many riverine species, some endangered and threatened.

The Apalachicola River is the largest of Florida's waterways in terms of volume, carrying 16 billion gallons of water per day to the Gulf. It provides some of the most important natural habitat in the southeast, and its bay supplies 90 percent of Florida's and 15 percent of the nation's harvest of oysters. The estuary "nursery" it feeds has been recognized by the state as an "Outstanding Florida Water", by the Federal government as a "National Estuarine Reserve", and by UNESO as a "Man in the Bio-sphere Reserve".

The River is one of our nation's most precious treasures. Federal, State and local governments have spent tens of millions of dollars to purchase land in the River's flood plain to protect the River's water quality. The Nature Conservancy has identified the River and the lands on each side of it as one of six places in the United States which has particular important and threatened biological diversity.

The American Rivers, a national river conservation organization, has previously listed the ACF Basin as among the ten most endangered river systems in America. The Corps' dredging and spoiling activities contribute mightily to the system's ills.

It seems to us that continued wasteful spending that causes great harm to one of the great rivers of our country, is illogical, and that President Bush's recommendation is reasonable.

We hope you agree with us and we urge you to support the President's budget recommendation.

#### PARTICIPATING ORGANIZATIONS

Apalachee Audubon  
 Apalachee Ecological Conservancy, Inc.  
 Apalachicola Bay and River Keeper, Inc.  
 Audubon of Florida  
 Chipola River Economic and Environmental Council  
 Florida Fishermen's Federation  
 Florida Public Interest Research Group  
 Florida Wildlife Federation  
 Help Save the Apalachicola River  
 League of Conservation Voters Education Fund  
 The Nature Conservancy  
 1000 Friends of Florida  
 Southeastern Clean Water Network

#### LETTER FROM THE LOWER MISSISSIPPI RIVER CONSERVATION COMMITTEE

*Vicksburg, Mississippi, April 8, 2002.*

Majority Clerk,  
*Senate Energy and Water Development Subcommittee, 156 Dirksen Building, Washington, DC 20510.*

DEAR MAJORITY CLERK: We are writing to express our organizations' support for actions to restore the natural resources of the Lower Mississippi River system. The Lower Mississippi River Conservation Committee is a multi-state (AR, KY, LA, MO, MS, and TN), cooperative, nonprofit organization of state and federal interests, private contributors, and corporate sponsors formed in 1994 to address the challenges of restoring and managing the natural resources of the Lower Mississippi River. The

Lower Mississippi River Conservation Committee promotes the wise use of the Lower Mississippi River's nationally significant resources by providing a permanent forum for cooperative efforts involving planning, management, information sharing, public education, advocacy, and research.

With wise use of the Lower Mississippi Rivers natural resources, sustainable increases to the economy of the Lower Mississippi River States can occur without impacting existing navigation or flood control uses of the river. Annually, nearly 11 million people in the Lower Mississippi Alluvial Valley participate in fishing and other wildlife-oriented outdoor recreation (excluding hunting). They spend approximately \$6 billion on such things as food, fuel, lodging and equipment. Revenues from these natural resource related activities are important to the economy of our region and the well-being of our state's citizens.

One important way you can assist the Lower River States in restoring the natural resources of the Lower Mississippi River system and their associated economic revenues is to appropriate funds to conduct the "Lower Mississippi River Resource Assessment" authorized by Section 402 of the Water Resources Development Act of 2000 (copy enclosed). As you will note, the Assessment was authorized at \$1.75 million. We ask that you support funding of \$500,000 for fiscal year 2003 and \$1.25 million for fiscal year 2004 in the Civil Works budget of the U.S. Army Corps of Engineers to complete the 2-year Assessment and required report to Congress.

It was the state-led Lower Mississippi River Conservation Committee, working with numerous hunting and fishing, conservation, tourism, recreational, economic development, other groups, and the general public which was largely responsible for securing this language in the Water Resources Development Act of 2000.

The Assessment could aid greatly the U.S. Army Corps of Engineers' Congressionally mandated environmental mission in the Lower Mississippi River Alluvial Valley by consolidating individual project specific information, habitat restoration, and recreational needs into one regional assessment and report. Likewise, the Department of Interior's mission related to management of national wildlife refuges and parks, fisheries, migratory birds and endangered species could be enhanced.

The Governors of each of our States have already expressed by letter to the Commander, Mississippi Valley Division of the U.S. Army Corps of Engineers, their strong support for immediately completing the Assessment and their willingness to participate (copies enclosed). The States, in fact, are already working together through the Lower Mississippi River Conservation Committee to identify and collect essential information needed for completion of the Assessment.

We welcome this opportunity to work together with you on this important regional assessment of the resources of the Lower Mississippi River system. Again, we ask that you support funding specifically for the Lower Mississippi River Resource Assessment in the fiscal years 2003 and 2004 Civil Works budgets for the U.S. Army Corps of Engineers.

Respectfully,

DUGAN SABINS,

*Chair, Lower Mississippi River Conservation Committee.*

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PREPARED STATEMENT OF THE COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION

SUMMARY

Mr. Chairman & distinguished Committee members: This statement includes a request to recognize and maintain the U.S. inland waterways system as a vital part of the national transportation infrastructure by providing sufficient funding (See chart) to:

- Maintain and improve our nation's inland waterway system;
- Reinstate necessary O&M funding for navigation projects in the Coosa-Alabama Basin;
- Complete a study to improve the navigation channel on the Alabama River;
- Renovate and upgrade a recreation site on the Alabama River;
- Complete backlogged maintenance items designed to keep the Alabama River navigation channel a viable economic asset to the State of Alabama.

EXPANDED STATEMENT

Thank you for the opportunity to present my perspective on several topics relating to our Nation's waterways system in general, and to the Coosa-Alabama River Basin in particular. As President of the Coosa-Alabama River Improvement Association, I speak for a large and diverse group of private citizens and political and industrial



organizations that sees the continued development of the Coosa-Alabama Waterway as an opportunity for economic growth in our region as well as the Nation.

Our association is concerned about the deteriorating waterway infrastructure throughout the nation. The waterways are vital to our export and import capability, linking our producers with consumers around the world. Barges annually transport 15 percent of the nation's commodities, one out of every eight tons. It is incumbent upon the Federal Government to maintain and improve this valuable national asset. Therefore, we ask Congress to appropriate enough funds for required maintenance and construction to keep the waterways the economic multiplier it is. To maintain the inland waterways facilities and to accommodate vitally needed growth will require approximately \$6 billion. The Federal government must commit to improve the waterways infrastructure or risk serious economic consequences and jeopardizing large public benefits.

We are concerned that any budget strategy that reduces funding for the operations and maintenance of inland and intracoastal waterways will have a detrimental effect on the economic growth and development of the river system. We are especially concerned about the President's direction to direct funding away from those waterways suffering temporary downturns in barge transportation. We cannot allow that to happen. In the Alabama-Coosa River Basin, we must be able to maintain the existing river projects and facilities that support the commercial navigation, hydropower, and recreational activities so critical to our region's economy. The first priority must be the O&M funding appropriated to the Corps of Engineers to maintain those projects.

The President's Budget for fiscal year 2003 does not provide enough funding to keep the Alabama River navigation channel open. Most conspicuous is the absence of money for dredging, a vital element of keeping the channel operational. We ask Congress to reinstate the dredging capability on the Alabama River by adding \$2 million on the Alabama-Coosa River project. In addition, \$250,000 is needed to fund a lock closure at Millers Ferry to inspect for deterioration and structural integrity.

Project	Fiscal Year 2002 Appropriation	President Budget Fiscal Year 2003	Association Fis- cal Year 2003 Budget Request
Alabama-Coosa River, AL <sup>1</sup> (AL River incl Claiborne L&D) .....	\$6,180,000	\$2,974,000	\$5,974,000
Miller's Ferry L&D .....	7,200,000	7,094,000	8,394,000
Robert F. Henry L&D .....	5,600,000	5,558,000	8,108,000
Lake Allatoona, GA .....	6,333,000	6,642,000	6,642,000
Carters Lake, GA .....	8,800,000	9,958,000	9,958,000
Lower Alabama River Study (South of Claiborne) feasibility study .....	300,000	300,000	300,000
Totals .....	34,413,000	32,526,000	39,376,000

<sup>1</sup> Includes dredging from the mouth of the Alabama River through Claiborne L&D to Miller's Ferry. Coosa River not included.

Also included in the Alabama-Coosa project request is a need to repair rock jetties below Claiborne Dam. Many of these jetties have deteriorated to the point where they are a hazard to boating in some of the most treacherous parts of the river. We ask that \$500,000 be added to repair these jetties. We also request an additional \$200,000 be added to upgrade the Geographic Information System so Mobile District can provide accurate navigation charts for all boating.

We must improve the infrastructure of the river itself, specifically the navigational reliability below Claiborne Dam. Increased reliability is the only way prospective investors will entertain establishing an industry that uses river transportation. The most affordable and most environmentally friendly solution to increasing navigation reliability on the Lower Alabama River is to improve the training dikes. Mobile District is in the middle of a feasibility study to determine the interest of the Federal Government in such a project. Without this improvement in navigation reliability, we cannot hope to attract new river-related industry into the Basin. We ask Congress to appropriate \$300,000 to complete the feasibility study already underway.

Recreation has become a major economic factor on our waterways. Boating, fishing, swimming, and camping have become an indispensable economic tool for many of our lake and river communities, and, in that respect, the Alabama River has extraordinary potential. One of the most promising sites for development is the Corps-owned Swift Creek campground. Now a minimally developed site, Swift Creek needs to be upgraded and renovated to serve an ever-increasing demand for recreational

facilities on the waterway. We ask that \$2 million be added to the RF Henry project to renovate and upgrade Swift Creek.

Another need to keep the Alabama River operational is to clean out the slough and creek entrances to allow the Corps access to off-channel areas. Clearing these entrances would provide for movement of water, aquatic life, and small recreational boats between the commercial navigation channel and backwater coves. Maintenance would enhance fishery habitat and reduce mosquito-breeding habitat. To meet this objective, \$300,000 needs to be added to each of the Alabama-Coosa, RF Henry, and Millers Ferry projects, for a total of \$900,000 designated to clean out slough and creek openings.

We also need to catch up on some backlog maintenance work (\$500,000) at the Millers Ferry recreational site to prevent deterioration of equipment and facilities. Safety signs need to be installed at both RF Henry and Millers Ferry Dams to warn boaters of the hazards associated with operation of the locks, dams, and powerhouses (\$250,000 at each project).

In summary, we request your support in the following areas:

- Sufficient O&M funding of the U.S. Army Corps of Engineers Civil Works budget to maintain and enhance the U.S. inland waterways system, including dredging, removing rock jetties below Claiborne Dam, and closing the lock for inspection at Millers Ferry;
- Funding to renovate and upgrade Swift Creek campground on the Alabama River;
- Funding for completing the feasibility study to improve the reliability of the navigation channel below Claiborne Dam on the Lower Alabama River;
- Funding to remove several backlogged maintenance items, including an improved Geographic Information System and safety signs at the RF Henry and Millers Ferry generating plants, to ensure the Alabama River navigation channel remains a viable economic asset to the State of Alabama.

Thank you for allowing us to submit this testimony and for your strong support of the Nation's waterways.

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THE ANNISTON STAR,  
*Anniston, Alabama, February 27, 2002.*

Hon. HARRY REID,  
*Subcommittee on Appropriations for Energy and Water Development, U.S. Senate, Washington, DC.*

DEAR SENATOR REID: I am writing to seek your support of the Coosa-Alabama River Improvement Association's funding request for fiscal year 2003, which should include funding for dredging on the Alabama River, keeping the Alabama River navigation channel open and making certain the shippers that transport will continue to have a safe and adequate route on Alabama River.

As a member of the Board of Directors for the Association, I strongly endorse its mission of promoting the development of the Coosa and Alabama Rivers for the benefit of the state. CARIA is the only organization in our State that annually works for funding of federal projects on those rivers.

In the water allocation negotiations between Alabama and Georgia, CARIA has been the primary advisor to Alabama's negotiators on navigation issues in the Alabama-Coosa Tallapoosa basin.

I support the Association's request for \$38,876,000 for the project's budget.

We'd also like to see support of the regional effort to improve and extend the waterway. We need continuous study on three points: How to increase the navigational reliability below Claiborne Dam, ways to consolidate and renovate the Swift Creek Park recreation site and how we can reduce deferred maintenance on projects that are even more costly in the long run.

The Alabama River navigation channel should continue to be valued, and the waterways should stay competitive with rail and road rates to provide shippers alternatives. The Alabama River has public and private recreation potential that should be realized and developed.

Thank you for considering these suggestions.

Very truly yours,

PHILLIP A. SANGUINETTI.

CITY OF MONROEVILLE,  
*Monroeville, Alabama, February 27, 2002.*

Hon. HARRY REID,  
*Subcommittee on Appropriations for Energy and Water Development, U.S. Senate,  
 Washington, DC.*

DEAR SENATOR REID: It has come to my attention that the Appropriations Subcommittee on Energy and Water will be considering budget requests for operations and maintenance funding for the Alabama River projects. The Alabama River travels through to most economically depressed counties in the state, most averaging double digits in unemployment. So it is imperative that funding be appropriated to keep the Alabama River navigation channel operational. Monroeville struggles to entice industry to our area, because we do not have the advantage of a four-lane highway travelling through our county. We cannot afford to lose barge shipping as an alternative means of transportation for industries considering Monroe County.

Thank you for supporting this request.

Sincerely,

ANNE H. FARISH,  
*Mayor.*

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CITY OF PRATTVILLE,  
*Prattville, Alabama, February 22, 2002.*

Hon. HARRY REID,  
*Subcommittee on Appropriations for Energy and Water Development, U.S. Senate,  
 Washington, DC.*

DEAR SENATOR REID: I am writing to ask for your favorable consideration regarding the U.S. Army Corps of Engineer's request for funding to operate and maintain (O&M) water projects in the Alabama-Coosa River Basin during the fiscal year 2003 budget year. As you know, this request is also supported by the Coosa-Alabama River Improvement Association.

This request includes funding for dredging on the Alabama River keeping the river's navigation channel operational. This aspect affects my community first hand as both power generation plants now under construction in Autauga County use the river to transport construction materials to their respective sites.

This funding request also supports the regional effort to improve and extend the Coosa-Alabama waterway. Again, this has a direct impact on my community with the renovation of Swift Creek Park on the Alabama River. This renovation project will enhance the quality of river recreation for all of Central Alabama.

Senator Reid, I appreciate your past support of the Coosa-Alabama River Improvement Association and the Corps of Engineers. I also want to thank you for all that you do for our Country.

With warmest personal regards,

Sincerely,

JIM BYARD, JR.,  
*Mayor.*

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CITY OF RAINBOW CITY,  
*Rainbow City, Alabama, February 27, 2002.*

Hon. HARRY REID,  
*Subcommittee on Appropriations for Energy and Water Development, U.S. Senate,  
 Washington, DC.*

DEAR SENATOR REID: I am writing to you as a member of the Board of Directors of Coosa-Alabama River Improvement Association. I have been active with this association for many years and believe it is vital to this area to keep these projects alive. I am asking for your support on the following items:

- You support the Association's funding for fiscal year 2003.
- Includes funding for dredging on the Alabama River.
- Keeps the Alabama River navigation channel operational.
- Assures prospective shippers that barge transportation will continue to be an attractive and safe alternative to road and rail on the Alabama River.
- You support the regional effort to improve and extend the Coosa-Alabama waterway.
- Continue study on how to increase the navigational reliability below Claiborne Dam.

- Consolidate and renovate the Swift Creek Park recreation site on the Alabama River to meet an increasing demand for quality river facilities.
  - Reduce deferred maintenance on projects that are more costly in the long run.
  - Other Points:
    - The Alabama River navigation channel is a valuable economic asset for Alabama.
    - Waterways keep competitive rail and road rates down, provide shippers a viable shipping alternative, and save an estimated average of \$10.69 per ton over alternative modes.
    - Annual economic impact of the Corps' Alabama River rec facilities is over \$40 million.
    - The Alabama River has strong potential for additional public and private recreation sites.
- Your support and consideration concerning this matter will be greatly appreciated.

Sincerely,

SUE L. GLIDEWELL,  
*Mayor.*

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CITY OF WETUMPKA,  
*Wetumpka, Alabama, February 27, 2002.*

Hon. HARRY REID,  
*U.S. Senate, Washington, DC.*

DEAR SENATOR REID: The significance of the Coosa-Alabama River system predates the City of Wetumpka. We believe the earliest inhabitants of Alabama established a large hunting base camp along the river banks of the Tallapoosa/Coosa/Alabama Rivers where they converge just south of town. William Bartram, the famed naturalist and friend of Benjamin Franklin, traveled the area in 1776. He wrote: "This is perhaps one of the most eligible situations for a city in the world, a level plain between the conflux of majestic rivers . . ."

The economic impact river transportation provided in early days continues to present day. The availability of navigable waterways to connect Wetumpka to the Gulf of Mexico, and therefore points worldwide, is an excellent commercial and industrial recruitment tool. Wetumpka's waterways provide excellent recreational opportunities which attract tourist dollars and further benefit the local economy.

As the Appropriations Subcommittee on Energy and Water in both houses of Congress consider the U.S. Army Corps of Engineers funding for operations and maintenance of water projects along the Alabama-Coosa River basin, we endorse and support the projects which are vital to local, regional, and state progress and development.

Very Truly Yours,

R. SCOTT GOLDEN,  
*Mayor.*

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DALLAS COUNTY COMMISSION,  
*Selma, Alabama.*

Hon. HARRY REID,  
*Senate Subcommittee on Appropriations for Energy and Water Development, U.S. Senate, Washington DC.*

DEAR MR. REID: The Dallas County Commission unanimously supports the U.S. Army Corps of Engineers request for funding to operate and maintain (O&M) water projects in the Alabama-Coosa River Basin.

The CARIA funding request for fiscal year 2003 that includes dredging on the Alabama River to keep the channel navigable not only assures prospective shippers that barge transportation will continue to be an attractive, viable and safe alternative to road and rail on the Alabama River, but is also imperative for continued economic development within Dallas County and the Black Belt area of the state.

Within the last eight months Dallas County has lost at least one industrial prospect as a result of the river level not being at a navigable level.

The Dallas County Commission supports the regional effort to extend the Coosa-Alabama Waterway. We encourage continued studies on how to increase the navigational reliability below Claiborne Dam (water levels have been below six feet during certain periods). Consolidation and renovation of the Swift Creek Park recreation

site on the Alabama River is needed to meet an increasing demand for quality river facilities for Central Alabama citizens.

The Alabama River navigation channel is a valuable economic asset to Dallas County as well as to the State of Alabama. As you well know waterways keep competitive rail and road rates down providing shippers a viable shipping alternative and saves an average of \$10.69 per ton over alternative modes of transportation.

The annual economic impact of the Corps' Alabama River recreation facilities is over \$40 million and the Dallas County Commission suggests that the Alabama River has strong potential for additional public and private recreational sites.

Your support of CARIA and for funding for the U.S. Corps of Engineers O&M water projects is appreciated.

Sincerely,

JOHN W. JONES, JR.,  
*Chairman.*

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MONROE COUNTY COMMISSION,  
*Monroeville, Alabama, February 14, 2002.*

Hon. HARRY REID,  
*Senate Subcommittee on Appropriations for Energy and Water Development, U.S. Senate, Washington, DC.*

DEAR SENATOR REID: The Monroe County Commission respectfully request your approval of the Coosa-Alabama River Improvement Association Inc's funding request for fiscal year 2003, based on the U.S. Army Corp of Engineers estimate for funding, to operate and maintain water projects in the Alabama-Coosa River Basin.

In order for the entire region to reach its economic potential it is necessary that funding be provided to keep the Alabama River Navigation Channel open, particularly South of the Claiborne Lock & Dam in Monroe County Alabama to the Port of Mobile. We must retain the funding to demonstrate to potential shippers that the channel will be a viable alternative to rail and road transportation. We have information that several prospective shippers, one with potential movement of 3 million tons per year have made serious inquiry about the Alabama River.

We appreciate your support in the past in the development and maintenance of this very important Waterway System and we appreciate your favorable consideration in making this Waterway System attractive to potential industries and recreation.

Thanking you for your support and with kindest personal regards, we are  
Yours truly,

OTHA LEE BIGGS,  
*Judge of Probate & President, Monroe County Commission.*

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MONTGOMERY COUNTY COMMISSION,  
*Montgomery, Alabama, February 27, 2002.*

Hon. HARRY REID,  
*Subcommittee on Appropriations for Energy and Water Development, U.S. Senate, Washington, DC.*

DEAR SENATOR REID: The Montgomery County Commission has a vital interest in the development of the Coosa-Alabama River project which was originally authorized by Congress in 1945. The benefits which accrue to the citizens of this region, and to the nation, fully justify the operation of this economical waterway.

In order to attract new river-using industries into Alabama, dredging on the Alabama River is greatly needed so that barges can be operational for prospective shippers in moving cargo, thus providing a safe alternative to road and rail transportation. Also, use of the waterways keeps competitive rail and road rates down and saves an estimated average of \$10.59 per ton over other modes of shipping.

Improvements are needed to enhance the navigational reliability below Claiborne Dam. Swift Creek Park recreation site on the Alabama River needs to be consolidated and renovated to meet an increasing demand for quality recreational facilities in Central Alabama. There is a strong potential for additional public and private recreational sites along the Alabama River. The annual economic impact of the Corps' Alabama River recreational facilities is over \$40 million.

Adequate funding in Mobile District's fiscal year 2003, operating and maintenance budget is necessary to ensure that the navigation channel be kept open and progress is made for further development and extension of the Coosa-Alabama waterway and

to properly operate and maintain the existing portion, thereby making this navigation channel a valuable economic asset for Alabama.

On behalf of the Montgomery County Commission, I fully support the testimony provided by the Coosa-Alabama River Improvement Association and urge your favorable consideration of the recommended appropriations for fiscal year 2003.

Sincerely,

W. F. JOSEPH, JR.,  
*Chairman.*

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PRATTVILLE,  
*Prattville, Alabama, February 27, 2002.*

Hon. HARRY REID,  
*Subcommittee on Appropriations for Energy and Water Development, U.S. Senate,  
Washington, DC.*

DEAR SENATOR REID: I am writing to gain your support of the Coosa-Alabama River Improvement Association's funding request for fiscal year 2003. It should include funding for dredging on the Alabama River, keeping the Alabama River navigation channel operational and assuring the shippers that transportation will continue to be a safe, alternate route over road and rail on the Alabama River.

The Alabama River is extremely important to the economic growth of our area. In the last several months, Tenaska and Southern Company used barges to deliver construction materials to plant sites in our area. In October of this year the City of Prattville will be host to the Alabama Bass Federation Championship Tournament featuring four hundred of Alabama's best fishermen. Our leadership would very much like to continue to have the river navigable for commercial traffic, as well as, sportsman traffic.

I strongly support the Association's mission of promoting the development of the Coosa and Alabama Rivers for the benefit of the state. CARIA is the only organization in our State that annually works for funding of federal projects on those rivers.

The Autauga County leadership would also like to see support of the regional effort to improve and extend the waterway. Waterways help keep competitive rail and road rates down by providing alternatives for the shippers. The Alabama River navigation channel is a valuable economic asset for Alabama. The Alabama River has public and private recreation potential that should be realized and developed.

Yours truly,

CONNIE BAINBRIDGE,  
*President, Director of Economic Development.*

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ST. CLAIR COUNTY COMMISSION,  
*Ashville, Alabama, February 27, 2002.*

Hon. HARRY REID,  
*Subcommittee on Appropriations for Energy and Water Development, U.S. Senate,  
Washington, DC.*

DEAR SENATOR REID: This is to acknowledge support of continued funding for the Coosa-Alabama River Improvement Association, Inc. and their efforts to maintain the navigation channel in order to attract new river-using industry into the Alabama River basin.

Your support of their efforts will be greatly appreciated.

Yours truly,

STANLEY D. BATEMON,  
*Chairman.*

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SELMA CITY COUNCIL LIAISON,  
*Selma, Alabama, February 15, 2002.*

Hon. HARRY REID,  
*Subcommittee on Appropriations for Energy and Water Development, U.S. Senate,  
Washington, DC.*

DEAR SENATOR REID: Selma and Dallas County elected officials, as well as the Selma Chamber of Commerce membership and the Selma/Dallas County Economic Development Authority, wish to convey our full support of the funding request of the Coosa Alabama River Improvement Association for fiscal year 2003. It is most important to the economy of Alabama that every effort is continued to improve and

extend the Coosa Alabama Waterway. The navigation reliability of the waterway below the Claiborne Dam and maintenance of the trawling works and dredging is very vital to the economic development of the river basin between Mobile and Montgomery.

With the improvements and facility expansion underway at the Port of Mobile Docks, requests from prospective shippers regarding channel maintenance, particularly during dry periods, have dramatically increased. Most recently a business which could supply several hundred jobs to the Selma/Dallas County area and which would utilize the river as a means of receiving certain raw materials, as well as a channel to ship their end products to the Mobile Port, visited our area. Use of the river in such a manner keeps competitive rail and road rates down, providing an alternate shipping means that can save many dollars per ton.

Our area is known as a sportsman's paradise, and there's a growing demand for additional other types recreational facilities. The further development of the Swift Creek Park in neighboring Autauga County would answer this growing demand for quality facilities on the Alabama River.

This request for the proposed funding is vitally necessary to support our efforts for economic expansion and survival in this river basin. Thank you for your attention to these matters.

Sincerely,

CARL MORGAN, JR.,  
*Selma City Council Liaison.*

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SELMA & DALLAS COUNTY CHAMBER OF COMMERCE,  
*Selma, Alabama, February 11, 2002.*

Hon. HARRY REID,  
*Subcommittee on Appropriations for Energy and Water Development, U.S. Senate, Washington, DC.*

DEAR SENATOR REID: My organization represents a region of the United States which encompasses some of the poorest areas in this nation with current unemployment over 12 percent and the poverty rate extremely high. Thus it is incumbent on us to strive to do everything within our power to lift the region economically.

One way we have sought to do this is to provide a navigable Coosa-Alabama River Waterway. In our section of Alabama this would make it possible for us to continue to seek out industries which would benefit from the waterway and at the same time market our area as a sportsman's paradise.

We understand the demand on federal dollars at this time, but would ask consideration that funding be provided so as to keep us from moving backwards. Uppermost would be enough funds to insure the river is kept open to traffic. Without those funds we would lose the portion of the waterway that is open to traffic.

Thank you and your committee for considering this request.

Sincerely,

JAMIE D. WALLACE,  
*President.*

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WARRIOR & GULF NAVIGATION COMPANY,  
*Chickasaw, Alabama, February 27, 2002.*

Hon. HARRY REID,  
*Subcommittee on Appropriations for Energy and Water Development, U.S. Senate, Washington DC.*

DEAR MR. REID: I am J. Craig Stepan, General Manager of Warrior & Gulf Navigation Company. Our company is an active member of the Coosa-Alabama River Improvement Association. I wish to take this opportunity to solicit your support on behalf of the Association and the river system and enterprises it serves.

Primarily, please support the Coosa-Alabama Association's funding request for fiscal year 2003. This funding is imperative to protect the Alabama River as a safe and efficient transportation waterway. Further, your additional continued support of a regional initiative to improve the waterway below Claiborne Dam and to consolidate and renovate the Swift Creek Park recreation site on the Alabama River will also be appreciated.

As you know, the Alabama River is an important economic asset for our State, helping to provide a competitive transportation rate structure and a recreational alternative with a \$40 million annual impact.

Our company and its 200+ employees respectfully request your support for these important projects, and we pledge our best efforts to provide reliable cost efficient transportation services to the Alabama business community.

Very truly yours,

J. CRAIG STEPAN,  
General Manager, Southern Operations.

PREPARED STATEMENT OF THE STATE OF ILLINOIS

The State of Illinois supports the following projects in the Administration's fiscal year 2003 budget proposal:

Surveys:	
Alexander and Pulaski Counties .....	\$147,000
Des Plaines River (Phase II) .....	335,000
Illinois River Basin Restoration .....	1,051,000
Illinois River Ecosystem Restoration .....	365,000
Rock River .....	182,000
Upper Mississippi & Illinois Navigation Study .....	1,000,000
Upper Mississippi River Comprehensive Plan .....	1,814,000
Upper Mississippi System Flow Frequency Study .....	463,000
Preconstruction Engineering & Design:	
Peoria Riverfront Development .....	237,000
St. Louis Harbor .....	73,000
Waukegan Harbor .....	200,000
Wood River Levee .....	130,000
Construction:	
Chain of Rocks Canal .....	2,037,000
Chicago Shoreline .....	19,000,000
East St. Louis Rehabilitation .....	800,000
Loves Park .....	2,973,000
McCook & Thornton Reservoirs .....	10,000,000
Melvin Price Lock & Dam .....	1,200,000
Mississippi River Major Rehab:	
Lock & Dam 12 .....	5,404,000
Lock & Dam 24 .....	10,000,000
Olmsted Lock & Dam .....	77,000,000
Upper Mississippi River EMP .....	12,200,000

*Operation and maintenance.*—Illinois supports the Corps' budget for continued satisfactory maintenance and operation of navigation, flood control and multipurpose projects, as well as adequate manpower for public service activities related to the water resources in and bordering the state. Although, the administration's budget request contains nearly \$110 million for operation and maintenance for the Corps Districts in Illinois, the Districts anticipate a flat level of funding over the next 5 years. With inflation, their operations and maintenance activities will be reduced by 15 percent or more. There are concerns that significant cuts to operations and maintenance can severely impact the Corps' future viability and commitment to maintain the inland waterway system, water supply and recreational reservoirs, and to perform harbor maintenance. As an example, there is a need for an additional \$2.7 million to satisfy dredging needs and the backlog of maintenance for the Illinois River Waterway. Backlog of maintenance items for the Mississippi River in Rock Island and St. Louis Corps Districts is an additional \$16.8 million.

*Additional funding priorities.*—The State of Illinois recommends that additional funding be provided for the following projects in the fiscal year 2003 Corps of Engineers' budget:

ILLINOIS RIVER BASIN RESTORATION

Section 519 of Water Resources Development Act 2000 authorized the Illinois River Basin Restoration. The current fiscal year 2003 budget proposes \$1,051,000 in general investigation funds for the completion of a comprehensive plan. However, the State requests that this be increased to \$5,000,000 of construction general funds. Much of the comprehensive plan has been developed under another WRDA authorization and with the work funded in fiscal year 2002, it will be almost complete. Projects that were pre-authorized in Section 519 as providing substantial restoration and environmental benefits have been identified through the in-progress study and will be ready to go to construction in fiscal year 2003.



## ILLINOIS RIVER ECOSYSTEM RESTORATION

Current fiscal year 2003 budget proposes \$365,000 in general investigation funds. The State requests that this amount be increased to \$900,000 in general investigation funds. This project has been on-going since 1997 and is providing additional information and documentation for Section 519 efforts. This increase is needed to complete the feasibility portion of this project on schedule.

## PEORIA RIVERFRONT DEVELOPMENT

Currently, the fiscal year 2003 budget contains \$237,000 for this project. The State requests that this amount be increased to \$600,000 in general investigation funds. The project will begin construction in fiscal year 2003 and the increase is needed to complete the feasibility phase and to meet the design and construction schedule.

## CHICAGOLAND UNDERFLOW PLAN

*McCook and Thornton Reservoirs.*—The 1988 Water Resources Development Act authorized the construction of McCook and Thornton reservoirs as components of the Chicagoland Underflow Plan for flood control. The completion of these projects, with their related improvements to water quality, will have a significant impact on reducing the amount of Lake Michigan diversion water required for dilution purposes. The reduction in dilution water will improve Illinois' ability to meet the limits of Lake Michigan diversions and provide for future water supply needs. While \$10.0 million is in this year's budget request, we are requesting an additional \$20.0 million in the fiscal year 2003 budget to continue this work at its optimum level of funding.

## CARLYLE LAKE CONVEYANCE ANALYSIS

The State of Illinois is concerned about the surface drainage flow levels, channel depths, and sedimentation trends and their performance effects in the Kaskaskia River from Vandalia, Illinois to Carlyle Lake, and the surrounding vicinity. Therefore, for fiscal year 2003, Illinois requests an appropriation of \$475,000 be provided in the Corps of Engineers general investigation funding to initiate the conveyance analyses with the total cost as a Federal responsibility. Currently, the fiscal year 2003 budget contains no funding for this purpose.

## THE CHICAGO RIVER LOCK REHABILITATION

There is a need for \$4,400,000 to rapidly rehabilitate the Chicago Lock. Excessive leakage through this lock interferes with lake diversion measurements and accounting, giving the appearance that Illinois is over-diverting in violation of the U.S. Supreme Court Decree. This project is also needed to ensure the safe operation of the lock itself.

## CHICAGO SANITARY &amp; SHIP CANAL DISPERSAL BARRIER

Section 1202 of the National Invasive Species Act of 1996 authorized the Corps to study, design and construct a barrier in the Chicago Sanitary and Ship Canal to prevent the exchange of nuisance species between the Great Lakes and the Mississippi/Illinois River systems. Previous appropriations provided for the construction of the project, but the Chicago District needs \$500,000 to cover the operation and monitoring the Invasive Species in fiscal year 2003.

## CHICAGO SHORELINE

Currently, the fiscal year 2003 budget contains \$19 million for this project. There is a need for an additional \$13,000,000 of construction general funds to avoid a slow down or stoppage of the ongoing work and a delay in this crucial erosion control project.

## CHAIN OF ROCKS CANAL LEVEE

The levee lying along the east bank of the Chain of Rocks Canal has documented design deficiencies, which must be corrected in order to adequately protect the thousands of residents living behind it. Currently, the fiscal year 2003 budget includes \$2,037,000 for this purpose. We are requesting additional funding of \$2.8 million of construction general funds to advance the construction of the remedial work.

## DES PLAINES RIVER—PHASE ONE

Section 101(b)-10) of the Water Resources Development Act of 1999 authorized Phase I of the Upper Des Plaines River Flood Control Project at a total cost of \$49 million for the implementation of the six recommended projects. The Federal share is approximately \$31.8 million (65 percent) and the estimated non-Federal cost is \$17.1 million. The fiscal year 2002 appropriation bill provided \$450,000 to continue with preconstruction engineering and design of Phase I of the project. Illinois requests \$4.5 million for a Phase I construction start in fiscal year 2003. Currently, the fiscal year 2003 budget contains no funding for this purpose.

## DES PLAINES RIVER FEASIBILITY STUDY—PHASE TWO

An expansion of the Phase I Upper Des Plaines River study was authorized in Section 419 of the Water Resources Development Act of 1999. The projected \$18,000,000 average annual damages, which will remain in the tributary floodplains of the Des Plaines River after the completion of Phase I project construction, is the basis for the expanded study of Phase II. State, Lake County, Cook County, and Kenosha County all have appropriated funds under contract for cost sharing in the Phase II study effort. Currently, the fiscal year 2003 budget contains \$335,000 to continue the Phase II study effort. However, Illinois requests an additional \$850,000 of general investigation funds to match the contracted study in fiscal year 2003.

## EAST ST. LOUIS &amp; VICINITY (ECOSYSTEM RESTORATION &amp; FLOOD DAMAGE PROTECTION)

The Corps of Engineers, St. Louis District, has completed a re-evaluation study of the project for flood protection at East St. Louis and Vicinity, Illinois (East Side Levee and Sanitary District), authorized by Section 204 of the Flood Control Act of 27 October 1965 (Public Law 89-298). The project is focusing on the continued problem of flooding within the American Bottoms area. The Water Resources Development Act of 2000 modified Section 204 of the Flood Control Act of 1965, to make ecosystem restoration a project purpose. Accordingly, ecosystem restoration will be included with the flood control project. Illinois requests an appropriation of \$800,000 for the Corps of Engineers to initiate the Pre-Engineering and Design of the East St. Louis and Vicinity Project. Currently, the fiscal year 2003 budget contains no funding for this purpose.

## LOVES PARK

An additional \$1,600,000 funding is required to finish the last stage of the Loves Park flood control project. Construction is being accomplished in an area that is subject to rapid urbanization through five major stages, four of which are complete.

## MELVIN PRICE LOCK AND DAM

Illinois also urges that the Corps support the continuation of the recreational features of the Melvin Price Lock and Dam with an additional \$2.0 million appropriation in fiscal year 2003. The additional funding is needed to initiate the contract award for the recreational facilities and to continue with the visitor center exhibits. Currently, the fiscal year 2003 budget contains \$1,200,000 for this purpose.

## UPPER MISSISSIPPI RIVER ENVIRONMENTAL MANAGEMENT PLAN

Section 509 of the Water Resources Development Act of 1999 re-authorized the Upper Mississippi River System Environmental Management Program (EMP) in response to the need for restoring habitats and improving the scientific understanding of the river system. While \$12.2 million is in this year's budget request, we believe this level of funding is below the point that Corps can efficiently continue with the program. To pursue this program efficiently, we believe this program should be pursued at the re-authorized level of \$33.17 million as described in Section 509 of the Water Resources Development Act of 1999.

## UPPER MISSISSIPPI, LOWER MISSOURI, AND ILLINOIS RIVER FLOW FREQUENCY STUDY

Flow frequencies for the Upper Mississippi lower Missouri, and Illinois River System were first developed in 1966. The flood profiles currently in use were developed in 1979 by an interagency task force and replaced profiles developed in 1966. However, the accuracy of the 1979 profiles has come into question now that there are 20 plus years of new data, including flow records from several high water events like the Great Flood of 1993 have occurred. The Corps of Engineers initiated the efforts to reassess the methodology, update the data, and develop more sophisticated and accurate models in fiscal year 1997. The study could be finished in fiscal year

2003 if an additional \$532,000 funding becomes available. Flow frequencies have a variety of important uses including determination of flood insurance; floodplain management; and the study, design, and construction of flood control projects. For this reason, Illinois requests the additional funding to finish this important study in fiscal year 2003.

ILLINOIS RIVER DREDGED DISPOSAL SITES

Section 102 (g) of the Water Resources Development Act of 1992 directed the Secretary to acquire dredged material disposal areas for the inland navigation project on the Illinois River, at a total Federal cost not to exceed \$7,000,000. For fiscal year 2003, we request \$1,100,000 of construction general funds to continue acquisition and/or construction of these sites.

UPPER MISSISSIPPI AND ILLINOIS RIVERS LEVEES AND STREAMBANKS PROTECTION STUDY

Section 458 of the Water Resources Development Act of 1999 authorized the Upper Mississippi and Illinois Rivers levees and streambanks protection study in response to erosion damages to levees and other flood control structures on these rivers. The State of Illinois urges full funding of this initiative in fiscal year 2003. The funding will expedite impact studies of navigation traffic on deterioration of the levees and other flood control structures. Currently, the fiscal year 2003 budget contains no funding for this purpose.

PREPARED STATEMENT OF THE CROW CREEK SIOUX TRIBE

FISCAL YEAR 2003 BUDGET REQUEST

The Crow Creek Sioux Tribe respectfully requests fiscal year 2003 appropriations for the Bureau of Reclamation from your subcommittee on Energy and Water Development. Funds will be used to conduct value engineering on the Reservation-wide project and to design the urgently needed system from Fort Thompson to Stephan. All other planning stages of this project (Special Study, environmental assessment and FONSI, and water conservation plan) will be completed in fiscal year 2002 due to support by the subcommittee since fiscal year 1995.

The amount requested for fiscal year 2003 is \$476,000 as set out below:

*Fiscal Year 2003 Budget Request*

Tribal Administration and Coordination .....	\$54,000
Project-Wide Value Engineering and Accountability Report .....	61,000
Design Fort Thompson to Stephan .....	301,000
Reclamation Oversight .....	60,000
<b>Total .....</b>	<b>476,000</b>

PROPOSED ACTIVITIES

With fiscal year 2002 funds, the Crow Creek Sioux Tribe, in cooperation with the Bureau of Reclamation, has concluded draft documents: "Special Study, Crow Creek Sioux Municipal Rural and Industrial Water Project" and the environmental assessment for the referenced project. The Tribe is finalizing the documents based on review and comment by the Bureau of Reclamation. The Tribe is also preparing a water conservation plan as a separate document. This set of planning documents is the prerequisite for an authorization for construction of the project. Draft bills will be present to the South Dakota delegation by the Tribe for consideration of a project authorization in the second session of this Congress.

The request for funds in fiscal year 2003 is primarily for design of the urgently needed system between Fort Thompson and Stephan on the Crow Creek Indian Reservation. For Thompson is on the Missouri River near Big Bend Dam and has an intake and water treatment plant capable of serving the entire Crow Creek Indian Reservation with high-quality water. Stephan is a community 30 miles north of Fort Thompson and the home of a regional Indian high school within inadequate and extremely poor water quality. The pipeline system between Fort Thompson and Stephan will be designed to serve the rural households that are part of the planning for the comprehensive system on the Reservation. Moreover, the pipeline system will be designed with sufficient capacity to continue the project in future years to the West to serve the Big Bend community. This is not a new project concept but one that has been in development for more than 7 years with the support of the

Bureau of Reclamation and periodic line-item appropriations by Congress. The request for this year will finalize the planning phase of the project and permit the Tribe to advance to the construction phase given an authority through enabling legislation.

#### EXIGENT CONDITIONS

There is an immediate need to construct facilities to distribute Missouri River water and improve water quality throughout the Crow Creek Indian Reservation. This action will reduce health risks to the membership of the Crow Creek Sioux Tribe and other residents of the Reservation. With the exception of the community of Fort Thompson, water supplies and water quality are deplorable throughout the Reservation. There is an immediate need to extend pipelines from Fort Thompson to the community and day school at Stephan where water quality is extremely poor, and existing wells are limited in capacity.

Inspired by efforts of the Crow Creek Sioux Tribe, including the planning for the Reservation municipal, rural and industrial water system, the water treatment facilities at Fort Thompson have been improved with microfilters that produce a high quality water for residents of the community. The new water treatment facilities are incorporated as a part of the Reservation-wide project and, with construction of necessary pipelines, will permit delivery of high-quality water north to Stephan.

The need for the Reservation-wide project is underscored by the recent population releases from the 2000 census. Our planning had projected population increases on the Reservation from 1990 to 2000 at a rate of 14.3 percent. The actual rate of growth experienced in the last decade was 26.7 percent, significantly greater than the seemingly liberal projection made from the 1990 census.

The subcommittee is respectfully requested to carefully consider our needs and provide the necessary funding to complete the planning stage of our project.

#### PROJECT CONSTRUCTION COSTS AND RECOMMENDED PROJECT ALTERNATIVE

Costs of alternatives, including construction contracts and non-contract costs, range from \$15,403,000 (Alternatives b, d and e) to \$17,853,000 (Alternative a). After accounting for funding already authorized by Congress for the Mid-Dakota project that could be transferred to the reservation project by amended legislation (Alternatives a and b) or used within the reservation in general conformity to plans by Mid-Dakota, additional funding authorization from Congress ranging from \$10,634,000 (Alternatives b, d and e) to \$12,946,000 (Alternative a) is required.

Based on the least cost scenario and self-determination, the Crow Creek Sioux Tribe's preferred project alternative is Alternative a (\$12,946,000 in new funding authority; see description below): source of water on Lake Sharpe near Fort Thompson constructed, operated, maintained and replaced by the Crow Creek Sioux Tribe. Environmental factors, such as cultural and historic resources, and identifiable impacts on physical and biological resources are not significantly different between alternatives and had least influence on the recommended alternative.

Five alternatives for developing the project were:

a. A project constructed, operated, maintained and replaced by the Crow Creek Sioux Tribe and meeting all needs through year 2030 within the Crow Creek Indian Reservation. Source of water would be the Missouri River with modifications to the existing intake and water treatment plant at Fort Thompson.

b. A project constructed, operated, maintained and replaced by the Crow Creek Sioux Tribe and meeting all needs through year 2030 within the Crow Creek Indian Reservation. Source water would be the Missouri River from the intake and water treatment plant constructed by Mid-Dakota on Lake Oahe. The reservation system would be connected to the Mid-Dakota system along the northern and eastern borders of the reservation. Mid-Dakota would sell water to the Tribe as a bulk user.

c. A project constructed, operated, maintained and replaced by the Crow Creek Sioux Tribe to service the Fort Thompson and Crow Creek community areas, and rural areas in between, from intake and water treatment plant at Fort Thompson. The balance of the project would be constructed, operated and maintained by Mid-Dakota with water supply from the Mid-Dakota intake and water treatment plant.

d. A project constructed, operated, maintained and replaced exclusively by Mid-Dakota to service the entire reservation with water supply from the Mid-Dakota intake and water treatment plant.

e. A project constructed by Mid-Dakota throughout the reservation and operated, maintained and replaced by the Crow Creek Sioux Tribe with water supply from the Mid-Dakota intake and water treatment plant.

## FUTURE OPERATION, MAINTENANCE AND REPLACEMENT (OMR) COSTS

Future operation, maintenance and replacement costs, including staff, equipment, electricity, chemicals and all other materials necessary for repair and replacement, have an estimated range in cost from \$597,195 (Alternative a) to \$826,185 (Alternatives b, d and e).

## PRESENT VALUE OF NET COSTS

Net costs were estimated as the present value of the costs of construction and OMR less the off-setting value of construction and OMR earnings by members of the Crow Creek Sioux Tribe, an under-employed labor force. Present value of net costs ranges from \$15,348,180 (Alternative a) to \$22,673,000 (Alternatives d and e).

## CONSTRUCTION SCHEDULE

A construction schedule beginning in fiscal year 2003 and ending in fiscal year 2006 is proposed. Construction and non-contract employment would provide 131 full-time equivalent man years of employment. Annual levels of funding needs would range from \$2,135,000 in fiscal year 2003 to \$6,736,000 in fiscal year 2005.

## ENVIRONMENTAL FACTORS

Pipelines proposed for the project range from 1.5 to 12 inches in diameter and have lengths ranging from 269.8 miles (Alternative c) to 276.4 miles (Alternative a). From five to seven pump stations with horsepower ranging from 103.0 to 164.5 are representative of the alternatives. From six to eight reservoirs with up to 495,000 gallons of capacity are proposed. Future population growth will require approximately five acres of new wastewater lagoons by year 2030.

Approximately 70 wetlands will be crossed by the project on the basis of the current layout, which will be modified in later designs to avoid wetlands. As many as 31 perennial stream crossings will be made. Nearly 43 miles of prime farmlands will be crossed by pipelines where most of the farmlands are defined as "prime" if irrigated in the future. Approximately 23 miles of unstable soils will be crossed. Up to 134 miles of trust lands (slightly less than 50 percent of the total) will be crossed by pipelines.

An Environmental Assessment and a class I cultural resource inventory and descriptive report have been prepared.

## POPULATION

The statistical summary below shows that population of the Crow Creek Indian Reservation in 1990 was 1,756 persons: 1,532 Indian persons and 224 non-Indian persons. Based on the rate of growth in the Indian and non-Indian population over the past several decades, year 2030 population estimates were made resulting in a future population of 3,417. These estimates recognize a relatively high growth rate within the Indian population and out-migration of non-Indians.

## INCOME AND EMPLOYMENT

Median household income in 1990 on the Crow Creek Indian Reservation averaged \$12,763 as contrasted with averages for the state of South Dakota of \$22,503. The Indian labor force on the reservation represented 55.7 percent of the population and 29 percent were unemployed. Across the state of South Dakota, 74.3 percent of the population was in the labor force, and 4.1 percent were unemployed. Income levels on the reservation are extremely low, and unemployment is extremely high.

## ABILITY TO PAY

Consistent with the income levels described above, annual residual household income on the reservation is \$8,924 after deducting the costs of housing and electricity from median household income. Results from the American Housing Survey of 1993, showed that 80 percent of those surveyed were paying \$13.59 per month for water and sewer for comparable levels of residual income. Sewer costs on the reservation are \$13 per month leaving \$0.59 per month for water bill payments if residents of the reservation are expected to pay as much as 80 percent of the population with comparable income in the American Housing Survey.

## EXISTING PUBLIC WATER SYSTEMS AND WATER QUALITY OF SOURCES

Existing public water systems in the communities of Fort Thompson, Stephan, Big Bend and Crow Creek serve a population of 1,520. The maximum flow capacity of

the systems is 530 gallons per minute, and reservoirs with 241,000 gallons of capacity are available.

Fort Thompson receives water from the Missouri River, which has good-quality water (479 milligrams per liter total dissolved solids as contrasted with the suggested level for secondary contaminants of 500 milligrams per liter). Crow Creek community receives its water from wells with total dissolved solids of 706 milligrams per liter. Stephan and Big Bend also receive water from wells with total dissolved solids ranging from 1,500 to 1,928 milligrams per liter. Wells serving the households in the rural areas have water quality ranging from an average 702 milligrams per liter total dissolved solids to a maximum of 4,440.

#### FUTURE WATER SOURCES

The best available source of future water for the reservation is the Missouri River with water quality reflective of Fort Thompson. The annual flow of the Missouri River at Pierre is 15,873,000 acre-feet annually as contrasted with the largest stream on the reservation (Crow Creek) with an average annual flow of 13,749 acre feet. The Missouri River is dependable with minimum monthly flow of 192,000 acre-feet.

Periods of no flow are experienced on all reservation streams. Groundwater sources are generally (but not universally) adequate for single households in the rural areas and water quality ranges from good to poor. Nitrates may be increasing in groundwater sources, and there is evidence of copper exceeding maximum contaminant levels in rural water, but the source of copper is unknown and can be naturally occurring or introduced through the plumbing. (Note: the reporting is from the draft Special Study, which will change in detail, but not substance, in the final report to be concluded.)

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#### PREPARED STATEMENT OF THE CENTRAL ARIZONA WATER CONSERVATION DISTRICT

Mr. Chairman: The Central Arizona Water Conservation District (CAWCD) is pleased to offer the following testimony regarding the fiscal year 2003 Energy and Water Development Appropriations Bill.

The Central Arizona Project or "CAP" was authorized by the 90th Congress of the United States under the Colorado River Basin Project Act of 1968. The CAP is a multi-purpose water resource development project consisting of a series of canals, tunnels, dams, and pumping plants that lift water nearly 3,000 feet over a distance of 336 miles from Lake Havasu on the Colorado River to the Tucson area. The project was designed to deliver the remainder of Arizona's entitlement of Colorado River water into the central and southern portions of the state for municipal and industrial, agricultural, and Indian uses. The Bureau of Reclamation (Reclamation) initiated project construction in 1973, and the first water was delivered into the Phoenix metropolitan area in 1985. In 2000, CAP delivered its full normal year entitlement of 1.5 million acre-feet for the first time, allowing Arizona to utilize its full Colorado River apportionment of 2.8 million acre-feet.

CAWCD was created in 1971 for the specific purpose of contracting with the United States to repay the reimbursable construction costs of the CAP that are properly allocable to CAWCD, primarily non-Indian water supply and commercial power costs. In 1983, CAWCD was also given authority to operate and maintain completed project features. Its service area is comprised of Maricopa, Pima, and Pinal counties. CAWCD is a tax-levying public improvement district, a political subdivision, and a municipal corporation, and represents roughly 80 percent of the water users and taxpayers of the state of Arizona. CAWCD is governed by a 15-member Board of Directors elected from the three counties it serves. CAWCD's Board members are public officers who serve without pay.

Project repayment is provided for through a 1988 Master Repayment Contract between CAWCD and the United States. Reclamation declared the CAP water supply system (Stage 1) substantially complete in 1993, and declared the regulatory storage stage, or Plan 6 (Stage 2), complete in 1996. No other stages are currently under construction. Project repayment began in 1994 for Stage 1 and in 1997 for Stage 2. To date, CAWCD has repaid \$628 million of CAP construction costs to the United States.

In 2000, CAWCD and Reclamation successfully negotiated a settlement of the dispute regarding the amount of CAWCD's repayment obligation for CAP construction costs. This dispute has been the subject of ongoing litigation in United States District Court in Arizona since 1995. The settlement provides a 3-year timeframe, ending in May 2003, in which to complete several other activities that are necessary

for the settlement to become final, including a final Indian water rights settlement for the Gila River Indian Community.

In its fiscal year 2003 budget request, Reclamation seeks \$34,783,000 for the CAP. Of this amount, \$23,093,000 is requested for the construction of Indian distribution systems. CAWCD continues to support appropriations necessary to ensure timely completion of all CAP Indian distribution systems. The CAP non-Indian distribution systems were completed nearly 10 years ago; however, most of the Indian systems remain incomplete. CAWCD supports full funding for this important program.

Of the total \$34,783,000 requested, \$6,700,000 is earmarked to fund activities associated with implementation of a 1994 biological opinion of the U.S. Fish and Wildlife Service (FWS) pertaining to delivery of CAP water to the Gila River Basin and for native fish activities on the Santa Cruz River. Historically, CAWCD has objected to Reclamation's continued spending in these areas. Both environmental groups and CAWCD challenged the 1994 biological opinion in court. However, given its settlement with the United States over CAP costs, and a final judgment in the litigation concerning the 1994 biological opinion, CAWCD supports Reclamation's budget request to allow it to complete Endangered Species Act compliance for CAP deliveries in the Gila River basin.

In its fiscal year 2003 budget request, Reclamation is requesting \$10,971,000 under the Colorado River Basin Salinity Control Project—Title I. This program supports the operation of the Yuma Desalting Plant (YDP), maintaining the U.S. Bypass Drain and the Mexico Bypass Drain, and ensuring that Mexican Treaty salinity requirements are met. Currently, Reclamation is not operating the YDP. Instead, Reclamation is allowing all Wellton-Mohawk drainage water (about 100,000 acre-feet per year) to bypass the YDP and flow to the Santa Clara Slough in Mexico. These flows are in excess of Mexican Treaty requirements and represent a significant depletion of the Colorado River water currently in storage. Continuing this practice will eventually reduce the amount of water available to the Central Arizona Project, the lowest priority water user in the Colorado River basin, and increase the risk of future shortages. The Colorado River is now in its third consecutive year of below normal runoff, and water levels in Lake Powell and Lake Mead are projected to be at their lowest levels in 30 years. At the same time, under interim surplus guidelines adopted for the benefit of California, the use of Colorado River water by the Lower Basin States exceeds their 7.5 million acre-foot entitlement. Reclamation's operation of the YDP would conserve an additional 100,000 acre-feet per year of Colorado River water for use by the Basin States. This amount is roughly equal to the City of Phoenix's full annual entitlement to CAP water.

The Senate Report accompanying the fiscal year 2000 Energy and Water Development Appropriations bill directed the Department of the Interior to provide a report to the Appropriations Committee on alternatives to meeting the Mexican Treaty obligation without operating the YDP. We understand that this report will be completed in the next few months and will identify alternatives that involve water supplies that would otherwise be available for use in the lower Colorado River basin. In our view, such options are not legitimate alternatives to operating the YDP because they reduce the amount of water available to the Basin States.

The YDP has been available for use since 1992. The House of Representatives Report accompanying the fiscal year 1995 Energy and Water Development Appropriations bill directed Reclamation to maintain the YDP so as to be capable of operating at one-third capacity with a 1-year notice of funding. Reclamation has requested \$9,739,000 (nearly 90 percent of its entire Title 1 salinity control budget) to maintain the YDP in a non-operational status, which provides no present benefit to the Basin States. By comparison, Reclamation states that it could operate the YDP at full capacity—thereby preserving 100,000 acre-feet of water each year for use within the United States—at a cost of only \$22 million. We believe that operating the YDP is the only viable way to meet the water quantity and quality requirements of the Mexican Treaty, while at the same time preserving Colorado River water for use in the United States. Therefore, CAWCD requests that Congress direct Reclamation to initiate operation of the YDP in 2003 at one-third capacity or greater. In addition, CAWCD requests that \$8 million be added to Reclamation's budget under the Colorado River Basin Salinity Control Project—Title I starting in fiscal year 2003 for this purpose.

In its fiscal year 2003 budget request, Reclamation also seeks \$12,421,000 for its Lower Colorado River Operations Program. This program is necessary for Reclamation to continue its activities as the "water master" on the lower Colorado River. In addition, this program provides Reclamation's share of funding to complete the lower Colorado River Multi-Species Conservation Program (MSCP). Of the \$12,421,000 sought, \$3,257,000 is for administration of the Colorado River,

\$2,271,000 is for water contract administration and decree accounting, and \$6,893,000 is for fish and wildlife management and development. The fish and wildlife management and development program includes \$4,357,000 for the MSCP.

CAWCD supports Reclamation's budget request for the Lower Colorado River Operations Program. The increased funding level is necessary to support the MSCP effort as well as environmental measures necessary to fully implement the interim surplus criteria for the lower Colorado River. The interim surplus criteria allow the Secretary of the Interior to declare limited Colorado River surpluses for the next 15 years to assist California in gradually reducing its use of Colorado River to its annual apportionment of 4.4 million acre-feet. These are both critical programs upon which lower Colorado River water and power users depend.

The MSCP is a cost-shared program among Federal and non-federal interests to develop a long-term plan to conserve endangered species and their habitat along the lower Colorado River from Lake Mead to Mexico. CAWCD is one of the cost-sharing partners. Development of this program will conserve hundreds of threatened and endangered species and, at the same time, allow current water and power operation to continue.

Finally, CAWCD is concerned about the increase in cost of security at Federal dams and hydropower plants, specifically Hoover Dam and Powerplant. CAWCD relies upon Hoover power as one of its power resources for pumping water. The Bureau of Reclamation received \$30 million in the fiscal year 2002 Defense budget to cover increased costs to protect Reclamation dams and other facilities in the aftermath of the September 11, 2001 attacks on the United States. However, Reclamation estimates it will run a deficit of \$9.5 million at Hoover Dam alone this fiscal year. The fiscal year 2003 budget request includes \$28 million. Of that amount, approximately \$4 million would be allocated to the Colorado River Storage Project (CRSP) and approximately \$3 million would be allocated to the Hoover, Parker and Davis facilities. The Hoover Dam shortfall for fiscal year 2003 could total nearly \$6 million.

Legislative history from 1941 and 1942 indicates that the Congress treated increased security costs before and after Pearl Harbor as non-reimbursable because of the obvious national security interest at stake. We believe that the increased costs of ensuring security of Reclamation dams and other facilities in the aftermath of the events of September 11, 2001, should be treated as non-reimbursable and payment of such costs should be funded through Federal appropriations. Additional relief for fiscal year 2002 should be considered as well as increased amounts for fiscal year 2003.

CAWCD welcomes this opportunity to share its views with the Committee, and would be pleased to respond to any questions or observations occasioned by this written testimony.

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#### PREPARED STATEMENT OF THE CITY OF FLAGSTAFF

Chairman Reid, Ranking Member Domenici, and distinguished members of the Subcommittee, thank you for allowing me to testify on behalf of the City of Flagstaff in support of \$1.2 million in the Army Corps of Engineers budget for the Rio de Flag flood control project in fiscal year 2003. I believe this project is critically important to the City, to northern Arizona, and, ultimately, to the nation.

As you may know, Mr. Chairman, with this subcommittee's help last year, Rio de Flag received \$750,000. We are extremely grateful that the Subcommittee added \$600,000 in the conference report for the project, and we would appreciate your continued support for this project in fiscal year 2003.

Like many other projects under the Army Corps's jurisdiction, Rio de Flag received insufficient funding of \$150,000 in the president's budget for fiscal year 2003, although the Corps has expressed capability of \$1.2 million; \$880,000 to complete the design, and \$320,000 to commence construction. We are hopeful that the Subcommittee will fund the Rio de Flag project at \$1.2 million when drafting its bill in order to keep the project on an optimal schedule.

Flooding along the Rio de Flag dates back as far as 1888. The Army Corps has identified a Federal interest in solving this long-standing flooding problem through the Rio de Flag, Flagstaff, Arizona Feasibility Report and Environmental Impact Study (EIS). The recommended plan contained in this feasibility report was developed based on the following opportunities: (1) flood control and flood damage reduction; (2) environmental mitigation and enhancement; (3) water resource management; (4) public recreation; and (5) redevelopment opportunities. This plan will result in benefits to not only the local community, but to the region and the nation.



The feasibility study by the Corps of Engineers has revealed that a 500-year flood could cause serious economic hardship to the City. In fact, a devastating 500-year flood could damage or destroy approximately 1,500 structures valued at more than \$395 million.

Similarly, a 100-year flood would cause an estimated \$95 million in damages. In the event of a catastrophic flood, over half of Flagstaff's population of 57,000 would be directly impacted or affected.

In addition, a wide range of residential, commercial, downtown business and tourism, and industrial properties are at risk. Damages could also occur to numerous historic structures and historic Route 66. The Burlington Northern & Santa Fe Railway (BNSF), one of the primary east-west corridors for rail freight, could be destroyed, as well as U.S. Highway 40, one of the country's most important east-west highway links. Additionally, a significant portion of Northern Arizona University (NAU) could incur catastrophic physical damages, disruptions, and closings. Public infrastructure (e.g., streets, bridges, water, and sewer facilities), and franchised utilities (e.g., power and telecommunications) could be affected or destroyed. Transportation disruptions could make large areas of the City inaccessible for days.

In short, a large flood could cripple Flagstaff for years and even decades. That is why the City believes it is so important to ensure that this project remains on schedule and that the Corps is able to maximize its capability of \$1.2 million in fiscal year 2003 for Rio de Flag.

In the City's discussions with the Corps, both the central office in Washington and its Los Angeles District Office also believe that the Rio de Flag project is of the utmost importance and both offices believe the project should be placed high on the Subcommittee's priority list. We are hopeful that the Subcommittee will heed this advice and also place the project high on its priority list and fully fund the project at \$1.2 million for fiscal year 2003.

As you may know, project construction and implementation of Rio de Flag was authorized in the Water Resources Development Act (WRDA) of 2000. The total project is estimated to cost \$24,072,000 (October 1999 price levels). The non-Federal share is currently \$8,496,000 and the Federal share is currently \$15,576,000. Final project costs must be adjusted based on Value Engineering and final design features. It is important to note that the City of Flagstaff has already committed more than \$10 million to this project, which is well in excess of its cost share agreement and shows the City's commitment to completing this important project. Through this investment in the project, the City is prepared to enter into the Project Cooperation Agreement (PCA) with the Department of the Army.

The City of Flagstaff, as the non-Federal sponsor, is responsible for all costs related to required Lands, Easements, Rights-of-Way, Relocations, and Disposals (LERRD's). The City has already secured the necessary property rights to begin construction in 2003. Implementation of the City's Downtown and Southside Redevelopment Initiatives (\$100,000,000 in private funds) are entirely dependent on the success of the Rio de Flag project. The Rio de Flag project will also provide a critical missing bike/pedestrian connection under Route 66 and the BNSF Railroad to replace the existing hazardous at grade crossings.

Both design and construction are divided into two phases. Phase I is currently scheduled to commence construction in July of 2003. Phase II of the project is scheduled to commence in April of 2004.

Mr. Chairman, the Rio de Flag project is exactly the kind of project that was envisioned when the Corps was created because it will avert catastrophic floods, it will save lives and property, and it will promote economic growth. In short, this project is a win-win for the Federal Government, the City, and the surrounding communities.

Furthermore, the amount of money invested in this project by the Federal Government approximately \$15 million will be saved exponentially in costs to the Federal Government in the case of a large and catastrophic flood, which could be more than \$395 million. It will also promote economic growth and redevelopment along areas that are currently uninhabitable because of the flood potential.

In conclusion, the Rio de Flag project should be considered a high priority for this Subcommittee, and I encourage you to support full funding of \$1.2 million for this project in the fiscal year 2003 Energy and Water Development Appropriations bill. Thank you in advance for your consideration.

## PREPARED STATEMENT OF THE STATE OF SOUTH CAROLINA

Mr. Chairman and distinguished Members of the Committee, on behalf of the citizens of the Palmetto State, thank you for this opportunity to submit for the record comments regarding the fiscal year 2003 Water and Energy Appropriations Bill.

I can not emphasize too strongly the social and economic benefits of the capital investments of the Federal Government in a wide variety of projects throughout South Carolina. Whether making our ports more accessible for global trade or enhancing the interior waterways and beaches of South Carolina, your interest and commitment to my state has had a long lasting and positive impact. It is my hope that proven cooperation and collaboration between state and Federal agencies regarding ongoing and future projects will continue to enhance the quality of life for all South Carolinians. Thank you for your committee's interest and investments in the Palmetto State.

My comments reflect input from my staff and also from principal state agencies that work most closely with the USACE Charleston and Savannah District Offices. These agencies include the State Ports Authority, the S.C. Department of Natural Resources, the S.C. Department of Health and Environmental Control, S.C. Energy Office and the S.C. Department of Commerce. Attached to my testimony, as "Supporting Documents" are all letters received from state agency directors as well as individual descriptions of the on-going and planned, USACE projects throughout South Carolina (Attachments to Committee Staff). All of the projects listed and described in the "Supporting Documents" are critical for South Carolina. All of the projects recommended for full financing in the President's budget have my full support. I also request, however, that your committee finance as many additional projects not recommended in the President's budget as possible. My comments below are not intended to emphasize one project more than another but to highlight comments made by state agency directors regarding the importance of several of these projects to the state. Please review the letters from S.C. agency directors for their input on projects of importance to them.

South Carolina has made great strides in expanding economic opportunities for its citizens both in terms of expansion of the capital base and creation of jobs. We are, however, a small state and our relative prosperity is reliant to a significant degree upon financing such as that available through your Appropriations Committee. I want to emphasize to you and your colleagues the importance I place on the value of the partnership between the State and Federal Governments in making life more fulfilling for all of my fellow citizens.

Again, thank you for this opportunity for input into the challenging decision making process you face in apportioning limited funds among many needs across the United States. I do want to re-emphasize that all of the projects listed in the "Supporting Documents" are of importance to South Carolina.

## GENERAL INVESTIGATIONS

A total of \$625,000 is needed for fiscal year 2003 to keep the Atlantic Intracoastal Waterway Feasibility Analysis proceeding in a phased approach. This study will investigate existing and future commercial shallow draft navigation needs and will review ways to improve safety and navigation efficiency and reduce operations and maintenance costs. Additional financing of \$150,000 is needed for this critical analysis. I request that your committee add this amount so the study can proceed.

The Port of Charleston is rapidly expanding and continues to fulfill its role as a major port for the eastern United States. The S.C. Ports Authority believes that to keep the port fully competitive in global movement of goods it may be necessary to deepen the ship channel more than its current 45 feet. The Authority requests an additional \$320,000 for the Charleston Harbor (Reconnaissance Deepening Analysis) to be undertaken. I concur that it is necessary before any further investment is made to deepen the channel and enlarge the Wando River Turning Basin.

Also of concern to the State is the Savannah River Basin Comprehensive Study. This study being conducted in cooperation with the State of Georgia examines reallocation of water storage among Corps of Engineer Projects and to develop a better management structure to address basin water resource needs. This project has considerable economic and social benefits to South Carolina as it addresses flood control, water supply, power generation and wildlife habitat restoration. An additional \$280,000 is needed for this general investigation.

## CONSTRUCTION

The President's recommended funding level for the Charleston Harbor (Deepening & Widening) of \$4,539,000 is appreciated as this national economic asset can con-

tinue to function competitively for world markets. However, given the growing concerns of terrorism and military readiness to meet this threat, an additional \$2.841 million is requested. The military's transportation and logistics assets in Charleston are key elements in the war on terrorism. The need to accommodate military traffic is essential to our ability in successfully overcoming this threat. Continued funding for this project has considerable benefits not only for the state but also for the nation's overall defense.

The Aquatic Plant Control project is strongly recommended for funding in the amount of \$250,000. This program has been operating for a number of years and provides important economic and environmental benefits. Noxious plants aquatic plants severely threaten the integrity of the State's waterways and has a direct impact on public drinking water, electric power generation, navigation, flood control and industrial water usage. I strongly support continued funding for this program.

The President's recommended budget indicates no funding for the Richard B. Russell Dam and Lake, Wildlife Mitigation Lands project. We support the inclusion of additional funds for this effort in the amount of \$4,850,000. These lands are an important wildlife resource area to the State. The provision for the transfer of these lands and funds from the U.S. Army Corps of Engineers to the State is a significant element of the State's strategy to protect critical areas and promote conservation of fragile lands. Similarly, South Carolina also supports Federal financial assistance for the Continued Authorities Program at current levels.

The J. Strom Thurmond Dam & Lake Construction shows potential for increased efficiency and a reduction in operation and maintenance costs. The President has recommended \$3.5 million in his budget but a further \$4.5 million is needed. Moreover, the project will increase dissolved oxygen in tail water and improve water quality in the Savannah River downstream to Augusta, Georgia and beyond. The need for heightened hydroelectric output at this station as well as the projects at the Hartwell Dam and Lake are critical in this time of high electricity demand.

#### OPERATION & MAINTENANCE (O&M)

The Operations and Maintenance Program as it relates to Harbor Maintenance at Charleston, Georgetown, and Port Royal is critical for the continued full functioning of these facilities. Charleston Harbor needs an additional \$2.444 million for dredging the lower end of the channel and harbor entrance. A further \$1.540 million is needed for dredging of the Lower Winyah Bay at Georgetown. At Port Royal a further \$2.222 million is required for dredging of the length of the channel. These additional funds are necessary for optimal operations of important S.C. ports.

The Cooper River, Charleston Harbor project is also an important element to the State's water transportation and natural resource needs. While the President's budget recommends partial funding, I support an additional \$4.10 million in funding for the operational needs of the harbor and related powerhouse structures.

Dredging of the Atlantic Intracoastal Waterway from Charleston to Port Royal, Dike Maintenance, and Bank Stabilization will require a further \$3.334 million for this important project to be completed. Funding in the President's budget is for only condition surveys and vector control. This project should be fully funded for the AIWW to operate at peak design capacity.

Operation and Maintenance of Facilities at Dams along the Savannah River North of Augusta, Georgia. Specifically, at the Hartwell Dam and Lake, an additional \$2.114 million is needed to repair and modernize the powerhouse and equipment. Moreover, full Federal financing relating to all three facilities along the Savannah River ensures their continuing vital participation in the economic life of the two affected states, guarantee that water quality is at highest levels, and offer improved recreational opportunities for the citizens of S.C. and Georgia.

Mr. Chairman, in closing, we in South Carolina are mindful of the impact that the economic downturn is having on the ability of the Federal Government to continue sizable budget surpluses. Moreover, we are aware that resources are not unlimited and priorities must be established. However, South Carolina contributes uniquely to the national welfare. Healthy military installations, coastal geography, interstate trade routes and key ports are all contributors to a growing economy and individual prosperity within South Carolina and the Southeast. We have made giant strides forward in South Carolina in part because of your investment of Federal dollars in a wide variety of projects. I look forward to continuing cooperation with you and your committee.

Please let me know if you need further information and, again, thank you for this opportunity to give input into your decision making process.

## PREPARED STATEMENT OF THE COUNTY OF VOLUSIA, FLORIDA

On behalf of our citizens and fishermen, Volusia County, Florida requests that the Energy & Water Development Subcommittee appropriate:

- \$1,000,000 in fiscal year 2003 to the U.S. Army Corps of Engineers (COE) Construction account to fund an 1000 foot oceanward extension of the South Jetty of the Ponce DeLeon Inlet. The total authorized cost of this project is \$5,454,000; the Federal share is \$2,988,000 and the local share is \$2,466,000. This requested \$1 million of the \$2.988 million Federal share of the construction funds for the South Jetty oceanward extension is essential to protect the Inlet, along with the existing North Jetty and its landward extension funded in fiscal years 1999, 2000, and 2002.
- \$100,000 in fiscal year 2003 to the COE's General Investigations account to fund the reconnaissance study authorized by a resolution adopted by the Transportation and Infrastructure Committee on February 16, 2000. The reconnaissance study would address the critical erosion along the County's 49.5 miles of ocean shoreline, which was heavily damaged during the 1999 hurricane season and continues to suffer from continuous storm-induced erosion.

A more detailed case history and description of the situation and projects follow below.

The Ponce DeLeon Inlet is located on the east coast of Florida, about 10 miles south of the City of Daytona Beach in Volusia County. The Inlet is a natural harbor connecting the Atlantic Ocean with the Halifax River and the Indian River North. The Ponce DeLeon Inlet provides the sole ocean access to all of Volusia County. Fishing parties and shrimp and commercial fisherman bound for New Smyrna Beach or Daytona Beach use the Inlet, as well as others entering for anchorage. Nearby fisheries enhanced by the County's artificial reef program attract both commercial and sport fisherman. Head boat operators also provide trips to view marine life and space shuttle launches from Cape Canaveral. In addition, there is a U.S. Coast Guard Lifeboat Station on the east shore of the Indian River less than a mile south of the Inlet.

Unfortunately, the Inlet is highly unstable and, despite numerous navigation projects, continues to threaten safe passage for the charter boat operators and commercial fisherman who rely on the access it provides for their livelihood. Recreational boaters and Coast Guard operators are also at risk passing through this unstable inlet. The shoaling of the channels in the Inlet so restricts dependable navigation that the Coast Guard no longer marks the north channel in order to discourage its use. The Coast Guard continues to move the south and entrance channel markers and provides warnings that local knowledge and extreme caution must be used in navigating the inlet. More seriously, the Coast Guard search and rescue data for fiscal years 1981–1995 show that 20 deaths have resulted from vessels capsizing in the Inlet, the direct result of the Inlet's instability. 147 vessels capsized and 496 vessels ran aground in the Inlet during the same period.

The Federal interest in navigation through the Ponce DeLeon Inlet dates back to 1884 and continues to the present. The existing navigation project was authorized by the Rivers and Harbors Act of 1965. The construction authorized by that Act, including ocean jetties on the north and south sides of the Inlet, was completed in July 1972. It became evident soon after completion of the authorized project that the project did not bring stability to the Inlet. A strong northeaster in February 1973 created a breach between the western end of the North Jetty and the sand spit the Jetty was connected to inside the Inlet. The breach allowed shoaling to occur that was serious enough to close boat yards and require almost \$2 million worth of repairs, including extending the western end of the North Jetty.

Under the existing maintenance agreement entered into upon completion of the construction, the COE periodically performs maintenance on the Inlet. Maintenance projects have included several dredging efforts, adding stone sections to the south side of the north jetty, extending the westward end of the North Jetty for the second time, and closing the North Jetty weir. Prior to the North Jetty project discussed below, the COE's last maintenance was dredging, completed on the entrance channel in January 1990.

In fiscal year 1998, the COE received a \$3,500,000 appropriation for emergency maintenance on the North Jetty. Migration of the entrance channel undermined the North Jetty, seriously threatening its structural integrity. The fiscal year 1998 funds were used to construct a granite rock scour apron for the 500 to 600 feet of where the Jetty was undermined.

In fiscal year 1999, the COE received \$4,034,000 from the Operations and Maintenance account to extend the North Jetty of the Inlet landward by 800 feet. This maintenance project is underway and intended to be completed as soon as possible

to prevent the erosion that will cause outflanking of the North Jetty. Continued outflanking of the west end of the North Jetty could create a new inlet for the Halifax and Indian Rivers resulting in major changes to the Ponce DeLeon Inlet. The resultant shoaling of both the north and south channels, as well as changes to the entrance channel, would make passage through the inlet extremely dangerous and unpredictable.

In fiscal year 2000, the COE received \$7,696,000 in their Operations and Maintenance account for use in the Ponce DeLeon Inlet. This appropriation provided funding to continue the North Jetty project, funding for surveys designed to determine the scope of a new maintenance contract for the Ponce De Leon Inlet, and funding for a dredging project to address a minor maintenance issue under the existing maintenance contract.

In fiscal year 2001, the COE received \$46,000 in their Operations and Maintenance account for standard maintenance of the Ponce DeLeon Inlet.

For the next fiscal year, Volusia County requests that the COE receive \$1 million of the \$2.988 million Federal share of the construction funds for the South Jetty oceanward extension. The COE anticipates that the construction of the jetty extensions will help stabilize the Inlet and reduce future maintenance costs. In addition to creating a safer navigation environment, completion of the North and South Jetty will save future federal maintenance costs.

The Ponce DeLeon Inlet presents a serious engineering challenge, the success of which is measured in terms of human life and vessel damage. The existing project has failed to stabilize the Inlet. Extending the North Jetty was the first step toward correcting the failure and meeting the challenge. Funding the beginning phase of the 1,000 foot oceanward extension of the South Jetty in fiscal year 2003 is the next critical step toward providing safe passage for the commercial and recreational boaters in Volusia County. State entities, including the Florida Inland Navigation District and the Florida Bureau of Beaches and Coastal Systems, agree and have committed to assisting the County in meeting the local cost share. In addition, providing these funds at this time is likely to prevent the need for a much more substantial maintenance project in the near future.

In addition to the jetty projects to protect the Ponce DeLeon Inlet, the County also requests funding for the COE to complete in fiscal year 2003, a reconnaissance study to address the critical erosion along the County's 49.5 miles of ocean shoreline. In August 1991, the COE completed a favorable reconnaissance report for the shore protection study authorized by the House Transportation and Infrastructure Committee in September 1988. The County declined to act as the non-federal sponsor for the feasibility study at that time. The COE modified the 1991 reconnaissance study in 1994. As a result of heavy damage to the County's shoreline sustained during the 1999 hurricane season, the County recognizes the critical need to address the growing impact of the storm-induced erosion. The COE will need to modify the earlier studies. The COE advises the County that the shore protection reconnaissance study can be completed in fiscal year 2003 for \$100,000.

Thank you for your consideration of this request.

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PREPARED STATEMENT OF THE SEMINOLE TRIBE OF FLORIDA

The Seminole Tribe of Florida is pleased to submit this statement regarding the fiscal year 2003 budget for the Army Corps of Engineers (COE). The Tribe asks that Congress provide \$19,526,000 in the COE's construction budget for critical projects in the South Florida Ecosystem, as authorized in section 208 of the Water Resources Development Act (WRDA) of 1999. On January 7, 2000, the Tribe and the COE signed a Project Coordination Agreement for the Big Cypress Reservation's critical project. The Tribe's critical project includes a complex water conservation plan and a canal that transverses the Reservation. In signing this Agreement, the Tribe, as the local sponsor, committed to funding half of the cost of this approximately \$50 million project. Design and planning efforts continue, and the first phase of construction is about to commence.

The Tribe's critical project is a part of the Tribe's Everglades Restoration Initiative, which includes the design and construction of a comprehensive water conservation system. This project is designed to improve the water quality and natural hydropatterns in the Big Cypress Basin. This project will contribute to the overall success of both the Federal and the State Governments' multi-agency effort to preserve and restore the delicate ecosystem of the Florida Everglades. In recognition of this contribution, the Seminole Tribe's Restoration Initiative has been endorsed by the South Florida Ecosystem Restoration Task Force.

## THE SEMINOLE TRIBE OF FLORIDA

The Seminole Tribe lives in the Florida Everglades. The Big Cypress Reservation is located in the western basins, directly north of the Big Cypress National Preserve. The Everglades provide many Seminole Tribal members with their livelihood. Our traditional Seminole cultural, religious, and recreational activities, as well as commercial endeavors, are dependent on a healthy Everglades ecosystem. In fact, the Tribe's identity is so closely linked to the land that Tribal members believe that if the land dies, so will the Tribe.

During the Seminole Wars of the 19th Century, our Tribe found protection in the hostile Everglades. But for this harsh environment filled with sawgrass and alligators, the Seminole Tribe of Florida would not exist today. Once in the Everglades, we learned how to use the natural system for support without harm to the environment that sustained us. For example, our native dwelling, the chickee, is made of cypress logs and palmetto fronds and protects its inhabitants from the sun and rain, while allowing maximum circulation for cooling. When a chickee has outlived its useful life, the cypress and palmetto return to the earth to nourish the soil.

In response to social challenges within the Tribe, we looked to our Tribal elders for guidance. Our elders taught us to look to the land, for when the land was ill, the Tribe would soon be ill as well. When we looked at the land, we saw the Everglades in decline and recognized that we had to help mitigate the impacts of man on this natural system. At the same time, we acknowledged that this land must sustain our people, and thereby our culture. The clear message we heard from our elders and the land was that we must design a way of life to preserve the land and the Tribe. Tribal members must be able to work and sustain themselves. We need to protect the land and the animals, but we must also protect our Tribal farmers and ranchers.

Recognizing the needs of our land and our people, the Tribe, along with our consultants, designed a plan to mitigate the harm to the land and water systems within the Reservation while ensuring a sustainable future for the Seminole Tribe of Florida. The restoration plan will allow Tribal members to continue their farming and ranching activities while improving water quality and restoring natural hydroperiod to large portions of the native lands on the Reservation and ultimately, positively affecting the Big Cypress National Preserve and Everglades National Park.

The Seminole Tribe's project addresses the environmental degradation wrought by decades of Federal flood control construction and polluted urban and other agricultural runoff. The interrupted sheet flow and hydroperiod have stressed native species and encouraged the spread of exotic species. Nutrient-laden runoff has supported the rapid spread of cattails, which choke out the periphyton algae mat and sawgrass necessary for the success of the wet/dry cycle that supports the wildlife of the Everglades.

The Seminole Tribe designed an Everglades Restoration project to allow the Tribe to sustain ourselves while reducing or eliminating impacts on the Everglades. The Seminole Tribe is committed to improving the water quality and flows on the Big Cypress Reservation. We have already committed significant resources to the design of this project and to our water quality data collection and monitoring system. We are willing to continue our efforts and to commit more resources, for our cultural survival is at stake.

## SEMINOLE TRIBE'S BIG CYPRESS CRITICAL PROJECT

The Tribe has developed a water conservation plan that will enable us to meet new water quality standards essential to the cleanup of our part of the Everglades ecosystem and to plan for the storage and conveyance of our water rights. The Tribe's Everglades Restoration Initiative is designed to mitigate the degradation the ecosystem has suffered through decades of flood control projects and urban and agricultural use and ultimately to restore the nation's largest wetlands to a healthy state.

The Seminole Tribe's critical project, a part of the water conservation plan, provides for the design and construction of flood control, storage, and treatment facilities on the western half of the Big Cypress reservation with other conveyance facilities on the eastern side. The project elements include canal and pump conveyance systems, including major canal bypass structures, irrigation storage cells, and water quality polishing areas. This project will enable the Tribe to meet proposed numeric target for low phosphorus concentrations that is being used for design purposes by State and Federal authorities, as well as to convey and store irrigation water and improve flood control. It will also provide an important public benefit: a new system to convey excess water from the western basins to the Big Cypress National Pre-

serve, where water is vitally needed for rehydration and restoration of natural systems within the Preserve.

#### CONCLUSION

Improving the water quality of the basins feeding into the Big Cypress National Preserve and the Everglades National Park is vital to restoring the Everglades for future generations. Congress has acknowledged this need through the passage of the last three Water Resource Development Acts. This Committee has consistently shown its support through appropriating requested amounts over the last 5 fiscal years. By continuing to grant this appropriation request for critical project funding, the Federal Government will take another substantive step towards improving the quality of the surface water that flows over the Big Cypress Reservation and on into the delicate Everglades ecosystem. Such responsible action with regard to the Big Cypress Reservation, which is Federal land held in trust for the Tribe, will send a clear message that the Federal Government is committed to Everglades restoration and the Tribe's stewardship of its land.

Completion of the critical project requires a substantial commitment from the Tribe, including the dedication of over 2,400 acres of land for water management improvements and meeting a 50/50 cost share. The Tribe has initiated the first phase of construction with the main conveyance canal. As the Tribe moves forward with its contribution to the restoration of the South Florida ecosystem, increasing Federal financial assistance will be needed as well.

The Tribe has demonstrated its economic commitment to the Everglades Restoration effort; the Tribe is asking the Federal Government to also participate in that effort. This effort benefits not just the Seminole Tribe, but all Floridians who depend on a reliable supply of clean, fresh water flowing out of the Everglades, and all Americans whose lives are enriched by this unique national treasure.

Thank you for the opportunity to present the request of the Seminole Tribe of Florida. The Tribe will provide additional information upon request.

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#### PREPARED STATEMENT OF THE NATIONAL MINING ASSOCIATION

The National Mining Association (NMA) membership includes companies engaged in the production of coal, metallic ores, nonmetallic minerals, and in manufacturing mining machinery and equipment. The transportation of coal and minerals to domestic and international markets utilizes our nation's inland waterways system, Great Lakes, coastal shipping lanes and harbors and shipping channels at deep draft inland and coastal ports.

NMA believes that a strong transportation network comprised of our highways, rails, inland waterways and ports is critical to the economic growth, security and competitiveness of the United States. NMA supports appropriations needed for timely operation and maintenance activities as well as, investments in system improvements to meet current and projected demand for marine transportation services.

According to the U.S. Army Corps of Engineers Waterborne Commerce Statistics of 1999, approximately 2.3 billion tons of commerce moved in the U.S. marine system (inland waterways, Great Lakes, coastal and deep-draft ports). Of that total, approximately 1.1 billion tons were domestic movements with coal comprising approximately 219 million tons or 20 percent of all commodities. Of the 219 million tons of coal, 166.6 million tons were carried on the inland and intracoastal waterways, 20.5 million tons on the Great Lakes and the remainder moved in coastwise and intraport shipments. On the Ohio River system and its tributaries, coal movements totaled 151 million tons or 54 percent of all the traffic. Coal moved to power plants along the system and to power plants in 8 States outside of the basin. In addition, 58.5 million tons of coal was exported to more than 40 countries in 1999.

Iron ore, phosphate rock, and other minerals also utilize the inland waterways system. In 1999, slightly more than 58 million tons of iron ore moved on the system. Of that 54.2 million tons moved on the Great Lakes and 3.5 million tons on the inland system. More than 5.4 million tons of phosphate rock moved on the waterways system through coastwise movements.

NMA is very concerned that the proposed fiscal year 2003 Budget for the Corps of Engineers does not provide sufficient funding to keep critical navigation projects on schedule, allow for the start of new projects, nor address the maintenance backlog for existing navigation projects. The unique partnership for sharing construction and rehabilitation costs between the public and private sectors has built a marine transportation system that is world class and considered by many to be the best system in the world. As the system is asked to do more, it is critical that all parties are committed and a critical demonstration of the commitment is through appro-

priations levels that address the current challenges facing the system and plan for future demands.

*General Recommendations for Fiscal Year 2003 Appropriations for the Army Corps of Engineers Civil Works Program*

NMA reviewed the proposed fiscal year 2003 Appropriations for the Army Corps of Engineers and the Civil Works Program and has the following general recommendations.

A minimum of \$5 billion should be appropriated in fiscal year 2003 for the Civil Works Program. This level balances the need to address the significant \$44 billion project backlog and the capability of the Corps with our nation's need at this time for homeland security and national defense.

A level of \$150 million should be withdrawn from the Inland Waterways Trust Fund to be matched by an equal appropriations from the general fund for the construction and major rehabilitation of locks and dams on the inland waterway system. By maintaining this level of appropriations for the next 10 years, the surplus in the Trust Fund can be reduced to more appropriate levels. Timely completion of these required navigation projects are critical to a viable and reliable national waterways system.

The fiscal year 2003 appropriation for the Corps' General Investigations account should be increased to \$154.4 million, the same level as appropriated in fiscal year 2002. The \$51 million proposed reduction will not permit the Corps to undertake any new studies. These studies are critical to ascertaining and developing future projects that will be needed to maintain and improve our system.

The fiscal year 2003 proposed funding in the amount of \$1.979 billion for the Corps' Operations and Maintenance functions should be increased. The Corps' testimony on February 27 before the Subcommittee on Energy and Water Development stated that the critical maintenance backlog is estimated to be \$884 million. This is \$182 million, or a 26 percent increase, above the fiscal year 2002 critical maintenance backlog of \$702 million. The critical maintenance backlog for navigation is \$587 million. While the fiscal year 2003 budget request is \$40 million more than the amount appropriated for fiscal year 2002, sufficient funds should be appropriated to reduce the backlog to the fiscal year 2002 level. By not properly maintaining the system, one in which approximately 45 percent of the locks and dams are more than 50 years old, the need for major rehabilitation work and replacement projects is accelerated and possibly at higher costs than were necessary. Additional funds should be appropriated in the coming years to reduce the large maintenance backlog.

*Inland Waterways System B Surplus in the Inland Waterways Trust Fund*

For many years, the funding level for the Corps' Civil Works budget has been inadequate and led to additional costs and delays for projects underway. One-half of the of lock and dam construction and major rehabilitation funds comes from the Inland Waterways Trust Fund (IWTF), which receives 20 cents from a 24.3 cents per gallon tax on the fuel used for inland waterways barge operations. The General Treasury receives the remaining 4.3 cents. Commercial users are the only beneficiaries of the inland waterways system who pay a fuel tax. Beneficiaries who receive flood control, water supply, recreational and other benefits do not contribute to the construction or maintenance of the system providing these benefits.

For the last 10 years, the Federal Government has not allocated sufficient funds to these projects to keep up with the revenues flowing into the IWTF. The result as of September 30, 2001 is a Fund surplus of \$411 million according to The Bureau of Public Debt, U.S. Department of the Treasury. The constraint on the construction and rehabilitation projects has not been the revenue collected from the fuel tax but the limited level of funding appropriated from the IWTF. It is time to address the backlog and to appropriate funds to finish the projects underway and for the country to begin to receive the economic, safety and security benefits from a modernized system.

The Inland Waterways Users Board in its 15th Annual Report to the Secretary of the Army and the United States Congress (August 2001) stated its concerns. "The Board firmly believes the future balanced budgets and our future economic competitiveness will be built upon a solid national infrastructure, of which the inland waterways are a significant, key component. Thus, the Board strongly endorses an appropriations and allocation process that will allow optimum use of the Inland Waterways Trust Fund and allow construction projects to proceed at full capability funding levels."

The fiscal year 2003 budget proposes that the IWTF contribute \$85 million to the Construction General program funds. While this is an increase compared to the



comparable fiscal year 2002 budget request of \$61 million, it is still far below the level that is necessary to reduce the surplus in the IWFT, which would address the delayed completion dates and the resulting delays in transportation savings. Beginning in fiscal year 1993 and continuing through fiscal year 2001, the balance in the IWTR grew from approximately \$187 million to \$411 million. NMA hopes the proposed increase in funds allocated from the IWTF in the fiscal year 2003 indicates that the Administration understands the importance of these projects and will pursue a policy of reducing the surplus in the Fund.

*Budget Proposals Supported by NMA*

NMA strongly supports the Administration’s fiscal year 2003 budget proposal to increase funding for two priority projects: the construction of the new Olmsted Locks and Dam on the Ohio River (between Illinois and Kentucky) and the major rehabilitation of the London Locks and Dam on the Kanawha River in West Virginia. The proposed fiscal year 2003 funding level of \$77 million for the Olmsted project and \$11.9 million for the London project illustrate the approach that should be taken for other priority projects as well. Both of the proposed funding levels put the projects on efficient funding schedules. In the case of the Olmsted project, maintaining this level will ensure that the project is operational by 2010 rather than further aggravating a 4-year delay in the project.

Attached to the testimony is a list of projects that NMA supports for additional appropriations to permit efficient funding schedules. By appropriating funds at the level to permit efficient funding schedules, the backlogs will end and the nation will be able to realize the economic benefits that were projected when these projects were authorized.

Regarding studies, NMA also supports the Administration’s proposal to fund the Ohio Mainstem Study, a navigation system analysis, at a \$3 million level. The feasibility phase will address the economic, social and environmental impacts of large-scale investments and small-scale improvements for additional lock capacity on the system. Navigation facilities under review are Newburgh and Cannelton Locks and Dams on the lower Ohio and Elmsworth, Dashields and Montgomery Locks and Dams on the Upper Ohio River.

*Ports*

Our nation’s ports and harbors provide the critical link in our marine transportation system that provide U.S. shippers, both importers and exporters, with options that maximize their ability to compete and remain competitive in a global marketplace. U.S. deep-draft commercial ports handle over 95 percent of the volume and 75 percent of the value of cargo moving in and out of the United States. For the U.S. mining industry, coal, iron ore, phosphate, and other minerals move to export out of U.S. ports. In addition, minerals critical to the United States are imported through our ports. Unfortunately, many of these minerals could be produced in the United States but current policies are making it increasingly difficult for U.S. mineral companies to remain in the country. By providing the United States with much needed minerals from domestic sources, our reliance on imports would be reduced and equally important new jobs would be created contributing to the country’s economic strength.

The proposed fiscal year 2003 budget proposes only \$267 million, which represents half of the \$534 million necessary to fund ongoing and new projects for deep-draft harbors. As with inland waterways projects, failure to maintain optimal schedules increase costs and delay project benefits. NMA was pleased to see funding requested for the Baltimore Harbor and Norfolk Harbor projects.

*Conclusion*

NMA understands that our country is faced with difficult budget decisions. However, as a country we cannot afford to neglect the continued improvement and maintenance of our Federal navigation system. Failure to continue our investment and commitment to all aspects of our marine system will have serious long-term consequences for our nation’s economic health, safety and security.

*NMA’s Fiscal Year 2003 Appropriations Request for Inland Waterways Projects*

FISCAL YEAR 2003—APPROPRIATIONS LEVELS SUPPORTED BY NMA

[In millions]

	Fiscal Year 2003 Request	Efficient Funding Level
Olmsted Lock and Dam .....	\$77	\$77

## FISCAL YEAR 2003—APPROPRIATIONS LEVELS SUPPORTED BY NMA—Continued

(In millions)

	Fiscal Year 2003 Request	Efficient Funding Level
London Lock and Dam .....	11.9	11.9
Ohio River Mainstem Study .....	3	3

*Fiscal Year 2003—Project Appropriation Levels Needing Additional Funds*

## CONSTRUCTION AND REHABILITATION

(In millions)

	Fiscal Year 2003 Request	Efficient Funding Level
McAlpine Locks Replacement Project .....	\$6.2	\$30

Located in downtown Louisville, Kentucky and near Jefferson, Indiana, the project provides for a new 1200-foot lock that will replace an inactive 56-foot by 360-foot lock and a 110-foot by 600-foot auxiliary lock. According to the U.S. Army Corps of Engineers Waterborne Commerce Statistics for 1999, almost 55 million tons of commodities valued at \$11.9 billion were shipped through the locks. Coal, the leading commodity comprised 38 percent of the shipments. Louisiana shipped the most tonnage with 16 million tons worth \$4.3 billion. Ohio received the most tonnage with 10.3 million tons valued at 2.3 billion. Iron and steel was the number one commodity shipped for both States. The total project cost is \$278 million with \$218 needed to complete the project. The project is 5 years behind schedule with a current loss of \$173 million in benefits. Since April 2001, one remaining 1200-foot lock remains operational. If something happens to that lock, severe disruption of commerce would occur while repairs are made (45–60 days).

(In millions)

	Fiscal Year 2003 Request	Efficient Funding Level
Locks and Dams 2, 3, and 4 .....	\$36	\$63

Located on the Monongahela River near Pittsburgh, Pennsylvania this project replaces some of the oldest structures (some parts are more than 100 years old) operating in the inland system. The extreme structural deterioration of Dam 2 and Locks 3 and Dam 3 are of major concern. The Corps has determined that major repairs and rehabilitation will not prevent structural failure, which would cost the economy hundreds of millions of dollars. According to the U.S. Army Corps of Engineers Waterborne Commerce Statistics for 1999, 24.5 billion tons of commodities valued at \$1.7 billion were shipped through any or all of the locks. Coal comprised 88 percent of the tonnage moving through the locks. Pennsylvania received and shipped the most tonnage through the locks with coal the number one commodity. Construction began on the \$705 million project in 1995 with a benefit-to-cost-ratio of 3.5 and average annual benefits estimated at \$30 million. Approximately \$500 million is needed to finish the project. The project is 6 years behind schedule.

(In millions)

	Fiscal Year 2003 Request	Efficient Funding Level
Marmet Locks and Dams .....	\$10.97	\$58

Located on the Kanawha River near Belle, West Virginia this project includes the construction of an additional 110-foot by 800-foot lock landward of the existing smaller dams, which would be converted to auxiliary status. According to the U.S. Army Corps of Engineers Waterborne Commerce Statistic for 1999, 15 million tons of commodities valued at \$711 million were shipped through the locks. West Virginia shipped the most tonnage with 14.4 million tons valued at \$595 million. Ohio received the most tonnage with 5.7 million tons valued at \$231 million. For both States, coal was the number one commodity shipped. The project cost is \$313 million

with a remaining benefit-to-cost ratio of 4 and average annual benefits estimated at \$236 million. Approximately \$236 million is needed to finish the project.

[In millions]

	Fiscal Year 2003 Request	Efficient Funding Level
Kentucky Lock .....	\$27.4	\$45

Located on the Tennessee River near Grand Rivers, Tennessee this project includes the addition of a 110-foot by 1,200-foot lock and the relocation of an existing railroad, highway and powerhouse access road. Construction began on this project in 1998 and the total cost of \$533 million and average annual benefits estimated at \$55 million. Approximately, \$464 million is needed to finish the project. If the project is funded at the efficient funding level of \$45 million, it will be completed in the 2008 timeframe. If the project is annually funded at the fiscal year 2003 request of \$27.4 million, the completion time could increase by up to 17 years.

PRECONSTRUCTION ENGINEERING AND DESIGN

[In millions]

	Fiscal Year 2003 Request	Efficient Funding Level
J. T. Myers Locks and Dam .....	\$1.3	\$2.1
Greenup and Locks and Dam .....	1.3	2.1

The John T. Myers and Greenup Locks Improvements Interim Feasibility Report, which was a product of the Ohio River Mainstem Study, recommends a 600-foot extension of the auxiliary chambers at both locations along the Ohio River. Both projects were authorized in the Water Resources Development Act of 2000. The Greenup project is expected to cost \$175 with a benefit/cost ratio of 2.6 to 1. John T. Myers is expected to cost \$182 million with a benefit/cost ratio of 2 to 1.

PREPARED STATEMENT OF THE CITY OF SANTA BARBARA, CALIFORNIA

OPERATIONS AND MAINTENANCE DREDGING

As your distinguished Subcommittee writes the fiscal year 2003 Energy and Water Resources Appropriations Bill, I would like to bring a very important Corps of Engineers project to your attention.

Every winter, approximately 400,000 cubic yards of sand piles up at Santa Barbara Harbor, and in years of severe storms, the accumulated sand can close the channel, bringing local fishing and other businesses in the Harbor to a standstill.

There is an important Federal interest in maintaining dredging at the Harbor. It provides slips and moorings for over 1,150 commercial, emergency and recreational boats. It is also an important part of Coast Guard operations on California's central coast. The Harbor is homeport to the USCG cutter Blackfin, an 82 ft. emergency response vessel.

The President's fiscal year 2003 Budget recommendation includes \$1,800,000 for operations and maintenance dredging for Santa Barbara Harbor. I respectfully request that the U.S. Senate, through your Subcommittee, maintain that level of funding included in the President's Budget Request.

NEW CONSTRUCTION PROJECT—DREDGE ACQUISITION

The President's fiscal year 2003 Budget recommendation also includes project funding for a potential new construction project in Santa Barbara. The City of Santa Barbara and the Corps of Engineers have pursued a proposal to design and construct a dredge for annual operation and maintenance dredging of our harbor.

Federal funding for this project has been previously appropriated. However, the City of Santa Barbara at this time is unable to contribute the required 20 percent of local sponsor funding. The City remains interested in the dredge acquisition project and, together with the Corps of Engineers, requests an additional \$100,000 in order to prepare the necessary plans and specifications for the project. The President's fiscal year 2003 Budget Request includes \$100,000 for the dredge acquisition project for the Santa Barbara Harbor. I respectfully request that the U.S. Senate,

through your Subcommittee, maintain that level of funding included in the President's Budget Request. Thank you for the opportunity to submit this statement.

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PREPARED STATEMENT OF THE STATE OF ARIZONA

Dear Chairman Reid: As the representative of the people of Arizona, I would like to thank you for the opportunity to enter testimony into the record concerning our support of items in the fiscal year 2003 budget for the U.S. Bureau of Reclamation.

I also would like to thank the committee, the Senate and the Congress for its continuing support for our issues, since the Bureau's activities assist us in providing the essential lifeline in the arid Southwest.

We would like to present testimony in two sections: the statement of the Central Arizona Project and the statement of the City of Phoenix.

CENTRAL ARIZONA PROJECT

*Background*

The Central Arizona Project or "CAP" was authorized by the 90th Congress of the United States under the Colorado River Basin Project Act of 1968. The CAP is a multi-purpose water resource development project consisting of a series of canals, tunnels, dams, and pumping plants that lift water nearly 3,000 feet over a distance of 336 miles from Lake Havasu on the Colorado River to the Tucson area. The project was designed to deliver the remainder of Arizona's entitlement of Colorado River water into the central and southern portions of the state for municipal and industrial, agricultural, and Indian uses.

The Bureau of Reclamation (Reclamation) initiated project construction in 1973, and the first water was delivered into the Phoenix metropolitan area in 1985. In 2000, CAP delivered its full normal year entitlement of 1.5 million acre-feet for the first time, allowing Arizona to utilize its full Colorado River apportionment of 2.8 million acre-feet.

The Central Arizona Water Conservation District (CAWCD) was created in 1971 for the specific purpose of contracting with the United States to repay the reimbursable construction costs of the CAP that are properly allocable to CAWCD, primarily non-Indian water supply and commercial power costs. In 1983, CAWCD also was given authority to operate and maintain completed project features. Its service area is comprised of Maricopa, Pima, and Pinal counties. CAWCD is a tax-levying public improvement district, a political subdivision, and a municipal corporation, and represents roughly 80 percent of the water users and taxpayers of the state of Arizona. CAWCD is governed by a 15-member Board of Directors elected from the three counties it serves. CAWCD's Board members are public officers who serve without pay. Project repayment is provided for through a 1988 Master Repayment Contract between CAWCD and the United States. Reclamation declared the CAP water supply system (Stage 1) substantially complete in 1993, and declared the regulatory storage stage, or Plan 6 (Stage 2), complete in 1996. No other stages currently are under construction. Project repayment began in 1994 for Stage 1 and in 1997 for Stage 2. To date, CAWCD has repaid \$628 million of CAP construction costs to the United States.

In 2000, CAWCD and Reclamation successfully negotiated a settlement of the dispute regarding the amount of CAWCD's repayment obligation for CAP construction costs. This dispute has been the subject of ongoing litigation in United States District Court in Arizona since 1995. The settlement provides a 3-year timeframe, ending in May 2003, in which to complete several other activities that are necessary for the settlement to become final, including a final Indian water rights settlement for the Gila River Indian Community.

*CAP Budget Request/Indian Distribution Systems*

In its fiscal year 2003 budget request, Reclamation seeks \$34,783,000 for the CAP. Of this amount, \$23,093,000 is requested for the construction of Indian distribution systems.

We continue to support appropriations necessary to ensure timely completion of all CAP Indian distribution systems. The CAP non-Indian distribution systems were completed nearly 10 years ago; however, most of the Indian systems remain incomplete. CAWCD supports full funding for this important program.

Of the total \$34,783,000 requested, \$6,700,000 is earmarked to fund activities associated with implementation of a 1994 biological opinion of the U.S. Fish and Wildlife Service (FWS) pertaining to delivery of CAP water to the Gila River Basin and for native fish activities on the Santa Cruz River.

Historically, CAWCD has objected to Reclamation's continued spending in these areas. Both environmental groups and CAWCD challenged the 1994 biological opinion in court. However, given CAWCD's settlement with the United States over CAP costs, and a final judgment in the litigation concerning the 1994 biological opinion, we support Reclamation's budget request to allow it to complete Endangered Species Act compliance for CAP deliveries in the Gila River basin.

We also support the continuation of funding for the Tucson Reliability Division. The requested \$754,000 will allow planning work to continue and will assist Tucson in developing and implementing a plan to ensure adequate reliability for delivery of its CAP water allocation.

#### *Yuma Desalting Plant*

In its fiscal year 2003 budget request, Reclamation is requesting \$10,971,000 under the Colorado River Basin Salinity Control Project—Title I. This program supports the operation of the Yuma Desalting Plant (YDP), maintaining the U.S. Bypass Drain and the Mexico Bypass Drain, and ensuring that Mexican Treaty salinity requirements are met.

Currently, Reclamation is not operating the YDP. Instead, Reclamation is allowing all Wellton-Mohawk drainage water (about 100,000 acre-feet per year) to bypass the YDP and flow to the Santa Clara Slough in Mexico. These flows are in excess of Mexican Treaty requirements and represent a significant depletion of the Colorado River water currently in storage. Continuing this practice eventually will reduce the amount of water available to the Central Arizona Project, the lowest priority water user in the Colorado River basin, and increase the risk of future shortages.

The Colorado River is now in its third consecutive year of below normal runoff, and water levels in Lake Powell and Lake Mead are projected to be at their lowest levels in 30 years. At the same time, under interim surplus guidelines adopted for the benefit of California, the use of Colorado River water by the Lower Basin States exceeds their 7.5 million acre foot entitlement. Reclamation's operation of the YDP would conserve an additional 100,000 acre-feet per year of Colorado River water for use by the Basin States. This amount is roughly equal to the City of Phoenix's full annual entitlement to CAP water.

The Senate Report accompanying the fiscal year 2000 Energy and Water Development Appropriations bill directed the Department of the Interior to provide a report to the Appropriations Committee on alternatives to meeting the Mexican Treaty obligation without operating the YDP. We understand that this report will be completed in the next few months and will identify alternatives that involve water supplies that would otherwise be available for use in the lower Colorado River basin. In our view, such options are not legitimate alternatives to operating the YDP because they reduce the amount of water available to the Basin States.

The YDP has been available for use since 1992. The House of Representatives Report accompanying the fiscal year 1995 Energy and Water Development Appropriations bill directed Reclamation to maintain the YDP so as to be capable of operating at one-third capacity with a 1-year notice of funding. Reclamation has requested \$9,739,000 (nearly 90 percent of its entire Title I salinity control budget) to maintain the YDP in a non-operational status, which provides no present benefit to the Basin States.

By comparison, Reclamation states that it could operate the YDP at full capacity—thereby preserving 100,000 acre-feet of water each year for use within the United States—at a cost of only \$22 million. We believe that operating the YDP is the only viable way to meet the water quantity and quality requirements of the Mexican Treaty, while at the same time preserving Colorado River water for use in the United States.

Therefore, CAWCD requests that Congress direct Reclamation to initiate operation of the YDP in 2003 at one-third capacity or greater. In addition, CAWCD requests that \$8 million be added to Reclamation's budget under the Colorado River Basin Salinity Control Project—Title I starting in fiscal year 2003 for this purpose.

#### *Lower Colorado Operations Program*

In its fiscal year 2003 budget request, Reclamation also seeks \$12,421,000 for its Lower Colorado River Operations Program. This program is necessary for Reclamation to continue its activities as the "water master" on the lower Colorado River. In addition, this program provides Reclamation's share of funding to complete the lower Colorado River Multi-Species Conservation Program (MSCP). Of the \$12,421,000 sought, \$3,257,000 is for administration of the Colorado River, \$2,271,000 is for water contract administration and decree accounting, and \$6,893,000 is for fish and wildlife management and development. The fish and wild-

life management and development program includes \$4,357,000 for the MSCP. The State supports Reclamation's budget request for the Lower Colorado River Operations Program.

*Interim Surplus Criteria*

The increased funding level is necessary to support the MSCP effort as well as environmental measures necessary to fully implement the interim surplus criteria for the lower Colorado River. The interim surplus criteria allow the Secretary of the Interior to declare limited Colorado River surpluses for the next 15 years to assist California in gradually reducing its use of Colorado River to its annual apportionment of 4.4 million acre-feet. These are both critical programs upon which lower Colorado River water and power users depend.

The MSCP is a cost-shared program among Federal and non-Federal interests to develop a long-term plan to conserve endangered species and their habitat along the lower Colorado River from Lake Mead to Mexico. CAWCD is one of the cost-sharing partners. Development of this program will conserve hundreds of threatened and endangered species and, at the same time, allow current water and power operation to continue.

*Security at Hoover Dam and Powerplant*

Finally, the State of Arizona is concerned about the increase in cost of security at Federal dams and hydropower plants, specifically Hoover Dam and Powerplant. CAWCD relies upon Hoover power as one of its power resources for pumping water. The Bureau of Reclamation received \$30 million in the fiscal year 2002 Defense budget to cover increased costs to protect Reclamation dams and other facilities in the aftermath of the September 11, 2001 attacks on the United States.

However, Reclamation estimates it will run a deficit of \$9.5 million at Hoover Dam alone this fiscal year. The fiscal year 2003 budget request includes \$28 million. Of that amount, approximately \$4 million would be allocated to the Colorado River Storage Project (CRSP) and approximately \$3 million would be allocated to the Hoover, Parker and Davis facilities. The Hoover Dam shortfall for fiscal year 2003 could total nearly \$6 million.

Legislative history from 1941 and 1942 indicates that the Congress treated increased security costs before and after Pearl Harbor as non-reimbursable because of the obvious national security interest at stake. We believe that the increased costs of ensuring security of Reclamation dams and other facilities in the aftermath of the events of September 11, 2001, should be treated as non-reimbursable and payment of such costs should be funded through Federal appropriations. Additional relief for fiscal year 2002 should be considered as well as increased amounts for fiscal year 2003.

I welcome this opportunity to share our views with the Committee, and would be pleased to respond to any questions or observations occasioned by this written testimony.

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PREPARED STATEMENT OF THE CITY OF PHOENIX

I am pleased to offer testimony on behalf of the City of Phoenix and I respectfully request continued support of its programs.

*Rio Salado*

*Request*

Funding of \$22 million in the 2003 Energy and Water Appropriations Act to keep the project on schedule, an increase of \$7.7 million above the President's request for fiscal year 2003.

*Background*

The Salt River is the major watercourse through the Phoenix metropolitan area but has been dry since the diversion of its waters in the early 1900s. While the upstream dams provided a reliable water supply for the Valley, they created a dry, barren river filled with sand and cobbles. The land along the riverbed has become lined with landfills, dump sites, and vacant and underutilized lots.

In 1993, the Army Corps of Engineers prepared a reconnaissance-level report recommending a Federal interest in the river.

The project was authorized in the 1999 Water Resources Development Act. The project received a \$2 million "new start" designation in the 2001 Energy and Water Development Appropriations bill and \$18 million in fiscal year 2002.

*Opportunity*

The project enjoys widespread support among state and local governments, the business community and local residents. The local community already has committed the 35 percent in local funding needed for the project.

This is an opportunity for the Federal Government to honor its 65 percent cost-sharing agreement and keep the project on a 3-year construction period.

The project is an important step toward correcting years of ecosystem damage to the riverbed, and it will encourage private investment to revitalize the economically depressed communities adjacent to the river.

*Rio Salado Oeste (Salt River West)**Request*

Funding of \$1.2 million to the Army Corps of Engineers for the Feasibility Study for Rio Salado Oeste to keep the study on schedule, an increase of \$1.05 million above the President's request for fiscal year 2003.

*Background*

The Rio Salado Oeste portion of the Salt River was included in the Corps of Engineers Reconnaissance Study in 1996.

The city of Phoenix and the Corps of Engineers have an agreement to pursue the Feasibility Phase Study.

To date, the city of Phoenix has matched the \$542,000 the Corps of Engineers has received for this study.

*Opportunity*

This is an opportunity to continue the Feasibility Study for the Rio Salado Oeste portion of the project, which eventually will connect the Rio Salado Project that is under construction with the most western Salt River Project near the 91st Avenue Treatment Plant at Tres Rios.

The project will provide environmental benefits of ecosystem restoration and stimulate private sector investments in the surrounding area.

*Tres Rios Project**Request*

\$2.7 million in new start construction funding in the Water and Energy Appropriation Bill. This will allow the Army Corps of Engineers to complete the plans and specifications for the 100-year protection Flood Control Levee and start the design of the 300 million-gallon per day pump station. This request matches the Corps of Engineers' capability for fiscal year 2003 and is \$2.35 million over the President's budget.

If Congress prohibits new start construction funding in fiscal year 2003, we request \$2.2 million to complete the Pre-Construction Engineering and Design Phase of the project. This will allow the Corps of Engineers to complete the plans and specifications for the Flood Control Levee and position Tres Rios to obtain new start construction funding in fiscal year 2004.

*Background*

Tres Rios River Restoration Project is an environmental habitat restoration project with incidental flood control and recreation opportunities along the Salt, Gila and Agua Fria rivers west of Phoenix. It is located along the Salt and Gila Rivers between 83rd Avenue and the confluence of the Agua Fria River, is approximately 8 river miles long and encompasses approximately 1,500 acres of land. The 91st Avenue Wastewater Treatment Plant supplies water.

*Project Components*

300-million-gallon per day effluent pump station.

184 acres of regulating wetlands to equalize discharges from the wastewater treatment plant and provide improved habitat.

128 acres of overbank wetlands to provide improved habitat.

100-year protection flood control levee.

Open water marshes and riparian corridors to improve habitat.

*Tres Rios Demonstration Constructed Wetlands**Request*

\$500,000 in the Water and Energy Appropriation Bill for fiscal year 2003 to be used by the Bureau of Reclamation. This is \$300,000 over the President's budget but is needed to sustain the program.

*Background*

The Bureau of Reclamation and the Subregional Operating Group (made up of Glendale, Mesa, Phoenix, Scottsdale and Tempe) have been jointly operating the Demonstration Wetlands since 1994. The research performed at the Demonstration Wetlands furthers the study of nitrate and metal removal, vector (mosquito) control and habitat restoration.

*Key Points*

Further expands knowledge in the field of constructed wetlands.  
 Studies vegetation sustainability in an arid environment.  
 Studies non-lethal control measure of beavers to protect habitat proposed for the full-scale project.  
 Provides funding for the operation and maintenance of the project.

*Agua Fria Linear Recharge Project**Request*

\$250,000 in the Water and Energy Appropriation Bill for fiscal year 2003 to be used by the Bureau of Reclamation under their Title 16 authorization. This is in the President's budget for fiscal year 2003.

*Background*

The Bureau of Reclamation and the Subregional Operating Group is cooperatively investigating the feasibility of linear recharge of reclaimed water in the Agua Fria River. This funding will allow the public involvement phase of the project to continue.

*Water Salinity Research**Request*

\$3 million per year for 5 years to be used to fund research programs through the Bureau of Reclamation Desalination Program in salinity management with an emphasis on brine concentration. The Bureau will work with water industry research organizations, such as the American Water Works Association Research Foundation, Water Environment Research Foundation and Water Reuse Foundation to perform the work.

*Background*

Water availability and quality is one of the world's most important environmental issues. Demand for water is increasing at an alarming rate and so are people's water quality expectations. Increasing salinity concentrations in rivers, lakes, groundwater and soil have created a problem with the removal of total dissolved solids from water systems and the disposal of the unwanted salt. Brine concentration and disposal is especially important to arid states like Arizona, which needs to use every bit of its water resources effectively.

The Tri-State Salinity Coalition is made up of water utilities in Arizona, California, and Nevada and plans to add members in Texas and New Mexico. The mission of the Coalition is, with the assistance of their congressional delegations, to obtain funding to further research efforts in salinity management with an emphasis on brine concentration.

*Objectives*

Develop brine concentration technologies that minimize water loss.  
 Develop technologies that minimize brine production, especially membrane systems which are used to meet many Safe Drinking Water Act regulations.

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 PREPARED STATEMENT OF THE SANTA CRUZ PORT DISTRICT COMMISSION

*For continuation of the Corps of Engineers Reconnaissance study of the 1986 memorandum of agreement on dredging between Santa Cruz Port District and Corps of Engineers as authorized by 1998 Water Resources Development Act, Section 526—\$100,000*

The fiscal year 2002 federal budget funded \$100,000 for the study of the Arana Gulch watershed. That study is underway. The Santa Cruz Port District requests an additional \$100,000 in the fiscal year 2003 budget to continue this study. Background data on the Arana Gulch project is included in this package.



*For continuation of the Corps of Engineers Reconnaissance study of the Arana Gulch Watershed which adversely affects the navigation of Santa Cruz Harbor—\$100,000*

This study will reconstitute the very successful 1986 joint-venture between the U.S. Army Corps of Engineers and the Port District. Over the course of a new Memorandum of Agreement (MOA) with the Port District, the federal government will save well over \$20 million in dredging costs for maintenance of the Santa Cruz Harbor federal channel.

The MOA study has federal funding in fiscal year 2002. There is \$50,000 in the President's proposed fiscal year 2003 budget. We ask the committee to support the President's budget.

Background information on the MOA is attached.

BACKGROUND INFORMATION

*For Corps of Engineers Reconnaissance study of the Arana Gulch Watershed which adversely affects the navigation of Santa Cruz Harbor*

Santa Cruz Harbor is an active small craft harbor at the north section of Monterey Bay, California. It was authorized as a federal navigation project in 1958, constructed in 1964, and expanded in 1972. A 1986 joint-venture between the U.S. Army Corps of Engineers and the Santa Cruz Port District provided for a permanent sand bypass system to solve the ocean-driven shoaling problem at its entrance. The Port District has successfully operated that system for the past fifteen winters. However, the Port District has been unable to solve the siltation problem emanating from the three-square mile watershed which terminates at the north end of Santa Cruz Harbor.

Silt from Arana Gulch fills berths, fairways, and channels in the harbor, making them hazardous and unusable. At this time, the siltation is not solvable by the existing sand bypass system. The soil characteristics of the watershed make beach disposal impractical at this time. Arana Gulch sediment must either be taken upland or delivered by barge offshore—both of these disposal options are quite wasteful. They are also extremely expensive and cost the Port District hundreds of thousands of dollars each year. Additionally, the 1998 El Niño storms brought 15,000 cubic yards of material into the north harbor alone from Arana Gulch. The event was declared a federal disaster, and FEMA and the State of California are spending in excess of \$500,000 to return the harbor to charted depths.

On June 25, 1998, the House Committee on Transportation and Infrastructure passed Resolution Docket 2565 authorizing the Secretary of the Army to review the Arana Gulch watershed siltation problem

*For Corps of Engineers Reconnaissance study of memorandum of agreement on dredging between Santa Cruz Port District and Corps of engineers as authorized by 1998 Water Resources Development Act, Section 526*

In 1986, the United States Congress and the Santa Cruz Port District signed a Memorandum of Agreement (joint-venture L.C.A.) on the acquisition of a sand bypass system for Santa Cruz Small Craft Harbor. This \$2.7 million agreement, authorized under WRDA 1984, provided that, once in place, the system would be operated and maintained by the Port District.

The bypass project has been extraordinarily successful. The harbor, once the scene of long closures and countless accidents because of shoals and breaking surf, is now 100 percent open to navigation all year round. The federal government no longer has to appropriate yearly O&M funds as it did from 1964 to 1986. The savings over the past 10 years is estimated at \$9+ million. The savings over the life of the project (2014) is estimated to be well in excess of \$28 million in 1986 dollars.

The Port District is quite satisfied with the operational project and will carry out its responsibilities through 2014. However, an inequity exists in the original cost-share formula, which the Port District asked Congress to redress. Congress responded by including Section 526 in the Water Resources Development Act of 1998:

**“SECTION 526. SANTA CRUZ HARBOR, CALIFORNIA.**

The Secretary may—

- modify the cooperative agreement with the Santa Cruz Port District, California, to reflect unanticipated additional dredging effort; and
- extend the agreement for 10 years.”

The San Francisco District of the U.S. Army Corps of Engineers has advised that in order to study the equities the 1986 Memorandum of Agreement. A reconnaissance study should be performed.

The benefit to the federal government in this redress of past inequities is that the Port District is willing to extend the successful joint-venture from its current termination date of 2014, to 2024.

PREPARED STATEMENT OF THE MID-DAKOTA RURAL WATER SYSTEM, INC.  
FISCAL YEAR 2003 FUNDING REQUEST

First let me thank the Subcommittee for the opportunity to testify in support of the fiscal year 2003 appropriations for the Mid-Dakota Rural Water Project and for the Subcommittee's support both past and present.

The Mid-Dakota Project is requesting \$29.360 million in Federal appropriations for fiscal year 2003. As with our past submissions to this subcommittee, Mid-Dakota's fiscal year 2003 request is based on a detailed analysis of our ability to proceed with construction during the fiscal year. In all previous years, Mid-Dakota has fully obligated its appropriated funds, including Federal, State, and local, and could have obligated significantly more were they available.

HISTORY OF PROJECT FUNDING

The Project was authorized by Congress and signed into law by President George H.W. Bush in October 1992. The Federal authorization for the project totaled \$100 million (1989s) in a combination of Federal grant and loan funds (grant funds may not exceed 85 percent of Federal contribution). The State authorization was for \$8.4 million (1989 \$s). A breakdown of Project cost ceilings are as follows:

*Project Cost Ceilings*

[In dollars]

Federal Ceiling .....	139,769,000
State Ceiling .....	9,670,000
Subtotal Rural Water System .....	149,439,000
Wetland Enhancement Component .....	2,756,000
Total Project Cost Ceiling .....	152,195,000

The total authorized indexed cost of the project is approximately \$152.195 million (fiscal year 2003). All Federal funding considered, the Government has provided 67 percent of its commitment (\$95.410 million of \$142.530 million) to provide construction funding for the Project. When considering the Federal and State combined awards, the project is approximately 69 percent complete, in terms of financial commitments.

Mid-Dakota wishes to thank this committee for its support over the past 9 years. Within the limited monetary parameters of current Federal awards and funds appropriated by the State of South Dakota, we have been able to put those scarce resources to good work, making exceptional progress on project construction.

**SUMMARIZATION OF FEDERAL FUNDING**

[In millions of dollars]

Fed. Fiscal Year	Mid-Dakota Request	Pres. Budget	House	Senate	Conf. Enacted Levels	Bureau Award Levels	Additional Funds	Total Fed. Funds Provided
1994	7,991	0	0	2,000	2,000	1,500	0	1,500
1995	22,367	0	0	8,000	4,000	3,600	0	3,600
1996	23,394	2,500	12,500	10,500	11,500	10,902	2,323	13,225
1997	29,686	2,500	11,500	12,500	10,000	9,400	1,500	10,900
1998	29,836	10,000	12,000	13,000	13,000	12,221	1,000	13,221
1999	32,150	10,000	10,000	20,000	15,000	14,100	2,000	16,100
2000	28,800	5,000	15,000	7,000	14,000	12,859	1,000	13,859
2001	24,000	6,040	11,040	6,040	10,040	9,398	0	9,398
2002	30,684	10,040	15,040	15,540	15,040	13,611	0	13,611
2003	29,360	.....	.....	.....	.....	.....	.....	.....
<b>Totals</b>	.....	46,080	87,080	94,580	94,580	87,590	7,823	95,410

Additionally, the State of South Dakota has contributed \$9.67 million in grants to the Mid-Dakota Project, in previous years. The State of South Dakota completed its initial authorized financial obligation to the Mid-Dakota Project in the 1998 Legislative Session.

The \$15,040 million funding provided by the Subcommittee in fiscal year 2002 provided Mid-Dakota with the opportunity to achieve significant accomplishments for the fiscal year. These are later summarized in the section titled "Construction in Progress." Mid-Dakota will continue to deliver quality drinking water to 16 community systems and approximately 2,400 rural customers (farms and ranches). Mid-Dakota estimates that an additional 300 rural farm and ranch accounts along with three more community systems will be receiving project water at the close of contracts awarded in fiscal year 2001/2002. The generosity of the subcommittee has already had a deep and favorable effect on the lives of over 15,000 South Dakotans.

#### IMPACTS OF FISCAL YEAR 2003 AWARD

The most obvious impact of any significant reduction from Mid-Dakota's request will be the delay of construction of one or more Project components. The \$29.360 million request will allow the Project to proceed with construction of multiple contracts summarized later in this testimony. An award of less than our request will result in the deletion or reconfiguration of one or more of these contracts from the fiscal year 2003 construction schedule. Further, reduced appropriations have the effect of adding more cost to the amount needed for completion of the Project.

Mid-Dakota has consistently informed members of Congress and appropriate Federal agencies, about the detrimental effects insufficient funding has on the Project and ultimately the people whom are to receive the water. In previous years Mid-Dakota and the public, which we will serve, have been able to make the most of the resources provided the Project. However, failure to provide full funding has had profound consequences.

#### CONSTRUCTION IN PROGRESS

Mid-Dakota began construction in September of 1994, with the construction of its Water Intake and Pump Station. Since that eventful day of first construction start, we have bid, awarded, and completed 22 project components and are into construction on six other major Project components. The following table provides a synopsis of each major construction contract:

#### SUMMARIZATION OF CONSTRUCTION

[In millions of dollars]

Cont. No.	Description	Cont. Budget <sup>1</sup>	Cont. Bid Award	Final Cont. Price	Over (Under) Budget	Percent Over (Under) Budget
1-1	Oahe Water Intake and Pump Station .....	4.662	3.959	3.945	(0.717)	(15)
2-1	Oahe Water Treatment Plant .....	13.361	9.920	10.278	(3.083)	(23)
3-1A	Raw Water Pipeline .....	1.352	1.738	1.719	0.367	27
3-1B	Main Pipeline—Blunt .....	7.823	6.916	7.024	(0.799)	(10)
3-1C	Main Pipeline—Highmore .....	5.439	4.791	4.798	(0.641)	(12)
3-1D	Main Pipeline—CP 1st Phase .....	.220	.215	.215	0.010	(0.5)
3-2A	Main Pipeline—Ree Hights .....	3.261	3.155	3.149	(0.112)	(3)
3-2B	Main Pipeline—St. Lawrence, SD .....	3.691	3.349	3.352	(0.339)	(9)
3-3A	Main Pipeline—Wessington, SD .....	2.700	2.406	( <sup>3</sup> )	n/a	n/a
4-1A/B (1-5)	Distribution System—West .....	9.345	9.983	10.731	<sup>2</sup> 1.386	15
4-1A/B (6)	Distribution System—North West .....	8.333	8.329	9.028	<sup>2</sup> 0.695	8
4-2 (1)	Distribution System—Central .....	4.727	4.717	4.700	(0.027)	(.5)
4-2 (2)	Distribution System—South Central .....	2.763	2.835	3.000	<sup>2</sup> 0.237	9
4-2 (4-5)	Distribution System—Central .....	5.753	4.952	5.135	(0.620)	(11)
4-2A (4)	Distribution System—Central .....	1.042	.991	1.186	<sup>2</sup> 0.140	13
4-2AP (2-3)	Distribution System—Central .....	10.340	9.824	( <sup>3</sup> )	n/a	n/a
4-2 AV (2-3)	Distribution System Vaults—Central .....	.668	.557	( <sup>3</sup> )	n/a	n/a
5-1	Water Storage Tank—Highmore .....	1.545	1.434	1.433	(0.108)	(7)
5-1A (1)	Water Storage Tank—Onida .....	0.471	0.395	0.400	(0.075)	(16)
5-1A (2)	Water Storage Tank—Okobojo .....	0.381	0.338	0.333	(0.048)	(13)
5-1A (3)	Water Storage Tank—Agar .....	0.422	0.391	0.385	(0.037)	(9)
5-1A (4)	Water Storage Tank—Gettysburg .....	0.952	0.814	0.808	(0.144)	(15)
5-2 (1)	Water Storage Tank—Mac's Corner .....	.460	.573	.561	0.101	22
5-2 (2)	Water Storage Tank—Rezac Lake .....	.438	.493	.499	0.060	14

## SUMMARIZATION OF CONSTRUCTION—Continued

[In millions of dollars]

Cont. No.	Description	Cont. Budget <sup>1</sup>	Cont. Bid Award	Final Cont. Price	Over (Under) Budget	Percent Over (Under) Budget
5-2 (3)	Water Storage Tank—Collin's Slough .....	.254	.393	.410	0.160	63
5-2A (1)	Water Storage Tank—Ames .....	.300	.378	( <sup>3</sup> )	n/a	n/a
5-2A (2)	Water Storage Tank—Cottonwood Lake .....	.800	.696	( <sup>3</sup> )	n/a	n/a
5-2A (3)	Water Storage Tank—Wessington Springs .....	.515	.491	( <sup>3</sup> )	n/a	n/a
	Totals .....	92.020	85.030	73.090	(3.610)	(4)

<sup>1</sup> Contract budget is determined by Mid-Dakota's estimate for the contract at the time of bidding.

<sup>2</sup> A significant portion of cost increases are attributable to the placement of additional users as construction proceeds.

<sup>3</sup> In Prog.

As is evident by the foregoing table, Mid-Dakota has been very successful in containing Project costs. Currently the construction of major Project components are approximately 4 percent under budget, providing an estimated saving of over \$3.61 million. The savings are an example of sound engineering, good management and advantageous bid lettings. While we can't guarantee future contract bid lettings will continue to provide the level of savings currently experienced, we do think it speaks well of the Mid-Dakota Project and how we've managed Project funding to date.

## RESPONSE TO RELATED CRISIS SITUATIONS

Mid-Dakota also provided the solution to a number of crisis situations in the past. The following are some of the most notable examples:

- Mid-Dakota was the catalyst in the "rescue" effort to the City of Gettysburg, SD to provide the town with a dependable, quality water supply (Mid-Dakota) just as they were about to lose their existing water intake, due to sluffing of the hillside at that location.
- Mid-Dakota constructed an advance project feature in Virgil, South Dakota. The town of Virgil, SD now has a new distribution system, replacing the old one that was in disrepair and draining the town coffers to keep it running and supply drinking water to Virgil residents.
- Mid-Dakota has agreed to take-over the operations of the Southern Spink and Northern Beadle Rural Water System (SSNB). SSNB is a small community water supply system that lacks the necessary capacity to properly operate a potable water supply system.
- Mid-Dakota replaced approximately eight miles of pipeline along U.S. Highway 212. An existing water pipeline located in the Highway right-of-way would have to be relocated increasing the cost of the Highway improvement. Mid-Dakota instead placed its pipeline (that would have been constructed in the future) out of the way of the Highway improvement. This lessened the cost of the Highway project and provided for an uninterrupted supply of water to people along the pipeline route.
- Mid-Dakota recently (January 2001) took over operational responsibility for the City of St. Lawrence South Dakota's water system. The community (pop. <300) was having trouble maintaining a qualified operator to maintain their systems as is mandated by EPA. An Administrative agreement between Mid-Dakota and the City provided a viable solution to their dilemma.

Additionally, Mid-Dakota is keeping in close contact with the City of Huron, SD (population 12,400) regarding potentially serious EPA water quality violations anticipated with the implementation of the Safe Drinking Water Act (SDWA) enhanced surface water rules due in 2003. Engineers who have analyzed the current drinking water source for Huron (James River) have concluded that the City will not be able to treat the current James River source without very significant and costly upgrades to their existing treatment facilities. Further the engineers have concluded that without these upgrades or switching to a new source i.e., Mid-Dakota, the City will be out of compliance with the Disinfection and Disinfection by-products rule D/DBP to be implemented in 2003. Huron is located at the East end of the Mid-Dakota Project (Mid-Dakota is being built in a general West to East manner) and is currently Mid-Dakota's largest contracted user. It is anticipated that with sufficient funding, Mid-Dakota can be in a position to connect to Huron in time to remedy the potential EPA non-compliance issue faced by Huron.

TENTATIVE FISCAL YEAR 2003 CONSTRUCTION SCHEDULE <sup>1</sup>

Mid-Dakota has developed an aggressive construction schedule for fiscal year 2003, with plans to install over 800 miles of rural pipeline and 30 miles of main transmission pipeline. The proposed construction would provide service to an estimated 17,000 more people than are currently receiving or scheduled to receive Project drinking water (estimate includes the City of Huron, SD). Our construction schedule will also provide the necessary main pipeline infrastructure to move forward with many more rural and community connections in the future. Federal funding allocated in any given fiscal year is always the limiting factor that drives Mid-Dakota's construction schedule.

MID-DAKOTA RURAL WATER SYSTEM—STATEMENT OF CAPABILITIES—FISCAL YEAR 2003  
(OCTOBER 2002 THROUGH SEPTEMBER 2003)

	Construction	Inspection Per- cent of Construc- tion	Engineering and Legal	Subtotals
100—Source and Intake (12.00 percent):				
None .....				
None .....				
Subtotals .....				
200—Water Treatment (12.00 percent):				
None .....				
None .....				
Subtotals .....				
300—Main Transmission Pipeline (7.00 percent):				
Pipeline Wess. To Wolsey .....	\$2,000,000.00	\$140,000.00		\$2,140,000.00
Pipeline Wolsey to Huron .....	4,960,000.00	347,200.00		5,307,200.00
Stations and Vaults .....	950,000.00	66,500.00	\$100,000.00	1,116,500.00
Subtotals .....	7,910,000.00	553,700.00	100,000.00	8,563,700.00
400—Distribution Pipeline (5.00 percent):				
Cottonwood Lake (Phase II) .....	2,300,000.00	115,000.00		2,415,000.00
Wessington Springs .....	2,850,000.00	142,500.00		2,992,500.00
Highmore East .....	1,500,000.00	75,000.00	200,000.00	1,775,000.00
Wolsey .....	5,500,000.00	275,000.00	550,000.00	6,325,000.00
Staum Dam .....			100,000.00	100,000.00
Bancroft .....			110,000.00	110,000.00
Stations and Vaults .....	300,000.00	15,000.00	25,000.00	340,000.00
Subtotals .....	12,450,000.00	622,500.00	985,000.00	14,057,500.00
500—Water Storage (12.00 percent):				
Wessington Springs .....	325,000.00	39,000.00		364,000.00
Wolsey .....	2,000,000.00	240,000.00	25,000.00	2,265,000.00
Staum Dam .....			10,000.00	10,000.00
Bancroft .....			10,000.00	10,000.00
Redfield .....	300,000.00	36,000.00	10,000.00	346,000.00
None .....				
None .....				
Subtotals .....	2,625,000.00	315,000.00	55,000.00	2,995,000.00
600—SCADA and Controls (12.00 percent):				
Main Pipeline Controls .....	200,000.00	24,000.00	10,000.00	234,000.00
Distribution Controls .....	150,000.00	18,000.00	7,500.00	175,500.00
None .....				

<sup>1</sup> Projects features listed in table are subject to rescheduling based upon funding provided and readiness to proceed and other factors. Actual construction activities, therefore, may not coincide exactly with schedule presented here.

MID-DAKOTA RURAL WATER SYSTEM—STATEMENT OF CAPABILITIES—FISCAL YEAR 2003  
(OCTOBER 2002 THROUGH SEPTEMBER 2003)—Continued

	Construction	Inspection Per- cent of Construc- tion	Engineering and Legal	Subtotals
None .....				
None .....				
Subtotals .....	350,000.00	42,000.00	17,500.00	409,500.00
Total .....	23,335,000.00	1,533,200.00	1,157,500.00	26,025,700.00
Administration and General as a percent of Construc- tion (percent) .....		2.00		466,700.00
Bureau of Reclamation Oversight as a percent of Con- struction (percent) .....		3.00		700,050.00
Contingencies as a percent of Construction (per- cent) .....		5.00		1,166,750.00
Total Rural Water System capabilities fiscal year 2003 .....				28,359,200.00
Wetland Enhancement Component request fiscal year 2003 .....				1,000,000.00
Total Rural Water and Wetland capabilities fiscal year 2003 .....				29,359,200.00

CLOSING

Mid-Dakota is intensely aware of the difficult funding decisions that face the Energy and Water Appropriations Subcommittee and we do not envy the difficult job that lies ahead. We strongly urge, the Subcommittee to look closely at the Mid-Dakota Project and recognize the dire need that exists. Consider the exceptionally high level of local and State support. And lastly our readiness, our credibility and our ability, to proceed.

Again, we thank the Subcommittee for its strong support, both past and present.

PREPARED STATEMENT OF THE HUMBOLDT BAY HARBOR, RECREATION, AND  
CONSERVATION DISTRICT, EUREKA, CALIFORNIA

Mr. Chairman and Members of the Subcommittee, thank you once again for the opportunity for me, Charles Ollivier, as president, on behalf of the board of commissioners of the Humboldt Bay Harbor, Recreation, and Conservation District in Eureka, California to submit prepared remarks to you for the record in support of the Fiscal Year 2003 Energy and Water regular appropriations measure to fund the U.S. Army Corps of Engineers Water Resources Development Program.

We appreciate these are trying times for the fiscal budget of the U.S. Army Corps of Engineers through no fault of their own. Those of us across the length and breadth of this nation who are dependent upon a strong, qualified and diversified water resources program must stand shoulder to shoulder with the Corps and their supporters in Congress to ensure adequate funding of Corps projects and a revitalized Corps program.

Through the efforts of this Subcommittee and our own Representative Mike Thompson of the First Congressional District of California and Senators Boxer and Feinstein, the long-awaited Humboldt Harbor and Bay Deepening Project was completed in April 2000. We have already seen improvements in navigation safety and increased commerce since completion of construction.

This project is of critical importance to the future development of Humboldt Bay and County, and the entire northcoast region of the state of California. With the increased volume of imports and exports—still principally forest products—we remain California's fifth ranked commercial port in tonnage. The prospect of year round predictable navigable port access is the premise upon which we intend to attract a new diversified mix of commercial enterprise attracted to the area as a northwest distribution hub for imported goods. So supportive of these efforts are the local populace, we are the only major commercial port in the United States in which

our local shippers contribute through a local harbor maintenance fee to share in the cost of construction of the Federal project over the life of the project.

However, independent of construction project completion, we remain an annual maintenance port year in and year out using both Corps and contractor dredge assets to maintain project depths and safe navigation for both large commercial vessels and the largest commercial fishing fleet between San Francisco Bay and the Columbia River. Shoaling in our channel is not a mere inconvenience and commercially costly in lost time but often historically results in loss of life and property damage. Our geographic location, hydrodynamic, and adverse winter weather conditions in the North Pacific combine to require annual maintenance of our Federal channel or lives are put in jeopardy for those unfamiliar with the geography, Humboldt Bay is the only deep-draft natural harbor strategically situated along four hundred miles of Pacific coastline between San Francisco and Coos Bay, Oregon. Prevailing winter wave conditions at the Humboldt bar and entrance have posed extreme navigation safety hazards, resulting in loss of life and significant property damage over the years. In 2000, 1.4 million tons of forest products, fuel and other commodities crossed the Humboldt bar. It has been projected that, with the deepening project complete, 5 million tons per year is possible. This growth can only be realized with continued annual maintenance dredging.

We are grateful to the subcommittee—and the committee conferees—for including \$3.516 million in the operations and maintenance general account for fiscal year 2002. We support the President's budget request for \$3.426 in the operations and maintenance general account for fiscal year 2003 even though this represents only 56 percent of the funds needed to adequately maintain the Federal channels through maintenance and advanced maintenance dredging. Therefore, we request the Subcommittee increase this amount to \$6.219 million.

With 2 years of post construction maintenance experience, it is apparent that the source of continual shoaling at the channel entrance requiring continual and occasional emergency maintenance dredging is traceable to sources contiguous but outside project boundaries.

The increased budget request from fiscal year 2003 is necessary to perform advanced maintenance work on the channel boundaries in the paramount interests of navigation safety and environmental protection. In addition, expanded survey work to monitor the new hydrodynamics of the channel after completion of project construction is essential for safety and future maintenance planning. Our additional request above the President's budget is based upon a recent Corps survey south of the navigation channel of how the sand accumulation is impacting the main channel and requires advanced maintenance dredging of this area with the intended result of saving additional money, lives, property, and the bay environment over the long term.

Should the problem persist an alternative remedy may be a necessary project boundary adjustment or modification. For these reasons we may be the appropriate subject of a 20 year dredged material management plan not so much to deal with issues associated with dredged material disposal—our material is largely clean sand—but rather to determine ways in which Corps minimum fleet assets drawn largely from the North Pacific Division and private contract dredging capacity may be most efficiently utilized over the long term as the paramount need for maintenance dredging will always remain. We are extremely grateful for the commendable efforts by the San Francisco District to modify the annual maintenance dredging schedule to optimize dredging efficiency and protect year-round navigation. In particular, we recognize the efforts of the Corps of Engineers in scheduling the Essayance and Yaquina from the Corps fleet for emergency dredging when no commercial dredge vessels are available.

The completion of the deepening project coupled with effective annual maintenance dredging, will provide unique economic development opportunities for the North Coast region. These capitalize upon our natural resources base enabling us to ship our commodities to world markets at competitive freight rates, and ship more of our imports and exports by water rather than transship them long distances by road or rail to market. At the same time it will permit us to diversify our economic base by improving our transportation infrastructure and attracting new industrial activity to an area historically dependent upon the economic well-being of the cyclical forest products industry. We are currently suffering from closure of major facilities and continuing uncertainty surrounding the forest products industry's future as a major contributor to our long term economic base.

Our navigation project has a unique history. With the support of then Congressman Riggs, Congress authorized the Humboldt Harbor and Bay 38 Foot Deep Draft Navigation Project in Section 101 of the Water Resources Development Act of 1996 (WRDA 1996)(Public Law 104-303) at an estimated total construction cost of



\$15,178,000 with a required local contribution of \$5,180,000, and a first Federal cost of \$10,000,000. The project has a 1.9 to 1 favorable benefit cost ratio. It has no significant environmental impacts and enjoys the consensus support of Federal, State, regional, and local agencies.

In June 1998, with the support of the California Maritime Infrastructure Authority in the first of its kind issuance of revenue bonds to finance a Federal navigation project, we were able to raise \$3.9 million matched by an additional \$1.0 million in local redevelopment agency funds from the City of Eureka to meet our required local contribution to project construction cost.

In order to provide an additional revenue stream from which to service the debt incurred in meeting its financial obligations, the district has implemented the first of its kind harbor user fee under section 208 of WRDA 1986 so that vessels and cargo benefitting from the navigation improvements will share in the cost of providing them. Our experience will now assist Congress in revising provisions of WRDA 1986 that have prevented the U.S. Customs Service from assisting us in the efficient collection of those local fees and ports across the country from recovering additional costs of port safety and security following the events of 9/11 of last year.

On behalf of the members of the commission and harbor district, we appreciate those prior occasions in which we have had the opportunity to appear before the Subcommittee. We look forward to appearing before this Subcommittee on future occasions to provide updated reports on the economic benefits and progress we expect will follow the successful completion of this project. We are prepared to supplement our prepared remarks for the record in response to any questions that the Chair, Subcommittee Members, or staff may wish to have us answer.

Thank you Mr. Chairman and Members of the Subcommittee.

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PREPARED STATEMENT OF THE MOSS LANDING HARBOR DISTRICT, MONTEREY BAY,  
CALIFORNIA

Mr. Chairman and Members of the Subcommittee: On behalf of the Chairman and Members of the Board of Harbor Commissioners, thank you for the opportunity for me, Jack Compton, as President of the Board of Harbor Commissioners of Moss Landing Harbor District in California to submit prepared remarks to you for the record in support of the fiscal year 2003 energy and water regular appropriations measure.

The Commission recognizes and expresses its gratitude to our two Senators, the Honorable Dianne Feinstein, a valuable member of this Committee, and the Honorable Barbara Boxer for their continued assistance and support on our behalf.

We express our profound appreciation to the Subcommittee and full Committee for its inclusion of \$2,500,000 in Operations and Maintenance funds in the fiscal year 2002 budget for badly needed maintenance dredging of the Federal entrance channel and the initiation of a first ever dredged material management plan for the Harbor District in order to plan for orderly maintenance dredging of the Federal channel and local berths over the next twenty or more years.

The coming year fiscal year marks the first time in a decade that we have returned to a normal three year maintenance cycle of the Federal channel. To this end we request the Subcommittee's approval of a \$2.750 million in appropriations from the Operations and Maintenance general account in order to complete the dredged material management plan and dredge the Inner Harbor segment of the Federal channel including disposal of sediments at a recommended disposal site under the long term plan.

At long last as part of our planning effort, we have initiated a ground breaking marine Ecological Risk Assessment (ERA) under Corps of Engineers and EPA guidance with the assistance of USACE Waterways Experiment Station (WES) personnel and USACESFD staff. This effort is supported by a working group organized under national dredging team local planning guidance, including representatives of the Federal, state and local agencies, and other stakeholder and public interest groups with an interest in dredging activities.

We hope this effort will: (1) produce both a useful and practical multidisciplinary decision document for those agencies exercising regulatory or oversight jurisdiction over dredging; and (2) serve as a model for collaborative effort in dredged material disposal consensus decision making in unique situations such as for other Corps districts and local sponsors seeking to balance required maintenance dredging to support navigation with the corresponding need to protect environmentally sensitive areas, in this instance the unique Monterey Submarine Canyon located at the heart of the Monterey Bay Marine Sanctuary.

As part of the effort we are compelled to benchmark suitable upland disposal sites for both ecological risk assessment and maintenance dredging purposes. We are bounded by the Elkhorn Slough National Estuarine Sanctuary and the Monterey Bay Marine Sanctuary severely limiting available disposal options. The Harbor District lies within the watershed of two rivers draining some of the richest agricultural land in the nation but which also serves as the upstream source of agricultural pesticides posing a permanent dilemma as to alternative disposal options. Compounding this is the high cost of acquisition of available upland disposal sites, approximately \$35 million for the one remaining suitable long term disposal site.

We plan to document this process and our experience for incorporation in Corps planning guidance for national use and Congressional oversight as a valuable tool for environmental regulatory process streamlining.

The working group in support of this effort is comprised of every state, Federal and local agency with responsibility for the conduct and statutory oversight of dredging activities at the site located within the boundaries of the Monterey Bay National Marine Sanctuary (MBNMS), including the Sanctuary, U.S. Army Corps of Engineers, San Francisco District (USACESFD), USEPA region IX, U.S. Fish and Wildlife Service (USFWS), California Coastal Commission, California Department of Fish and Game, the Central Coast Regional Water Quality Control Board, along with representatives of related local agencies, the commercial fishing industry, public interest groups and marine research community, including the Moss Landing Marine Laboratory of California State University and the Monterey Bay Aquarium Research Institute (MBARI) home ported in the Harbor District.

For those of you who are more familiar with the world renowned Monterey Peninsula and Bay and our acclaimed aquarium, our harbor is home to the largest commercial fishing fleet on the Central Coast of California and the largest concentration of Federal, state and private marine research and millions of dollars in capital investment in vessels and facilities on the West Coast. Both nationally significant research and commercial fishing activities would be threatened without ongoing maintenance dredging.

As part of voluntary local cost sharing contribution to our dredged material management plan, as local sponsor we have expended over \$120,000 to date for sedimentary transport studies of both mud and sand and associated contaminants from various sources in the SF-12 area including the unique Monterey Bay Marine Canyon, \$16,000 for the collection of sediment samples (some of which need critical testing and evaluation before their expiration), \$12,000 for an extensive literature search, and \$25,000 in coordinating with, and sponsoring meetings of the working group. USEPA Region IX has also contributed financially to this important endeavor providing funds for the peer review process.

The first stage ecological risk assessment ("ERA") underway consists of three main phases: (1) problem formulation; (2) analysis; and (3) risk characterization, including comparative risk assessment as data permits.

The first phase consists of a screening ERA to identify those chemicals, ecological receptors, and exposure pathways requiring further evaluation in subsequent phases and to identify additional data needs. This phase will address elements of problem formulation, and utilizes mostly existing data.

The problem formulation phase includes the following components: (1) data evaluation and chemical of potential concern selection—an evaluation of dredged material characteristics to select chemicals of potential concern for further evaluation; (2) ecosystem characterization—identification of the habitats and aquatic, wildlife, and human receptors of potential concern; (3) conceptual ecological quantitative model development—an evaluation of complete and potentially complete exposure pathways (disposal characteristics), selection of indicator species (sensitive species representative of different levels of the food chain), and identification of assessment and measurement endpoints; and (4) data gap analysis—identification of data needs and studies required to complete the assessment.

Because of the nature of the Moss Landing dredged material disposal (hydraulic dredging to a highly dispersive site) and the similarities of the disposal process to the ongoing sediment deposition to Monterey Bay from the local watershed, the initial evaluation will focus on these ongoing processes. The ongoing sediment deposition and its effects on the Monterey Bay ecosystem can provide a real-time indication of the stressor-response relationship. Existing data will be reviewed and additional data collected as deemed necessary in the data gap analysis described above.

The second phase analysis will include the following elements: (1) watershed characterization—an evaluation of the sediment and chemical loading to Monterey Bay from the surrounding watershed; (2) hydrodynamic evaluation—an evaluation of the dispersal/depositional patterns/zones; (3) sediment characterization—an evaluation of sediment chemical concentrations in depositional zones; (4) biota character-

ization—an evaluation of resulting biota concentrations (benthos and fish)—some benthic community analysis may be conducted as well; (5) toxicity identification evaluation (TIE)—an evaluation of toxic effects and identification of toxicants; (6) exposure and effects assessments—an evaluation of food chain effects and an evaluation of human health effects; (7) risk characterization—integration of the above elements to estimate risks; (8) uncertainty analysis.

The first phase of this evaluation will include a screening level assessment using conservative assumptions. As necessary, additional data will be collected to refine these assumptions and provide more realistic estimates of exposure and effects.

The third phase of risk evaluation will determine if no significant risks are predicted in the above evaluation. Subsequent phases of the ERA will estimate the level of additional deposition (i.e., dredged material disposal) that could occur before resulting in unacceptable risks. If significant risks are predicted in the ambient level assessment, the subsequent phases will include predicting the incremental risk from disposal of dredged material.

The working group will convene to review and comment upon the detailed work plan and then once again to comment upon the draft report and to assist in planning the second stage effort for the next fiscal year.

Project deliverables will include: (1) a detailed work plan, quantitative model, sampling and analysis plan, and quality assurance program plan; (2) draft, draft final, and final reports; and (3) a monitoring plan.

The draft report is anticipated to be released before the end of this fiscal year and subject to working group and peer review upon release.

The second stage of the risk assessment will be funded out of fiscal year 2003 appropriations and will commence immediately following the release of the first stage report. This effort will include a field evaluation involving a test disposal of sediments at the SF-12 site and monitoring efforts with the assistance of laboratory personnel and fixed assets to coincide with the completion of the Inner Harbor dredging episode by USACESFD.

The final second stage report will complete DMMP/ERA and serve as the basis for long term dredged material management planning and regulatory decision making by the USACE and other Federal, state and local agencies exercising good judgment replacing a high level of uncertainty with a confidence level based upon sound risk management methodology and supported by site specific data.

This effort is intended to save current and future expenditures by providing a proven analytical and scientific framework with which to balance the costs and risks of upland and unconfined aquatic disposal of dredged material, a problem affecting ports and harbors across the Nation and threatening to have an adverse impact on future Corps maintenance budgets.

I am prepared to supplement my prepared remarks for the record in response to any questions that the Chair, Subcommittee members, or staff may wish to have me answer. Thank you Mr. Chairman and members of the Subcommittee. This concludes my prepared remarks.

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#### PREPARED STATEMENT OF THE CITY OF MORRO BAY

During World War II the Army Corps of Engineers (ACOE) designed and constructed a new harbor entrance at Morro Bay with two rock breakwaters. Since the initial construction, over 50 years ago, the Federal government has maintained the harbor entrance, breakwaters and navigational channels.

In fiscal year 1995 the ACOE completed the Morro Bay Harbor entrance improvement project to improve safety for commercial fishing and coastal navigation. The City of Morro Bay was the local sponsor and contributed over \$900,000 in cash and in-kind services. Morro Bay is a small city of 10,000 with very limited resources but made this project one of its highest priorities for almost 10 years because of the regional importance of the harbor. Without continued Federal maintenance, all of the past local and Federal investment will be lost.

Morro Bay Harbor is the only all-weather harbor of refuge between Santa Barbara and Monterey on the West Coast. Our Harbor directly supports almost 250 homeported fishing vessels and marine dependent businesses. We provide irreplaceable maritime facilities for both recreational and commercial interests. Businesses that depend on the harbor generate \$53,500,000 annually and employ over 700 people. The United States Coast Guard (USCG) maintains a 27 person search and rescue station at Morro Bay Harbor to provide the Coast Guard services for the entire Central California Coast. In 2000 the California legislature designated Morro Bay and several other small ports along the California coast as "Harbors of Safe Refuge".

This legislation recognizes the critical role many small harbors play in affording a safety zone for commercial and recreational vessels transiting the California coast.

Exposure to the open ocean and strong winter currents carrying sediment into the harbor create the need for a routine maintenance schedule to insure that the harbor entrance and federally designated navigation channels remain safe and navigable. It is imperative that the federally constructed navigation channels and protective jetties be maintained to insure safe commerce and navigation on a 300 mile stretch of the California Coast.

Last year the budget included \$3.8 million for dredging of the navigational channels including the Entrance Channel, the Navy Channel and the Morro Channel. This year the President recommends \$1.28 million for maintenance dredging of the Federal navigation improvements in the fiscal year 2003 budget focusing on the Entrance Improvement Area. This area fills in the most rapidly and creates the most hazardous conditions. We respectfully request that your distinguished subcommittee include \$1.28 million in dredging funds for Morro Bay Harbor to keep our harbor open and safe in all conditions.

In addition to being home port to over 250 commercial fishing vessels, Morro Bay Harbor is part of the federally designated National Estuary Program. The Morro Bay Estuary was the subject of an ACOE reconnaissance study (funded by Congress in 1998) of potential projects to restore sensitive habitat through improving tidal circulation and decreasing sedimentation. The County of San Luis Obispo and the Bay Foundation are acting as local sponsors for the Feasibility Phase. We support the President's recommendation for \$200,000 to continue work on the feasibility study for the Morro Bay Habitat Restoration project in fiscal year 2003. We feel an additional appropriation of \$100,000 would help expedite the Feasibility Study.

Our thanks again for your actions and continued support. I am grateful for the opportunity to present these requests to your subcommittee on behalf of the citizens of the City of Morro Bay.

PREPARED STATEMENT OF THE UPPER MISSISSIPPI RIVER BASIN ASSOCIATION

[In millions of dollars]

	President Request	UMRBA Recommendation
Construction General:		
Upper Miss. River System Environmental Mgt. Program .....	12.200	33.520
Major Rehabilitation of Locks and Dams .....	19.770	31.084
Operation and Maintenance: O&M of the UMR Navigation System .....	143.383	167.192
General Investigations:		
Upper Mississippi and Illinois Waterway Navigation Study .....	1.000	3.685
Upper Mississippi River System Flow Frequency Study .....	.463	.995
Upper Mississippi River Comprehensive Plan .....	1.814	1.814
Stream Gaging (U.S. Geological Survey) .....	.500	.500

INTRODUCTION

The Upper Mississippi River Basin Association (UMRBA) is the organization created in 1981 by the Governors of Illinois, Iowa, Minnesota, Missouri, and Wisconsin to serve as a forum for coordinating river-related state programs and policies and for collaborating with Federal agencies on regional issues. As such, the UMRBA works closely with the Corps of Engineers on a variety of programs for which the Corps has responsibility. Of particular interest to the basin states are the following:

*Environmental Management Program*

For the past 15 years, the Upper Mississippi River System Environmental Management Program (EMP) has been the premier program for restoring the river's habitat and monitoring the river's ecological health. As such, the EMP is key to achieving Congress' vision of the Upper Mississippi as a "nationally significant ecosystem and a nationally significant commercial navigation system." Congress reaffirmed its support for this program in the 1999 Water Resources Development Act by reauthorizing the EMP as a continuing authority and increasing the annual authorized appropriation to \$33.520 million. Despite this clear indication that the EMP is an important program, despite its track record of success, and despite the fact that there is capability to expend the full authorized appropriation, the President's fiscal year 2003 budget includes only \$12.2 million for the EMP. This funding level reflects an extraordinary reduction of 40 percent from fiscal year 2002. Fur-

thermore, it represents a mere one-third of the authorized annual funding level. Such a dramatic cut will have devastating effects on the program and must be reversed.

Roughly two-thirds of EMP funding is devoted to habitat restoration activities such as island creation, side channel closures and openings, water level control, and selective backwater dredging. The severely reduced fiscal year 2003 budget will dramatically affect these on-going habitat restoration efforts. In particular, planning work will be reduced on at least 8 projects. Design work will be cut back on another 6 projects and abandoned entirely on 6 projects. In addition, construction work on 7 projects will be entirely dropped and significantly reduced on another 2 projects. In short, there will be sufficient funds to proceed with construction of only 5 projects.

The EMP long-term resource monitoring program (LTRMP) faces equally devastating cuts. The LTRMP currently supports six field stations throughout the river system that routinely collect standardized data on water quality, sediment, fish, invertebrates, and vegetation at over 150 sites. In addition, the LTRMP conducts focused studies to evaluate restoration options and develops computerized data analysis and integration tools. This monitoring and research is critically important, not only in support of the EMP habitat projects, but also to a vast array of other Federal and State river management responsibilities. If EMP funding is cut back to \$12.2 million in fiscal year 2003, the LTRMP will need to be significantly restructured. Either the spatial extent of the program will need to be reduced, by eliminating field stations, or sampling intensity and rigor will need to be reduced. Neither alternative is sustainable and ultimately the ability of the program to fulfill its Congressionally mandated mission will be jeopardized.

Funding cutbacks for the EMP could not have come at a worse time. The Corps of Engineers has recently restarted its Navigation Study on the Upper Mississippi River and Illinois Waterway System with the expectation that the study will set the future course for improving both the river navigation infrastructure and ecosystem. Yet without a strong EMP program as one of the tools to meet river environmental needs, that future is indeed bleak. The UMRBA thus strongly urges that EMP funding be increased from \$12.2 million to the full authorized annual appropriation of \$33.17 million in fiscal year 2003.

#### *Major Rehabilitation of Locks and Dams*

Given that most of the locks and dams on the Upper Mississippi River System are over 60 years old, they are in serious need of repair and rehabilitation. For the past 16 years, the Corps has been undertaking major rehabilitation of individual facilities throughout the navigation system in an effort to extend their useful life. This work is critical to ensuring the system's reliability and safety.

The UMRBA supports the Corps' fiscal year 2003 budget request of \$19.77 million for major rehabilitation work at four locks and dams on the Upper Mississippi River. Half of this amount is to be provided by the Inland Waterways Trust Fund. Funding for Lock and Dam 12 (\$5.404 million) and Lock and Dam 24 (\$10.0 million) will support continuing work, including rehabilitation of lock machinery and concrete resurfacing. Funding for Lock and Dam 3 (\$3.0 million) will support corrections to hazardous outdraft conditions and reconstruction of the embankments, which are structurally unsound. Funding for Lock and Dam 11 (\$1.366 million) will support excavation and placement of rock fill and derrick stone upstream and downstream of the dam. The funds that the Corps has requested are expected to be sufficient to accomplish the work scheduled at these four sites. However, an additional \$11.314 million could be used to accelerate work on Lock and Dam 11 (\$3.134 million), including completion of the scour protection work and award of the Stage II lock rehabilitation contract; complete plans and specifications and award contract for Stage I of the lock rehabilitation work at Lock and Dam 19 (\$3.680 million); and advance completion of the lock wall contract by six months for Lock and Dam 24 (\$4.500 million).

#### *Operation and Maintenance (O&M) of the Upper Mississippi River Navigation System*

The Corps of Engineers is responsible for operating and maintaining the Upper Mississippi River System for navigation. This includes channel maintenance dredging, placement and repair of channel training structures, water level regulation, and the routine operation of 29 locks and dams on the Mississippi River and 7 locks and dams on the Illinois River. The fiscal year 2003 budget includes approximately \$143 million for O&M of this river system, including \$102.668 million for the Mississippi River between Minneapolis and the Missouri River, \$13.878 million for the Mis-

Mississippi River between the Missouri River and Ohio River, and \$26.837 million for the Illinois Waterway.

These funds are critical to the Corps' ability to maintain a safe and reliable commercial navigation system. In addition, these funds support a variety of activities that ensure the navigation system is maintained while protecting and enhancing the river's environmental values. For example, O&M funds support innovative environmental engineering techniques in the open river reaches such as bendway weirs, chevrons, and notched dikes that maintain the navigation channel in an environmentally sensitive manner. In addition, water level management options for a number of pools in the impounded portion of the river are being evaluated under the O&M program. Pool level management, such as that being tested in Pool 8, is a promising new approach for enhancing aquatic plant growth and overwintering conditions for fish without adversely affecting navigation.

While the funds that the Corps has requested for fiscal year 2003 are expected to be adequate to meet basic O&M requirements, the UMRBA supports additional funding of \$23.809 million, which could be effectively utilized in fiscal year 2003 for critical needs such as electrical repairs, bulkhead repairs, repairs to cracks and spalls on lockwalls, concrete repairs, repairs to liftgates, revetment and dike repairs, and replacement of roller gate chains at various lock locations on the upper river. Additional funds are also needed to support work related to fish passage at dams.

#### *Navigation Study*

In August 2001, Director of Civil Works Major General Robert Griffin, issued guidance for restructuring the Upper Mississippi River and Illinois Waterway Navigation Study. This study was initiated in 1993 and later "put on hold" in 2001 to allow mid-course adjustments in response to recommendations from the National Research Council and a new National Federal Senior Principals Task Force.

The study is now on a new course that has the potential for developing a collaborative integrated strategy to meet both the navigation and environmental needs of this great river. The UMRBA welcomes this new approach to the study and its committed to working with the Corps of Engineers to ensure that it is brought to a successful and timely conclusion. However, to do so will require more funding than that originally anticipated for fiscal year 2003. UMRBA thus supports funding of \$3.685 million for the UMR-ILWW Navigation Study in fiscal year 2003.

#### *Upper Mississippi River System Flow Frequency Study*

Flow frequencies for the Upper Mississippi River System badly need revision. The flood profiles currently in use were developed in 1979 by an interagency task force and replaced profiles previously adopted in 1966. However, the accuracy of the 1979 profiles has come into question now that there are over 20 years of new data, including flow records from several high water events such as the Great Flood of 1993.

Flood elevation profiles have a variety of important uses including flood insurance; floodplain management; and the study, design, and construction of flood control projects. Thus, the five states of the Upper Mississippi River Basin have been strong supporters of the Corps' efforts to reassess the methodology, update the data, and develop more sophisticated and accurate models. The Administration's fiscal year 2003 budget includes \$463,000 for the Upper Mississippi River Flow Frequency Study. However, an additional \$532,000 is needed in fiscal year 2003 to prevent a 2-year delay in completion of this important cutting edge study. In fiscal year 2002, the study received only \$630,000 of the \$1.2 million appropriated by Congress. It is imperative that the Flow Frequency Study be completed in a timely fashion because the results of the study will provide the foundation for development of a systemic flood damage reduction plan, authorized in the 1999 Water Resources Development Act as the "Upper Mississippi River Comprehensive Plan." The UMRBA thus supports \$995,000 for the Flow Frequency Study in fiscal year 2003 to help bring this critical study to a successful conclusion.

#### *Upper Mississippi River Comprehensive Plan (Flood Damage Reduction)*

Section 459 of the Water Resources Development Act of 1999 authorized the Corps to develop what is termed an "Upper Mississippi River Comprehensive Plan," the primary focus of which is systemic flood damage reduction and flood protection. Such a study is an important complement to the on-going, newly restructured Navigation Study for the Upper Mississippi River and Illinois Waterway. It is imperative that the flood damage reduction comprehensive plan proceed immediately, in tandem with the Navigation Study, to ensure that all major needs of the river system are addressed in an integrated fashion.

In fiscal year 2002, \$1 million was appropriated to initiate the Comprehensive Plan for flood damage reduction. However, only \$630,000 has been allocated to date. In light of this, the UMRBA supports the fiscal year 2003 funding request of \$1.814

million to advance the UMR Comprehensive Plan. In particular, funds are needed to complete the Project Management Plan (PMP) and the inventory of existing floodplain data, and to initiate development of systemic floodplain digital data coverage.

#### *Stream Gaging*

The Corps of Engineers in cooperation with the USGS operates approximately 150 stream gages in the Upper Mississippi River Basin. In fiscal year 2002, the estimated Corps share of the cost of these gages is \$1,805 million. Most stream gages are funded as part of the cost of the project to which they are related. However, there are a number of gages that are not associated with a particular project. Thus, UMRBA supports the \$500,000 requested under General Investigations to support the Corps' share of non-project USGS stream gages, many of which are located in the five states of the Upper Mississippi River Basin.

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#### PREPARED STATEMENT OF THE CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

Presented herewith is testimony in support of \$40,000,000 for the construction appropriation necessary for the U.S. Army Corps of Engineers to continue the Tropicana and Flamingo Washes flood control project in Clark County, Nevada. Also, testimony in support of \$5,000,000 appropriation to reimburse the non-Federal sponsors, Clark County and the Clark County Regional Flood Control District, for work performed in advance of the Federal project pursuant to Section 211 of the Water Resources Development Act (WRDA) of 1996. This project is located in the rapidly growing Las Vegas Valley in Southern Nevada.

The Las Vegas Valley continues to experience unprecedented growth in the past 20 plus years. People have moved into the area from all parts of the nation to seek employment, provide necessary services, retire in the Sunbelt, and become part of this dynamic community. It is estimated that 6,000 people relocate to the Las Vegas Valley every month of the year. Currently the population exceeds 1.4 million. The latest statistics show that more than 30,000 residential units are built annually. Once all of these factors are combined, the result is that the Las Vegas Valley continues to be one of the fastest-growing areas in the nation.

The Federal project being constructed by the Corps of Engineers (Corps) is designed to collect flood flows from a 160-square mile contributing drainage area. The Corps' project includes three debris basins, five detention basins, 28 miles of primary channels, and a network of lateral collector channels. The debris basins are designed to collect flood flows from undeveloped Federal lands at the headwaters of the alluvial fans and trap large bedload debris before it enters the channels and causes erosion damage. The detention basins function to greatly reduce the magnitude of the flood flows so that the flows can be safely released and conveyed through the developed urbanized area at non-damaging rates. The outflow from the debris basins and the reduced flows from the detention basins will be contained in the primary channel system that will also serve as outfalls for the lateral collector channels. While this latter element (lateral collector channels) is considered a non-Federal element of the entire plan, it is being funded locally because it is a necessary element for the system to function properly and afford flood protection for the community. Since flood flow over the alluvial fans, which ring the Las Vegas Valley, is so unpredictable in terms of the direction it will take during any given flood, all of the components of the Corps' plan are critical.

Torrential rains deluged the Las Vegas Valley the morning of July 8, 1999, causing widespread drainage problems and major damages to public and private properties. Some of the largest rainfall depths occurred over the southwest portions of the Las Vegas Valley resulting in significant flows in the Tropicana and Flamingo Washes. The runoff that resulted from this intense rainfall caused widespread street flooding and record high flows in normally dry washes and flood control facilities. The news media reported two deaths resulting from this flood event, one of which was a drowning in the Flamingo Wash. Damages to public property resulting from this storm are estimated at \$20,500,000. The President declared Clark County a Federal disaster area on July 19, 1999, recognizing the severity of damages to public and private properties. Significant damages could have been avoided if the Corps' Tropicana and Flamingo Washes Project had been fully implemented. However, those features of the Corps' project that were completed did help to mitigate damages. The storm of July 8, 1999, further reemphasizes the need to expeditiously implement all flood control projects in the Las Vegas Valley.

The Feasibility Report for this project was completed in October 1991, and Congressional authorization was included in the WRDA of 1992. The first Federal appropriation to initiate construction of the project became available through the En-

ergy and Water Resources Development Appropriations Bill signed into law by the President in October 1993. The Project Cooperation Agreement (PCA) was fully executed in February 1995. Federal appropriations to date have totaled \$159,545,000, allowing the project to continue to be implemented. The total cost of the project is currently estimated at \$291,000,000, higher than originally anticipated primarily due to the delay in Federal appropriations.

The local community had already constructed certain elements of the Corps' plan prior to the execution of the PCA. These project elements required modifications in order to fit into the Corps' plan and fulfill the need for a "total fan approach" to the flooding problems of the Las Vegas Valley. The work performed by the non-Federal sponsors, construction of Red Rock Detention Basin and Flamingo Detention Basin, has been accounted for in Section 104 credits and total \$9,906,000.

Some of the benefits already realized from construction of flood control features on the federal project include the removal of 12.3 square miles of flood zones from Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps. This was accomplished through the completion of the Red Rock Detention Basin Modifications and the Blue Diamond Detention Basin. Additional benefits are forthcoming when revised flood zone maps will be submitted to FEMA to show the effects of flood zones removed along the Tropicana Wash and its tributaries due to the completion of the Tropicana Detention Basin, Las Vegas Beltway Channels (7A, 7B, 8 & 9), Tropicana Outlet Channel, Lower Blue Diamond Channel, and Lower Flamingo Diversion Channel.

As non-Federal sponsors for this important flood control project, both the Clark County Regional Flood Control District and Clark County are looking forward to the construction start of each feature of this project and the project's ultimate completion.

The non-Federal sponsors are requesting \$40,000,000 for the continued construction of this project. Funding at this level will allow the Corps of Engineers to:

*Complete/continue construction on the following.*—R-4 Debris Basin and Channel; Upper Flamingo Diversion Channel; F-1 Debris Basin and Channel; F-2 Debris Basin and Channel.

*Start construction of the following.*—Upper Blue Diamond Channel; F-4 Debris Basin and Channel; Flamingo Detention Basin Expansion.

In 1996, the local sponsors were notified that Federal funding would be reduced for the Corps' flood control project in Las Vegas due to reductions in the Corps' overall Federal budget. Our community has already suffered a 5-year delay in project completion due to past reductions in Federal funding. Any further delays in Federal funding, in the fastest growing community in the nation, will mean increased project costs due to lost opportunities compounded by inflation. It might also mean further loss of life.

In order to provide the required flood protection in a timely fashion, the non-Federal sponsors are implementing certain features in advance of the Federal Government pursuant to Section 211 of WRDA 1996. An amendment to the PCA was fully executed on December 17, 1999, that formalizes the provisions of Section 211 of WRDA 1996. Section 211(f) of WRDA 1996 identifies the Tropicana and Flamingo Washes Project as one of eight projects in the nation to demonstrate the potential advantages and effectiveness of non-Federal implementation of Federal flood control projects. The work funded by the non-Federal sponsors and completed to date pursuant to Section 211 of WRDA 1996 totals approximately \$24,742,125 and includes features that were designed by the non-Federal sponsors and constructed by either the Federal Government or the non-Federal sponsors. These features are summarized in the following table:

Project Element	Nature of Work	Sponsor's Costs
Tropicana Detention Basin Outfall—Russell Road Box Culvert ....	Design, Construction & Construction Management.	\$239,777
Tropicana Detention Basin Outfall—Valley View Boulevard Box Culvert.	Design, Construction & Construction Management.	170,659
Blue Diamond Channel—Las Vegas Beltway (Segment 7A) .....	Design (Project element constructed by Corps).	419,531
Blue Diamond & Red Rock Channels—Las Vegas Beltway (Segment 7B, 8 & 9).	Design, Construction & Construction Management.	23,552,950
Red Rock Channel—Las Vegas Beltway (Segment 10A) .....	Design (Project element constructed by Corps).	359,157
Total Sponsors' Costs .....	.....	24,742,125
Estimated Federal Share .....	.....	18,556,594
Appropriations to Date .....	.....	9,600,000



Project Element	Nature of Work	Sponsor's Costs
Remaining Federal Share .....	.....	8,956,594

The local community appreciates the \$9,600,000 in the last two Energy and Water Development Appropriation Bills to reimburse the local community for work done in advance. For fiscal year 2003, we are asking the committee to appropriate funding of \$5,000,000 of the remaining \$8,956,594 to reimburse the non-Federal sponsors the Federal proportionate share (75 percent) of the completed work pursuant to Section 211 of WRDA of 1996 and the PCA amendment. This amount is requested in light of the language contained in the fiscal year 2000 Energy and Water Development Bill, Senate Report 106-58, which states in part, "The Committee expects a every effort to even out reimbursement payments to lessen future budgetary impacts." The non-Federal sponsors' contributions to the project are for the primary purpose of providing flood protection as quickly as possible.

In summary, the Tropicana and Flamingo Washes project is an important public safety project designed to provide flood protection for one of the fastest growing urban areas in the nation. We ask that the committee provide the Secretary of the Army with \$40,000,000, in fiscal year 2003, in order to facilitate continued design and construction of additional phases of this critical flood control project. We are also asking that the committee provide the Secretary of the Army with \$5,000,000 to reimburse the non-Federal sponsors the Federal proportionate share of the work completed by the sponsors in advance of the Federal Government.

The committee is aware that flood control measures are a necessary investment required to prevent loss of life and damages to people's homes and businesses. Flood control is a wise investment that will pay for itself by preserving life and property and reducing the probability of repeatedly asking the Federal Government for disaster assistance. Therefore, when balancing the Federal budget, a thorough analysis would prove that there is substantial future Federal savings in disaster assistance that supports sufficient appropriations through the Civil Works Budget.

#### PREPARED STATEMENT OF THE PORT OF GARIBALDI

Mr. Chairman and members of the Subcommittee: My name is Carol Brown. I am one of three elected Commissioners of the Port of Garibaldi, Oregon, located on Tillamook Bay on the Oregon Coast. We appreciate the opportunity to present our views on appropriations issues to the Committee.

#### APPROPRIATIONS REQUEST

The Port of Garibaldi requests a \$315,000 appropriation for operations and maintenance (O & M) of Tillamook Bay and Bar, Oregon. The budget request is \$15,000. The increased funding will allow the U.S. Army Corps of Engineers' (Corps) Portland District to prepare Plans and Specifications for the Tillamook Bay North and South Jetties.

#### REPORT ON THE TILLAMOOK BAY JETTY SYSTEM

There are serious problems with both jetties. The U.S. Coast Guard has determined that deterioration of the South Jetty has created a dangerous threat to navigation safety. The Corps' recent engineering analysis demonstrates that erosion on the north side of the North Jetty continues at a highly accelerated rate. Should the North Jetty breach, shellfish beds, a county park and a state highway would sustain severe damage.

Restoration and repair of the Tillamook Bay Jetty System is key to maintaining navigation safety, protecting both public and private property and the environment, and preserving the economic vitality of the Oregon Coast.

In December 2000, The Board of Commissioners of the Port of Garibaldi and Tillamook County prepared a report on the Tillamook Bay jetty system and bar to inform legislators and other concerned parties of the need to restore the jetties and their bar to safe, acceptable engineering standards. Excerpts of that report are included below.

There are three major issues currently associated with the deterioration of the system.

—There is a clearly documented increasing hazard to navigation from erosion around the ocean ends of both jetties and resultant damage to the bar which is causing an escalating loss of life in boating accidents every year.

- There is a potentially significant loss of land mass containing recreational facilities and permanent structures in one area where the north jetty has already breached near its root.
- There is data currently being collected (but incomplete at this time) which suggests a possible relationship between the deteriorated condition of the jetties and bar and the degree of flooding in some land areas surrounding Tillamook Bay.

The report contains a history of construction and repair of the jetties by the Corps, an overview of construction and repair results, a summary of an independent engineering report solicited by the Port and the Corps' own evaluations of the jetties' present condition, reasons for restoration of the jetties and bar, and the Commissioners' endorsement of repair of the jetty system and bar as both an urgent public safety measure and possible contribution to mitigation of flooding in the estuary. We will provide a copy of the report to the Committee upon request.

#### BACKGROUND

Since settlement in the 1800s, Tillamook County's primary industries have been dairy, water and timber oriented. Tillamook Bay and the five rivers which feed it have historically furnished an abundance of shellfish, salmon and other species of fresh-water and ocean food fish. Over the past century the area has become renowned as one of the West's premier sport fishing locations.

Tillamook County's economy has always depended on prime conditions in Tillamook Bay, its estuary and watershed for cultivation and use of these natural resources. However, human activities including forestry, agriculture and urban development have adversely impacted the entire Bay area by increasing erosion rates and landslide potential in the forest slopes and significantly reducing wetland and riparian habitat. All five rivers entering Tillamook Bay now exceed temperature and/or bacteria standards established by the Oregon Department of Environmental Quality. The installation of a north jetty on Tillamook Bay begun in 1912 caused increased erosion of the Bay's westerly land border, Bayocean Spit, on the ocean side. The Spit breached in 1950. This allowed the Bay to fill with ocean sands on its southern and western perimeters and caused a major reduction in shellfish habitat, sport-fishing area, and an increase in the cross-section of the bar. A south jetty begun in 1969 helped stabilize the Spit and created the navigation channel presently in use.

Increasingly poor water quality in the Bay's feeder rivers and a substantial loss of marine life over the past 25 years enabled Tillamook Bay to become part of the National Estuary Program in 1992. The Project's scope of study included the estuary and watershed. One of the stated goals in the Project's final Comprehensive Conservation and Management Plan is "the reduction of magnitude, frequency and impact of flood events." This goal was found to be consistent with the scope of study of the Corps' Feasibility Study for Water Resources in Tillamook County now being conducted, and was incorporated into this new project.

Previous Corps' evaluations of jetty systems clearly state the adverse effects of jetty deterioration and infilling of channels and bars on tidal prism (the rate at which water flows into and out of the Bay) and indicate that they may influence flooding in a bay's estuary. During the past thirty-six months measurements have been taken of differential water levels in Tillamook Bay and its estuary and speeds of tidal flows during normal and high water events. This data suggests an increase in the cross-section of the Tillamook Bay bar and some channel infilling which may be affecting estuarine flooding. These measurements are of stated interest to the Corps. The Port of Garibaldi, many Tillamook County businesses which have been victims of flooding, and some governmental agencies concerned with various aspects of the flooding issue are supporting continuing gathering of these measurements of water levels and tidal flow speeds.

While the conditions of jetties and their resultant bars invariably and continually affect the bay on which they are constructed, their basic function is the creation of a safe channel between ocean and harbor for the transit of maritime traffic. As originally designed and constructed, the Tillamook Bay jetties accomplished this. Due to their present state of deterioration, that initial effectiveness has been substantially reduced.

#### RESULTS IN BRIEF

Tillamook County has suffered a series of devastating floods since the winter of 1996. The storms caused by El Niño/La Niña events have increased the rate of deterioration of Tillamook Bay's jetties and bar. Their present condition is raising increasing navigational safety issues. The north jetty is now breached in an especially

sensitive location near its root where the wall protects inhabited land, and the eroded area is increasing in size. A significant quantity of water flowing through this area would result in loss of the existing land mass adjacent to it and the structures on it. A second area of deterioration on the north jetty at the beach line is threatening to breach. But in either location, an infill of the channel with sands would reduce the navigability of the channel, further slow the rate of tidal flow and impact the cross-section of the bar. An even greater degree of danger to boaters than that which presently exists would surely be created.

The Bayocean Spit breach in 1950 buried one-third the Bay's shellfish habitat under ocean sands and did extensive damage to estuarine lands. The lost shellfish habitat has never been recovered. The direction of tidal flow in the Bay is such that a breach in the north jetty would cause additional buildup of ocean sands to the inside edge of the Spit. This infill would eventually deposit toward the south end of the Bay and demolish even more shellfish habitat and sport fishing area, adversely impacting Tillamook County's already reduced economy. The harbor area would certainly suffer some degree of damage, resulting in increased commercial hardship.

But the most serious impact of jetty and bar deterioration has been on navigational safety. The United States Coast Guard Tillamook Bay Station has publicly commented on the transit danger to sport, commercial and their own vessels due to erosion effects which now constitute a maritime hazard. Many local sport and most commercial fishermen have abandoned Garibaldi as a permanent berth and sought harbor facilities where channel navigation is easier and transit of the bar less treacherous. The Coast Guard has formally requested that the Corps "restore the north and south jetties to their original dimensions, and remove materials from the original construction that may now pose a maritime hazard."

#### PRINCIPAL FINDINGS

Since the last repair to the south jetty, approximately 302 feet have been lost to erosion, 215 feet of that amount since 1998. The north jetty was designed and authorized by the USACOE to be 5,700 feet in length. As of December, 2000, approximately 275 feet of the ocean end of the north jetty is eroded and remains below mean lower low water level—submerged, in other words. In 1990 the USACOE capped the head of the north jetty from its above-water point going landward for a distance of 161 feet in an unsuccessful attempt at erosion control. The north jetty remains at least 300 feet short of its engineering-approved and authorized length.

Because of the increased magnitude of storms since 1996, both jetties have suffered far more damage than that normally expected to occur to such structures. Erosion and displacement of large support stones at the ocean ends of both jetties is particularly severe, and the submerged ends of both structures are being pushed southward. These two areas, adjacent to popular sport fishing locations, are now identified by the Coast Guard as extremely dangerous locations. Water swirls around the displaced boulders causing eddies sometimes strong enough to suck small boats into them. Even in calm, flat seas, water breaks over these boulders into waves powerful enough to throw smaller vessels onto the jetties. (This was the case on September 22, 2000, when a sport fishing boat inadvertently drifted inside the 200 foot exclusion zone and was dashed onto the end of the south jetty. Two people were killed and a third injured, this incident being the most recent loss of life this year in the accident record of the Tillamook Bay jetties and bar.)

#### CONCLUSION

On behalf of the Port of Garibaldi and Tillamook County, I thank the Committee for giving me this opportunity to provide testimony on the Tillamook Bay Jetty System.

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#### PREPARED STATEMENT OF THE NATURE CONSERVANCY

Mr. Chairman and members of the Subcommittee, I appreciate this opportunity to present The Nature Conservancy's recommendations for fiscal 2003 appropriations. We understand and appreciate that the Subcommittee's ability to fund programs within its jurisdiction is limited by our current national emergency.

The Nature Conservancy is an international, non-profit organization dedicated to the conservation of biological diversity. Our mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. The Conservancy has more than 1,000,000 individual members and 1,900 corporate associates. We have programs in

all 50 states and in 27 foreign countries. We have protected more than 12.6 million acres in the United States and more than 80 million acres with local partner organization worldwide. The Conservancy owns and manages 1,400 preserves throughout the United States—the largest private system of nature sanctuaries in the world. Sound science and strong partnerships with public and private landowners to achieve tangible and lasting results characterize our conservation programs.

The Nature Conservancy urges the Committee to support the following appropriation levels in the fiscal 2003 Energy and Water Development Appropriation bill:

- White River Basin Comprehensive Study in Arkansas.*—The White River Basin Comprehensive Study will enable the Corps to pull together the needs of myriad issues in the White River basin and permit a sensible long term plan for the region. The Nature Conservancy strongly supports \$1.1 million in fiscal 2003 for the Army Corps of Engineers (Corps) to begin a Comprehensive Study in the White River basin, an increase over the Administration's \$400,000 request.
- Sacramento and San Joaquin Comprehensive Basin Study.*—The Sacramento and San Joaquin Comprehensive Basin Study is examining how to reduce the risk of flood while restoring the watersheds diverse ecosystem. The Nature Conservancy supports \$6.0 million in fiscal 2003, an increase over the Administration's \$3.0 million.
- San Joaquin River Basin Feasibility Study, Consumnes and Mokelumne Rivers.*—The San Joaquin River Basin Feasibility Study is studying several alternatives to rehabilitate and restore riparian floodplain habitat. The Nature Conservancy supports \$500,000 in fiscal 2003, an increase over the Administration's \$100,000 request.
- Section 1135: Project Modification for the Improvement of the Environment.*—The Section 1135 Program authorizes the Army Corps of Engineers (Corps) to restore areas damaged by existing Corps projects. This program permits modification of existing dams and flood control projects to increase habitat for fish and wildlife without interrupting a project's original purpose. The Nature Conservancy is the non-Federal cost share partner on a project at Spunky Bottoms on the Illinois River that needs \$388,000 in fiscal 2003. The Conservancy supports full funding of \$25.0 million for the Section 1135 program in fiscal 2003.
- Section 206: Aquatic Ecosystem Restoration.*—Section 206 is a newer Corps program that authorizes the Corps to restore aquatic habitat regardless of past activities. The Conservancy has several projects that put Section 206 to work restoring important habitat, including a \$5 million project at Kankakee Sands in Indiana, and a restoration project at the headwaters of the Big Darby River in Ohio that will need \$1.0 million for the construction phase in fiscal 2003. The Conservancy supports full funding of \$25.0 million for this valuable program in fiscal 2003.
- Missouri River Fish and Wildlife Mitigation.*—Created in WRDA 1986, the Missouri River Fish and Wildlife Mitigation Project is designed to reverse the negative environmental impacts of lower river channelization and bank stabilization through land acquisition from willing sellers. The Mitigation Project allows the Corps to restore chutes, side channels, and other off-channel floodplain habitat for river wildlife. The Conservancy supports a funding level of \$20.0 million for fiscal 2003, an increase over the Administration's \$17.5 million request.
- Recovery Implementation Program for Colorado Endangered Fish Species.*—The Recovery Program is in its 13 year of working for the recovery of endangered fish species in the Upper Colorado River Basin. The Recovery Program serves as a model of successful cooperation between three states (Colorado, Utah, and Wyoming), Federal agencies, water development interests, power users and the environmental community in the recovery of four endangered fish species. The Conservancy supports \$6.3 million in fiscal 2003 for the Bureau of Reclamation.
- Challenge 21: Riverine Ecosystem Restoration and Flood Hazard Mitigation Program.*—The Water Resources Development Act (WRDA) 1999 authorized the Challenge 21 program as a 5-year, \$200 million effort to enhance riverine ecosystems and encourage non-structural flood control projects. Challenge 21 directs non-structural flood control, in part through relocation of frequently flooded homes and businesses in smaller communities; and habitat restoration, including floodplain wetland restoration. The Nature Conservancy supports a \$25.0 million initial appropriation in fiscal 2003.
- Upper Mississippi River System Environmental Management Program.*—The Environmental Management Program (EMP) is an important Corps program that constructs habitat restoration projects as well as conducts long-term resource monitoring of the Upper Mississippi and Illinois Rivers. The EMP operates as a unique Federal-State partnership affecting five states (Illinois, Iowa, Minnesota, Missouri, and Wisconsin). The EMP was reauthorized in WRDA

1999 with an increased authorization in the amount of \$33.1 million. The Conservancy supports a funding level of \$33.1 million for fiscal 2003 and will permit a controlled increase into the newly authorized funding levels.

—*Yakima River Basin Enhancement Project.*—The Yakima River Basin Enhancement Project is a Bureau of Reclamation project that funds water conservation through improvements to Bureau of Reclamation and on-farm irrigation works, water rights and land acquisition. The Nature Conservancy supports \$20.0 million in fiscal 2003.

—*Estuary Habitat Restoration Program.*—The Estuary Habitat Restoration Program was established with the intent to restore one million acres of estuary habitat by 2010. This multi-agency program will promote projects that result in healthy ecosystems that support wildlife, fish and shellfish, improve surface and groundwater quality, quantity, and flood control; and provide outdoor recreation. The Nature Conservancy supports \$10 million in fiscal 2003.

—*Everglades and South Florida Ecosystem Restoration.*—The Everglades and South Florida Ecosystem Restoration program is designed to save and restore a critical natural treasure by acquiring high priority natural lands for protection, capturing runoff lost to tide, restoring natural hydropatterns essential for the overall health of the system and for protecting water supplies for human use. The Nature Conservancy supports the President's budget request for \$19.5 million in fiscal 2003.

Thank you for the opportunity to present The Nature Conservancy's comments on the Energy and Water Appropriations bill. We recognize that you receive many worthy requests for funding each year and appreciate your consideration of these requests and the generous support you have shown for these and other conservation programs in the past.

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PREPARED STATEMENT OF THE LOS OSOS COMMUNITY SERVICES DISTRICT

The Los Osos Community Services District (LOCSO) respectfully submits this testimony in support of Representative Lois Capps' Energy and Water Development Act request to appropriate \$7.8 million in federal fiscal year 2002-03 to pay for design of the Los Osos Wastewater Project, Los Osos, California. WRDA Design funding for the Los Osos Wastewater Project was authorized in Section 219(a)27 of H.R. 4577 of 2000.

The Los Osos Community Services District serves a population of 14,600 people within a 3,500 acre territory adjacent to the Morro Bay National Estuary in San Luis Obispo County. The regulatory agency responsible for protecting the groundwater quality for Los Osos, the Central Coast Regional Water Quality Control Board (RWQCB), has determined that discharge from private septic systems is the principle source of nitrate contamination of the shallow portion of the Los Osos Groundwater Basin. The RWQCB has issued twenty-four separate Cease and Desist Orders and a Time Schedule Order requiring LOCSO to replace the septic systems in a 2,500 acre "Zone of Prohibition" with a community sewer. The RWQCB has also ordered a moratorium on new construction and intensification of existing uses within the Zone of Prohibition.

In addition to the outstanding RWQCB orders, The Morro Bay National Estuary Program (MBNEP) has determined that construction of a Los Osos Community Sewer is a high priority for protecting the Morro Bay National Estuary. In EPA's approved plan for protecting Morro Bay, "Turning the Tide for Morro Bay", the MBNEP states that, "Another important source of nutrients to Morro Bay is generated from leaking and failing septic tanks in Los Osos. The Community of Los Osos/Baywood Park, with a population of 14,600 is located directly on the edge of Morro Bay and is still served by onsite septic systems. It is possible that some of the degraded groundwater is entering the bay . . . A wastewater system needs to be developed, funds need to be obtained, incentives need to be developed, and education activities need to be undertaken to resolve this long term problem."

The Health Officer for the County of San Luis Obispo has issued health warnings regarding the high level of bacteria and pathogens in surface water. According to Dr. Richard Lichtenfels of County Health, "the Department agrees that the standing pools do represent a health threat." Until a public sewer and comprehensive surface water drainage system is built, this office will continue to monitor the standing pools and appraise the community of the potential for disease transmission.

Finally, nitrate contamination of the shallow groundwater basin from septic discharge has forced three Los Osos water purveyors to abandon production from the unconfined layer and to substitute groundwater from the lower confined aquifer. As

a result the community has started to experience salt-water intrusion in portions of the deep groundwater layer.

To address these problems, LOCS D has selected a community wastewater system that the RWQCB has described as viable and technically sound. Following is a summary of the collection, treatment, and disposal components of the proposed system:

*Collection System.*—A gravity collection system would be designed to transport raw wastewater from approximately 4,750 sites to the treatment facility in 204,000 linear feet of PVC pipe with ten lift stations in low spots around the perimeter of the collected area.

*Treatment Facility.*—A treatment facility at the TriW site would be designed to produce tertiary treated wastewater with a quality suitable for public contact (Ca. Health Code Title 22) using the extended aeration process followed by filtration and ultra violet light disinfection. Since the proposed site is downtown, the proposed treatment facility would be covered and odor-scrubbed to avoid use conflicts. As a side benefit, the surface of the covered portion of the facility would be used for an off-leash dig park, sports fields and trails.

*Disposal System.*—The disposal system would be designed to recharge the groundwater basin with the low nitrate tertiary treated wastewater using subsurface leach fields in areas with adequate separation to groundwater on both sides of the Los Osos fault trace. This disposed tertiary water is recharged into the groundwater table so that the District can harvest additional well water down gradient to augment the community's sustainable water supply.

LOCS D has performed the environmental review required by the State of California and has certified a Final Environmental Impact Report on this proposed project. In the environmental review process, LOCS D has coordinated with both the United States Fish and Wildlife Service (USF&WS) and the United States Environmental Protection Agency (USEPA). LOCS D has submitted formal consultation requests with USF&WS and USEPA for mitigation of Rare and Endangered Species Habitat Mitigation and for preparation of a watershed wide all species Habitat Conservation Plan. LOCS D expects the USF&WS to issue a positive biological opinion on LOCS D's proposed project this fall.

LOCS D has also prepared a preliminary design engineering report to evaluate alternative solutions and to provide cost estimates for the proposed solution. LOCS D adopted the Los Osos Wastewater Facilities Project Report on March 15, 2001. The Project Report estimates that the proposed project will cost \$84.6 Million for the project described above including all design, construction, land acquisition and habitat mitigation. Without grant funding, the project would cost the average single family property owner approximately \$107 per month including approximately \$80 per month in debt service charges and \$27 per month in operating user fees. This monthly cost is over five times the cost paid by the average wastewater customer in California according to the State Water Resources Control Board.

According to the 1990 U.S. Census, over a third of Los Osos residents are classified as low to very low income. LOCS D is concerned that construction of the project without significant grant funding would displace these residents and dramatically change the social fabric of our community. If federal funding is available to pay 75 percent of the project capital cost (\$64,000,000), the average monthly cost per residence drops from \$107 per month to approximately \$45 per month per residence. Although \$45 per month is still twice the average cost paid by residences in other parts of California, it would likely displace fewer residents and cause less hardship.

LOCS D believes that its proposed project warrants federal participation because it addresses a federal problem in regards to preservation of the Morro Bay National Estuary. As documented earlier, the EPA approved recovery plan for Morro Bay identifies LOCS D's project as a "priority action" for preserving the National Estuary. In addition, the District believes that this project should be viewed as a federal demonstration project for how other communities can address water supply concerns at the same time they respond to federal water quality mandates and how communities can locate a treatment facility in a downtown area by taking advantage of innovative technology such as odor-scrubbing. Additionally, the downtown location results in energy savings as compared to pumping the raw waste to and from a site at the perimeter of town.

LOCS D respectfully requests that the Subcommittee approves the funding request submitted by Representative Lois Capps for this project.

## PREPARED STATEMENT OF AMERICAN RIVERS

This year, American Rivers was joined by over 600 local, regional and national conservation organizations<sup>1</sup> from all 50 states in calling for significantly increased funding for several programs in the Energy and Water Development Appropriations bill, including programs run by the U.S. Army Corps of Engineers, the Department of Energy, and Department of Interior agencies. I urge that these requests be incorporated in the Energy and Water Development Appropriations bill for fiscal year 2003.

## U.S. ARMY CORPS OF ENGINEERS PROGRAMS

Although projects planned and constructed by the U.S. Army Corps of Engineers have produced benefits, including flood protection and cost-effective transportation, Corps projects have also altered natural hydrologic regimes, disturbed river ecosystems, destroyed wetlands, and encouraged development in high hazard floodplains. These activities have had severe and adverse impacts on the nation's environmental and economic health.

Increasingly, the Corps is being called upon to undo some of the damage of the past, and environmental restoration has joined navigation and flood control as a new, but equally important, Corps mission. To this end, American Rivers encourages funding of the following U.S. Army Corps of Engineers programs:

*Section 1135.*—The Section 1135 program, Project Modification for Improvement of the Environment, allows the Corps to restore river systems degraded by existing Corps projects. Under Section 1135, the Corps can modify existing dams and flood control projects to increase habitat for fish and wildlife, and restore areas affected by Corps projects. Non-federal interests must provide for 35 percent of project costs, and modifications must not interfere with a project's original purpose.

Despite the significant adverse impacts of Corps projects throughout the nation, the Section 1135 program has never been fully funded. As a consequence, even though this program has been authorized since 1986, only 45 Section 1135 projects had been completed or were under construction as of 1999. It is clear that the interest in this program is greater than these project numbers indicate. In fiscal year 2001, 355 Section 1135 projects had to compete for funding totaling only \$21 million.

Congress should fully fund Section 1135 with a \$25 million appropriation.

*Section 206.*—A more recent addition to the Corps environmental restoration arsenal is Section 206, the Aquatic Ecosystem Restoration program. Section 206 allows the Corps to undertake small-scale projects to restore aquatic habitat, even in areas not directly harmed by past Corps projects. Projects carried out under this program must improve the quality of the environment, be in the public interest, and be cost-effective. Individual projects may not exceed \$5 million, and as with section 1135 programs, non-federal interests must contribute 35 percent of project costs.

Unfortunately, many communities are unable to participate in this program due to inadequate funding. In fiscal year 2001, 185 different Section 206 projects had to compete for funding totaling \$19 million.

Congress should fully fund Section 206 with a \$25 million appropriation.

*Challenge 21.*—Escalating flood losses are a national concern. Over the past 25 years, the federal government has spent more than \$140 billion for traditional structural flood control projects and flood damage recovery. Yet despite these expenditures, billions of public and private dollars are spent each year on costly repairs and reconstruction of floodplain property and associated infrastructure damaged by floods.

Flooded communities are increasingly seeking and implementing non-structural solutions to reduce flooding. These solutions include moving frequently flooded homes and business out of floodplains and working to return the floodplains of rivers and creeks to a condition where they can naturally moderate floods. In addition to reducing flood losses, non-structural projects help meet many other goals of river-side communities, including improving water quality, increasing opportunities for recreation, and improving and restoring wildlife habitat. Unfortunately, however, most federal spending does little to support non-structural solutions to flood damage reduction.

Challenge 21, a flood damage reduction program authorized in 1999, is designed to help support non-structural flood control solutions. Also known as the Flood Hazard Mitigation and Riverine Restoration Program, Challenge 21 allows the Corps to relocate vulnerable homes and businesses in smaller communities, restore floodplain

<sup>1</sup> These groups have endorsed "The River Budget 2003", a report of national funding priorities for local river conservation. A list of groups endorsing the River Budget can be viewed at <http://www.americanrivers.org/riverbudget/default.htm>.

wetlands, increase opportunities for riverside recreation, and improve quality of life in riverside communities. Challenge 21 also authorizes the Corps to work with other federal agencies to help local governments both reduce flood damages and conserve, restore, and manage riverine and floodplain resources. Individual Challenge 21 projects cannot exceed \$25 million, and local communities must provide 35 percent of project costs.

Challenge 21 is currently authorized for only five years. In April 2003, the Corps must report to Congress on the efficacy of the program in achieving the dual goals of flood hazard mitigation and riverine restoration, and make recommendations concerning continuing the program. But before the Corps can make a meaningful assessment, it must have the funding to implement the program. Unfortunately, although \$50 million was authorized to be appropriated for fiscal years 2001 and 2002, Challenge 21 has received no funding to date.

Congress should appropriate \$50 million for the Flood Hazard Mitigation and Riverine Restoration Program for fiscal year 2003 through fiscal year 2005.

*Environmental Management Program.*—More than half of the fish and wildlife habitat created by the Mississippi River's backwaters and side channels could be lost by 2035. This would lead to a catastrophic collapse of the nation's most productive and diverse inland fishery. Loss of river habitat also threatens a \$1.2 billion river-recreation industry, which supports 18,000 jobs. One way Congress can help reverse this degradation and restore the Upper Mississippi River is to increase funding for the Environmental Management Program (EMP).

EMP, the primary habitat restoration and monitoring program on the Upper Mississippi, has restored or created 28,000 acres of habitat to date. When the projects currently under construction are completed, it will have protected more than 97,000 acres of habitat.

Congress should appropriate \$33.17 million for the Environmental Management Program.

*Lower Columbia River Estuary Program.*—In its 2000 Biological Opinion for the Federal Columbia River Power System, the National Marine Fisheries Service identified improvements in the estuary as a key piece of a larger plan to recover the twelve threatened and endangered Columbia Basin salmon stocks. The decline of salmon in the Columbia and Snake River basin is an indicator of declining health in the basin generally, and salmon declines also have had negative economic effects. An Oregon State University Extension Service report concludes that the commercial salmon fishing industry provided \$41 million in personal income annually from 1976–1980; in 1998, it provided just \$4 million.

Section 536 of the 2000 Water Resources Development Act (WRDA) authorizes \$30 million for the Corps to implement the Lower Columbia River Estuary Partnership and Tillamook Estuary Comprehensive Conservation and Management Plans. So far these programs have received no appropriations. This year we are requesting an initial \$2 million appropriation under this authorization. This initial request also would help federal agencies begin to meet the estuary restoration requirements called for in the Biological Opinion for the Columbia and Snake rivers.

The WRDA authorization enjoyed strong regional support from a bipartisan group of elected officials including 12 House members from Oregon, Idaho, and Washington. The initial appropriation we are requesting is supported by the Bush administration and a diverse regional group including ports, river industry groups, recreational groups, regional Native American tribes and conservationists.

Congress should appropriate at least \$2 million for restoration of habitat in the lower Columbia River under section 536 of the 2000 Water Resources Development Act (WRDA).

*Individual River Restoration Projects.*—Over the past 100 years, the United States has led the world in dam building for a variety of uses, including hydropower, irrigation, flood control and water storage. While they can provide benefits to society, numerous dams have outlived their intended purpose and no longer make sense. Many are old, unsafe, and represent a threat to their river ecosystems. Several individual dam removal projects initiated by the Corps need federal appropriations to move forward. These projects will all restore natural river functions and restore access to migratory fish habitat, and are likely to provide economic benefits to neighboring communities. Each of these projects has been endorsed by a wide range of stakeholders and approved for federal action. Congress should appropriate to the Corps the following for individual river restoration projects: (i) \$1.6 million to continue a feasibility study to assess how best to remove the Matilija Dam and restore the Ventura River in southern California; (ii) \$500,000 to continue a feasibility study to determine how to remove Rindge Dam and restore Malibu Creek in southern California; (iii) \$7 million to notch Elk Creek Dam on Elk Creek in Oregon for the purpose of providing fish passage to species on the Endangered Species list; and



(iv) \$6.9 million to restore the Rappahannock River in Virginia through the removal of Embrey Dam.

DEPARTMENT OF ENERGY PROGRAMS

*Federal Energy Regulatory Commission in Hydropower Licensing.*—The Federal Energy Regulatory Commission is responsible for issuing licenses and permits that govern the operation and construction of non-federal hydropower dams. Solid funding levels for the Federal Energy Regulatory Commission's hydropower program help ensure that the agency can make timely decisions about environmental requirements that protect river health. Congress authorizes the amount of money FERC may spend in a given year, but that money is collected entirely from licensees through annual fees and not from tax dollars. Thus, an increase in FERC's authorized hydropower budget will be passed onto the dam owners and will not impact taxpayers or the deficit.

Congress should appropriate \$46 million for FERC hydropower relicensing.

*Energy Efficiency and Renewable Energy Programs.*—Many different types of energy production, including fossil fuel development, affect our rivers, which are a public resource. As we advance in energy efficient technology and the use of renewable energy sources, we can reduce demand and soften the impacts of energy production on rivers. However, the Department of Energy (DOE) presently spends twice as much money on research and development for fossil fuels as for renewable energy programs. Congress should take steps to eliminate our dependency on fossil fuels by supporting enhanced appropriations for the DOE's energy supply and energy conservation programs. Renewable energy options and energy efficiency are a win-win option for consumers and the environment.

Congress should boost appropriations for DOE energy conservation (efficiency) and energy supply (renewable energy) programs to \$1 billion and \$700 million, respectively.

DEPARTMENT OF INTERIOR PROGRAMS

*Yakima River Basin Enhancement Project.*—The Yakima River Basin is the largest river basin wholly within the state of Washington. It is home to Washington's largest Native American tribe and contains one of the largest Bureau of Reclamation (BOR) projects in the West. The Yakima once produced between a half million and 800,000 salmon and steelhead per year. Today these species exist at only one percent of their historic abundance. The BOR project has depleted and polluted river flows, and water rights conflicts in this basin are legendary. Partly as a result, Yakima River bull trout and steelhead are now listed under the Endangered Species Act.

Phase II of The Yakima River Basin Water Enhancement Project, authorized by Congress in 1994, was designed to ameliorate these conditions for both fish and farmers. It aims to restore the river and make better use of the existing water supplies. This legislation was a compromise formed by the basin's disparate stakeholders, and the program it created is a model for water conservation and acquisition.

Congress should appropriate \$20,000,000 for the Yakima River Enhancement Project.

*Water Conservation Field Services Program.*—This program, begun in 1997 as a response to the Bureau of Reclamation's obligation to fulfill the water conservation mandate of the Reclamation Reform Act of 1982, has been vastly underfunded. The types of projects carried out by WCFSP are critical to sound water management at BOR projects because they address basic infrastructure needs, including: the technology needed to create water budgets; innovative conservation demonstration projects; and education programs on the proper use of these technologies and techniques by irrigators to simultaneously improve crop production and water efficiency. The grant funding mechanisms for this program are the Efficiency Incentives Program (EIP) and the Water Management and Conservation Program (WMC).

Congress should appropriate at least \$3.7 million for the Water Conservation Field Services program.

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PREPARED STATEMENT OF THE STATE OF WYOMING

SUPPORT FOR FISCAL YEAR 2003 UPPER COLORADO REGION ENDANGERED FISH RECOVERY PROGRAMS FUNDING

I request your support for an appropriation in fiscal year 2003 of \$6,297,000, to the Bureau of Reclamation within the line item labeled "Endangered Species Recov-

ery Programs and Activities for the Upper Colorado River Region." Of that line-item amount, it is requested that \$4,464,000 be designated for expenditure on construction activities associated with the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Upper Basin Program), \$1,328,000 be designated for construction activities associated with the San Juan River Basin Recovery Implementation Program (San Juan Program), \$455,000 be designated for fish and wildlife management development, and \$50,000 be designated for water and energy management and development. The President has requested these amounts in his recommended budget for fiscal year 2003.

These ongoing, highly successful, cooperative programs involving the States of Colorado, New Mexico, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests reflect the proper approach to providing endangered species conservation and recovery within the framework of the existing federal Endangered Species Act, while concurrently resolving critical conflicts between endangered species recovery and the development and use of Compact-apportioned water resources in the Upper Colorado River Basin region of the Intermountain West. As you know from letters sent in prior years, these Programs have as their objective recovering four species of endangered fish while water development proceeds in compliance with the Endangered Species Act of 1973.

Substantial non-federal cost sharing funds are provided by the four states, power users, and water users in support of these recovery programs. During the 106th Congress, Public Law 106-392 was enacted authorizing the federal government to provide these funds. That law recognized the significant non-federal cost share that is being contributed by the non-federal participants and was passed in both the House and the Senate with strong bipartisan support.

The support of your Subcommittee in past years is gratefully acknowledged and genuinely appreciated, and has been a major factor in the success of these multi-state, multi-agency programs in progressing towards endangered fish species recovery in the Upper Colorado and San Juan River Basins while necessary water use and development activities are occurring. I again request the Subcommittee's assistance to ensure that the Bureau of Reclamation is provided with adequate funding for these vitally important programs.

SUPPORT FOR \$17,500,000 OF FISCAL YEAR 2003 FUNDING FOR THE BUREAU OF  
RECLAMATION'S COLORADO RIVER BASIN SALINITY CONTROL PROGRAM

This statement is sent in support of fiscal year 2003 funding for the Bureau of Reclamation's Colorado River Basin salinity control program. I request and thank you in advance for inclusion of this statement in the formal hearing record concerning fiscal year 2003 appropriations.

The Colorado River provides municipal and industrial water for 27 million people and irrigation water to nearly four million acres of land in the United States. The River also serves about 2.3 million people and 500,000 acres in Mexico. The threat of salinity is a major concern in both the United States and Mexico. Salinity affects agricultural, municipal, and industrial water users. Damages in Mexico are unquantified, but damages in the United States are presently estimated to amount to about \$330 million per year. The salinity of the River is high, in almost equal part because of naturally occurring geologic features including underlying salt formations and saline springs; and effects associated with man's storage, use and reuse of the waters of the River system. Over-application of irrigation water by agriculture is a large contributor of salt to the river, as irrigation water seeps through saline soils and returns to the River.

The 1944 Mexico Treaty obligates the United States to provide 1.5 million acre-feet of water to Mexico, but does not address quality. Mexico filed a formal protest in the 1960's when the salinity levels of water being delivered pursuant to the Treaty increased sharply. Several minutes to the Treaty were negotiated, including Minute 242, to address the water quality concerns voiced by Mexico. That minute requires that the average annual salinity of the Colorado delivered upstream from Morelos Dam (Mexico's principal diversion dam) does not exceed the average salinity of the water arriving at Imperial Dam by 115 parts per million (PPM), plus or minus 30 PPM.

The Environmental Protection Agency's interpretation of the 1972 amendments to the Clean Water Act required the seven Basin states to adopt water quality standards for salinity levels in the Colorado River. The Colorado River Basin Salinity Control Forum was created as an interstate coordination mechanism in 1973. Its members are gubernatorial appointees from Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming.

To address salinity problems in this country, and ensure the United States could meet its obligation to Mexico, the Congress passed the Colorado River Basin Salinity Control Act of 1974. Title I addressed the United States' obligations to Mexico to control the River's salinity so that our water deliveries to Mexico are within the specified salinity concentration range. Title II of the Act authorized measures upstream of Imperial Dam and directed the Secretary of the Interior to construct several salinity control projects, most of which are located in Colorado, Utah, and Wyoming. Title II of the Act was again amended in 1995 and 2000 to direct the Bureau of Reclamation to conduct a basin-wide salinity control program. This program's approach involves awarding grants to non-federal entities, on a competitive-bid basis, which initiate and carry out salinity control projects. The basin-wide program has demonstrated significantly improved cost-effectiveness, computed on a dollars per ton of salt loading reduction basis, as compared to Reclamation-initiated projects specifically authorized in the 1974 Act and its 1984 amendment. The Forum was heavily involved in the development of the 1974 Act and its subsequent amendments, and has continued to actively oversee the federal agencies' salinity control program efforts.

For the past 29 years, the seven-state Colorado River Basin Salinity Control Forum has actively assisted the federal agencies, including the Bureau of Reclamation, in implementing this unique, collaborative and important program. At its October 2001 meeting, the Forum recommended that the Bureau of Reclamation should expend \$17,500,000 in fiscal year 2003. We strongly believe these efforts constitute one of the most successful Federal/State cooperative non-point source pollution control programs in the United States.

The State of Wyoming greatly appreciates the Subcommittee's support of the Colorado River Salinity Control Program in past years. We respectfully suggest this important basin-wide water quality program merits continued funding and support by your Subcommittee.

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LETTER FROM THE PERKINS COUNTY RURAL WATER SYSTEMS, INC.

MARCH 8, 2002.

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT,  
*Committee on Appropriations, United States Senate, SD-127, Washington, DC 20510.*

SUBCOMMITTEE OF ENERGY AND WATER DEVELOPMENT: The Perkins County Rural Water System, respectfully requests, an opportunity to testify as outside witnesses at the fiscal year 2003 appropriation hearings being held by this Subcommittee and that said testimony be placed in the official record of the Subcommittee. Perkins County Rural Water System's written testimony will be in favor of a \$4.3 million fiscal year write-in appropriation.

The Perkins County Rural Water System was authorized pursuant to Public Law 106-136. The Perkins County Rural Water project is in the process of completing all preconstruction requisites and desires to begin work on the construction elements of the Project. Perkins County Rural Water System was the recipient of a \$3.4 million appropriation for fiscal year 2002. That money is being used to finish pre-construction requisites and construction.

Thank you for your attention to this request.

Respectfully yours,

TERRY HAGGART,

*President, Perkins County Rural Water System, Inc.*

PERKINS COUNTY RURAL WATER SYSTEM, INC. IN NORTHWESTERN SOUTH DAKOTA—  
PROJECT OVERVIEW

*Project Location and Description*

Perkins County Rural Water System, Inc. (PCRWS) would provide potable water to approximately 200 farms and ranches and two towns, Lemmon and Bison, in Perkins County, South Dakota. The system would serve rural users and provide bulk water to Lemmon and Bison. Currently the only two existing water systems in the project area are the municipal supply systems for the towns of Lemmon and Bison.

When constructed, PCRWS would be the first rural water system in Perkins County.

The purpose of PCRWS is to create a water distribution network to deliver treated water to rural subscribers, who currently rely upon well water of variable quality and quantity. Both Bison's and Lemmon's water currently has high concentrations of sodium and sulfates of which recommended limits are consistently exceeded. The

implementation of this project would ensure a reliable supply of water to rural residents that meet the water quality standards of the Safe Drinking Water Act.

The proposed primary water source will be buying bulk water from Southwest Water Authority of southwestern North Dakota. They obtain their water from an intake on the Missouri River and move it to a treatment plant at Dickinson, North Dakota. It is then piped to the border for PCRWS. The proposed system will include approximately 520 miles of distribution pipe, 4–5 booster pumps, and 2–4 supply tanks.

#### *Sponsors*

The Perkins County Rural Water System, Inc., a non-profit corporation consisting of nine (9) directors from three districts, sponsors the project. The money for the project is available at a 75 percent federal grant, 10 percent state grant, and 15 percent local match. The 75 percent federal grant will be from the Bureau of Reclamation, the lead federal agency for the project. The state funds will be administered through the South Dakota Department of Environment and Natural Resources. The consumers of PCRWS plus a loan from either the State of South Dakota or U.S. Department of Agriculture, Rural Development, will provide the 15 percent local money. KBM, Inc. of Grand Forks, North Dakota, and The Alliance of Rapid City, South Dakota is under contract to perform the engineering services for the project.

#### *Water Source Alternatives*

The proposed water source is a bulk supply of water treated and delivered by Southwest Water Authority. Line capacity for delivery has been or will be paid by PCRWS to deliver 400 gallons per minute to the border of South Dakota.

Other alternatives that were considered are water from deep-water wells and water from Shadehill Reservoir, a Bureau of Reclamation project. Since both of these sources were very high in sodium and total dissolved solids (TDS), treatment would be accomplished by reverse osmosis. Raw water would have been blended with treated water to obtain the quantity needed. A third alternative would have been a combination of Southwest water and a treatment plant. All alternatives were rejected because of the added expense to operation and maintenance of the system.

#### *Water Treatment Facilities*

Water will be treated at the Dickinson water treatment plant in Dickinson, ND. The water treatment plant has expanded from six (6) million gallons per day to twelve (12) million gallons per day and has also turned management over to Southwest Water Authority within the last two years. The current plant uses a conventional lime softening process to treat the water. Chloramines are added at the Dodge pumping station and the rest of the treatment takes place in the Dickinson treatment plant.

#### *Benefits of the Project*

PCRWS will provide a clean, safe domestic water supply to users in Perkins County. Currently, rural residents obtain water from shallow water wells whereas the towns obtain their water from deep-water wells in the Fox Hills aquifer. Water quality in the shallow wells is high in sodium and TDS. Water from the deep-water wells is high in sodium, fluoride, and sulfates. These chemicals are either at or above recommended levels set by the EPA.

#### *Permits and Environmental Requirements*

Final report of Class I Cultural Resources Research and Survey Design Plan has been completed and has been sent to the Bureau of Reclamation for their consideration. Scoping letters have been mailed and comments returned to the Bureau of Reclamation. The Bureau is also working with KBM, Inc. on Environmental Assessments and Tribal issues.

Utility permits to occupy state and county rights of way are being worked on by the local sponsor. Permits and easements from private landowners are also being obtained. Special use permits will be required for any part of the line that crossed U.S. Department of Agriculture, U.S. Forest Service.

#### *Proposed Construction Schedule*

Construction of the PCRWS will begin late summer of 2002 after reports and assessments have been approved by the Bureau of Reclamation. Work on the Lodgepole project is ongoing and construction hopefully will be started and finished this year. Construction of the entire project is dependent on federal funding levels per year, but the project could be completed in 4–5 years.

Tables

The following tables show the construction budget, the O&M budget and the budget request for fiscal year 2003:

TABLE 1.—PIPELINE CONSTRUCTION—SOUTHWEST PIPELINE

ITEM	NO. UNITS	UNITS	UNIT PRICE	EXTENDED PRICE
Mobilization .....	1	LS .....	\$50,000.00	\$50,000.00
Water Main:				
1.5" PVC Class 200 .....	615,261	If .....	\$1.80	\$1,107,469.80
2.0" PVC Class 200 .....	33,977	If .....	\$1.91	\$64,896.07
2.0" PVC Class 160 .....	812,852	If .....	\$1.87	\$1,520,033.24
3.0" PVC Class 200 .....	35,037	If .....	\$2.12	\$74,278.44
3.0" PVC Class 160 .....	344,871	If .....	\$2.10	\$724,229.10
4.0" PVC Class 200 .....	32,228	If .....	\$3.02	\$97,328.56
4.0" PVC Class 160 .....	400,231	If .....	\$2.86	\$1,144,660.66
6.0" PVC Class 200 .....	44,792	If .....	\$6.07	\$271,887.44
6.0" PVC Class 160 .....	237,145	If .....	\$5.70	\$1,351,726.50
8.0" PVC Class 200 .....	43,595	If .....	\$7.92	\$345,272.40
8.0" PVC Class 160 .....	121,835	If .....	\$7.30	\$889,395.50
1.0" Poly .....	300	If .....	\$4.50	\$1,350.00
4.0" Poly .....	4,500	If .....	\$12.25	\$55,125.00
1.0" Curb Stop .....	6	ea .....	\$175.00	\$1,050.00
1.5" Curb Stop .....	50	ea .....	\$275.00	\$13,750.00
Water Meters:				
Residential Meters .....	320	ea .....	\$1,000.00	\$320,000.00
1.5" Water Meters .....	14	ea .....	\$2,000.00	\$28,000.00
4" Meter Station .....	1	ea .....	\$30,000.00	\$30,000.00
8" Meter Station .....	1	ea .....	\$40,000.00	\$40,000.00
Frost Proof Water Meter .....	27	ea .....	\$950.00	\$25,650.00
Water Service Installation .....	184	ea .....	\$100.00	\$18,400.00
River Crossings .....	13	ea .....	\$5,000.00	\$65,000.00
Non-cased Bore .....	94	ea .....	\$600.00	\$56,400.00
Cased Bore .....	8,600	If .....	\$50.00	\$430,000.00
Gate Valves:				
2" .....	85	ea .....	\$300.00	\$25,500.00
3" .....	15	ea .....	\$375.00	\$5,625.00
4" .....	30	ea .....	\$400.00	\$12,000.00
6" .....	25	ea .....	\$475.00	\$11,875.00
8" .....	6	ea .....	\$620.00	\$3,720.00
Pressure Reducing Valves .....	33	ea .....	\$8,000.00	\$264,000.00
ARV Station .....	2,056	ea .....	\$1,500.00	\$3,084,000.00
Reservoir Pumping Station .....	4	ea .....	\$175,000.00	\$700,000.00
Booster Stations .....	8	ea .....	\$140,000.00	\$1,120,000.00
Signs .....	418	ea .....	\$21.00	\$8,778.00
Seeding .....	1,000	Ac .....	\$300.00	\$300,000.00
Gravel .....	18,000	Ton .....	\$10.00	\$180,000.00
Municipal Improvements .....	1	LS .....	\$1,750,000.00	\$1,750,000.00
Reservoir (2,000,000 Gal) .....	1	LS .....	\$800,000.00	\$800,000.00
Reservoir (100,000 Gal) .....	3	LS .....	\$100,000.00	\$300,000.00
Connection to SW Pipeline .....	1	LS .....	\$5,500,000.00	\$5,500,000.00
Subtotal—Construction .....				\$22,791,400.71
U.S. Bureau of Rec. Admin .....	3%		\$22,791,400.71	\$683,742.02
Engineering:				
Initial consultation, FER, EA .....				\$255,000.00
Basic Services .....				\$935,000.00
Construction Observation .....				\$685,000.00
Miscellaneous .....				\$165,000
Legal & Administration .....				\$100,000.00
Contingencies & Construction Int .....				\$750,000.00
TOTAL PROJECT COSTS .....				\$26,365,142.73

The 1993 Feasibility Report indicated a total project cost of \$20,000,000 and the above total project cost of \$26,365,142 approaches the allowable BOR Cost indices.

TABLE 2.—REVENUE

	\$/1,000 Gal	Gal/1,000	Income	Cost
<b>WATER SALES:</b>				
Rural Water .....	\$3.50	123,000	\$430,500.00	.....
Lemmon .....	\$3.00	71,000	\$213,000.00	.....
Bison .....	\$3.00	16,000	\$48,000.00	.....
Total Water Sold .....		<sup>1</sup> 210,000	\$691,500.00	\$691,500.00
		<b># of Taps</b>	<b>\$/Tap/yr</b>	
<b>MINIMUMS:</b>				
Headquarters .....	202	\$480.00	\$96,960.00	.....
Potential HQ .....	20	\$480.00	\$9,600.00	.....
Livestock .....	69	\$175.00	\$12,075.00	.....
Potential Livestock .....	20	\$175.00	\$3,500.00	.....
Seasonal HQ/Cabins .....	10	\$175.00	\$1,750.00	.....
Grazing Association .....	14	\$175.00	\$2,450.00	.....
Potential Grazing Assc .....	3	\$175.00	\$525.00	.....
Total Minimums .....	338	.....	\$126,860.00	\$126,860.00
TOTAL .....				\$818,360.00
	<b>\$/1,000 Gal</b>	<b>Gal/1,000</b>	<b>Income</b>	<b>Cost</b>
<b>EXPENSES:</b>				
Water Purchase .....	\$2.10	210,000.00	.....	\$441,000.00
<b>O&amp;M:</b>				
Electricity (Remote Reservoir and Boosters) .....			\$30,000.00	.....
Telephone .....			\$3,000.00	.....
Office (supplies) .....			\$3,000.00	.....
Field Supplies, Inventory .....			\$5,000.00	.....
Legal & Audit .....			\$4,000.00	.....
Dues & Subs .....			\$4,000.00	.....
Advertising .....			\$1,000.00	.....
Maintenance .....			\$10,000.00	.....
Director's Fees .....			\$6,000.00	.....
Mileage .....			\$4,000.00	.....
Wages and Taxes .....			\$80,000.00	.....
Vehicle Expense .....			\$5,000.00	.....
Outside Services .....			\$5,000.00	.....
Miscellaneous .....			\$2,000.00	.....
TOTAL .....			\$162,000.00	\$162,000.00
<b>DEBT RETIREMENT:</b>				
Principal <sup>2</sup> .....			.....	\$3,954,771.30
Percent Interest .....			.035	.....
No. of Years .....			.....	30
Cap. Rec. Factor .....			.....	.05437
Total .....			.....	\$215,360.00
TOTAL EXPENSE .....			.....	\$818,360.00

<sup>1</sup> 400 gal/min.<sup>2</sup> Principal = 15 percent of the total project cost (\$26,365,142.00, \$20,000,000 of total project cost times BOR cost indices).

TABLE 3.—Perkins County Rural Water System, Inc. Budget—Fiscal Year 2003

Item	Request
Finish mainline to Lemmon .....	\$550,000
Finish mainline to Bison .....	1,000,000
Finish Lemmon infrastructure .....	720,000
North Dakota State Water Commission partial payment (based on 145 GPM) .....	1,620,000

TABLE 3.—Perkins County Rural Water System, Inc. Budget—Fiscal Year 2003—Continued

<i>Item</i>	<i>Request</i>
Bureau of Reclamation (5 percent) .....	210,000
PCRWS Admin .....	100,000
Contingency .....	100,000
Total .....	4,300,000

It will take this amount of money every year to finish the project in five to six years. Perkins County Rural Water System, Inc. will be able to complete construction in that timeframe with this amount appropriated.

PREPARED STATEMENT OF THE TENNESSEE-TOMBIGBEE WATERWAY DEVELOPMENT  
AUTHORITY

We are pleased to once again submit our recommendations to you and your subcommittee concerning next year's appropriations for the Tennessee-Tombigbee Waterway and the Kentucky and Chickamauga Locks on the Tennessee River. This is the 42nd consecutive year the Authority has had the opportunity to provide its recommendations to the Congress.

As you know, the Tennessee-Tombigbee Waterway Development Authority is a federal interstate compact ratified by the Congress in 1958 to promote the development of the Tenn-Tom Waterway and its economic and trade potential. It is comprised of the States of Alabama, Kentucky, Mississippi, and Tennessee. Governor Ronnie Musgrove of Mississippi currently serves as the compact's chairman.

An adequately funded and well-maintained water transportation system is critical to our national security and economic well being. The Administration's proposed budget for next fiscal year falls far short of these critical needs. Its requests for the Tennessee-Tombigbee and other waterway projects are woefully inadequate.

TENNESSEE-TOMBIGBEE WATERWAY

[In millions of dollars]

	Fiscal Year—		
	2002 Appropria- tion	2003 Budget Re- quest	2003 Rec- ommended
Operations and Maintenance .....	24.5	23.1	24.8
Wildlife Mitigation Payments .....	2.0	(1)	2.0
Total .....	26.5	23.1	26.8

<sup>1</sup> \$1.5 million included in O&M request.

We greatly appreciate the \$28.5 million the Congress provided for the Tenn-Tom during this fiscal year. This is the first year that adequate funds were appropriated since the Balanced Budget Act of 1997. Restricted funding in prior years has resulted in a backlog of deferred repairs that had exceeded \$10 million. This year's appropriation begins to address this maintenance backlog for the first time.

We are also grateful that the Congress provided \$2 million to reimburse the conservation agencies of Alabama and Mississippi for their costs in managing over 135,000 acres of federal lands that are part of the Tenn-Tom Wildlife Mitigation Project. The states agreed to assume the federal responsibilities for managing these lands if properly reimbursed which until this year had not been the case. The Authority strongly recommends that you again provide \$2 million as a separate line item for payments to the two states for administering this federal project.

The \$24.8 million requested for the operation and maintenance of the Tenn-Tom will ensure the waterway is adequately maintained. The Administration's request, if approved, will further increase the maintenance backlog and will harm commercial navigation. The recommended increase of \$1.7 million above the President's budget will ensure a reliable water transportation system for those commercial shippers and producers that depend upon the waterway.

The Tenn-Tom could efficiently use more than the \$3.7 million of additional funds requested for wildlife mitigation and commercial navigation. If available, more funds are needed to address a backlog of \$9.8 million of indefinitely deferred repairs that have accumulated since 1997. Some examples of this serious maintenance back-

log that unless corrected will affect the structural integrity of the waterway and its ability to generate expected benefits are:

	<i>Million</i>
Re-pave access roads .....	\$1.2
Correct nav. conditions at Bevill L/D .....	3.0
Additional dredging needs .....	1.8
Upgrade elect. systems project wide .....	1.6
Replace roof at Whitten Center .....	0.2

KENTUCKY LOCK

[In millions of dollars]

	Fiscal Year—		
	2002 Appropria- tion	2003 Budget Re- quest	2003 Rec- ommended
Lock Construction .....	22.0	27.4	45.0

Early completion of a 1,200-foot lock at Kentucky Dam is imperative to eliminate one of the worst bottlenecks on the entire 16,000 miles of waterways that serve the nation. Unless the new lock is completed and placed in service in a timely manner, shippers will sustain over \$250 million in additional transportation costs when the nearly 60-year old existing facility is closed for extensive repairs later this decade. Over 35,000 barges, transporting nearly 29 million tons of commerce, now transit this antiquated lock each year after waiting an average of 8 hours or more to negotiate this choke point. The \$45 million recommended by the Authority will enable the Corps of Engineers to maintain an optimal and efficient construction for this very important project.

CHICKAMAUGA LOCK

[In millions of dollars]

	Fiscal Year—		
	2002 Appropria- tion	2003 Budget Re- quest	2003 Rec- ommended
Lock O&M .....	2.2	1.025	1.025
Preconstruction Eng. & Design .....	0.5	0.250	4.000

The Authority strongly recommends the Congress continue to provide funds to the Corps of Engineers to aggressively maintain the old, structurally deteriorating lock at Chickamauga Dam until a newer one can be built. The \$1,025,000 requested by the President will meet these needs.

The Nashville District of the Corps has recently completed a feasibility study of a new lock to replace the existing one. That study found that a 75 by 400-foot lock and one with an 110 by 600 foot chamber are both economically feasible and environmentally sound. The Authority strongly recommends the 110 by 600-foot lock be authorized and constructed since it will be compatible with other locks on the Tennessee, the Tenn-Tom and adjoining waterways. The larger lock also generates more environmental benefits. The proposed new lock will be eligible for consideration by the Congress for authorization in this year's Water Resources Development Act. We, therefore, recommend that \$4 Million be appropriated to continue preconstruction engineering and design work on this important project.

The funds we have requested for these three projects as well other investments your subcommittee will make in water resources development will return monetary benefits of many fold and improve quality of life for this and future generations. We know you recognize the importance of keeping our waterway infrastructure functioning to meet current and future needs and trust that your subcommittee will be able to provide these funds.



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